

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Astras - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (444)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:40	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:02	04:20 22:19	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:32 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:26 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:29 16:30	08:34 15:36
3	08:59 15:42	08:16 16:45	07:08 17:50	06:42 19:59	05:23 21:05	04:25 22:05	04:22 22:18	05:13 21:30	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
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5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:23	08:39 15:34
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Potential sun hours	228	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Ausekli - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (770)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Avoti - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (483)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:14 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Bajari - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (488)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February		March		April	May	June
1	09:00	14:45 (4)	08:21		07:13	16:29 (2)	06:48	05:27	04:27
	15:39	8	14:53 (4)	16:40		17:46	13	16:42 (2)	19:55
2	09:00	14:44 (4)	08:19		07:11	16:33 (2)	06:45	05:25	04:25
	15:41	10	14:54 (4)	16:42		17:48	4	16:37 (2)	19:57
3	09:00	14:45 (4)	08:17		07:08		06:42	05:23	04:24
	15:42	11	14:56 (4)	16:44		17:50		19:59	21:06
4	08:59	14:45 (4)	08:15		07:05		06:39	05:20	04:23
	15:43	13	14:58 (4)	16:47		17:53		20:01	21:08
5	08:59	14:45 (4)	08:12		07:03		06:36	05:18	04:22
	15:45	14	14:59 (4)	16:49		17:55		20:04	21:10
6	08:58	14:45 (4)	08:10		07:00		06:34	05:15	04:21
	15:46	16	15:01 (4)	16:52		17:57		20:06	21:12
7	08:57	14:45 (4)	08:08		06:57		06:31	05:13	04:20
	15:48	18	15:03 (4)	16:54		17:59		20:08	21:14
8	08:57	14:46 (4)	08:06		06:54		06:28	05:11	04:19
	15:49	19	15:05 (4)	16:56		18:02		20:10	21:16
9	08:56	14:46 (4)	08:03		06:52		06:25	05:09	04:18
	15:51	21	15:07 (4)	16:59		18:04		20:12	21:19
10	08:55	14:47 (4)	08:01		06:49		06:23	05:06	04:18
	15:53	22	15:09 (4)	17:01		18:06		20:15	21:21
11	08:54	14:46 (4)	07:59		06:46		06:20	05:04	04:17
	15:55	24	15:10 (4)	17:03		18:08		20:17	21:23
12	08:53	14:47 (4)	07:56		16:30 (2)	06:43		06:17	05:02
	15:57	24	15:11 (4)	17:06	2	16:32 (2)	18:11	20:19	21:25
13	08:52	14:46 (4)	07:54		16:28 (2)	06:41		06:14	05:00
	15:58	25	15:11 (4)	17:08	7	16:35 (2)	18:13	20:21	21:27
14	08:51	14:47 (4)	07:52		16:26 (2)	06:38		06:12	04:58
	16:00	25	15:12 (4)	17:11	12	16:38 (2)	18:15	20:24	21:29
15	08:49	14:47 (4)	07:49		16:25 (2)	06:35		06:09	04:56
	16:02	25	15:12 (4)	17:13	15	16:40 (2)	18:17	20:26	21:31
16	08:48	14:48 (4)	07:47		16:24 (2)	06:32		06:06	04:53
	16:04	25	15:13 (4)	17:15	19	16:43 (2)	18:20	20:28	21:33
17	08:47	14:48 (4)	07:44		16:23 (2)	06:29		06:04	04:51
	16:06	25	15:13 (4)	17:18	22	16:45 (2)	18:22	20:30	21:35
18	08:45	14:49 (4)	07:42		16:23 (2)	06:27		06:01	04:50
	16:08	24	15:13 (4)	17:20	25	16:48 (2)	18:24	20:32	21:37
19	08:44	14:49 (4)	07:39		16:22 (2)	06:24		05:58	04:48
	16:10	23	15:12 (4)	17:22	28	16:50 (2)	18:26	20:35	21:39
20	08:42	14:50 (4)	07:37		16:22 (2)	06:21		05:56	04:46
	16:13	23	15:13 (4)	17:25	27	16:49 (2)	18:28	20:37	21:41
21	08:41	14:51 (4)	07:34		16:21 (2)	06:18		05:53	04:44
	16:15	22	15:13 (4)	17:27	28	16:49 (2)	18:31	20:39	21:43
22	08:39	14:52 (4)	07:32		16:22 (2)	06:16		05:50	04:42
	16:17	21	15:13 (4)	17:29	28	16:50 (2)	18:33	20:41	21:45
23	08:38	14:53 (4)	07:29		16:22 (2)	06:13		05:48	04:40
	16:19	19	15:12 (4)	17:32	27	16:49 (2)	18:35	20:43	21:47
24	08:36	14:54 (4)	07:26		16:22 (2)	06:10		05:45	04:39
	16:21	18	15:12 (4)	17:34	26	16:48 (2)	18:37	20:46	21:49
25	08:34	14:55 (4)	07:24		16:23 (2)	06:07		05:43	04:37
	16:24	16	15:11 (4)	17:36	25	16:48 (2)	18:39	20:48	21:51
26	08:32	14:57 (4)	07:21		16:24 (2)	06:04		05:40	04:35
	16:26	13	15:10 (4)	17:39	23	16:47 (2)	18:42	20:50	21:53
27	08:31	14:59 (4)	07:19		16:25 (2)	06:02		05:37	04:34
	16:28	8	15:07 (4)	17:41	20	16:45 (2)	18:44	20:52	21:54
28	08:29		07:16		16:26 (2)	05:59		05:35	04:32
	16:30		17:43	17	16:43 (2)	18:46		20:55	21:56
29	08:27				06:56			05:32	04:31
	16:33				19:48			20:57	21:58
30	08:25				06:53			05:30	04:29
	16:35				19:50			20:59	21:59
31	08:23				06:50				04:28
	16:37				19:53				22:01
Potential sun hours	227		262		365		429	515	539
Total, worst case	512		351		17				
Sun reduction	0.11		0.19		0.40				
Oper. time red.	1.00		1.00		1.00				
Wind dir. red.	1.00		1.00		1.00				
Total reduction	0.11		0.19		0.40				
Total, real	56		68		7				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Bajari - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (488)
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:35 15:36
3	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:36 15:35
4	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:10	08:49 15:30
12	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	17:04 (2) 17:13 (2)	07:53 16:07
13	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	17:00 (2) 17:16 (2)	07:55 16:05
14	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	16:58 (2) 17:17 (2)	07:57 16:03
15	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	16:56 (2) 17:18 (2)	07:59 16:02
16	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	16:55 (2) 17:19 (2)	08:02 16:00
17	04:40 22:03	05:43 20:57	06:48 19:33	07:53 18:10	16:54 (2) 17:19 (2)	08:04 15:58
18	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	16:54 (2) 17:20 (2)	08:06 15:56
19	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	16:53 (2) 17:20 (2)	08:08 15:54
20	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	16:52 (2) 17:20 (2)	08:10 15:52
21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	16:53 (2) 17:20 (2)	08:13 15:51
22	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:57	16:52 (2) 17:20 (2)	08:15 15:49
23	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	16:53 (2) 17:20 (2)	08:17 15:48
24	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	16:53 (2) 17:17 (2)	08:19 15:46
25	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	15:54 (2) 16:15 (2)	08:21 15:45
26	04:57 21:47	06:02 20:33	07:08 19:07	07:14 16:46	15:54 (2) 16:12 (2)	08:23 15:43
27	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	15:55 (2) 16:10 (2)	08:25 15:42
28	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	15:56 (2) 16:06 (2)	08:27 15:41
29	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	15:58 (2) 16:04 (2)	08:29 15:39
30	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	16:00 (2) 16:01 (2)	08:31 15:38
31	05:07 21:37	06:13 20:20		07:25 16:34		
Potential sun hours	538	474	386	321	241	207
Total, worst case				373	335	240
Sun reduction				0.28	0.08	0.06
Oper. time red.				1.00	1.00	1.00
Wind dir. red.				1.00	1.00	1.00
Total reduction				0.28	0.08	0.06
Total, real				106	26	15

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Blaumana iela 2 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (666)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Blaumana iela 2A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (675)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Brandini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (498)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:10 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:51	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:21	06:27 20:00	07:31 18:36	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:14	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
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12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:09	06:38 19:46	07:42 18:23	07:52 16:07	08:50 15:29
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14	08:50 16:00	07:51 17:10	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:17	04:36 22:07	05:36 21:04	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
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17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:56	05:51 20:47	06:57 19:21	08:02 17:59	08:12 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:15	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:21	04:53 21:51	05:57 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:30 16:28	07:18 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:01	07:18 16:41	08:27 15:41	09:00 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:00 15:35
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (698)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa iela 10 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (562)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
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27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzies iela 11 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (521)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa iela 12 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (537)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

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1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa iela 14 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (514)
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Total reduction												
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

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0037167242411

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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzē iela 16 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (543)
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 18 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (533)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa iela 19 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (518)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa iela 1A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (767)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 2 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (729)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 20 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (559)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimze iela 21 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (517)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa iela 21A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (542)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
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15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 22 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (592)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 23 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (550)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 24 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (591)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa 25 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (520)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 26 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (554)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:06	08:51 15:29
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15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
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19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
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29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
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Total, worst case												
Sun reduction												
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Table layout: For each day in each month the following matrix apply

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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa iela 27 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (558)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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	January	February	March	April	May	June	July	August	September	October	November	December
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2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzēja iela 28 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (549)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa 29 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (553)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (714)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 30 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (572)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (728)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (718)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:20	05:11	06:17	07:21	07:30	08:35
	15:40	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:29	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:44	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:09	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:28	05:11	04:19	04:27	05:23	06:30	07:34	07:44	08:45
	15:49	16:56	18:02	20:10	21:17	22:12	22:15	21:19	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:07	15:29
13	08:52	07:54	06:41	06:14	05:00	04:16	04:34	05:34	06:40	07:45	07:55	08:51
	15:58	17:08	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:20	16:05	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57	08:53
	16:00	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:49	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49	08:00	08:54
	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:54	04:15	04:39	05:41	06:46	07:51	08:02	08:55
	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:35	18:12	16:00	15:29
17	08:47	07:44	06:30	06:04	04:51	04:15	04:40	05:43	06:49	07:53	08:04	08:56
	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56	08:06	08:56
	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:39	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:10	17:22	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:47	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:22	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:29	18:33	20:41	21:45	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:51	15:46	15:31
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:11	08:21	09:00
	16:24	17:36	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:41	15:41	15:34
29	08:27		06:56	05:32	04:31	04:18	05:03	06:08	07:14	07:21	08:29	09:01
	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:35
30	08:25		06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzesa iela 7a - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (736)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Cimzes iela 9 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (762)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Dravas - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (449)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00	14:10 (4)	08:21	15:49 (2)	07:13	06:48	05:27	04:27	04:20	05:09	06:15	07:18
2	15:39	24	14:34 (4)	16:40	14	16:03 (2)	17:46	19:55	21:01	22:02	22:20	21:35
3	09:00	14:10 (4)	08:19	15:49 (2)	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:20
4	15:41	24	14:34 (4)	16:42	17	16:06 (2)	17:48	19:57	21:03	22:04	22:19	21:33
5	09:00	14:12 (4)	08:17	15:48 (2)	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23
6	15:42	23	14:35 (4)	16:44	21	16:09 (2)	17:50	19:59	21:06	22:05	22:19	21:31
7	08:59	14:12 (4)	08:15	15:47 (2)	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25
8	15:43	23	14:35 (4)	16:47	24	16:11 (2)	17:53	20:01	21:08	22:07	22:18	21:29
9	08:59	14:12 (4)	08:12	15:47 (2)	07:03	06:36	05:18	04:22	04:24	05:17	06:23	07:27
10	15:45	23	14:35 (4)	16:49	27	16:14 (2)	17:55	20:04	21:10	22:08	22:17	21:26
11	08:58	14:13 (4)	08:10	15:46 (2)	07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29
12	15:46	22	14:35 (4)	16:52	28	16:14 (2)	17:57	20:06	21:12	22:10	22:16	21:24
13	08:57	14:14 (4)	08:08	15:46 (2)	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31
14	15:48	21	14:35 (4)	16:54	29	16:15 (2)	17:59	20:08	21:14	22:11	22:16	21:22
15	08:57	14:15 (4)	08:06	15:46 (2)	06:54	06:28	05:11	04:19	04:27	05:23	06:29	07:33
16	15:49	21	14:36 (4)	16:56	29	16:15 (2)	18:02	20:10	21:16	22:12	22:15	21:19
17	08:56	14:16 (4)	08:03	15:46 (2)	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36
18	15:51	20	14:36 (4)	16:59	30	16:16 (2)	18:04	20:13	21:19	22:13	22:14	21:17
19	08:55	14:17 (4)	08:01	15:46 (2)	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38
20	15:53	19	14:36 (4)	17:01	29	16:15 (2)	18:06	20:15	21:21	22:14	22:13	21:14
21	08:54	14:17 (4)	07:59	15:47 (2)	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40
22	15:55	18	14:35 (4)	17:03	29	16:16 (2)	18:08	20:17	21:23	22:15	22:11	21:12
23	08:53	14:18 (4)	07:56	15:47 (2)	06:43	06:17	05:02	04:17	04:33	05:32	06:38	07:42
24	15:57	17	14:35 (4)	17:06	28	16:15 (2)	18:11	20:19	21:25	22:16	22:10	21:10
25	08:52	14:19 (4)	07:54	15:48 (2)	06:41	06:14	05:00	04:16	04:34	05:34	06:40	07:44
26	15:58	15	14:34 (4)	17:08	27	16:15 (2)	18:13	20:21	21:27	22:17	22:09	21:07
27	08:51	14:21 (4)	07:52	15:48 (2)	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47
28	16:00	13	14:34 (4)	17:11	26	16:14 (2)	18:15	20:24	21:29	22:18	22:08	21:05
29	08:49	14:22 (4)	07:49	15:48 (2)	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49
30	16:02	11	14:33 (4)	17:13	25	16:13 (2)	18:17	20:26	21:31	22:18	22:06	21:02
31	08:48	14:26 (4)	07:47	15:50 (2)	06:32	06:06	04:54	04:15	04:39	05:40	06:46	07:51
1	16:04	5	14:31 (4)	17:15	22	16:12 (2)	18:20	20:28	21:33	22:19	22:05	21:00
2	08:47	14:27 (4)	07:44	15:51 (2)	06:29	06:04	04:51	04:15	04:40	05:43	06:48	07:53
3	16:06	17:18	20	16:11 (2)	18:22	20:30	21:35	22:20	22:03	20:57	19:33	18:10
4	08:45	17:42	15	15:54 (2)	18:27	20:34	21:39	22:24	22:07	20:51	19:27	18:04
5	16:08	17:20	15	16:09 (2)	18:24	20:32	21:37	22:20	22:02	20:55	19:30	18:07
6	08:44	17:39	15	15:57 (2)	18:24	20:32	21:37	22:20	22:02	20:55	19:30	18:07
7	16:10	17:22	9	16:06 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
8	08:42	17:37	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
9	16:13	17:25	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
10	08:41	17:34	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
11	16:15	17:27	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
12	08:39	17:32	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
13	16:17	17:29	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
14	08:38	17:29	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
15	16:19	17:32	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
16	08:36	17:26	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
17	16:21	17:34	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
18	08:34	17:24	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
19	16:24	17:36	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
20	08:32	17:21	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
21	16:26	17:39	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
22	08:31	17:19	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
23	16:28	17:41	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
24	08:29	17:16	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
25	16:30	17:43	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
26	08:27	15:54 (2)	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
27	16:33	1	15:55 (2)	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27
28	08:25	15:52 (2)	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
29	16:35	6	15:58 (2)	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27
30	08:23	15:51 (2)	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
31	16:37	10	16:01 (2)	15	15:56 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case	316	449	515	539	538	474	386	321	241	207	326	723
Sun reduction	0.11	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.06
Oper. time red.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wind dir. red.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total reduction	0.11	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.06
Total, real	34	87	106	120	120	120	120	120	120	120	26	44

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Dzelzcelš 162. km - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (781)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	09:00	08:21	07:14	06:48	07:51 (7)	05:28
	15:40	16:40	17:46	19:55	46 08:37 (7)	21:01
2	09:00	08:19	07:11	06:45	07:51 (7)	05:25
	15:41	16:42	17:48	19:57	45 08:36 (7)	21:04
3	09:00	08:17	07:08	06:42	07:50 (7)	05:23
	15:42	16:45	17:51	20:00	45 08:35 (7)	21:06
4	08:59	08:15	07:06	06:40	07:51 (7)	05:21
	15:44	16:47	17:53	20:02	44 08:35 (7)	21:08
5	08:59	08:13	07:03	06:37	07:51 (7)	05:18
	15:45	16:50	17:55	20:04	43 08:34 (7)	21:10
6	08:58	08:10	07:00	06:34	07:00 (8)	05:16
	15:47	16:52	17:57	20:06	52 08:33 (7)	21:12
7	08:57	08:08	06:57	06:31	06:57 (8)	05:14
	15:48	16:54	18:00	20:08	55 08:31 (7)	21:15
8	08:57	08:06	06:55	06:28	06:55 (8)	05:11
	15:50	16:57	18:02	20:11	58 08:31 (7)	21:17
9	08:56	08:04	06:52	06:26	06:53 (8)	05:09
	15:52	16:59	18:04	20:13	58 08:29 (7)	21:19
10	08:55	08:01	06:49	06:23	06:51 (8)	05:07
	15:53	17:01	18:06	20:15	58 08:27 (7)	21:21
11	08:54	07:59	06:46	06:20	06:51 (8)	05:04
	15:55	17:04	18:09	20:17	56 08:26 (7)	21:23
12	08:53	07:57	06:44	06:17	06:50 (8)	05:02
	15:57	17:06	18:11	20:19	53 08:23 (7)	21:25
13	08:52	07:54	06:41	06:15	06:49 (8)	05:00
	15:59	17:09	18:13	20:22	49 08:20 (7)	21:27
14	08:51	07:52	06:38	06:12	06:49 (8)	04:58
	16:01	17:11	18:15	20:24	44 08:17 (7)	21:29
15	08:50	07:49	06:35	06:09	06:48 (8)	04:56
	16:03	17:13	18:18	20:26	31 08:10 (7)	21:31
16	08:48	07:47	06:33	06:07	06:48 (8)	04:54
	16:05	17:16	18:20	20:28	27 07:15 (8)	21:34
17	08:47	07:45	06:30	06:04	06:48 (8)	04:52
	16:07	17:18	18:22	10 07:24 (7)	20:30	27 07:15 (8)
18	08:46	07:42	06:27	07:08 (7)	06:01	06:48 (8)
	16:09	17:20	18:24	20 07:28 (7)	20:33	26 07:14 (8)
19	08:44	07:40	06:24	07:05 (7)	05:59	06:49 (8)
	16:11	17:23	18:27	25 07:30 (7)	20:35	25 07:14 (8)
20	08:43	07:37	06:21	07:03 (7)	05:56	06:49 (8)
	16:13	17:25	18:29	29 07:32 (7)	20:37	23 07:12 (8)
21	08:41	07:34	06:19	07:01 (7)	05:53	06:51 (8)
	16:15	17:27	18:31	33 07:34 (7)	20:39	20 07:11 (8)
22	08:40	07:32	06:16	06:59 (7)	05:51	06:51 (8)
	16:17	17:30	18:33	36 07:35 (7)	20:42	18 07:09 (8)
23	08:38	07:29	06:13	06:58 (7)	05:48	06:53 (8)
	16:20	17:32	18:35	38 07:36 (7)	20:44	14 07:07 (8)
24	08:36	07:27	06:10	06:56 (7)	05:46	06:56 (8)
	16:22	17:34	18:38	40 07:36 (7)	20:46	7 07:03 (8)
25	08:34	07:24	06:07	06:55 (7)	05:43	
	16:24	17:37	18:40	41 07:36 (7)	20:48	
26	08:33	07:22	06:05	06:55 (7)	05:40	
	16:26	17:39	18:42	43 07:38 (7)	20:50	
27	08:31	07:19	06:02	06:54 (7)	05:38	
	16:29	17:41	18:44	44 07:38 (7)	20:53	
28	08:29	07:16	05:59	06:53 (7)	05:35	
	16:31	17:44	18:46	44 07:37 (7)	20:55	
29	08:27		06:56	07:52 (7)	05:33	
	16:33		19:49	45 08:37 (7)	20:57	
30	08:25		06:53	07:51 (7)	05:30	
	16:35		19:51	46 08:37 (7)	20:59	
31	08:23		06:51	07:52 (7)		
	16:38		19:53	45 08:37 (7)		
Potential sun hours	227	262	365	429	515	539
Total, worst case				539	924	1079
Sun reduction				0.40	0.43	0.58
Oper. time red.				1.00	1.00	1.00
Wind dir. red.				1.00	1.00	1.00
Total reduction				0.40	0.43	0.58
Total, real				217	393	628

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Dzelzcelš 162. km - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (781)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July		August		September		October	November	December
1	04:20	05:15 (5)	05:09	05:55 (6)	06:15	06:50 (8)	07:19	07:28	08:33
	22:20	45 06:19 (6)	21:35	31 06:26 (6)	20:17	56 08:25 (7)	18:54	16:32	15:37
2	04:21	05:16 (5)	05:11	05:56 (6)	06:17	06:50 (8)	07:21	07:30	08:35
	22:20	46 06:20 (6)	21:33	30 06:26 (6)	20:15	58 08:26 (7)	18:51	16:30	15:36
3	04:22	05:16 (5)	05:13	05:56 (6)	06:19	06:51 (8)	07:23	07:32	08:37
	22:19	46 06:20 (6)	21:31	28 06:24 (6)	20:12	58 08:27 (7)	18:48	16:27	15:35
4	04:23	05:16 (5)	05:15	05:57 (6)	06:21	06:52 (8)	07:25	07:35	08:38
	22:18	48 06:21 (6)	21:29	26 06:23 (6)	20:09	58 08:28 (7)	18:45	16:25	15:34
5	04:24	05:16 (5)	05:18	05:58 (6)	06:23	06:54 (8)	07:27	07:37	08:40
	22:17	49 06:22 (6)	21:26	24 06:22 (6)	20:06	55 08:28 (7)	18:42	16:23	15:34
6	04:25	05:16 (5)	05:20	05:59 (6)	06:26	06:56 (8)	07:29	07:39	08:42
	22:17	49 06:22 (6)	21:24	22 06:21 (6)	20:04	52 08:29 (7)	18:40	16:21	15:33
7	04:26	05:16 (5)	05:22	06:01 (6)	06:28	07:46 (7)	07:31	07:41	08:43
	22:16	51 06:23 (6)	21:22	18 06:19 (6)	20:01	43 08:29 (7)	18:37	16:18	15:32
8	04:28	05:16 (5)	05:24	06:03 (6)	06:30	07:45 (7)	07:34	07:44	08:45
	22:15	52 06:23 (6)	21:19	14 06:17 (6)	19:58	44 08:29 (7)	18:34	16:16	15:31
9	04:29	05:16 (5)	05:26	06:07 (6)	06:32	07:45 (7)	07:36	07:46	08:46
	22:14	52 06:23 (6)	21:17	5 06:12 (6)	19:55	44 08:29 (7)	18:31	16:14	15:31
10	04:30	05:16 (5)	05:28	06:34	06:34	07:44 (7)	07:38	07:48	08:47
	22:13	54 06:24 (6)	21:15		19:52	45 08:29 (7)	18:29	16:12	15:30
11	04:32	05:17 (5)	05:30	06:36	06:36	07:43 (7)	07:40	07:51	08:49
	22:12	54 06:25 (6)	21:12		19:50	46 08:29 (7)	18:26	16:10	15:30
12	04:33	05:16 (5)	05:32	06:38	06:38	07:43 (7)	07:42	07:53	08:50
	22:10	55 06:25 (6)	21:10	19:47	46 08:29 (7)	18:23	16:08	15:30	15:30
13	04:35	05:16 (5)	05:34	06:40	06:40	07:43 (7)	07:45	07:55	08:51
	22:09	55 06:25 (6)	21:07	19:44	45 08:28 (7)	18:21	16:06	15:29	15:29
14	04:36	05:17 (5)	05:37	06:42	06:42	07:42 (7)	07:47	07:57	08:52
	22:08	56 06:26 (6)	21:05	19:41	46 08:28 (7)	18:18	16:04	15:29	15:29
15	04:38	05:17 (5)	05:39	06:45	06:45	07:42 (7)	07:49	08:00	08:54
	22:06	56 06:26 (6)	21:02	19:38	45 08:27 (7)	18:15	16:02	15:29	15:29
16	04:39	05:18 (5)	05:41	06:47	06:47	07:42 (7)	07:51	08:02	08:55
	22:05	56 06:27 (6)	21:00	19:36	44 08:26 (7)	18:13	16:00	15:29	15:29
17	04:41	05:19 (5)	05:43	06:49	06:49	07:42 (7)	07:53	08:04	08:55
	22:03	54 06:27 (6)	20:57	19:33	43 08:25 (7)	18:10	15:58	15:29	15:29
18	04:43	05:21 (5)	05:45	06:51	06:51	07:42 (7)	07:56	08:06	08:56
	22:02	54 06:28 (6)	20:55	19:30	42 08:24 (7)	18:07	15:56	15:29	15:29
19	04:44	05:22 (5)	05:47	07:02 (8)	06:53	07:44 (7)	07:58	08:09	08:57
	22:00	52 06:27 (6)	20:52	9 07:11 (8)	19:27	40 08:24 (7)	18:05	15:55	15:29
20	04:46	05:24 (5)	05:49	06:59 (8)	06:55	07:44 (7)	08:00	08:11	08:58
	21:59	50 06:28 (6)	20:50	14 07:13 (8)	19:24	38 08:22 (7)	18:02	15:53	15:30
21	04:48	05:25 (5)	05:52	06:57 (8)	06:57	07:45 (7)	08:02	08:13	08:59
	21:57	49 06:28 (6)	20:47	18 07:15 (8)	19:22	36 08:21 (7)	17:59	15:51	15:30
22	04:50	05:27 (5)	05:54	06:55 (8)	06:59	07:46 (7)	08:05	08:15	08:59
	21:55	47 06:28 (6)	20:44	21 07:16 (8)	19:19	33 08:19 (7)	17:57	15:50	15:31
23	04:52	05:29 (5)	05:56	06:54 (8)	07:01	07:47 (7)	08:07	08:17	09:00
	21:53	45 06:29 (6)	20:42	23 07:17 (8)	19:16	30 08:17 (7)	17:54	15:48	15:31
24	04:53	05:30 (5)	05:58	06:53 (8)	07:04	07:48 (7)	08:09	08:19	09:00
	21:51	42 06:28 (6)	20:39	24 07:17 (8)	19:13	27 08:15 (7)	17:52	15:46	15:32
25	04:55	05:32 (5)	06:00	06:52 (8)	07:06	07:50 (7)	07:12	08:21	09:00
	21:50	38 06:28 (6)	20:36	26 07:18 (8)	19:10	22 08:12 (7)	16:49	15:45	15:32
26	04:57	05:53 (6)	06:02	06:51 (8)	07:08	07:53 (7)	07:14	08:23	09:01
	21:48	35 06:28 (6)	20:34	27 07:18 (8)	19:07	14 08:07 (7)	16:47	15:44	15:33
27	04:59	05:53 (6)	06:04	06:51 (8)	07:10		07:16	08:25	09:01
	21:46	35 06:28 (6)	20:31	27 07:18 (8)	19:05		16:44	15:42	15:34
28	05:01	05:53 (6)	06:06	06:50 (8)	07:12		07:18	08:27	09:01
	21:44	34 06:27 (6)	20:28	34 08:13 (7)	19:02		16:42	15:41	15:35
29	05:03	05:53 (6)	06:09	06:50 (8)	07:14		07:21	08:29	09:01
	21:42	34 06:27 (6)	20:26	44 08:19 (7)	18:59		16:39	15:40	15:36
30	05:05	05:54 (6)	06:11	06:50 (8)	07:16		07:23	08:31	09:01
	21:40	33 06:27 (6)	20:23	49 08:21 (7)	18:56		16:37	15:39	15:37
31	05:07	05:54 (6)	06:13	06:50 (8)			07:25		09:01
	21:37	33 06:27 (6)	20:20	53 08:23 (7)			16:34		15:38
Potential sun hours	538		474		386		321	241	207
Total, worst case	1459		567		1110				
Sun reduction	0.47		0.50		0.46				
Oper. time red.	1.00		1.00		1.00				
Wind dir. red.	1.00		1.00		1.00				
Total reduction	0.47		0.50		0.46				
Total, real	686		286		513				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Dzeni - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (589)
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	09:00 15:39	08:21 16:40	07:13 17:46	16:33 (2) 16:53 (2)	06:48 19:55	04:27 22:02
2	09:00 15:41	08:19 16:42	07:11 17:48	16:34 (2) 16:51 (2)	06:45 19:57	04:25 22:04
3	09:00 15:42	08:17 16:44	07:08 17:50	16:36 (2) 16:48 (2)	06:42 19:59	04:24 22:05
4	08:59 15:43	14:57 (4) 16:47	07:05 17:53	06:39 20:01	05:20 21:08	04:23 22:07
5	08:59 15:45	14:57 (4) 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08
6	08:58 15:46	14:57 (4) 15:01 (4)	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12
7	08:57 15:48	14:57 (4) 15:03 (4)	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14
8	08:57 15:49	14:57 (4) 15:05 (4)	08:06 16:56	06:54 18:02	05:11 20:10	04:19 21:16
9	08:56 15:51	14:57 (4) 15:07 (4)	08:03 16:59	06:52 18:04	05:09 20:12	04:18 21:13
10	08:55 15:53	14:57 (4) 15:09 (4)	08:01 17:01	06:49 18:06	05:06 20:15	04:18 21:14
11	08:54 15:55	14:57 (4) 15:11 (4)	07:59 17:03	06:46 18:08	05:04 20:17	04:17 21:15
12	08:53 15:57	14:57 (4) 15:13 (4)	07:56 17:06	06:43 18:11	05:02 20:19	04:17 21:16
13	08:52 15:58	14:56 (4) 15:15 (4)	07:54 17:08	06:41 18:13	05:00 20:21	04:16 21:17
14	08:51 16:00	14:57 (4) 15:18 (4)	07:52 17:11	06:38 18:15	04:58 20:24	04:16 21:18
15	08:49 16:02	14:57 (4) 15:20 (4)	07:49 17:13	06:35 16:37 (2) 18:17	04:56 20:26	04:15 21:18
16	08:48 16:04	14:58 (4) 15:21 (4)	07:47 17:15	06:32 16:35 (2) 18:20	04:53 20:28	04:15 21:19
17	08:47 16:06	14:58 (4) 15:22 (4)	07:44 17:18	06:29 16:33 (2) 18:22	04:51 20:30	04:15 21:20
18	08:45 16:08	14:58 (4) 15:22 (4)	07:42 17:20	06:27 16:32 (2) 18:24	04:50 20:32	04:15 21:20
19	08:44 16:10	14:58 (4) 15:22 (4)	07:39 17:22	06:24 16:32 (2) 18:26	04:48 20:35	04:15 21:21
20	08:42 16:13	14:59 (4) 15:23 (4)	07:37 17:25	06:21 16:31 (2) 18:28	04:46 20:37	04:15 21:21
21	08:41 16:15	14:59 (4) 15:23 (4)	07:34 17:27	06:18 16:30 (2) 18:31	04:44 20:39	04:15 21:22
22	08:39 16:17	15:00 (4) 15:23 (4)	07:32 17:29	06:16 16:30 (2) 18:33	04:42 20:41	04:15 21:22
23	08:38 16:19	15:00 (4) 15:23 (4)	07:29 17:32	06:13 16:30 (2) 18:35	04:40 20:43	04:15 21:22
24	08:36 16:21	15:01 (4) 15:22 (4)	07:26 17:34	06:10 16:29 (2) 18:37	04:39 20:46	04:15 21:22
25	08:34 16:24	15:02 (4) 15:22 (4)	07:24 17:36	06:07 16:30 (2) 18:39	04:37 20:48	04:16 21:22
26	08:32 16:26	15:03 (4) 15:22 (4)	07:21 17:39	06:04 16:30 (2) 18:42	04:35 20:50	04:16 21:21
27	08:31 16:28	15:04 (4) 15:21 (4)	07:19 17:41	06:02 16:30 (2) 18:44	04:34 20:52	04:17 21:21
28	08:29 16:30	15:05 (4) 15:20 (4)	07:16 17:43	05:59 16:31 (2) 18:46	04:32 20:55	04:17 21:21
29	08:27 16:33	15:08 (4) 15:18 (4)		06:56 19:48	04:31 20:57	04:18 21:21
30	08:25 16:35	15:12 (4) 15:15 (4)		06:53 19:50	04:29 20:59	04:19 21:20
31	08:23 16:37			06:50 19:53	04:28 22:01	
Potential sun hours	227	262	365	429	515	539
Total, worst case	431	281	49			
Sun reduction	0.11	0.19	0.40			
Oper. time red.	1.00	1.00	1.00			
Wind dir. red.	1.00	1.00	1.00			
Total reduction	0.11	0.19	0.40			
Total, real	47	55	20			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Dzeni - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (589)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October		November	December
1	04:20	05:09	06:15	07:18		07:27	08:33
	22:20	21:35	20:17	18:53		16:32	14:39 (4)
2	04:21	05:11	06:17	07:20		07:30	08:35
	22:19	21:33	20:14	18:50		16:29	13 14:52 (4)
3	04:21	05:13	06:19	07:23		07:32	08:36
	22:19	21:31	20:12	18:48		16:27	10 14:50 (4)
4	04:22	05:15	06:21	07:25		07:34	08:38
	22:18	21:28	20:09	18:45		16:25	8 14:49 (4)
5	04:24	05:17	06:23	07:27		07:37	08:40
	22:17	21:26	20:06	18:42		16:23	6 14:48 (4)
6	04:25	05:19	06:25	07:29		07:39	08:41
	22:16	21:24	20:03	18:39		16:20	4 14:47 (4)
7	04:26	05:21	06:27	07:31		07:41	08:43
	22:16	21:22	20:01	18:37		16:18	3 14:47 (4)
8	04:27	05:23	06:29	07:33		07:43	08:44
	22:15	21:19	19:58	18:34		16:16	1 14:45 (4)
9	04:28	05:26	06:32	07:36		07:46	08:46
	22:14	21:17	19:55	18:31		16:14	15:31
10	04:30	05:28	06:34	07:38		17:13 (2)	08:47
	22:12	21:14	19:52	18:28	7	17:20 (2)	15:30
11	04:31	05:30	06:36	07:40		17:09 (2)	08:49
	22:11	21:12	19:49	18:26	14	17:23 (2)	15:30
12	04:33	05:32	06:38	07:42		17:06 (2)	08:50
	22:10	21:10	19:47	18:23	18	17:24 (2)	4 14:46 (4)
13	04:34	05:34	06:40	07:44		17:05 (2)	08:51
	22:09	21:07	19:44	18:20	21	17:26 (2)	11 14:50 (4)
14	04:36	05:36	06:42	07:47		17:03 (2)	08:52
	22:07	21:05	19:41	18:18	23	17:26 (2)	15 14:53 (4)
15	04:37	05:38	06:44	07:49		17:02 (2)	08:53
	22:06	21:02	19:38	18:15	25	17:27 (2)	17 14:53 (4)
16	04:39	05:40	06:46	07:51		17:02 (2)	08:54
	22:05	21:00	19:35	18:12	26	17:28 (2)	19 14:55 (4)
17	04:40	05:43	06:48	07:53		17:01 (2)	08:55
	22:03	20:57	19:33	18:10	26	17:27 (2)	20 14:55 (4)
18	04:42	05:45	06:51	07:55		17:01 (2)	08:56
	22:02	20:54	19:30	18:07	27	17:28 (2)	22 14:57 (4)
19	04:44	05:47	06:53	07:58		17:01 (2)	08:57
	22:00	20:52	19:27	18:04	26	17:27 (2)	23 14:57 (4)
20	04:46	05:49	06:55	08:00		17:00 (2)	08:58
	21:58	20:49	19:24	18:02	27	17:27 (2)	23 14:58 (4)
21	04:47	05:51	06:57	08:02		17:01 (2)	08:58
	21:57	20:47	19:21	17:59	25	17:26 (2)	24 14:58 (4)
22	04:49	05:53	06:59	08:04		17:01 (2)	08:59
	21:55	20:44	19:18	17:56	21	17:22 (2)	24 14:59 (4)
23	04:51	05:55	07:01	08:07		17:02 (2)	08:59
	21:53	20:41	19:16	17:54	18	17:20 (2)	24 14:59 (4)
24	04:53	05:58	07:03	08:09		17:02 (2)	09:00
	21:51	20:39	19:13	17:51	15	17:17 (2)	24 14:59 (4)
25	04:55	06:00	07:05	07:11		16:04 (2)	09:00
	21:49	20:36	19:10	16:49	11	16:15 (2)	24 15:00 (4)
26	04:57	06:02	07:08	07:14		16:05 (2)	09:00
	21:47	20:33	19:07	16:46	7	16:12 (2)	24 15:00 (4)
27	04:59	06:04	07:10	07:16		16:08 (2)	09:01
	21:45	20:31	19:04	16:44	2	16:10 (2)	23 14:59 (4)
28	05:01	06:06	07:12	07:18		08:27	09:01
	21:43	20:28	19:02	16:41		15:41	21 14:58 (4)
29	05:03	06:08	07:14	07:20		08:29	09:01
	21:41	20:25	18:59	16:39		15:39	18 14:56 (4)
30	05:05	06:10	07:16	07:23		08:31	09:01
	21:39	20:23	18:56	16:37		15:38	17 14:55 (4)
31	05:07	06:13		07:25			09:00
	21:37	20:20		16:34			15:38
Potential sun hours	538	474	386	321		241	207
Total, worst case				339		377	59
Sun reduction				0.28		0.08	0.06
Oper. time red.				1.00		1.00	1.00
Wind dir. red.				1.00		1.00	1.00
Total reduction				0.28		0.08	0.06
Total, real				96		30	4

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (519)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 10 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (545)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 11 (94010030201001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (536)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 11 (94010030201005) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (571)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 12 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (547)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 13 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (516)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 14 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (566)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 15 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (525)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 16 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (515)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
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29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 17 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (528)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
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12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
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22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 18 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (527)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:29	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:45	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:08	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
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	15:49	16:56	18:02	20:10	21:17	22:12	22:15	21:19	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:25	05:09	04:19	04:28	05:26	06:32	07:36	07:46	08:46
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12	08:53	07:57	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:08	15:29
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14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57	08:53
	16:00	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18	16:04	15:29
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	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
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	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
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	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
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23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
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24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
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	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 18A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (567)
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 19 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (530)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 20 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (546)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:50	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 20A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (538)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:50	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 22 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (565)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (544)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 4 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (564)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
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Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (548)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
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Total, worst case												
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Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 6 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (511)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (526)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

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	January	February	March	April	May	June	July	August	September	October	November	December
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12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 8 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (532)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Darza iela 9 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (552)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Dumini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (455)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	09:00		13:19 (11)	08:21		14:35 (4)	07:13			06:48		18:13 (2)	05:28		04:27			
	15:39	30	14:53 (12)	16:40	66	15:56 (13)	17:46			19:55	49	19:02 (2)	21:01		22:02			
2	09:00		13:20 (11)	08:19		14:35 (4)	07:11			06:45		18:13 (2)	05:25		04:25			
	15:41	29	14:54 (12)	16:42	66	15:56 (13)	17:48			19:57	48	19:01 (2)	21:03		22:04			
3	09:00		13:23 (11)	08:17		14:36 (4)	07:08			06:42		18:12 (2)	05:23		04:24			
	15:42	26	14:56 (12)	16:44	65	15:56 (13)	17:50			19:59	49	19:01 (2)	21:06		22:05			
4	08:59		14:34 (12)	08:15		14:36 (4)	07:05			06:39		18:11 (2)	05:20		04:23			
	15:43	24	14:58 (12)	16:47	62	15:55 (13)	17:53			20:01	50	19:01 (2)	21:08		22:07			
5	08:59		14:34 (12)	08:12		14:37 (4)	07:03			06:36		18:12 (2)	05:18		04:22			
	15:45	25	14:59 (12)	16:49	60	15:55 (13)	17:55			20:04	49	19:01 (2)	21:10		22:08			
6	08:58		14:34 (12)	08:10		14:36 (4)	07:00			06:34		18:12 (2)	05:16		04:21			
	15:46	26	15:00 (12)	16:52	63	16:16 (14)	17:57			20:06	48	19:00 (2)	21:12		22:09			
7	08:57		14:34 (12)	08:08		14:37 (4)	06:57			06:31		18:11 (2)	05:13		04:20			
	15:48	27	15:01 (12)	16:54	64	16:19 (14)	17:59			20:08	48	18:59 (2)	21:14		22:11			
8	08:57		14:35 (12)	08:06		14:38 (4)	06:54			06:28		18:11 (2)	05:11		04:19			
	15:50	26	15:04 (12)	17:06	60	16:22 (14)	18:02			20:10	48	18:59 (2)	21:16		22:12			
9	08:56		14:35 (12)	08:03		14:39 (4)	06:52		17:32 (3)	06:25		18:12 (2)	05:09		04:19			
	15:51	27	15:02 (12)	16:59	57	16:25 (14)	18:04	2	17:34 (3)	20:13	46	18:58 (2)	21:19		22:13			
10	08:55		14:35 (12)	08:01		14:39 (4)	06:49		17:29 (3)	06:23		18:12 (2)	05:06		04:18			
	15:53	28	15:03 (12)	17:01	60	16:27 (14)	18:06	7	17:36 (3)	20:15	45	18:57 (2)	21:21		22:14			
11	08:54		14:35 (12)	07:59		14:41 (4)	06:46		17:28 (3)	06:20		18:12 (2)	05:04		04:17			
	15:55	28	15:03 (12)	17:03	60	16:30 (14)	18:08	12	17:40 (3)	20:17	44	18:56 (2)	21:23		22:15			
12	08:53		14:36 (12)	07:56		14:42 (4)	06:43		17:26 (3)	06:17		18:13 (2)	05:02		04:17			
	15:57	28	15:04 (12)	17:06	60	16:31 (14)	18:11	16	17:42 (3)	20:19	43	18:56 (2)	21:25		22:16			
13	08:52		14:35 (12)	07:54		14:43 (4)	06:41		17:25 (3)	06:14		18:14 (2)	05:00		04:16			
	15:58	29	15:04 (12)	17:08	59	16:32 (14)	18:13	19	17:44 (3)	20:21	40	18:54 (2)	21:27		22:17			
14	08:51		14:36 (12)	07:52		14:45 (4)	06:38		17:24 (3)	06:12		18:14 (2)	04:58		04:16			
	16:00	29	15:05 (4)	17:11	55	16:32 (14)	18:15	22	17:46 (3)	20:24	39	18:53 (2)	21:29		22:18			
15	08:49		14:36 (12)	07:49		14:46 (4)	06:35		17:23 (3)	06:09		18:16 (2)	04:56		04:15			
	16:02	30	15:06 (4)	17:13	53	16:32 (14)	18:17	24	17:47 (3)	20:26	36	18:52 (2)	21:31		22:18			
16	08:48		14:37 (12)	07:47		14:50 (4)	06:32		17:22 (3)	06:06		18:17 (2)	04:54		04:15			
	16:04	31	15:08 (4)	17:15	46	16:32 (14)	18:20	25	17:47 (3)	20:28	33	18:50 (2)	21:33		22:19			
17	08:47		14:37 (12)	07:44		14:54 (4)	06:30		17:23 (3)	06:04		18:19 (2)	04:52		04:15			
	16:06	32	15:09 (4)	17:18	37	16:32 (14)	18:22	25	17:48 (3)	20:30	29	18:48 (2)	21:35		22:20			
18	08:45		14:37 (4)	07:42		16:05 (14)	06:27		17:23 (3)	06:01		18:20 (2)	04:50		04:15			
	16:08	32	15:09 (4)	17:20	27	16:32 (14)	18:24	24	17:47 (3)	20:32	26	18:46 (2)	21:37		22:20			
19	08:44		14:36 (4)	07:39		16:05 (14)	06:24		17:23 (3)	05:58		18:22 (2)	04:48		04:15			
	16:11	34	15:10 (4)	17:22	26	16:31 (14)	18:26	23	17:46 (3)	20:35	21	18:43 (2)	21:39		22:21			
20	08:42		14:37 (4)	07:37		16:05 (14)	06:21		17:23 (3)	05:56		18:27 (2)	04:46		04:15			
	16:13	35	15:12 (4)	17:25	25	16:30 (14)	18:28	24	17:47 (2)	20:37	12	18:39 (2)	21:41		22:21			
21	08:41		14:36 (4)	07:34		16:06 (14)	06:18		17:24 (3)	05:53			04:44		04:15			
	16:15	37	15:13 (4)	17:27	23	16:29 (14)	18:31	27	17:51 (2)	20:39			21:43		22:21			
22	08:39		14:36 (4)	07:32		16:08 (14)	06:16		17:26 (3)	05:50			04:42		04:15			
	16:17	39	15:37 (13)	17:29	20	16:28 (14)	18:33	28	17:54 (2)	20:41			21:45		22:21			
23	08:38		14:36 (4)	07:29		16:09 (14)	06:13		17:25 (2)	05:48			04:40		04:15			
	16:19	44	15:40 (13)	17:32	17	16:26 (14)	18:35	31	17:56 (2)	20:43			21:47		22:21			
24	08:36		14:36 (4)	07:26		16:11 (14)	06:10		17:22 (2)	05:45			04:39		04:16			
	16:21	49	15:43 (13)	17:34	12	16:23 (14)	18:37	35	17:57 (2)	20:46			21:49		22:22			
25	08:34		14:36 (4)	07:24			06:07		17:20 (2)	05:43			04:37		04:16			
	16:24	51	15:45 (13)	17:36			18:39	38	17:58 (2)	20:48			21:51		22:22			
26	08:32		14:36 (4)	07:21			06:04		17:19 (2)	05:40			04:35		04:16			
	16:26	55	15:48 (13)	17:39			18:42	40	17:59 (2)	20:50			21:53		22:21			
27	08:31		14:35 (4)	07:19			06:02		17:17 (2)	05:38			04:34		04:17			
	16:28	59	15:50 (13)	17:41			18:44	42	17:59 (2)	20:52			21:54		22:21			
28	08:29		14:35 (4)	07:16			05:59		17:17 (2)	05:35			04:32		04:18			
	16:30	61	15:52 (13)	17:43			18:46	44	18:01 (2)	20:55			21:56		22:21			
29	08:27		14:35 (4)				06:56		18:15 (2)	05:32			04:31		04:18			
	16:33	65	15:55 (13)				19:48	46	19:01 (2)	20:57			21:58		22:21			
30	08:25		14:35 (4)				06:53		18:14 (2)	05:30			04:29		04:19			
	16:35	66	15:56 (13)				19:50	47	19:01 (2)	20:59			21:59		22:20			
31	08:23		14:36 (4)				06:50		18:13 (2)				04:28					
	16:37	65	15:56 (13)				19:53	48	19:01 (2)				22:01					
Potential sun hours	227			262		365			429			515		539				
Total, worst case		1167			1143		649		803									
Sun reduction		0.11			0.19		0.40		0.43									
Oper. time red.		1.00			1.00		1.00		1.00									
Wind dir. red.		1.00			1.00		1.00		1.00									
Total reduction		0.11			0.19		0.40		0.43									
Total, real		127			222		262		342									

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Dumini - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (455)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July		August		September		October		November		December	
1	04:20	05:09			06:15	18:11 (2)	07:18		18:05 (3)	07:27	14:09 (4)	08:33
	22:20	21:35			20:17	44 18:55 (2)	18:53	17	18:22 (3)	16:32	58 15:56 (14)	15:37
2	04:21	05:11			06:17	18:10 (2)	07:20		18:05 (3)	07:30	14:08 (4)	08:35
	22:19	21:33			20:14	45 18:55 (2)	18:50	14	18:19 (3)	16:29	57 15:54 (14)	15:36
3	04:22	05:13			06:19	18:10 (2)	07:23		18:06 (3)	07:32	14:07 (4)	08:36
	22:19	21:31			20:12	46 18:56 (2)	18:48	10	18:16 (3)	16:27	61 15:51 (14)	15:35
4	04:23	05:15			06:21	18:09 (2)	07:25		18:08 (3)	07:34	14:07 (4)	08:38
	22:18	21:28			20:09	48 18:57 (2)	18:45	5	18:13 (3)	16:25	64 15:49 (14)	15:34
5	04:24	05:17			06:23	18:08 (2)	07:27			07:37	14:06 (4)	08:40
	22:17	21:26			20:06	48 18:56 (2)	18:42			16:23	64 15:46 (14)	15:33
6	04:25	05:19			06:25	18:08 (2)	07:29			07:39	14:06 (4)	08:41
	22:16	21:24			20:03	48 18:56 (2)	18:39			16:20	60 15:24 (13)	15:33
7	04:26	05:21			06:27	18:07 (2)	07:31			07:41	14:06 (4)	08:43
	22:16	21:22			20:01	49 18:56 (2)	18:37			16:18	64 15:26 (13)	15:32
8	04:27	05:24			06:30	18:07 (2)	07:33			07:43	14:06 (4)	08:44
	22:15	21:19			19:58	49 18:53 (2)	18:34			16:16	64 15:26 (13)	15:31
9	04:28	05:26			06:32	18:06 (2)	07:36			07:46	14:06 (4)	08:46
	22:14	21:17			19:55	49 18:55 (2)	18:31			16:14	66 15:27 (13)	15:31
10	04:30	05:28			06:34	18:06 (2)	07:38			07:48	14:06 (4)	08:47
	22:12	21:14			19:52	49 18:55 (2)	18:28			16:12	67 15:27 (13)	15:30
11	04:31	05:30			06:36	18:06 (2)	07:40			07:50	14:06 (4)	08:49
	22:11	21:12			19:49	48 18:54 (2)	18:26			16:10	66 15:27 (13)	15:30
12	04:33	05:32			06:38	18:06 (2)	07:42			07:53	14:06 (4)	08:50
	22:10	21:10			19:47	47 18:53 (2)	18:23			16:08	67 15:27 (13)	15:29
13	04:34	05:34			06:40	18:06 (2)	07:44			07:55	14:07 (4)	08:51
	22:09	21:07			19:44	46 18:52 (2)	18:20			16:06	65 15:27 (13)	15:29
14	04:36	05:36			06:42	18:06 (2)	07:47			07:57	14:08 (4)	08:52
	22:07	21:05			19:41	45 18:51 (2)	18:18			16:04	61 15:25 (13)	15:29
15	04:37	05:38			06:44	18:06 (2)	07:49			07:59	14:07 (4)	08:53
	22:06	21:02			19:38	44 18:50 (2)	18:15			16:02	60 15:23 (13)	15:29
16	04:39	05:41			06:46	18:06 (2)	07:51			08:02	14:08 (4)	08:54
	22:05	21:00			19:35	43 18:49 (2)	18:12			16:00	56 15:21 (13)	15:29
17	04:41	05:43			06:49	18:07 (2)	07:53		16:46 (14)	08:04	14:09 (4)	08:55
	22:03	20:57			19:33	41 18:48 (2)	18:10	6	16:52 (14)	15:58	51 15:18 (13)	15:29
18	04:42	05:45			06:51	18:08 (2)	07:55		16:42 (14)	08:06	14:10 (4)	08:56
	22:02	20:55			19:30	38 18:46 (2)	18:07	14	16:56 (14)	15:56	48 15:17 (13)	15:29
19	04:44	05:47			06:53	18:09 (2)	07:58		16:39 (14)	08:08	14:10 (4)	08:57
	22:00	20:52			19:27	35 18:44 (2)	18:04	19	16:58 (14)	15:54	44 15:14 (13)	15:29
20	04:46	05:49			06:55	18:10 (2)	08:00		16:37 (14)	08:10	14:11 (4)	08:58
	21:58	20:49			19:24	32 18:42 (2)	18:02	21	16:58 (14)	15:53	39 15:12 (13)	15:29
21	04:48	05:51			06:57	18:11 (2)	08:02		16:37 (14)	08:13	14:11 (4)	08:58
	21:57	20:47			19:21	29 18:40 (2)	17:59	23	17:00 (14)	15:51	37 14:48 (4)	15:30
22	04:49	05:53			06:59	18:10 (3)	08:04		16:35 (14)	08:15	14:13 (4)	08:59
	21:55	20:44			19:18	28 18:38 (2)	17:57	25	17:00 (14)	15:49	35 14:48 (4)	15:30
23	04:51	05:55		18:30 (2)	07:01	18:08 (3)	08:07		16:35 (14)	08:17	14:14 (4)	08:59
	21:53	20:41	13	18:43 (2)	19:16	26 18:34 (2)	17:54	26	17:01 (14)	15:48	33 14:47 (4)	15:31
24	04:53	05:58		18:26 (2)	07:03	18:07 (3)	08:09		16:34 (14)	08:19	14:14 (4)	09:00
	21:51	20:39	21	18:47 (2)	19:13	22 18:29 (3)	17:51	27	17:01 (14)	15:46	33 14:47 (4)	15:31
25	04:55	06:00		18:23 (2)	07:05	18:06 (3)	07:11		14:23 (4)	08:21	14:15 (12)	09:00
	21:49	20:36	26	18:49 (2)	19:10	24 18:30 (3)	16:49	40	16:02 (14)	15:45	32 14:47 (4)	15:32
26	04:57	06:02		18:20 (2)	07:08	18:05 (3)	07:14		14:18 (4)	08:23	14:15 (12)	09:00
	21:47	20:33	30	18:50 (2)	19:07	24 18:29 (3)	16:46	48	16:01 (14)	15:43	31 14:46 (4)	15:33
27	04:59	06:04		18:18 (2)	07:10	18:04 (3)	07:16		14:16 (4)	08:25	14:15 (12)	09:01
	21:45	20:31	34	18:52 (2)	19:04	25 18:29 (3)	16:44	53	16:02 (14)	15:42	30 14:45 (4)	15:34
28	05:01	06:06		18:16 (2)	07:12	18:04 (3)	07:18		14:14 (4)	08:27	14:16 (12)	09:01
	21:43	20:28	37	18:53 (2)	19:02	24 18:28 (3)	16:41	56	16:01 (14)	15:41	29 14:45 (12)	15:35
29	05:03	06:08		18:15 (2)	07:14	18:04 (3)	07:20		14:13 (4)	08:29	14:17 (12)	09:01
	21:41	20:25	39	18:54 (2)	18:59	23 18:27 (3)	16:39	58	16:01 (14)	15:39	28 14:45 (12)	15:36
30	05:05	06:10		18:13 (2)	07:16	18:05 (3)	07:23		14:11 (4)	08:31	14:17 (12)	09:01
	21:39	20:23	41	18:54 (2)	18:56	20 18:25 (3)	16:37	60	16:00 (14)	15:38	28 14:45 (12)	15:37
31	05:07	06:13		18:12 (2)			07:25		14:10 (4)		09:00	13:17 (11)
	21:37	20:20	43	18:55 (2)			16:34	60	15:59 (14)		15:38	32 14:52 (12)
Potential sun hours	538	474			386		321		241		207	
Total, worst case			284		1139		582		1498		901	
Sun reduction			0.50		0.46		0.28		0.08		0.06	
Oper. time red.			1.00		1.00		1.00		1.00		1.00	
Wind dir. red.			1.00		1.00		1.00		1.00		1.00	
Total reduction			0.50		0.46		0.28		0.08		0.06	
Total, real			143		526		165		117		55	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Gailenes - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (788)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running
with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	11:11 (5) 11:35 (5)	08:21 16:40	09:33 (1) 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32
2	09:00 15:41	11:13 (5) 11:35 (5)	08:19 16:42	09:33 (1) 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30
3	09:00 15:42	11:13 (5) 11:35 (5)	08:17 16:45	09:35 (1) 17:50	06:42 19:57	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27
4	08:59 15:43	11:14 (5) 11:35 (5)	08:15 16:47	09:37 (1) 17:53	06:39 19:57	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25
5	08:59 15:45	11:15 (5) 11:34 (5)	08:13 16:49	09:37 (1) 17:55	06:37 19:55	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23
6	08:58 15:46	11:16 (5) 11:34 (5)	08:10 16:52	09:37 (1) 17:57	06:34 19:55	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:40	07:39 16:20
7	08:58 15:48	11:16 (5) 11:34 (5)	08:08 16:54	09:38 (1) 17:58	06:31 19:55	05:13 21:15	04:20 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:31 18:37	07:41 16:18
8	08:57 15:50	11:17 (5) 11:33 (5)	08:06 16:56	09:38 (1) 18:02	06:28 19:55	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 20:01	07:34 18:34	07:44 16:16
9	08:56 15:51	11:18 (5) 11:32 (5)	08:04 16:59	09:39 (1) 18:04	06:26 19:55	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 20:01	07:36 18:31	07:46 16:14
10	08:55 15:53	11:19 (5) 11:31 (5)	08:01 17:01	09:40 (1) 18:06	06:23 19:55	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 20:01	07:38 18:29	07:48 16:12
11	08:54 15:55	11:20 (5) 11:30 (5)	07:59 17:04	09:41 (1) 18:09	06:20 19:55	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 20:01	07:40 18:26	07:51 16:10
12	08:53 15:57	11:21 (5) 11:29 (5)	07:57 17:06	09:42 (1) 18:11	06:17 19:55	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 20:01	07:42 18:23	07:53 16:08
13	08:52 15:59	11:22 (5) 11:30 (5)	07:54 17:08	09:43 (1) 18:13	06:15 19:55	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 20:01	07:45 18:20	07:55 16:06
14	08:51 16:00	11:23 (5) 11:30 (5)	07:52 17:11	09:44 (1) 18:15	06:12 19:55	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 20:01	07:47 18:18	07:57 16:04
15	08:50 16:02	11:24 (5) 11:31 (5)	07:49 17:13	09:45 (1) 18:16	06:09 19:55	04:56 21:32	04:15 22:19	04:37 22:06	05:39 21:02	06:44 20:01	07:49 18:15	08:00 16:02
16	08:48 16:04	11:25 (5) 11:30 (5)	07:47 17:15	09:46 (1) 18:17	06:06 19:55	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 20:01	07:51 18:12	08:02 16:00
17	08:47 16:06	11:26 (5) 11:30 (5)	07:45 17:18	09:47 (1) 18:18	06:04 19:55	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 20:01	07:53 18:10	08:04 15:58
18	08:46 16:09	11:27 (5) 11:30 (5)	07:42 17:20	09:48 (1) 18:19	06:01 19:55	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 20:01	07:56 18:07	08:06 15:56
19	08:44 16:11	11:28 (5) 11:30 (5)	07:40 17:23	09:49 (1) 18:20	05:58 19:55	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 20:01	07:58 18:04	08:09 15:54
20	08:43 16:13	11:29 (5) 11:30 (5)	07:37 17:25	09:50 (1) 18:21	05:56 19:55	04:46 21:42	04:15 22:21	04:46 22:00	05:49 20:52	06:55 20:01	08:00 18:04	08:11 15:54
21	08:41 16:15	11:30 (5) 11:30 (5)	07:34 17:27	09:51 (1) 18:22	05:53 19:55	04:44 21:44	04:15 22:21	04:48 22:00	05:51 20:52	06:57 20:01	08:02 18:02	08:13 15:53
22	08:40 16:17	11:31 (5) 11:30 (5)	07:32 17:30	09:52 (1) 18:23	05:51 19:55	04:42 21:45	04:15 22:22	04:49 22:00	05:53 20:44	06:59 20:01	08:05 18:07	08:15 15:49
23	08:38 16:19	11:32 (5) 11:30 (5)	07:29 17:32	09:53 (1) 18:24	05:48 19:55	04:40 21:47	04:15 22:22	04:51 22:00	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48
24	08:36 16:22	11:33 (5) 11:30 (5)	07:27 17:34	09:54 (1) 18:25	05:45 19:55	04:39 21:49	04:16 22:22	04:53 22:00	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46
25	08:34 16:24	11:34 (5) 11:30 (5)	07:24 17:37	09:55 (1) 18:26	05:43 19:55	04:37 21:51	04:16 22:22	04:55 22:00	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45
26	08:33 16:26	11:35 (5) 11:30 (5)	07:21 17:39	09:56 (1) 18:27	05:40 19:55	04:35 21:53	04:16 22:22	04:57 22:00	06:02 20:34	07:08 19:07	07:14 16:47	08:23 15:43
27	08:31 16:28	11:36 (5) 11:30 (5)	07:19 17:41	09:57 (1) 18:28	05:38 19:55	04:34 21:55	04:17 22:22	04:59 22:00	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42
28	08:29 16:31	11:37 (5) 11:30 (5)	07:16 17:44	09:58 (1) 18:29	05:35 19:55	04:32 21:56	04:18 22:21	05:01 22:00	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41
29	08:27 16:33	11:38 (5) 11:30 (5)	07:14 17:46	09:59 (1) 18:30	05:33 19:55	04:31 21:58	04:18 22:21	05:03 22:00	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39
30	08:25 16:35	11:39 (5) 11:30 (5)	07:11 17:48	10:00 (1) 18:31	05:30 19:55	04:29 22:00	04:19 22:21	05:05 22:00	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38
31	08:23 16:38	11:40 (5) 11:30 (5)	07:09 17:51	10:01 (1) 18:32	05:28 19:55	04:28 22:01	04:18 22:21	05:07 22:00	06:13 20:20	07:25 18:56	07:25 16:34	08:31 15:38
Potential sun hours	227	262	365	429	515	539	538	475	386	321	241	207
Total, worst case	725	68										806
Sun reduction	0.11	0.19									0.08	0.06
Oper. time red.	1.00	1.00									1.00	1.00
Wind dir. red.	1.00	1.00									1.00	1.00
Total reduction	0.11	0.19									0.08	0.06
Total, real	79	13									46	50

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Gaisini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (480)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	15:49 (2) 16:03 (2)	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	
2	09:00 15:40	08:19 16:42	15:49 (2) 16:06 (2)	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	
3	09:00 15:42	08:17 16:44	15:49 (2) 16:09 (2)	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	
4	08:59 15:43	08:15 16:47	15:48 (2) 16:11 (2)	07:05 17:53	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	
5	08:59 15:45	08:12 16:49	15:48 (2) 16:13 (2)	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	
6	08:58 15:46	08:10 16:52	15:48 (2) 16:13 (2)	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	
7	08:57 15:48	08:08 16:54	15:48 (2) 16:13 (2)	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	
8	08:57 15:49	08:06 16:56	15:48 (2) 16:13 (2)	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 20:00	07:33 18:34	
9	08:56 15:51	08:03 16:59	15:49 (2) 16:13 (2)	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 20:00	07:36 18:31	
10	08:55 15:53	08:01 17:01	15:49 (2) 16:12 (2)	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:14	06:34 20:00	07:38 18:28	
11	08:54 15:55	07:59 17:03	15:50 (2) 16:12 (2)	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 20:00	07:40 18:26	
12	08:53 15:56	07:56 17:06	15:51 (2) 16:11 (2)	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 20:00	07:42 18:23	
13	08:52 15:58	07:54 17:08	15:52 (2) 16:10 (2)	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 20:00	07:44 18:20	
14	08:51 16:00	07:52 17:11	15:54 (2) 16:08 (2)	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 20:00	07:47 18:18	
15	08:49 16:02	07:49 17:13	15:56 (2) 16:06 (2)	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 20:00	07:49 18:15	
16	08:48 16:04	07:47 17:15		06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 20:00	07:51 18:12	
17	08:47 16:06	07:44 17:18		06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 20:00	07:53 18:10	
18	08:45 16:08	07:42 17:20		06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:55	06:51 20:00	07:55 18:07	
19	08:44 16:10	07:39 17:22		06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:21	04:44 22:00	05:47 20:52	06:53 20:00	07:58 18:04	
20	08:42 16:13	07:37 17:25		06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 20:00	08:00 18:02	
21	08:41 16:15	07:34 17:27		06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 20:00	08:02 17:59	
22	08:39 16:17	07:32 17:29		06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 20:00	08:04 17:56	
23	08:38 16:19	07:29 17:32		06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	
24	08:36 16:21	07:26 17:34		06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	
25	08:34 16:24	07:24 17:36		06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	
26	08:32 16:26	07:21 17:39		06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:21	04:57 21:47	06:02 20:33	07:08 19:07	07:14 16:46	
27	08:31 16:28	07:19 17:41		06:02 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	
28	08:29 16:30	07:16 17:43		05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	
29	08:27 16:33	15:52 (2) 15:55 (2)		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	
30	08:25 16:35	15:51 (2) 15:58 (2)		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	
31	08:23 16:37	15:51 (2) 16:01 (2)		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20	07:25 16:34	07:25 15:42 (2)	
Potential sun hours	227			365	429	515	539	538	474	386	321	
Total, worst case	20										88	
Sun reduction	0.11		305								0.28	
Oper. time red.	1.00		1.00								1.00	
Wind dir. red.	1.00		1.00								1.00	
Total reduction	0.11		0.19								0.28	
Total, real	2		59								25	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Gaujas iela 11 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (577)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:49	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:52 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:52	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Gravas - Shadow Receptor: 1.0 x 1.0 Azimuth: 3.1° Slope: 90.0° (479)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

January		February		March		April		May		June		July		August		September		October		November		December	
09:00		14:18 (4)	08:21		07:13	06:48	05:27	04:27	04:20	05:09	06:15	07:18		07:27		15:24 (2)	08:33		14:06 (4)				
15:39	24	14:42 (4)	16:40		17:46	19:55	21:01	22:02	22:20	21:35	20:17	18:53		16:32	28	15:52 (2)	15:37	21	14:27 (4)				
09:00		14:18 (4)	08:19		16:01 (2)	07:11	06:45	05:25	04:25	04:21	05:11	06:17		07:30		15:25 (2)	08:35		14:06 (4)				
15:41	24	14:42 (4)	16:42	5	16:06 (2)	17:48	19:57	21:03	22:04	22:19	21:33	20:14		16:29	27	15:52 (2)	15:36	22	14:28 (4)				
09:00		14:20 (4)	08:17		16:00 (2)	07:08	06:42	05:23	04:24	04:21	05:13	06:19		07:23		15:25 (2)	08:36		14:06 (4)				
15:42	24	14:44 (4)	16:44	9	16:09 (2)	17:50	19:59	21:06	22:05	22:19	21:31	20:12		16:27	26	15:51 (2)	15:35	22	14:28 (4)				
08:59		14:20 (4)	08:15		15:58 (2)	07:05	06:39	05:20	04:23	04:22	05:15	06:21		07:25		15:26 (2)	08:38		14:06 (4)				
15:43	24	14:44 (4)	16:47	13	16:11 (2)	17:53	20:01	21:08	22:07	22:18	21:29	20:09		16:25	23	15:49 (2)	15:34	23	14:29 (4)				
08:59		14:20 (4)	08:12		15:57 (2)	07:03	06:36	05:18	04:22	04:24	05:17	06:23		07:27		15:26 (2)	08:40		14:06 (4)				
15:45	24	14:44 (4)	16:49	17	16:14 (2)	17:55	20:04	21:10	22:08	22:17	21:26	20:06		16:23	20	15:46 (2)	15:33	24	14:30 (4)				
08:58		14:21 (4)	08:10		15:56 (2)	07:00	06:34	05:15	04:21	04:25	05:19	06:25		07:29		15:27 (2)	08:41		14:07 (4)				
15:46	23	14:44 (4)	16:52	20	16:16 (2)	17:57	20:06	21:12	22:09	22:16	21:24	20:03		16:20	17	15:44 (2)	15:32	23	14:30 (4)				
08:57		14:21 (4)	08:08		15:56 (2)	06:57	06:31	05:13	04:20	04:26	05:21	06:27		07:31		15:29 (2)	08:43		14:07 (4)				
15:48	23	14:44 (4)	16:54	23	16:19 (2)	17:59	20:08	21:14	22:11	22:16	21:22	20:01		16:18	13	15:42 (2)	15:32	24	14:31 (4)				
08:57		14:22 (4)	08:06		15:55 (2)	06:54	06:28	05:11	04:21	04:27	05:23	06:29		07:33		15:29 (2)	08:44		14:08 (4)				
15:49	23	14:45 (4)	16:56	27	16:22 (2)	18:02	20:10	21:16	22:12	22:15	21:19	19:58		16:16	10	15:39 (2)	15:31	24	14:32 (4)				
08:56		14:23 (4)	08:03		15:55 (2)	06:52	06:25	05:09	04:18	04:28	05:26	06:32		07:46		15:32 (2)	08:46		14:08 (4)				
15:51	22	14:45 (4)	16:59	28	16:23 (2)	18:04	20:13	21:19	22:13	22:14	21:17	19:55		16:14	5	15:37 (2)	15:31	24	14:32 (4)				
08:55		14:24 (4)	08:01		15:54 (2)	06:49	06:23	05:06	04:18	04:30	05:28	06:34		07:38			08:47		14:09 (4)				
15:53	22	14:46 (4)	17:01	29	16:23 (2)	18:06	20:15	21:21	22:14	22:13	21:14	19:52											

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker
			(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Indranu iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (690)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 20:00	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:06 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:40	07:39 16:20	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:50	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:59	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:50 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:39 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:16	06:33 18:20	06:07 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:09	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:11	07:40 17:23	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:30
21	08:41 16:15	07:34 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:49 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:22	07:27 17:34	06:10 18:38	05:45 20:46	04:39 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
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29	08:27 16:33		06:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
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31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Indranu iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (765)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 20:00	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:06 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:40	07:39 16:20	08:42 15:33
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17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:09	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:11	07:40 17:23	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:30
21	08:41 16:15	07:34 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:51 20:47	06:57 19:22	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:49 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:22	07:27 17:34	06:10 18:38	05:45 20:46	04:39 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:22 17:39	06:05 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:47	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:32 21:56	04:18 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Indranu iela 8 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (741)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 20:00	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:06 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:40	07:39 16:20	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:50	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:59	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:50 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:39 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:16	06:33 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:09	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:11	07:40 17:23	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:30
21	08:41 16:15	07:34 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:49 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:22	07:27 17:34	06:10 18:38	05:45 20:46	04:39 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:22 17:39	06:05 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:47	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:32 21:56	04:18 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jasmini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (800)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:49	07:40 18:26	07:51 16:09	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:52 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:39 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:52	04:34 21:54	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jaunpaukas - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (593)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:49	07:40 18:26	07:51 16:09	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:52 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:55 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:01	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:55 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:59	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:39 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:18	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:52	04:34 21:54	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jauntilgali - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (787)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December			
1	09:01 15:39	09:43 (1) 26 11:50 (5)	08:21 16:40	09:39 (1) 22 10:01 (1)	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37	09:16 (1) 23 09:39 (1)
2	09:00 15:41	09:43 (1) 28 11:51 (5)	08:19 16:42	09:41 (1) 19 10:00 (1)	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36	09:18 (1) 30 11:30 (5)
3	09:00 15:42	09:42 (1) 29 11:51 (5)	08:17 16:45	09:43 (1) 16 09:59 (1)	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35	09:20 (1) 31 11:32 (5)
4	08:59 15:43	09:41 (1) 29 11:50 (5)	08:15 16:47	09:45 (1) 11 09:56 (1)	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34	09:22 (1) 31 11:34 (5)
5	08:59 15:45	09:40 (1) 31 11:50 (5)	08:13 16:49	09:44 (1) 07:03	08:13 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33	09:24 (1) 31 11:35 (5)
6	08:58 15:46	09:39 (1) 31 11:50 (5)	08:10 16:52	09:43 (1) 07:00	08:08 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:40	07:39 16:20	08:42 15:33	09:25 (1) 31 11:36 (5)
7	08:58 15:48	09:38 (1) 31 11:49 (5)	08:08 16:54	09:42 (1) 06:57	08:08 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32	09:27 (1) 30 11:37 (5)
8	08:57 15:50	09:37 (1) 32 11:49 (5)	08:06 16:56	09:41 (1) 06:55	08:06 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31	09:29 (1) 29 11:38 (5)
9	08:56 15:51	09:36 (1) 31 11:48 (5)	08:04 16:59	09:40 (1) 06:52	08:04 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31	09:30 (1) 29 11:39 (5)
10	08:55 15:53	09:35 (1) 30 11:47 (5)	08:01 17:01	09:39 (1) 06:49	08:01 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:29	07:48 16:12	08:48 15:30	09:32 (1) 28 11:40 (5)
11	08:54 15:55	09:34 (1) 23 09:57 (1)	07:59 17:04	09:38 (1) 06:46	07:59 18:09	06:20 20:17	05:04 21:23	04:17 22:12	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30	09:34 (1) 26 11:41 (5)
12	08:53 15:57	09:32 (1) 25 09:57 (1)	07:57 17:06	09:36 (1) 06:44	07:57 18:11	07:57 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29	09:31 (1) 25 11:42 (5)
13	08:52 15:59	09:32 (1) 27 09:59 (1)	07:54 17:08	09:35 (1) 06:41	07:54 18:13	07:54 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29	09:08 (1) 25 11:42 (5)
14	08:51 16:00	09:32 (1) 27 09:59 (1)	07:52 17:11	09:34 (1) 06:38	07:52 18:15	07:52 20:24	05:02 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29	09:08 (1) 25 11:42 (5)
15	08:50 16:02	09:32 (1) 28 10:00 (1)	07:49 17:13	09:33 (1) 06:35	07:49 18:18	07:49 20:26	05:04 21:32	04:15 22:19	04:37 22:06	05:39 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29	09:07 (1) 26 11:44 (5)
16	08:48 16:04	09:32 (1) 29 10:01 (1)	07:47 17:15	09:32 (1) 06:32	07:47 18:20	07:47 20:28	05:04 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29	09:08 (1) 26 11:44 (5)
17	08:47 16:06	09:32 (1) 29 10:01 (1)	07:45 17:18	09:31 (1) 06:30	07:45 18:22	07:45 20:30	05:04 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29	09:08 (1) 27 11:45 (5)
18	08:46 16:09	09:33 (1) 29 10:02 (1)	07:42 17:20	09:30 (1) 06:27	07:42 18:24	07:42 20:33	05:04 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29	09:08 (1) 27 11:46 (5)
19	08:44 16:11	09:33 (1) 30 10:03 (1)	07:40 17:23	09:29 (1) 06:24	07:40 18:26	07:40 20:35	05:04 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29	09:08 (1) 29 11:46 (5)
20	08:43 16:13	09:33 (1) 30 10:03 (1)	07:37 17:25	09:28 (1) 06:21	07:37 18:29	07:37 20:37	05:04 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	07:59 18:02	08:11 15:53	08:58 15:30	09:08 (1) 30 11:46 (5)
21	08:41 16:15	09:33 (1) 30 10:03 (1)	07:34 17:27	09:27 (1) 06:19	07:34 18:31	07:34 20:39	05:04 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30	09:09 (1) 31 11:47 (5)
22	08:40 16:17	09:33 (1) 30 10:03 (1)	07:32 17:30	09:26 (1) 06:16	07:32 18:33	07:32 20:41	05:04 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30	09:09 (1) 31 11:47 (5)
23	08:38 16:19	09:33 (1) 31 10:04 (1)	07:29 17:32	09:25 (1) 06:13	07:29 18:35	07:29 20:44	05:04 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31	09:09 (1) 31 11:47 (5)
24	08:36 16:22	09:34 (1) 30 10:04 (1)	07:27 17:34	09:24 (1) 06:10	07:27 18:37	07:27 20:46	05:04 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:30	09:00 (1) 30 11:48 (5)
25	08:34 16:24	09:34 (1) 30 10:04 (1)	07:24 17:37	09:24 (1) 06:07	07:24 18:40	07:24 20:48	05:04 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32	09:00 (1) 27 11:49 (5)
26	08:33 16:26	09:35 (1) 29 10:04 (1)	07:21 17:39	09:23 (1) 06:05	07:21 18:42	07:21 20:50	05:04 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:47	08:23 15:43	09:00 15:33	09:01 (1) 27 11:49 (5)
27	08:31 16:28	09:35 (1) 29 10:04 (1)	07:19 17:41	09:21 (1) 06:02	07:19 18:44	07:19 20:53	05:04 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:00 15:34	09:01 (1) 26 11:49 (5)
28	08:29 16:31	09:36 (1) 28 10:04 (1)	07:16 17:44	09:20 (1) 05:59	07:16 18:46	07:16 20:55	05:04 21:56	04:18 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:00 15:35	09:01 (1) 27 11:50 (5)
29	08:27 16:33	09:36 (1) 27 10:03 (1)	07:14 17:47	09:19 (1) 06:56	07:14 19:48	07:14 20:57	05:03 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:00 15:36	09:01 (1) 26 11:50 (5)
30	08:25 16:35	09:37 (1) 26 10:03 (1)	07:11 17:51	09:18 (1) 06:53	07:11 19:51	07:11 20:50	05:03 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:00 15:37	09:01 (1) 26 11:50 (5)
31	08:23 16:38	09:38 (1) 24 10:02 (1)	07:07 17:53	09:16 (1) 06:51	07:07 19:53	07:07 22:01	05:02 22:01	04:18 22:21	05:07 21:38	06:13 20:20	07:18 18:54	07:25 16:34	08:33 15:34	09:00 15:37	09:01 (1) 25 11:50 (5)
Potential sun hours	227	262	365	429	515	539	538	475	386	321	241	635	866	866	866
Total, worst case	0.11	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Sun reduction	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oper. time red.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wind dir. red.	0.11	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Total reduction	0.11	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Total, real	97	13	13	13	13	13	13	13	13	13	13	13	13	13	13

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flick
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jaunzemes - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (789)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:19 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:44	08:15 16:47	07:06 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:34
6	08:58 15:47	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:14	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:18	08:43 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:28 20:11	05:11 21:17	04:20 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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13	08:52 15:59	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:21	07:55 16:06	08:51 15:29
14	08:51 16:01	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:58 16:04	08:53 15:29
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31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case		212								217		
Sun reduction		0.19								0.28		
Oper. time red.		1.00								1.00		
Wind dir. red.		1.00								1.00		
Total reduction		0.19								0.28		
Total, real		41								61		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jaunziles - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (443)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:40	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:02	04:20 22:19	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:32 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:26 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:29 16:30	08:34 15:36
3	08:59 15:42	08:16 16:45	07:08 17:50	06:42 19:59	05:23 21:05	04:25 22:05	04:22 22:18	05:13 21:30	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:44	08:14 16:47	07:05 17:53	06:39 20:01	05:20 21:08	04:23 22:06	04:23 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:23	08:39 15:34
6	08:58 15:47	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:33
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18	08:45 16:09	07:42 17:20	06:27 18:24	06:01 20:32	04:50 21:37	04:15 22:20	04:43 22:01	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:34	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
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31	08:23 16:38		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:00 15:38
Potential sun hours	228	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jauna iela 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (676)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jauna iela 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (665)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jauna iela 4 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (658)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jauna iela 4A - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (649)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jauna iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (664)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jauna iela 6 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (663)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
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Total reduction												
Total, real												

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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Jauna iela 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (656)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Kalngulbj - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (793)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Kalnieš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (497)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

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20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:30 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:01	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:36	08:31 15:38	09:00 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Kalnstaldoti - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (785)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	09:00 (6) 17:46	07:14 19:55	06:48 21:01	05:28 22:03	04:27 22:20	04:20 21:35	05:09 20:17	06:15 18:54	07:19 16:32	08:37 (6) 15:37
2	09:00 15:41	08:19 16:42	09:00 (6) 17:48	07:11 19:57	06:45 21:04	05:25 22:04	04:26 22:20	04:21 21:33	05:11 20:15	06:17 18:51	07:21 16:30	08:34 (6) 15:36
3	09:00 15:42	08:17 16:45	09:00 (6) 17:51	07:08 20:00	06:42 21:06	05:23 22:06	04:25 22:19	04:22 21:31	05:13 20:12	06:19 18:48	07:23 16:27	08:33 (6) 15:35
4	08:59 15:44	08:15 16:47	09:00 (6) 17:53	07:06 20:02	06:39 21:08	05:21 22:07	04:23 22:18	04:23 21:29	05:15 20:09	06:21 18:45	07:25 16:25	08:32 (6) 15:34
5	08:59 15:45	08:13 16:49	09:01 (6) 17:55	07:03 20:04	06:37 21:10	05:18 22:09	04:24 22:18	04:24 21:27	05:17 20:06	06:23 18:42	07:27 16:23	08:32 (6) 15:34
6	08:58 15:47	08:11 16:52	09:02 (6) 17:57	07:00 20:06	06:34 21:12	05:16 22:10	04:21 22:17	04:25 21:24	05:20 20:04	06:26 18:40	07:29 16:21	08:31 (6) 15:33
7	08:58 15:48	08:08 16:54	09:02 (6) 18:00	06:57 20:08	06:31 21:15	05:13 22:11	04:20 22:16	04:26 21:22	05:22 20:01	06:28 18:37	07:32 16:18	08:31 (6) 15:32
8	08:57 15:50	08:06 16:57	09:04 (6) 18:02	06:55 20:11	06:28 21:17	05:11 22:12	04:20 22:15	04:27 21:20	05:24 19:58	06:30 18:34	07:34 16:16	08:31 (6) 15:31
9	08:56 15:51	08:04 16:59	09:05 (6) 18:04	06:52 20:13	06:26 21:19	05:09 22:13	04:19 22:14	04:29 21:17	05:26 19:55	06:32 18:31	07:36 16:14	08:30 (6) 15:31
10	08:55 15:53	08:01 17:01	09:08 (6) 18:06	06:49 20:15	06:23 21:21	05:07 22:14	04:18 22:13	04:30 21:15	05:28 19:53	06:34 18:29	07:38 16:12	08:31 (6) 15:30
11	08:54 15:55	07:59 17:04	09:17 (6) 18:09	06:46 20:17	06:20 21:23	05:04 22:15	04:17 22:12	04:31 21:12	05:30 19:50	06:36 18:26	07:40 16:10	08:31 (6) 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:31 (6) 15:30
13	08:52 15:59	07:54 17:09	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:21	07:55 16:06	08:31 (6) 15:29
14	08:51 16:01	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:37 21:05	06:42 19:41	07:47 18:18	07:58 16:04	08:31 (6) 15:29
15	08:50 16:03	07:50 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:16 22:19	04:38 22:06	05:39 21:02	06:45 19:38	07:49 18:15	08:00 16:02	08:31 (6) 15:29
16	08:48 16:05	07:47 17:16	06:33 18:20	06:07 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:13	08:02 16:00	08:31 (6) 15:29
17	08:47 16:07	07:45 17:18	06:30 18:22	06:04 20:31	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:54 18:10	08:04 15:58	08:31 (6) 15:29
18	08:46 16:09	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:31 (6) 15:29
19	08:44 16:11	07:40 17:23	06:24 18:27	05:59 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:55	08:31 (6) 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:31 (6) 15:30
21	08:41 16:15	07:35 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:51 20:47	06:57 19:22	08:03 17:59	08:13 15:51	08:31 (6) 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:50 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:50	08:31 (6) 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:41 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	08:31 (6) 15:31
24	08:36 16:22	07:27 17:34	06:10 18:38	05:45 20:46	04:39 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:46	08:31 (6) 15:32
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	08:12 16:49	08:21 15:45	08:31 (6) 15:32
26	08:33 16:26	07:22 17:39	06:05 18:42	05:40 20:50	04:36 21:53	04:17 22:22	04:57 21:48	06:02 20:34	07:08 19:08	08:14 16:47	08:23 15:44	08:31 (6) 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	08:16 16:44	08:25 15:42	08:31 (6) 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:32 21:56	04:18 22:21	05:01 21:44	06:06 20:28	07:12 19:02	08:18 16:42	08:27 15:41	08:31 (6) 15:35
29	08:27 16:33	07:14 17:41	05:56 18:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:09 20:26	07:14 18:59	08:29 16:39	08:29 15:40	08:31 (6) 15:36
30	08:25 16:35	07:11 17:44	05:53 18:51	05:30 20:59	04:30 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	08:23 16:37	08:31 15:38	08:31 (6) 15:37
31	08:23 16:38	07:06 17:44	05:51 19:53	05:27 22:01	04:28 22:01	04:18 22:21	05:07 21:38	06:13 20:20	07:13 16:34	08:25 15:38	08:31 15:38	08:31 (6) 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case	126	193										
Sun reduction	0.11	0.19									321	
Oper. time red.	1.00	1.00									0.08	
Wind dir. red.	1.00	1.00									1.00	
Total reduction	0.11	0.19									0.08	
Total, real	14	38									25	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Kalngerki - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (777)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February		March		April		May		June	
1	09:00		08:21		09:23 (7)	07:14	07:43 (8)	06:48	07:21 (9)	05:28	06:26 (5)	04:27
	15:40		16:40	37	10:00 (7)	17:46	08:06 (8)	19:55	08:38 (6)	21:01	06:46 (5)	22:03
2	09:00		08:19		09:23 (7)	07:11	07:41 (8)	06:45	07:21 (9)	05:25	06:27 (5)	04:26
	15:41		16:42	38	10:01 (7)	17:48	08:07 (8)	19:57	08:36 (6)	21:04	06:45 (5)	22:04
3	09:00		08:17		09:24 (7)	07:08	07:40 (8)	06:42	07:21 (9)	05:23	06:28 (5)	04:25
	15:42		16:45	37	10:01 (7)	17:51	08:07 (8)	20:00	08:34 (6)	21:06	06:42 (5)	22:06
4	08:59		08:15		09:23 (7)	07:06	07:39 (8)	06:39	07:22 (9)	05:21	06:31 (5)	04:23
	15:44		16:47	38	10:01 (7)	17:53	08:07 (8)	20:02	08:32 (6)	21:08	06:40 (5)	22:07
5	08:59		08:13		09:24 (7)	07:03	07:40 (8)	06:37	07:22 (9)	05:18		04:22
	15:45		16:49	37	10:01 (7)	17:55	08:08 (8)	20:04	08:29 (6)	21:10		22:08
6	08:58		08:10		09:25 (7)	07:00	07:39 (8)	06:34	07:23 (9)	05:16		04:21
	15:47		16:52	36	10:01 (7)	17:57	08:08 (8)	20:06	08:25 (6)	21:12		22:10
7	08:58		08:08		09:25 (7)	06:57	07:39 (8)	06:31	07:25 (9)	05:13		04:20
	15:48		16:54	36	10:01 (7)	18:00	08:07 (8)	20:08	07:36 (9)	21:15		22:11
8	08:57		08:06		09:26 (7)	06:55	07:39 (8)	06:28		05:11		04:20
	15:50		16:57	35	10:01 (7)	18:02	08:06 (8)	20:11		21:17		22:12
9	08:56		08:04		09:26 (7)	06:52	07:39 (8)	06:26		05:09		04:19
	15:52		16:59	34	10:00 (7)	18:04	08:06 (8)	20:13		21:19		22:13
10	08:55		08:01		09:27 (7)	06:49	07:40 (8)	06:23		05:07		04:18
	15:53		17:01	33	10:00 (7)	18:06	08:05 (8)	20:15		21:21		22:14
11	08:54		07:59		09:28 (7)	06:46	07:40 (8)	06:20		05:04		04:17
	15:55		17:04	30	09:58 (7)	18:09	08:04 (8)	20:17		21:23		22:15
12	08:53		07:57		09:28 (7)	06:44	07:20 (6)	06:17		05:02		04:17
	15:57		17:06	29	09:57 (7)	18:11	08:02 (8)	20:19		21:25		22:16
13	08:52		07:54		09:30 (7)	06:41	07:16 (6)	06:15		05:00		04:16
	15:59		17:09	26	09:56 (7)	18:13	08:00 (8)	20:22		21:27		22:17
14	08:51		07:52		09:31 (7)	06:38	07:14 (6)	06:12	06:39 (5)	04:58		04:16
	16:01		17:11	23	09:54 (7)	18:15	07:58 (8)	20:24	06:44 (5)	21:29		22:18
15	08:50		07:49		09:34 (7)	06:35	07:12 (6)	06:09	06:36 (5)	04:56		04:16
	16:03		17:13	18	09:52 (7)	18:18	07:54 (8)	20:26	06:47 (5)	21:32		22:19
16	08:48		07:47		09:37 (7)	06:33	07:11 (6)	06:07	06:33 (5)	04:54		04:15
	16:05	4	09:40 (7)	12	09:49 (7)	18:20	07:43 (6)	20:28	06:48 (5)	21:34		22:19
17	08:47		07:45			06:30	07:09 (6)	06:04	06:31 (5)	04:52		04:15
	16:07	12	09:44 (7)			18:22	07:44 (6)	20:30	06:50 (5)	21:36		22:20
18	08:46		07:42			06:27	07:07 (6)	06:01	06:28 (5)	04:50		04:15
	16:09	16	09:47 (7)			18:24	07:44 (6)	20:33	06:50 (5)	21:38		22:20
19	08:44		07:40			06:24	07:06 (6)	05:59	06:26 (5)	04:48		04:15
	16:11	19	09:49 (7)			18:27	07:44 (6)	20:35	06:51 (5)	21:40		22:21
20	08:43		07:37			06:21	07:05 (6)	05:56	06:24 (5)	04:46		04:15
	16:13	22	09:50 (7)			18:29	07:45 (6)	20:37	06:51 (5)	21:42		22:21
21	08:41		07:34			06:19	07:05 (6)	05:53	06:24 (5)	04:44		04:15
	16:15	25	09:52 (7)			18:31	07:46 (6)	20:39	06:52 (5)	21:44		22:21
22	08:40		07:32			06:16	07:04 (6)	05:51	06:23 (5)	04:42		04:15
	16:17	26	09:53 (7)			18:33	07:45 (6)	20:42	06:51 (5)	21:45		22:22
23	08:38		07:29			06:13	07:04 (6)	05:48	06:23 (5)	04:41		04:15
	16:19	28	09:54 (7)			18:35	07:45 (6)	20:44	06:52 (5)	21:47		22:22
24	08:36		07:27			06:10	06:36 (9)	05:45	06:23 (5)	04:39		04:16
	16:22	30	09:55 (7)			18:38	07:45 (6)	20:46	06:51 (5)	21:49		22:22
25	08:34		07:24		07:52 (8)	06:07	06:33 (9)	05:43	06:23 (5)	04:37		04:16
	16:24	31	09:56 (7)	6	07:58 (8)	18:40	07:44 (6)	20:48	06:51 (5)	21:51		22:22
26	08:33		07:22		07:49 (8)	06:05	06:31 (9)	05:40	06:23 (5)	04:36		04:17
	16:26	32	09:57 (7)	12	08:01 (8)	18:42	07:44 (6)	20:50	06:50 (5)	21:53		22:22
27	08:31		07:19		07:46 (8)	06:02	06:28 (9)	05:38	06:23 (5)	04:34		04:17
	16:28	34	09:58 (7)	17	08:03 (8)	18:44	07:44 (6)	20:53	06:50 (5)	21:55		22:22
28	08:29		07:16		07:44 (8)	05:59	06:25 (9)	05:35	06:24 (5)	04:32		04:18
	16:31	35	09:59 (7)	21	08:05 (8)	18:46	07:43 (6)	20:55	06:50 (5)	21:56		22:21
29	08:27		07:14			06:56	07:22 (9)	05:33	06:24 (5)	04:31		04:18
	16:33	36	09:59 (7)			19:49	08:41 (6)	20:57	06:48 (5)	21:58		22:21
30	08:25		07:12			06:53	07:21 (9)	05:30	06:25 (5)	04:30		04:19
	16:35	36	10:00 (7)			19:51	08:40 (6)	20:59	06:47 (5)	22:00		22:21
31	08:23		07:10			06:51	07:21 (9)			04:28		
	16:38	36	10:00 (7)			19:53	08:40 (6)			22:01		
Potential sun hours	227		262			365		429		515		539
Total, worst case		422		555		1202		672		61		
Sun reduction		0.11		0.19		0.40		0.43		0.58		
Oper. time red.		1.00		1.00		1.00		1.00		1.00		
Wind dir. red.		1.00		1.00		1.00		1.00		1.00		
Total reduction		0.11		0.19		0.40		0.43		0.58		
Total, real		46		108		484		286		35		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Kalngerki - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (777)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20	05:09	06:15	07:19	07:58 (6)	07:28
	22:20	21:35	20:17	18:53	39	08:41 (8)
2	04:21	05:11	06:17	07:21	08:01 (6)	07:30
	22:20	21:33	20:15	18:51	33	08:42 (8)
3	04:22	05:13	06:19	07:23	08:17 (8)	07:32
	22:19	21:31	20:12	18:48	25	08:42 (8)
4	04:23	05:15	06:21	07:25	08:17 (8)	07:35
	22:18	21:29	20:09	18:45	26	08:43 (8)
5	04:24	05:17	06:23	07:22 (9)	07:27	08:16 (8)
	22:18	21:26	20:06	11	07:33 (9)	18:42
6	04:25	05:20	06:26	07:19 (9)	07:29	08:15 (8)
	22:17	21:24	20:04	26	08:20 (6)	18:40
7	04:26	05:22	06:28	07:18 (9)	07:31	08:14 (8)
	22:16	21:22	20:01	36	08:24 (6)	18:37
8	04:27	05:24	06:30	07:16 (9)	07:34	08:15 (8)
	22:15	21:20	19:58	44	08:26 (6)	18:34
9	04:29	05:26	06:32	07:15 (9)	07:36	08:14 (8)
	22:14	21:17	11	06:50 (5)	19:55	49
10	04:30	05:28	06:37 (5)	06:34	07:14 (9)	07:38
	22:13	21:15	15	06:52 (5)	19:52	53
11	04:32	05:30	06:35 (5)	06:36	07:13 (9)	07:40
	22:12	21:12	19	06:54 (5)	19:50	57
12	04:33	05:32	06:34 (5)	06:38	07:13 (9)	07:42
	22:10	21:10	21	06:55 (5)	19:47	59
13	04:34	05:34	06:33 (5)	06:40	07:12 (9)	07:45
	22:09	21:07	23	06:56 (5)	19:44	62
14	04:36	05:37	06:32 (5)	06:42	07:12 (9)	07:47
	22:08	21:05	25	06:57 (5)	19:41	63
15	04:38	05:39	06:31 (5)	06:45	07:14 (9)	07:49
	22:06	21:02	26	06:57 (5)	19:38	61
16	04:39	05:41	06:31 (5)	06:47	07:16 (9)	07:51
	22:05	21:00	27	06:58 (5)	19:36	59
17	04:41	05:43	06:30 (5)	06:49	07:18 (9)	07:53
	22:03	20:57	28	06:58 (5)	19:33	55
18	04:43	05:45	06:30 (5)	06:51	07:20 (9)	07:56
	22:02	20:55	28	06:58 (5)	19:30	53
19	04:44	05:47	06:29 (5)	06:53	07:23 (9)	07:58
	22:00	20:52	29	06:58 (5)	19:27	47
20	04:46	05:49	06:29 (5)	06:55	07:50 (6)	08:00
	21:59	20:50	28	06:57 (5)	19:24	42
21	04:48	05:51	06:29 (5)	06:57	07:50 (6)	08:02
	21:57	20:47	28	06:57 (5)	19:22	41
22	04:50	05:54	06:29 (5)	06:59	07:50 (6)	08:05
	21:55	20:44	27	06:56 (5)	19:19	40
23	04:52	05:56	06:29 (5)	07:01	07:50 (6)	08:07
	21:53	20:42	27	06:56 (5)	19:16	39
24	04:53	05:58	06:30 (5)	07:04	07:50 (6)	08:09
	21:52	20:39	25	06:55 (5)	19:13	38
25	04:55	06:00	06:32 (5)	07:06	07:50 (6)	07:12
	21:50	20:36	22	06:54 (5)	19:10	37
26	04:57	06:02	06:34 (5)	07:08	07:50 (6)	07:14
	21:48	20:34	18	06:52 (5)	19:07	36
27	04:59	06:04	06:36 (5)	07:10	07:51 (6)	07:16
	21:46	20:31	15	06:51 (5)	19:05	33
28	05:01	06:06	06:38 (5)	07:12	07:53 (6)	07:18
	21:44	20:28	10	06:48 (5)	19:02	30
29	05:03	06:09	06:40 (5)	07:14	07:54 (6)	07:21
	21:42	20:26	5	06:45 (5)	18:59	38
30	05:05	06:11		07:16	07:55 (6)	07:23
	21:40	20:23		18:56	41	08:40 (8)
31	05:07	06:13				07:25
	21:38	20:20				16:34
Potential sun hours	538	474	386	321	241	207
Total, worst case		457	1150	557	780	
Sun reduction		0.50	0.46	0.28	0.08	
Oper. time red.		1.00	1.00	1.00	1.00	
Wind dir. red.		1.00	1.00	1.00	1.00	
Total reduction		0.50	0.46	0.28	0.08	
Total, real		231	531	158	61	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Kastanas - Shadow Receptor: 1.0 x 1.0 Azimuth: 3.1° Slope: 90.0° (478)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

January			February			March			April			May			June			July			August			September			October			November			December		
09:00			14:48 (4)	08:21			07:13	06:48	05:27		04:27	04:20	05:09	06:15	07:18			07:27			08:33			14:32 (4)											
15:39	5		14:53 (4)	16:40			17:46	19:55	21:01	22:02	22:20	22:20	21:35	20:17	18:53			16:32			15:37	21		14:53 (4)											
09:00			14:48 (4)	08:19			07:11	06:45	05:25	04:25	04:21	05:11	05:11	06:17	07:20			07:30			08:35			14:32 (4)											
15:40	6		14:54 (4)	16:42			17:48	19:57	21:03	22:04	22:19	21:33	20:14	18:50				16:29			15:36	20		14:52 (4)											
09:00			14:49 (4)	08:17			07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23				07:32			08:36			14:33 (4)											
15:42	7		14:56 (4)	16:44			17:50	19:59	21:06	22:05	22:19	21:31	20:12	18:48				16:27			15:35	17		14:50 (4)											
08:59			14:49 (4)	08:15			07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25				07:34			08:38			14:34 (4)											
15:43	9		14:58 (4)	16:47			17:53	20:01	21:08	22:07	22:18	21:28	20:09	18:45				16:25			15:34	15		14:49 (4)											
08:59			14:49 (4)	08:12			07:03	06:36	05:18	04:22	04:24	05:17	06:23	07:27				07:37			08:40			14:34 (4)											
15:45	10		14:59 (4)	16:49			17:55	20:04	21:10	22:08	22:17	21:26	20:06	18:42				16:23			15:33	14		14:48 (4)											
08:58			14:49 (4)	08:10			07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29				07:39			08:41			14:35 (4)											
15:46	12		15:01 (4)	16:52			17:57	20:06	21:12	22:09	22:16	21:24	20:03	18:39				16:20			15:32	12		14:47 (4)											
08:57			14:49 (4)	08:08			06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31				07:41			08:43			14:36 (4)											
15:48	14		15:03 (4)	16:54			17:59	20:08	21:14	22:11	22:16	21:22	20:01	18:37				16:18			15:32	10		14:46 (4)											
08:57			14:49 (4)	08:06			06:54	06:28	05:11	04:19	04:27	05:23	06:29	07:33				07:43			08:44			14:37 (4)											
15:49	16		15:05 (4)	16:56			18:02	20:10	21:16	22:12	22:15	21:19	19:58	18:34				16:16			15:31	9		14:46 (4)											
08:56			14:50 (4)	08:03			06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36				07:46			08:46			14:37 (4)											
15:51	17		15:07 (4)	16:59			18:04	20:12	21:19	22:13	22:14	21:17	19:55	18:31				16:14			15:31	7		14:44 (4)											
08:55			14:50 (4)	08:01			06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38				07:48			08:47			14:38 (4)											
15:53	19		15:09 (4)	17:01			18:06	20:15	21:21	22:14	22:12	21:14	19:52	18:28				16:12			15:30	6		14:44 (4)											
08:54			14:50 (4)	07:59		16:26 (2)	06:46	06:20																											

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Kristali - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (484)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00	14:41 (4)	08:21	07:13	06:48	05:27	04:27	04:20	05:09	06:15	07:18	08:33
2	15:39	14:53 (4)	16:40	17:46	19:55	21:01	22:02	22:20	21:35	20:17	18:53	16:32
3	09:00	14:41 (4)	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:20	07:30
4	15:40	14:54 (4)	16:42	17:48	19:57	21:03	22:04	22:19	21:33	20:14	18:50	16:29
5	09:00	14:42 (4)	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32
6	15:42	14:56 (4)	16:44	17:50	19:59	21:06	22:05	22:19	21:31	20:12	18:48	16:27
7	08:59	14:42 (4)	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34
8	15:43	14:58 (4)	16:47	17:53	20:01	21:08	22:07	22:18	21:28	20:09	18:45	16:25
9	08:59	14:42 (4)	08:12	07:03	06:36	05:18	04:22	04:24	05:17	06:23	07:27	07:37
10	15:45	14:59 (4)	16:49	17:55	20:04	21:10	22:08	22:17	21:26	20:06	18:42	16:23
11	08:58	14:43 (4)	08:10	07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29	07:39
12	15:46	15:01 (4)	16:52	17:57	20:06	21:12	22:09	22:16	21:24	20:03	18:39	16:20
13	08:57	14:43 (4)	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41
14	15:48	15:03 (4)	16:54	17:59	20:08	21:14	22:11	22:16	21:22	20:01	18:37	16:18
15	08:57	14:43 (4)	08:06	06:54	06:28	05:11	04:19	04:27	05:23	06:29	07:33	07:43
16	15:49	15:05 (4)	16:56	18:02	20:10	21:16	22:12	22:15	21:19	19:58	18:34	16:16
17	08:56	14:44 (4)	08:03	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46
18	15:51	15:07 (4)	16:59	16:25 (2)	18:04	20:12	21:19	22:13	22:14	21:17	19:55	18:31
19	08:55	14:44 (4)	08:01	16:19 (2)	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38
20	15:53	15:07 (4)	17:01	8	16:27 (2)	18:06	20:15	21:21	22:14	21:14	19:52	18:28
21	08:54	14:44 (4)	07:59	16:18 (2)	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40
22	15:55	15:07 (4)	17:03	12	16:30 (2)	18:08	20:17	21:23	22:15	21:12	19:49	18:26
23	08:53	14:45 (4)	07:56	16:17 (2)	06:43	06:17	05:02	04:17	04:33	05:32	06:38	07:42
24	15:57	15:08 (4)	17:06	15	16:32 (2)	18:11	20:19	21:25	22:16	21:10	19:47	18:23
25	08:52	14:45 (4)	07:54	16:17 (2)	06:41	06:14	05:00	04:16	04:34	05:34	06:40	07:44
26	15:58	15:08 (4)	17:08	18	16:35 (2)	18:13	20:21	21:27	22:17	21:07	19:44	18:20
27	08:51	14:45 (4)	07:52	16:16 (2)	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47
28	16:00	15:09 (4)	17:11	22	16:38 (2)	18:15	20:24	21:29	22:18	21:05	19:41	18:18
29	08:49	14:46 (4)	07:49	16:15 (2)	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49
30	16:02	15:08 (4)	17:13	25	16:40 (2)	18:17	20:26	21:31	22:18	21:02	19:38	18:15
31	08:48	14:47 (4)	07:47	16:15 (2)	06:32	06:06	04:53	04:15	04:39	05:40	06:46	07:51
32	16:04	15:09 (4)	17:15	26	16:41 (2)	18:20	20:28	21:33	22:19	22:05	21:00	19:35
33	08:47	14:47 (4)	07:44	16:15 (2)	06:29	06:04	04:51	04:15	04:40	05:43	06:48	07:53
34	16:06	15:09 (4)	17:18	26	16:41 (2)	18:22	20:30	21:35	22:20	22:03	20:57	19:33
35	08:45	14:47 (4)	07:42	16:15 (2)	06:27	06:01	04:49	04:15	04:42	05:45	06:51	07:55
36	16:08	15:09 (4)	17:20	27	16:42 (2)	18:24	20:32	21:37	22:20	22:02	20:54	19:30
37	08:44	14:48 (4)	07:39	16:15 (2)	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58
38	16:10	15:08 (4)	17:22	26	16:41 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27
39	08:42	14:50 (4)	07:37	16:15 (2)	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00
40	16:13	15:09 (4)	17:25	25	16:40 (2)	18:28	20:37	21:41	22:21	21:58	20:49	19:24
41	08:41	14:51 (4)	07:34	16:15 (2)	06:18	05:53	04:44	04:15	04:47	05:51	06:57	08:02
42	16:15	15:08 (4)	17:27	24	16:39 (2)	18:31	20:39	21:43	22:21	21:57	20:47	19:21
43	08:39	14:52 (4)	07:32	16:17 (2)	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:04
44	16:17	15:08 (4)	17:29	22	16:39 (2)	18:33	20:41	21:45	22:21	21:55	20:44	19:18
45	08:38	14:53 (4)	07:29	16:18 (2)	06:13	05:48	04:40	04:15	04:51	05:55	07:01	08:07
46	16:19	15:07 (4)	17:32	19	16:37 (2)	18:35	20:43	21:47	22:22	21:53	20:41	19:16
47	08:36	14:56 (4)	07:26	16:19 (2)	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09
48	16:21	15:05 (4)	17:34	16	16:35 (2)	18:37	20:46	21:49	22:22	21:51	20:39	19:13
49	08:34	15:00 (4)	07:24	16	16:22 (2)	06:07	05:43	04:37	04:16	04:55	06:00	07:05
50	16:24	15:01 (4)	17:36	12	16:34 (2)	18:39	20:48	21:51	22:22	21:49	20:36	19:10
51	08:32	15:01 (4)	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	07:14
52	16:26	17:39	17:39	18:42	20:50	21:53	22:21	21:47	20:33	19:07	16:46	26
53	08:31	17:19	17:19	06:02	05:37	04:34	04:17	04:59	06:04	07:10	07:16	07:16
54	16:28	17:41	17:41	18:44	20:52	21:54	22:21	21:45	20:31	19:04	16:44	25
55	08:29	17:16	17:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	07:18
56	16:30	17:43	17:43	18:46	20:55	21:56	22:21	21:43	20:28	19:02	16:41	21
57	08:27	17:33	17:33	06:56	05:32	04:31	04:18	05:03	06:08	07:14	07:20	07:20
58	16:33	17:33	17:33	19:48	20:57	21:58	22:21	21:41	20:25	18:59	16:39	18
59	08:25	17:35	17:35	06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	07:23
60	16:35	17:35	17:35	19:50	20:59	21:59	22:20	21:39	20:23	18:56	16:37	15
61	08:23	17:37	17:37	06:50	04:28	05:07	05:07	06:13	07:18	07:25	07:31	07:31
62	16:37	17:37	17:37	19:53	22:01	22:01	21:37	20:20	19:04	17:34	15:59	11
Potential sun hours	227	262	327	365	429	515	539	538	474	386	321	241
Total, worst case	455	327	327	365	429	515	539	538	474	386	321	241
Sun reduction	0.11	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Oper. time red.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wind dir. red.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total reduction	0.11	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Total, real	50	64	64	64	64	64	64	64	64	64	64	64

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

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Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Kurmiš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (792)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:02	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:18	07:19 18:54	07:28 16:32	08:33 15:38
2	09:00 15:41	08:19 16:43	07:11 17:48	06:45 19:57	05:26 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:37
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:25 22:06	04:22 22:19	05:14 21:31	06:19 20:12	07:23 18:48	07:32 16:28	08:37 15:36
4	08:59 15:44	08:15 16:47	07:06 17:53	06:40 20:02	05:21 21:08	04:24 22:07	04:23 22:18	05:16 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:35
5	08:59 15:45	08:13 16:50	07:03 17:55	06:37 20:04	05:18 21:10	04:23 22:08	04:24 22:18	05:18 21:27	06:24 20:07	07:27 18:43	07:37 16:23	08:40 15:34
6	08:58 15:47	08:11 16:52	07:00 17:58	06:34 20:06	05:16 21:12	04:22 22:10	04:25 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
7	08:58 15:48	08:08 16:54	06:58 18:00	06:31 20:08	05:14 21:15	04:21 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:19	08:43 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:29 20:11	05:11 21:17	04:20 22:12	04:28 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:32
9	08:56 15:52	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:32	07:46 16:14	08:46 15:31
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31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:35		09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Karla Skalbes iela 10 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (604)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Karla Skalbes iela 11 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (642)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Karla Skalbes iela 15 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (606)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Karla Skalbes iela 17 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (611)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
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Total reduction												
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Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Karla Skalbes iela 19 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (631)
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Lati - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (492)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:14 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Calculation: Flickering_Valke_Nordex175 Shadow receptor: Latini - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (475)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

		January	February	March	April	May	June	July	August	September	October	November	December
1	09:00	14:28 (4)	08:21	07:13	06:48	05:27	04:27	04:20	05:09	06:15	07:18	07:27	14:15 (4)
	15:39	24 14:52 (4)	16:40	17:46	19:55	21:01	22:02	22:20	21:35	20:17	18:53	16:32	22 15:56 (2)
2	09:00	14:28 (4)	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:20	07:30	15:36 (2)
	15:40	24 14:52 (4)	16:42	17:48	19:57	21:03	22:04	22:19	21:33	20:14	18:50	16:29	18 15:54 (2)
3	09:00	14:29 (4)	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	15:36 (2)
	15:42	24 14:53 (4)	16:44	17:50	19:59	21:06	22:05	22:19	21:31	20:12	18:48	16:27	15 15:51 (2)
4	08:59	14:29 (4)	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	15:36 (2)
	15:43	24 14:53 (4)	16:47	17:53	20:01	21:08	22:07	22:18	21:28	20:09	18:45	16:25	12 15:49 (2)
5	08:59	14:30 (4)	08:12	07:03	06:36	05:18	04:22	04:24	05:17	06:23	07:27	07:37	15:38 (2)
	15:45	23 14:53 (4)	16:49	17:55	20:04	21:10	22:08	22:17	21:26	20:06	18:42	16:23	8 15:46 (2)
6	08:58	14:30 (4)	08:10	07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29	07:39	15:41 (2)
	15:46	24 14:54 (4)	16:52	17:57	20:06	21:12	22:09	22:16	21:24	20:03	18:39	16:20	3 15:44 (2)
7	08:57	14:31 (4)	08:08	16:08 (2)	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41
	15:48	23 14:54 (4)	16:54	11 16:19 (2)	17:59	20:08	21:14	22:11	22:16	21:22	20:01	18:37	16:18
8	08:57	14:31 (4)	08:06	16:06 (2)	16:54	06:28	05:11	04:19	04:27	05:23	06:29	07:33	07:43
	15:49	24 14:55 (4)	16:56	16 16:22 (2)	18:02	20:10	21:16	22:12	22:15	21:19	19:58	18:34	16:16
9	08:56	14:32 (4)	08:03	16:06 (2)	16:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46
	15:51	23 14:55 (4)	16:59	19 16:25 (2)	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14
10	08:55	14:33 (4)	08:01	16:05 (2)	16:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48
	15:53	23 14:56 (4)	17:01	22 16:27 (2)	18:06	20:15	21:21	22:14	22:12	21:14	19:52	18:28	16:12
11	08:54	14:32 (4)	07:59	16:05 (2)	16:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:50
	15:55	23 14:55 (4)	17:03	25 16:30 (2)	18:08	20:17	21:23	22:15	22:11	21:12	19:49	18:26	16:10
12	08:53	14:33 (4)	07:56	16:04 (2)	16:43	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53
	15:57	23 14:56 (4)	17:06	27 16:31 (2)	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:07
13	08:52	14:33 (4)	07:54	16:04 (2)	16:41	06:15	04:16	04:16	04:30	05:30	06:36	07:40	07:55
	15:58	23 14:56 (4)	17:08	28 16:32 (2)	18:13	20:21	21:27	22:17	22:09	21:07	19:44	18:20	16:05
14	08:51	14:35 (4)	07:52	16:04 (2)	16:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57
	16:00	21 14:56 (4)	17:11	27 16:31 (2)	18:15								

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker
			(WTG causing flicker last time)

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Lauku iela 2 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (541)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:30	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:45	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:08	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:28	05:11	04:19	04:27	05:24	06:30	07:34	07:44	08:45
	15:49	16:56	18:02	20:10	21:17	22:12	22:15	21:19	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:25	05:09	04:19	04:28	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:08	15:29
13	08:52	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55	08:51
	15:58	17:08	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:20	16:06	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57	08:53
	16:00	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:49	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49	08:00	08:54
	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:54	04:15	04:39	05:41	06:46	07:51	08:02	08:55
	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:35	18:12	16:00	15:29
17	08:47	07:44	06:30	06:04	04:52	04:15	04:41	05:43	06:49	07:53	08:04	08:56
	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56	08:06	08:56
	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:39	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:11	17:22	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:48	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:21	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:41	21:45	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:52	15:46	15:31
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:11	08:21	09:00
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:42	15:41	15:35
29	08:27		06:56	05:33	04:31	04:18	05:03	06:08	07:14	07:21	08:29	09:01
	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:36
30	08:25		06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Ledini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (580)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:52 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:55 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:01	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:33	07:53 18:10	08:04 15:58	08:55 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:47 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:14 22:21	04:46 21:59	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:39 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:18	08:05 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:40	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Lejas Gerki - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (783)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	09:00 15:40	08:21 16:40	07:14 17:46	06:48 19:55	07:14 (8) 08:59 (7)	05:28 21:01
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	07:12 (8) 08:56 (7)	05:25 21:04
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	07:10 (8) 08:51 (7)	05:23 21:06
4	08:59 15:44	08:15 16:47	07:06 17:53	06:39 20:02	07:10 (8) 07:36 (8)	05:21 21:08
5	08:59 15:45	08:13 16:50	07:03 17:55	07:48 (7) 08:02 (7)	07:09 (8) 07:36 (8)	05:18 21:10
6	08:58 15:47	08:10 16:52	07:00 17:57	07:44 (7) 08:05 (7)	07:08 (8) 07:36 (8)	05:16 21:12
7	08:57 15:48	08:08 16:54	06:57 18:00	07:41 (7) 08:08 (7)	07:07 (8) 07:36 (8)	05:13 21:15
8	08:57 15:50	08:06 16:57	06:55 18:02	07:38 (7) 08:09 (7)	07:07 (8) 07:36 (8)	05:11 21:17
9	08:56 15:52	08:04 16:59	06:52 18:04	07:36 (7) 08:10 (7)	07:06 (8) 07:36 (8)	05:09 21:19
10	08:55 15:53	08:01 17:01	06:49 18:06	07:35 (7) 08:12 (7)	07:06 (8) 07:35 (8)	05:07 21:21
11	08:54 15:55	07:59 17:04	06:46 18:09	07:34 (7) 08:13 (7)	07:07 (8) 07:35 (8)	05:04 21:23
12	08:53 15:57	07:57 17:06	06:44 18:11	07:32 (7) 08:14 (7)	07:07 (8) 07:34 (8)	05:02 21:25
13	08:52 15:59	07:54 17:09	06:41 18:13	07:31 (7) 08:14 (7)	07:07 (8) 07:32 (8)	05:00 21:27
14	08:51 16:01	07:52 17:11	06:38 18:15	07:30 (7) 08:14 (7)	07:08 (8) 07:32 (8)	04:58 21:29
15	08:50 16:03	07:49 17:13	06:35 18:18	07:30 (7) 08:15 (7)	07:08 (8) 07:30 (8)	04:56 21:31
16	08:48 16:05	07:47 17:16	06:33 18:20	07:29 (7) 08:15 (7)	07:09 (8) 07:27 (8)	04:54 21:34
17	08:47 16:07	07:45 17:18	06:30 18:22	07:28 (7) 08:15 (7)	07:12 (8) 07:26 (8)	04:52 21:36
18	08:46 16:09	07:42 17:20	06:27 18:24	07:27 (7) 08:15 (7)	07:15 (8) 07:21 (8)	04:50 21:38
19	08:44 16:11	07:40 17:23	06:24 18:27	07:27 (7) 08:15 (7)	05:48 21:40	04:48 21:40
20	08:43 16:13	07:37 17:25	06:21 18:29	07:26 (7) 08:14 (7)	06:23 (9) 06:27 (9)	04:46 21:42
21	08:41 16:15	07:34 17:27	06:19 18:31	07:27 (7) 08:14 (7)	06:21 (9) 06:29 (9)	04:44 21:43
22	08:40 16:17	07:32 17:30	06:16 18:33	07:27 (7) 08:14 (7)	06:18 (9) 06:30 (9)	04:42 21:45
23	08:38 16:19	07:29 17:32	06:13 18:35	07:26 (7) 08:13 (7)	06:16 (9) 06:31 (9)	04:41 21:47
24	08:36 16:22	07:27 17:34	06:10 18:38	07:26 (7) 08:12 (7)	06:13 (9) 06:31 (9)	04:39 21:49
25	08:34 16:24	07:24 17:37	06:07 18:40	07:26 (7) 08:11 (7)	06:11 (9) 06:32 (9)	04:37 21:51
26	08:33 16:26	07:22 17:39	06:05 18:42	07:28 (7) 08:10 (7)	06:09 (9) 06:31 (9)	04:36 21:53
27	08:31 16:28	07:19 17:41	06:02 18:44	07:28 (7) 08:09 (7)	06:09 (9) 06:32 (9)	04:34 21:54
28	08:29 16:31	07:16 17:44	05:59 18:46	07:28 (7) 08:07 (7)	06:09 (9) 06:32 (9)	04:33 21:56
29	08:27 16:33		05:56 19:49	08:29 (7) 09:06 (7)	06:08 (6) 06:31 (9)	04:31 21:58
30	08:25 16:35		06:53 19:51	07:21 (8) 09:04 (7)	06:07 (6) 06:31 (6)	04:30 22:00
31	08:23 16:38		06:51 19:53	07:17 (8) 09:02 (7)		04:28 22:01
Potential sun hours	227	262	365	429	515	539
Total, worst case			1089	680	1419	714
Sun reduction			0.40	0.43	0.58	0.56
Oper. time red.			1.00	1.00	1.00	1.00
Wind dir. red.			1.00	1.00	1.00	1.00
Total reduction			0.40	0.43	0.58	0.56
Total, real			439	289	825	399

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Lejas Gerki - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (783)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July		August		September		October		November		December	
1	04:20	05:25 (5)	05:09	06:09 (6)	06:15	07:06 (8)	07:19	08:11 (7)	07:28	08:33		
	22:20	18 05:43 (5)	21:35	39 06:48 (6)	20:17	28 07:34 (8)	18:53	42 08:53 (7)	16:32	15:37		
2	04:21	05:25 (5)	05:11	06:09 (6)	06:17	07:05 (8)	07:21	08:11 (7)	07:30	08:35		
	22:20	19 05:44 (5)	21:33	39 06:48 (6)	20:15	29 07:34 (8)	18:51	41 08:52 (7)	16:30	15:36		
3	04:22	05:25 (5)	05:13	06:08 (6)	06:19	07:04 (8)	07:23	08:12 (7)	07:32	08:37		
	22:19	26 06:28 (6)	21:31	39 06:47 (6)	20:12	30 07:34 (8)	18:48	38 08:50 (7)	16:27	15:35		
4	04:23	05:25 (5)	05:15	06:09 (6)	06:21	07:04 (8)	07:25	08:14 (7)	07:35	08:38		
	22:18	30 06:30 (6)	21:29	38 06:47 (6)	20:09	29 07:33 (8)	18:45	35 08:49 (7)	16:25	15:34		
5	04:24	05:25 (5)	05:18	06:09 (6)	06:23	07:04 (8)	07:27	08:15 (7)	07:37	08:40		
	22:17	33 06:31 (6)	21:26	37 06:46 (6)	20:06	29 07:33 (8)	18:42	32 08:47 (7)	16:23	15:34		
6	04:25	05:25 (5)	05:20	06:09 (6)	06:26	07:04 (8)	07:29	08:16 (7)	07:39	08:42		
	22:17	36 06:33 (6)	21:24	37 06:46 (6)	20:04	28 07:32 (8)	18:40	29 08:45 (7)	16:21	15:33		
7	04:26	05:24 (5)	05:22	06:10 (6)	06:28	07:04 (8)	07:31	08:18 (7)	07:41	08:43		
	22:16	39 06:34 (6)	21:22	35 06:45 (6)	20:01	27 07:31 (8)	18:37	24 08:42 (7)	16:18	15:32		
8	04:28	05:24 (5)	05:24	06:10 (6)	06:30	07:04 (8)	07:34	08:21 (7)	07:44	08:45		
	22:15	41 06:35 (6)	21:19	35 06:45 (6)	19:58	26 07:30 (8)	18:34	18 08:39 (7)	16:16	15:31		
9	04:29	05:24 (5)	05:26	06:11 (6)	06:32	07:04 (8)	07:36	08:27 (7)	07:46	08:46		
	22:14	43 06:36 (6)	21:17	33 06:44 (6)	19:55	37 08:45 (7)	18:31	6 08:33 (7)	16:14	15:31		
10	04:30	05:24 (5)	05:28	06:12 (6)	06:34	07:05 (8)	07:38		07:48	08:47		
	22:13	45 06:37 (6)	21:15	31 06:43 (6)	19:52	42 08:49 (7)	18:29		16:12	15:30		
11	04:32	05:24 (5)	05:30	06:13 (6)	06:36	07:06 (8)	07:40		07:51	08:49		
	22:12	47 06:38 (6)	21:12	29 06:42 (6)	19:50	44 08:51 (7)	18:26		16:10	15:30		
12	04:33	05:24 (5)	05:32	06:14 (6)	06:38	07:08 (8)	07:42		07:53	08:50		
	22:10	49 06:39 (6)	21:10	26 06:40 (6)	19:47	45 08:53 (7)	18:23		16:08	15:30		
13	04:34	05:24 (5)	05:34	06:15 (6)	06:40	07:11 (8)	07:45		07:55	08:51		
	22:09	51 06:40 (6)	21:07	24 06:39 (6)	19:44	42 08:55 (7)	18:21		16:06	15:29		
14	04:36	05:24 (5)	05:37	06:17 (6)	06:42	08:19 (7)	07:47		07:57	08:52		
	22:08	53 06:41 (6)	21:05	22 06:39 (9)	19:41	37 08:56 (7)	18:18		16:04	15:29		
15	04:38	05:24 (5)	05:39	06:16 (9)	06:45	08:18 (7)	07:49		08:00	08:54		
	22:06	54 06:41 (6)	21:02	23 06:39 (9)	19:38	39 08:57 (7)	18:15		16:02	15:29		
16	04:39	05:25 (5)	05:41	06:16 (9)	06:47	08:16 (7)	07:51		08:02	08:55		
	22:05	55 06:43 (6)	21:00	23 06:39 (9)	19:36	41 08:57 (7)	18:13		16:00	15:29		
17	04:41	05:24 (5)	05:43	06:16 (9)	06:49	08:15 (7)	07:53		08:04	08:55		
	22:03	56 06:43 (6)	20:57	23 06:39 (9)	19:33	43 08:58 (7)	18:10		15:58	15:29		
18	04:43	05:25 (5)	05:45	06:18 (9)	06:51	08:14 (7)	07:56		08:06	08:56		
	22:02	56 06:44 (6)	20:55	20 06:38 (9)	19:30	44 08:58 (7)	18:07		15:56	15:29		
19	04:44	05:25 (5)	05:47	06:20 (9)	06:53	08:14 (7)	07:58		08:09	08:57		
	22:00	57 06:44 (6)	20:52	18 06:38 (9)	19:27	45 08:59 (7)	18:05		15:55	15:29		
20	04:46	05:25 (5)	05:49	06:22 (9)	06:55	08:13 (7)	08:00		08:11	08:58		
	21:59	58 06:45 (6)	20:50	15 06:37 (9)	19:24	46 08:59 (7)	18:02		15:53	15:30		
21	04:48	05:25 (5)	05:52	06:24 (9)	06:57	08:12 (7)	08:02		08:13	08:59		
	21:57	59 06:45 (6)	20:47	11 06:35 (9)	19:22	47 08:59 (7)	17:59		15:51	15:30		
22	04:50	05:27 (5)	05:54	06:26 (9)	06:59	08:12 (7)	08:05		08:15	08:59		
	21:55	58 06:46 (6)	20:44	8 06:34 (9)	19:19	47 08:59 (7)	17:57		15:50	15:31		
23	04:52	05:29 (5)	05:56	06:28 (9)	07:01	08:11 (7)	08:07		08:17	09:00		
	21:53	57 06:47 (6)	20:42	4 06:32 (9)	19:16	48 08:59 (7)	17:54		15:48	15:31		
24	04:53	05:30 (5)	05:58		07:04	08:11 (7)	08:09		08:19	09:00		
	21:51	55 06:46 (6)	20:39		19:13	47 08:58 (7)	17:52		15:46	15:32		
25	04:55	05:32 (5)	06:00		07:06	08:10 (7)	07:12		08:21	09:00		
	21:50	53 06:47 (6)	20:36	8 07:26 (8)	19:10	48 08:58 (7)	16:49		15:45	15:32		
26	04:57	05:34 (5)	06:02		07:14 (8)	07:08	08:10 (7)	07:14	08:23	09:01		
	21:48	51 06:47 (6)	20:34	15 07:29 (8)	19:07	47 08:57 (7)	16:47		15:44	15:33		
27	04:59	05:36 (5)	06:04		07:12 (8)	07:10	08:10 (7)	07:16	08:25	09:01		
	21:46	49 06:48 (6)	20:31	18 07:30 (8)	19:05	46 08:56 (7)	16:44		15:42	15:34		
28	05:01	05:37 (5)	06:06		07:10 (8)	07:12	08:11 (7)	07:18	08:27	09:01		
	21:44	47 06:47 (6)	20:28	22 07:32 (8)	19:02	46 08:57 (7)	16:42		15:41	15:35		
29	05:03	05:39 (5)	06:09		07:09 (8)	07:14	08:11 (7)	07:21	08:29	09:01		
	21:42	43 06:47 (6)	20:26	24 07:33 (8)	18:59	45 08:56 (7)	16:39		15:40	15:36		
30	05:05	06:08 (6)	06:11		07:07 (8)	07:16	08:11 (7)	07:23	08:31	09:01		
	21:40	40 06:48 (6)	20:23	26 07:33 (8)	18:56	43 08:54 (7)	16:37		15:39	15:37		
31	05:07	06:09 (6)	06:13		07:06 (8)		07:25			09:01		
	21:37	39 06:48 (6)	20:20	27 07:33 (8)			16:34			15:38		
Potential sun hours	538		474		386		321		241	207		
Total, worst case		1417		749		1195		265				
Sun reduction		0.47		0.50		0.46		0.28				
Oper. time red.		1.00		1.00		1.00		1.00				
Wind dir. red.		1.00		1.00		1.00		1.00				
Total reduction		0.47		0.50		0.46		0.28				
Total, real		666		378		552		75				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Lejasstaldoti - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (772)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:02	04:27 22:03	04:20 22:20	05:09 21:36	06:15 20:18	07:19 18:54	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:25 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:44	08:15 16:47	07:06 17:53	06:40 20:02	05:21 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:50	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:34
6	08:58 15:47	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:13	04:21 22:10	04:25 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:18	08:43 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:28 20:11	05:11 21:17	04:20 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:02 17:01	06:49 18:06	06:23 20:15	05:07 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:53	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:11	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:30
13	08:52 15:59	07:54 17:09	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:08	06:40 19:44	07:45 18:21	07:55 16:06	08:52 15:29
14	08:51 16:01	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:37 21:05	06:42 19:41	07:47 18:18	07:58 16:04	08:53 15:29
15	08:50 16:03	07:50 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:16 22:19	04:38 22:07	05:39 21:03	06:45 19:39	07:49 18:15	08:00 16:02	08:54 15:29
16	08:49 16:05	07:47 17:16	06:33 18:20	06:07 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:13	08:02 16:00	08:55 15:29
17	08:47 16:07	07:45 17:18	06:30 18:22	06:04 20:31	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:54 18:10	08:04 15:58	08:56 15:29
18	08:46 16:09	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:21	04:43 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:11	07:40 17:23	06:24 18:27	05:59 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:55	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:30
21	08:41 16:15	07:35 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:52 20:47	06:57 19:22	08:03 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:50 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:50	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:41 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:02 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:22	07:27 17:34	06:10 18:38	05:45 20:46	04:39 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:46	09:00 15:32
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:01 15:32
26	08:33 16:26	07:22 17:39	06:05 18:42	05:40 20:50	04:36 21:53	04:17 22:22	04:57 21:48	06:02 20:34	07:08 19:08	07:14 16:47	08:23 15:44	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:32 21:56	04:18 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:19 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:09 20:26	07:14 18:59	07:21 16:39	08:29 15:40	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:30 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:38		05:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Liepas - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (459)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:10 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:20 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:51	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:21	06:27 20:00	07:31 18:36	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:14	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:08 21:18	04:18 22:13	04:28 22:13	05:25 21:17	06:31 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:48 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:09	06:38 19:46	07:42 18:23	07:52 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:40 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:50 16:00	07:51 17:10	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:17	04:36 22:07	05:36 21:04	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:55 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:01	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:19	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:04	05:40 20:59	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:01	05:45 20:54	06:50 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:34	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:57 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:56	05:51 20:47	06:57 19:21	08:02 17:59	08:12 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:15	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:21	04:53 21:51	05:57 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:42 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:30 16:28	07:18 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:01	07:18 16:41	08:27 15:41	09:00 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:00 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	07:16 20:22	07:23 18:56	07:31 16:36	08:31 15:38	09:00 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Liepkalni - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (796)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	
1	09:00 15:40	08:21 16:40	07:14 17:46	09:33 (7) 11:08 (7)	06:48 19:55	10:37 (7) 21:01	05:57 (9) 22:03
2	09:00 15:41	08:19 16:42	07:11 17:48	09:32 (7) 11:08 (7)	06:45 19:57	10:37 (7) 21:04	05:54 (9) 22:04
3	09:00 15:42	08:17 16:45	07:08 17:51	09:31 (7) 11:08 (7)	06:42 20:00	10:37 (7) 21:06	05:52 (9) 22:06
4	08:59 15:44	08:15 16:47	10:18 (7) 07:05 17:53	09:31 (7) 11:08 (7)	06:39 20:02	10:37 (7) 21:08	05:50 (9) 22:07
5	08:59 15:45	08:13 16:49	10:10 (7) 17:55	09:31 (7) 11:09 (7)	06:37 20:04	10:37 (7) 21:10	05:48 (9) 22:08
6	08:58 15:47	08:10 16:52	10:05 (7) 07:00 17:57	09:30 (7) 11:09 (7)	06:34 20:06	10:37 (7) 21:12	05:47 (9) 22:10
7	08:57 15:48	08:08 16:54	10:02 (7) 06:57 18:00	09:30 (7) 11:08 (7)	06:31 20:08	10:37 (7) 21:14	05:46 (9) 22:11
8	08:57 15:50	08:06 16:57	10:00 (7) 06:55 18:02	09:29 (7) 11:08 (7)	06:28 20:11	10:37 (7) 21:17	05:46 (9) 22:12
9	08:56 15:52	08:04 16:59	09:57 (7) 18:04	09:28 (7) 11:08 (7)	06:26 20:13	10:37 (7) 21:19	05:44 (9) 22:13
10	08:55 15:53	08:01 17:01	09:55 (7) 18:06	09:29 (7) 11:08 (7)	06:23 20:15	10:37 (7) 21:21	05:44 (9) 22:14
11	08:54 15:55	07:59 17:04	09:53 (7) 18:09	09:28 (7) 11:08 (7)	06:20 20:17	10:37 (7) 21:23	05:43 (9) 22:15
12	08:53 15:57	07:57 17:06	09:51 (7) 18:11	09:27 (7) 11:07 (7)	06:17 20:19	10:37 (7) 21:25	05:44 (9) 22:16
13	08:52 15:59	07:54 17:08	09:50 (7) 18:13	09:27 (7) 11:06 (7)	06:15 20:22	10:37 (7) 21:27	05:44 (9) 22:17
14	08:51 16:01	07:52 17:11	09:48 (7) 18:15	09:26 (7) 11:06 (7)	06:12 20:24	10:37 (7) 21:29	05:44 (9) 22:18
15	08:50 16:03	07:49 17:13	09:47 (7) 18:18	09:25 (7) 11:06 (7)	06:09 20:26	10:37 (7) 21:31	05:43 (9) 22:19
16	08:48 16:05	07:47 17:16	09:45 (7) 18:20	09:24 (7) 11:05 (7)	06:07 20:28	10:37 (7) 21:34	05:43 (9) 22:20
17	08:47 16:07	07:45 17:18	09:43 (7) 18:22	09:23 (7) 11:04 (7)	06:04 20:30	10:37 (7) 21:36	05:43 (9) 22:21
18	08:46 16:09	07:42 17:20	09:43 (7) 18:24	09:22 (7) 11:03 (7)	06:01 20:33	10:37 (7) 21:38	05:44 (9) 22:22
19	08:44 16:11	07:40 17:23	09:41 (7) 18:26	09:21 (7) 11:02 (7)	05:59 20:35	10:37 (7) 21:40	05:44 (9) 22:23
20	08:43 16:13	07:37 17:25	09:40 (7) 18:29	09:20 (7) 11:00 (7)	05:56 20:37	10:37 (7) 21:42	05:44 (9) 22:24
21	08:41 16:15	07:34 17:27	09:40 (7) 18:31	09:19 (7) 11:00 (7)	05:53 20:39	10:37 (7) 21:43	05:45 (9) 22:25
22	08:40 16:17	07:32 17:30	09:38 (7) 18:33	09:18 (7) 11:00 (7)	05:51 20:41	10:37 (7) 21:45	05:45 (9) 22:26
23	08:38 16:19	07:29 17:32	09:37 (7) 18:35	09:17 (7) 11:00 (7)	05:48 20:44	10:37 (7) 21:47	05:46 (9) 22:27
24	08:36 16:22	07:27 17:34	09:37 (7) 18:38	09:16 (7) 11:00 (7)	05:45 20:46	10:37 (7) 21:49	05:46 (9) 22:28
25	08:34 16:24	07:24 17:37	09:36 (7) 18:40	09:15 (7) 11:00 (7)	05:43 20:48	10:37 (7) 21:51	05:47 (9) 22:29
26	08:33 16:26	07:21 17:39	09:35 (7) 18:42	09:14 (7) 11:00 (7)	05:40 20:50	10:37 (7) 21:53	05:46 (9) 22:30
27	08:31 16:28	07:19 17:41	09:34 (7) 18:44	09:13 (7) 11:00 (7)	05:38 20:53	10:37 (7) 21:55	05:47 (9) 22:31
28	08:29 16:31	07:16 17:44	09:34 (7) 18:46	09:12 (7) 11:00 (7)	05:35 20:55	10:37 (7) 21:57	05:48 (9) 22:32
29	08:27 16:33		09:33 (7) 18:49	09:11 (7) 11:00 (7)	05:33 20:57	10:37 (7) 21:59	05:49 (9) 22:33
30	08:25 16:35		09:32 (7) 18:51	09:10 (7) 11:00 (7)	05:30 20:59	10:37 (7) 22:01	05:50 (9) 22:34
31	08:23 16:38		09:31 (7) 18:53	09:09 (7) 11:00 (7)	05:28 21:00	10:37 (7) 22:03	05:50 (9) 22:35
Potential sun hours	227	262	365	429	515	539	85
Total, worst case		1670	3140	1695	994		0.56
Sun reduction		0.19	0.40	0.43	0.58		1.00
Oper. time red.		1.00	1.00	1.00	1.00		1.00
Wind dir. red.		1.00	1.00	1.00	1.00		1.00
Total reduction		0.19	0.40	0.43	0.58		0.56
Total, real		324	1265	721	578		48

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Liepkalni - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (796)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20	05:09	05:55 (9)	06:15	06:46 (3)	07:18
	22:20	21:35	20:17	18:53	17:46 (7)	16:32
2	04:21	05:11	05:55 (9)	06:17	06:48 (3)	07:21
	22:19	21:33	20:15	18:51	17:46 (7)	16:30
3	04:22	05:13	05:54 (9)	06:19	06:50 (3)	07:23
	22:19	21:31	20:12	18:48	17:45 (7)	16:27
4	04:23	05:15	05:55 (9)	06:21	06:52 (3)	07:25
	22:18	21:29	20:09	18:45	17:46 (7)	16:25
5	04:24	05:17	05:55 (9)	06:23	07:11 (8)	07:27
	22:17	21:26	20:06	18:42	17:45 (7)	16:23
6	04:25	06:06 (9)	05:20	06:26	07:12 (8)	07:29
	22:17	06:11 (9)	21:24	20:04	17:45 (7)	16:21
7	04:26	06:04 (9)	05:22	06:28	07:13 (8)	07:31
	22:16	06:13 (9)	21:22	20:01	17:44 (7)	16:18
8	04:27	06:02 (9)	05:24	06:30	07:14 (8)	07:34
	22:15	06:14 (9)	21:19	19:58	17:44 (7)	16:16
9	04:29	06:01 (9)	05:26	06:32	07:16 (8)	07:36
	22:14	06:16 (9)	21:17	19:55	17:44 (7)	16:14
10	04:30	06:00 (9)	05:28	06:34	07:19 (8)	07:38
	22:13	06:17 (9)	21:15	19:52	17:43 (7)	16:12
11	04:32	06:00 (9)	05:30	06:36	07:26 (8)	07:40
	22:11	06:18 (9)	21:12	19:50	17:42 (7)	16:10
12	04:33	05:59 (9)	05:32	06:38	10:27 (7)	07:42
	22:10	06:19 (9)	21:10	19:47	17:42 (7)	16:08
13	04:34	05:58 (9)	05:34	06:40	10:25 (7)	07:45
	22:09	06:20 (9)	21:07	19:44	17:41 (7)	16:06
14	04:36	05:58 (9)	05:37	06:42	10:23 (7)	07:47
	22:08	06:21 (9)	21:05	19:41	17:40 (7)	16:04
15	04:38	05:57 (9)	05:39	06:45	10:21 (7)	07:49
	22:06	06:22 (9)	21:02	19:38	17:37 (7)	16:02
16	04:39	05:57 (9)	05:41	06:47	10:20 (7)	07:51
	22:05	06:23 (9)	21:00	19:36	17:38 (7)	16:12
17	04:41	05:56 (9)	05:43	06:49	10:19 (7)	07:53
	22:03	06:23 (9)	20:57	19:33	17:39 (7)	16:10
18	04:43	05:57 (9)	05:45	06:51	10:17 (7)	07:56
	22:02	06:24 (9)	20:55	19:30	17:37 (7)	16:07
19	04:44	05:56 (9)	05:47	06:53	10:16 (7)	07:58
	22:00	06:24 (9)	20:52	19:27	17:36 (7)	16:05
20	04:46	05:56 (9)	05:49	06:55	10:14 (7)	08:00
	21:59	06:25 (9)	20:50	19:24	17:35 (7)	16:02
21	04:48	05:55 (9)	05:51	06:57	10:12 (7)	08:02
	21:57	06:25 (9)	20:47	19:22	17:34 (7)	16:00
22	04:50	05:55 (9)	05:54	06:59	10:10 (7)	08:05
	21:55	06:26 (9)	20:44	19:19	17:32 (7)	16:00
23	04:52	05:55 (9)	05:56	07:01	10:08 (7)	08:07
	21:53	06:27 (9)	20:42	19:16	17:30 (7)	16:00
24	04:53	05:54 (9)	05:58	07:04	10:06 (7)	08:09
	21:51	06:26 (9)	20:39	19:13	17:28 (7)	16:00
25	04:55	05:54 (9)	06:00	07:06	10:04 (7)	08:11
	21:50	06:27 (9)	20:36	19:10	17:26 (7)	16:00
26	04:57	05:54 (9)	06:02	07:08	10:02 (7)	08:13
	21:48	06:27 (9)	20:34	19:07	17:24 (7)	16:00
27	04:59	05:54 (9)	06:04	07:10	10:00 (7)	08:15
	21:46	06:28 (9)	20:31	19:05	17:22 (7)	16:00
28	05:01	05:54 (9)	06:06	07:12	10:00 (7)	08:17
	21:44	06:27 (9)	20:28	19:02	17:20 (7)	16:00
29	05:03	05:54 (9)	06:09	07:14	10:00 (7)	08:19
	21:42	06:27 (9)	20:26	18:59	17:18 (7)	16:00
30	05:05	05:54 (9)	06:11	07:16	10:00 (7)	08:21
	21:40	06:27 (9)	20:23	18:56	17:16 (7)	16:00
31	05:07	05:54 (9)	06:13	07:18	10:00 (7)	08:23
	21:37	06:27 (9)	20:20	18:53	17:14 (7)	16:00
Potential sun hours	538	474	386	321	241	207
Total, worst case	660	1496	2585	2715	234	
Sun reduction	0.47	0.50	0.46	0.28	0.08	
Oper. time red.	1.00	1.00	1.00	1.00	1.00	
Wind dir. red.	1.00	1.00	1.00	1.00	1.00	
Total reduction	0.47	0.50	0.46	0.28	0.08	
Total, real	310	755	1194	768	18	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Lukstini (94880090014001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (775)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	09:01		09:43 (7)	08:21		09:53 (7)	07:14		08:08 (6)	06:48		07:28 (5)	05:28		04:27			
	15:40	7	09:50 (7)	16:40	5	09:58 (7)	17:46	29	08:37 (6)	19:55	23	07:51 (5)	21:01		22:03			
2	09:00		09:43 (7)	08:19			07:11		08:08 (6)	06:45		07:29 (5)	05:25		04:26			
	15:41	9	09:52 (7)	16:42			17:48	28	08:36 (6)	19:57	20	07:49 (5)	21:04		22:04			
3	09:00		09:42 (7)	08:17			07:08		08:08 (6)	06:42		07:29 (5)	05:23		04:25			
	15:42	11	09:53 (7)	16:45			17:51	26	08:34 (6)	20:00	18	07:47 (5)	21:06		22:06			
4	08:59		09:41 (7)	08:15			07:06		08:10 (6)	06:39		07:31 (5)	05:21		04:23			
	15:44	13	09:54 (7)	16:47			17:53	24	08:34 (6)	20:02	15	07:46 (5)	21:08		22:07			
5	08:59		09:40 (7)	08:13			07:03		08:11 (6)	06:37		07:33 (5)	05:18		04:22			
	15:45	15	09:55 (7)	16:49			17:55	21	08:32 (6)	20:04	10	07:43 (5)	21:10		22:08			
6	08:58		09:39 (7)	08:10			07:00		08:13 (6)	06:34			05:16		04:21			
	15:47	17	09:56 (7)	16:52			17:57	16	08:29 (6)	20:06			21:12		22:10			
7	08:58		09:38 (7)	08:08			06:57		08:16 (6)	06:31			05:13		04:20			
	15:48	19	09:57 (7)	16:54			18:00	9	08:25 (6)	20:08			21:15		22:11			
8	08:57		09:37 (7)	08:06			06:55			06:28			05:11		04:20			
	15:50	21	09:58 (7)	16:57			18:02			20:11			21:17		22:12			
9	08:56		09:37 (7)	08:04			06:52			06:26			05:09		04:19			
	15:51	22	09:59 (7)	16:59			18:04			20:13			21:19		22:13			
10	08:55		09:37 (7)	08:01		08:32 (8)	06:49			06:23			05:07		04:18			
	15:53	23	10:00 (7)	17:01	3	08:35 (8)	18:06			20:15			21:21		22:14			
11	08:54		09:38 (7)	07:59		08:29 (8)	06:46			06:20			05:04		04:17			
	15:55	23	10:01 (7)	17:04	7	08:36 (8)	18:09			20:17			21:23		22:15			
12	08:53		09:37 (7)	07:57		08:27 (8)	06:44			06:17			05:02		04:17			
	15:57	24	10:01 (7)	17:06	12	08:39 (8)	18:11			20:19			21:25		22:16			
13	08:52		09:37 (7)	07:54		08:24 (8)	06:41			06:15			05:00		04:16			
	15:59	25	10:02 (7)	17:09	15	08:39 (8)	18:13			20:22			21:27		22:17			
14	08:51		09:37 (7)	07:52		08:21 (8)	06:38			06:12			04:58		04:16			
	16:01	25	10:02 (7)	17:11	19	08:40 (8)	18:15			20:24			21:29		22:18			
15	08:50		09:38 (7)	07:50		08:19 (8)	06:35			06:09			04:56		04:16			
	16:03	26	10:04 (7)	17:13	22	08:41 (8)	18:18			20:26			21:32		22:19			
16	08:48		09:37 (7)	07:47		08:17 (6)	06:33			06:07			04:54		04:15			
	16:05	27	10:04 (7)	17:16	24	08:41 (8)	18:20			20:28			21:34		22:19			
17	08:47		09:37 (7)	07:45		08:14 (6)	06:30			06:04			04:52		04:15			
	16:07	27	10:04 (7)	17:18	26	08:40 (8)	18:22			20:30			21:36		22:20			
18	08:46		09:38 (7)	07:42		08:13 (6)	06:27			06:01			04:50		04:15			
	16:09	27	10:05 (7)	17:20	28	08:41 (8)	18:24			20:33			21:38		22:20			
19	08:44		09:38 (7)	07:40		08:11 (6)	06:24			05:59			04:48		04:15			
	16:11	27	10:05 (7)	17:23	30	08:41 (8)	18:27			20:35			21:40		22:21			
20	08:43		09:39 (7)	07:37		08:10 (6)	06:21			05:56			04:46		04:15			
	16:13	27	10:06 (7)	17:25	30	08:40 (8)	18:29			20:37			21:42		22:21			
21	08:41		09:39 (7)	07:35		08:09 (6)	06:19		06:45 (5)	05:53			04:44		04:15			
	16:15	27	10:06 (7)	17:27	31	08:40 (8)	18:31	2	06:47 (5)	20:39			21:44		22:21			
22	08:40		09:39 (7)	07:32		08:08 (6)	06:16		06:42 (5)	05:51			04:42		04:15			
	16:17	27	10:06 (7)	17:30	30	08:38 (6)	18:33	8	06:50 (5)	20:42			21:45		22:22			
23	08:38		09:40 (7)	07:29		08:08 (6)	06:13		06:39 (5)	05:48			04:41		04:15			
	16:19	26	10:06 (7)	17:32	30	08:38 (6)	18:35	12	06:51 (5)	20:44			21:47		22:22			
24	08:36		09:40 (7)	07:27		08:08 (6)	06:10		06:36 (5)	05:45			04:39		04:16			
	16:22	26	10:06 (7)	17:34	31	08:39 (6)	18:38	16	06:52 (5)	20:46			21:49		22:22			
25	08:35		09:41 (7)	07:24		08:07 (6)	06:07		06:33 (5)	05:43			04:37		04:16			
	16:24	25	10:06 (7)	17:37	31	08:38 (6)	18:40	19	06:52 (5)	20:48			21:51		22:22			
26	08:33		09:42 (7)	07:22		08:07 (6)	06:05		06:31 (5)	05:40			04:36		04:17			
	16:26	24	10:06 (7)	17:39	31	08:38 (6)	18:42	22	06:53 (5)	20:50			21:53		22:22			
27	08:31		09:43 (7)	07:19		08:07 (6)	06:02		06:29 (5)	05:38			04:34		04:17			
	16:28	22	10:05 (7)	17:41	30	08:37 (6)	18:44	24	06:53 (5)	20:53			21:55		22:22			
28	08:29		09:44 (7)	07:16		08:08 (6)	05:59		06:28 (5)	05:35			04:32		04:18			
	16:31	21	10:05 (7)	17:44	30	08:38 (6)	18:46	25	06:53 (5)	20:55			21:56		22:21			
29	08:27		09:45 (7)				06:56		07:28 (5)	05:33			04:31		04:18			
	16:33	18	10:03 (7)				19:49	25	07:53 (5)	20:57			21:58		22:21			
30	08:25		09:46 (7)				06:53		07:27 (5)	05:30			04:30		04:19			
	16:35	16	10:02 (7)				19:51	25	07:52 (5)	20:59			22:00		22:21			
31	08:23		09:49 (7)				06:51		07:28 (5)				04:28					
	16:38	12	10:01 (7)				19:53	24	07:52 (5)				22:01					
Potential sun hours	227			262			365			429			515		539			
Total, worst case	659			465			355			86								
Sun reduction	0.11			0.19			0.40			0.43								
Oper. time red.	1.00			1.00			1.00			1.00								
Wind dir. red.	1.00			1.00			1.00			1.00								
Total reduction	0.11			0.19			0.40			0.43								
Total, real	72			90			143			37								

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Lukstini (94880090014001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (775)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20	05:09	06:15	07:19	07:28	08:02 (8)
	22:20	21:35	20:17	18:54	16:32	08:04 (8)
2	04:21	05:11	06:17	07:21	07:30	15:37
	22:20	21:33	20:15	18:51	16:30	15:36
3	04:22	05:13	06:19	07:23	07:32	15:37
	22:19	21:31	20:12	18:48	16:27	15:35
4	04:23	05:15	06:21	07:25	07:35	15:38
	22:18	21:29	20:09	18:45	16:25	15:34
5	04:24	05:17	06:23	07:27	07:37	15:39
	22:18	21:27	20:06	18:42	16:23	15:34
6	04:25	05:20	06:26	07:29	07:39	15:40
	22:17	21:24	20:04	18:40	16:21	15:33
7	04:26	05:22	06:28	07:31	08:41	15:33
	22:16	21:22	20:01	18:37	16:18	15:32
8	04:27	05:24	06:30	07:34	08:48	15:33
	22:15	21:20	19:58	18:34	16:16	15:31
9	04:29	05:26	06:32	07:36	08:45	15:34
	22:14	21:17	19:55	18:31	16:14	15:31
10	04:30	05:28	06:34	07:38	08:43	15:35
	22:13	21:15	19:52	18:29	16:12	15:30
11	04:31	05:30	06:36	07:40	08:43	15:36
	22:12	21:12	19:50	18:26	16:10	15:30
12	04:33	05:32	06:38	07:42	08:42	15:37
	22:10	21:10	19:47	18:23	16:08	15:30
13	04:34	05:34	06:40	07:45	08:40	15:38
	22:09	21:07	19:44	18:21	16:06	15:29
14	04:36	05:37	06:42	07:47	08:39	15:39
	22:08	21:05	19:41	18:18	16:04	15:29
15	04:38	05:39	06:45	07:49	08:40	15:40
	22:06	21:02	19:38	18:15	16:02	15:29
16	04:39	05:41	06:47	07:51	08:39	15:41
	22:05	21:00	19:36	18:13	16:00	15:29
17	04:41	05:43	06:49	07:54	08:39	15:42
	22:03	20:57	19:33	18:10	15:58	15:29
18	04:43	05:45	06:51	07:56	08:39	15:43
	22:02	20:55	19:30	18:07	15:56	15:29
19	04:44	05:47	06:53	07:58	08:39	15:44
	22:00	20:52	19:27	18:05	15:55	15:29
20	04:46	05:49	06:55	08:00	08:40	15:45
	21:59	20:50	19:24	18:02	15:53	15:30
21	04:48	05:51	06:57	08:02	08:40	15:46
	21:57	20:47	19:22	17:59	15:51	15:30
22	04:50	05:54	06:59	08:05	08:41	15:47
	21:55	20:44	19:19	17:57	15:50	15:31
23	04:51	05:56	07:01	08:07	08:42	15:48
	21:53	20:42	19:16	17:54	15:48	15:31
24	04:53	05:58	07:04	08:09	08:42	15:49
	21:52	20:39	19:13	17:52	15:46	15:32
25	04:55	06:00	07:06	08:11	08:43	15:50
	21:50	20:36	19:10	17:49	15:45	15:32
26	04:57	06:02	07:08	08:14	08:44	15:51
	21:48	20:34	19:07	17:47	15:44	15:33
27	04:59	06:04	07:10	08:16	08:45	15:52
	21:46	20:31	19:05	17:44	15:42	15:34
28	05:01	06:06	07:12	08:18	08:46	15:53
	21:44	20:28	19:02	17:42	15:41	15:35
29	05:03	06:09	07:14	08:21	08:47	15:54
	21:42	20:26	18:59	17:39	15:40	15:36
30	05:05	06:11	07:16	08:23	08:48	15:55
	21:40	20:23	18:56	17:37	15:38	15:37
31	05:07	06:13		08:25	08:49	15:56
	21:38	20:20		16:34	15:38	15:38
Potential sun hours	538	474	386	321	241	207
Total, worst case			290	614	487	207
Sun reduction			0.46	0.28	0.08	0.06
Oper. time red.			1.00	1.00	1.00	1.00
Wind dir. red.			1.00	1.00	1.00	1.00
Total reduction			0.46	0.28	0.08	0.06
Total, real			134	174	38	13

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Lukstini (94880090014002) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (778)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April			May			June		
1	09:01		09:45 (7)	08:21			07:14		08:22 (6)	06:48		07:36 (5)	05:28			04:27		
	15:40	21	10:06 (7)	16:40			17:46	23	08:45 (6)	19:55	20	07:56 (5)	21:01			22:03		
2	09:00		09:45 (7)	08:19			07:11		08:23 (6)	06:45		07:37 (5)	05:25			04:26		
	15:41	22	10:07 (7)	16:42			17:48	20	08:43 (6)	19:57	16	07:53 (5)	21:04			22:04		
3	09:00		09:45 (7)	08:17			07:08		08:25 (6)	06:42		07:39 (5)	05:23			04:25		
	15:42	23	10:08 (7)	16:45			17:51	16	08:41 (6)	20:00	12	07:51 (5)	21:06			22:06		
4	08:59		09:45 (7)	08:15			07:06		07:33 (9)	06:39			05:21			04:23		
	15:44	23	10:11 (7)	16:47			17:53	11	08:38 (6)	20:02			21:08			22:07		
5	08:59		09:45 (7)	08:13			07:03		07:30 (9)	06:37			05:18			04:22		
	15:45	24	10:09 (7)	16:49			17:55	7	07:37 (9)	20:04			21:10			22:08		
6	08:58		09:45 (7)	08:10			07:00		07:27 (9)	06:34			05:16			04:21		
	15:47	25	10:10 (7)	16:52			17:57	11	07:38 (9)	20:06			21:12			22:10		
7	08:58		09:45 (7)	08:08		08:39 (8)	06:57		07:24 (9)	06:31			05:13			04:20		
	15:48	25	10:10 (7)	16:54	4	08:43 (8)	18:00	14	07:38 (9)	20:08			21:15			22:11		
8	08:57		09:46 (7)	08:06		08:37 (8)	06:55		07:21 (9)	06:28			05:11			04:20		
	15:50	25	10:11 (7)	16:57	8	08:45 (8)	18:02	17	07:38 (9)	20:11			21:17			22:12		
9	08:56		09:46 (7)	08:04		08:34 (8)	06:52		07:18 (9)	06:26			05:09			04:19		
	15:51	26	10:12 (7)	16:59	12	08:46 (8)	18:04	20	07:38 (9)	20:13			21:19			22:13		
10	08:55		09:47 (7)	08:01		08:32 (8)	06:49		07:17 (9)	06:23			05:07			04:18		
	15:53	26	10:13 (7)	17:01	16	08:48 (8)	18:06	22	07:39 (9)	20:15			21:21			22:14		
11	08:54		09:47 (7)	07:59		08:29 (8)	06:46		07:17 (9)	06:20			05:04			04:17		
	15:55	27	10:14 (7)	17:04	19	08:48 (8)	18:09	22	07:39 (9)	20:17			21:23			22:15		
12	08:53		09:47 (7)	07:57		08:27 (8)	06:44		07:17 (9)	06:17			05:02			04:17		
	15:57	26	10:13 (7)	17:06	23	08:50 (8)	18:11	21	07:38 (9)	20:19			21:25			22:16		
13	08:52		09:47 (7)	07:54		08:26 (6)	06:41		07:17 (9)	06:15			05:00			04:16		
	15:59	27	10:14 (7)	17:09	24	08:50 (8)	18:13	20	07:37 (9)	20:22			21:27			22:17		
14	08:51		09:47 (7)	07:52		08:24 (6)	06:38		07:18 (9)	06:12			04:58			04:16		
	16:01	27	10:14 (7)	17:11	25	08:49 (8)	18:15	17	07:35 (9)	20:24			21:29			22:18		
15	08:50		09:48 (7)	07:50		08:23 (6)	06:35		07:19 (9)	06:09			04:56			04:16		
	16:03	27	10:15 (7)	17:13	27	08:50 (8)	18:18	15	07:34 (9)	20:26			21:32			22:19		
16	08:48		09:48 (7)	07:47		08:22 (6)	06:33		07:21 (9)	06:07			04:54			04:15		
	16:05	27	10:15 (7)	17:16	27	08:49 (8)	18:20	11	07:32 (9)	20:28			21:34			22:19		
17	08:47		09:48 (7)	07:45		08:20 (6)	06:30			06:04			04:52			04:15		
	16:07	27	10:15 (7)	17:18	29	08:49 (6)	18:22			20:30			21:36			22:20		
18	08:46		09:50 (7)	07:42		08:20 (6)	06:27			06:01			04:50			04:15		
	16:09	26	10:16 (7)	17:20	30	08:50 (6)	18:24			20:33			21:38			22:20		
19	08:44		09:50 (7)	07:40		08:19 (6)	06:24		06:50 (5)	05:59			04:48			04:15		
	16:11	26	10:16 (7)	17:23	31	08:50 (6)	18:27	4	06:54 (5)	20:35			21:40			22:21		
20	08:43		09:50 (7)	07:37		08:19 (6)	06:21		06:47 (5)	05:56			04:46			04:15		
	16:13	26	10:16 (7)	17:25	31	08:50 (6)	18:29	10	06:57 (5)	20:37			21:42			22:21		
21	08:41		09:51 (7)	07:35		08:19 (6)	06:19		06:45 (5)	05:53			04:44			04:15		
	16:15	25	10:16 (7)	17:27	32	08:51 (6)	18:31	14	06:59 (5)	20:39			21:44			22:21		
22	08:40		09:51 (7)	07:32		08:19 (6)	06:16		06:42 (5)	05:51			04:42			04:15		
	16:17	25	10:16 (7)	17:30	31	08:50 (6)	18:33	18	07:00 (5)	20:42			21:45			22:22		
23	08:38		09:52 (7)	07:29		08:18 (6)	06:13		06:39 (5)	05:48			04:41			04:15		
	16:19	23	10:15 (7)	17:32	32	08:50 (6)	18:35	21	07:00 (5)	20:44			21:47			22:22		
24	08:36		09:53 (7)	07:27		08:19 (6)	06:10		06:36 (5)	05:45			04:39			04:16		
	16:22	22	10:15 (7)	17:34	31	08:50 (6)	18:38	24	07:00 (5)	20:46			21:49			22:22		
25	08:35		09:54 (7)	07:24		08:19 (6)	06:07		06:35 (5)	05:43			04:37			04:16		
	16:24	20	10:14 (7)	17:37	30	08:49 (6)	18:40	25	07:00 (5)	20:48			21:51			22:22		
26	08:33		09:56 (7)	07:22		08:19 (6)	06:05		06:35 (5)	05:40			04:36			04:17		
	16:26	18	10:14 (7)	17:39	30	08:49 (6)	18:42	26	07:01 (5)	20:50			21:53			22:22		
27	08:31		09:58 (7)	07:19		08:19 (6)	06:02		06:35 (5)	05:38			04:34			04:17		
	16:28	15	10:13 (7)	17:41	28	08:47 (6)	18:44	25	07:00 (5)	20:53			21:55			22:22		
28	08:29		10:00 (7)	07:16		08:21 (6)	05:59		06:34 (5)	05:35			04:32			04:18		
	16:31	11	10:11 (7)	17:44	26	08:47 (6)	18:46	26	07:00 (5)	20:55			21:56			22:21		
29	08:27		10:04 (7)				06:56		07:34 (5)	05:33			04:31			04:18		
	16:33	2	10:06 (7)				19:49	25	07:59 (5)	20:57			21:58			22:21		
30	08:25						06:53		07:34 (5)	05:30			04:30			04:19		
	16:35						19:51	24	07:58 (5)	20:59			22:00			22:21		
31	08:23						06:51		07:35 (5)				04:28					
	16:38						19:53	22	07:57 (5)				22:01					
Potential sun hours	227			262			365			429			515			539		
Total, worst case		667			546			531			48							
Sun reduction		0.11			0.19			0.40			0.43							
Oper. time red.		1.00			1.00			1.00			1.00							
Wind dir. red.		1.00			1.00			1.00			1.00							
Total reduction		0.11			0.19			0.40			0.43							
Total, real		73			106			214			20							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Lukstini (94880090014002) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (778)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20	05:09	06:15	07:19	07:56 (9)	07:28
	22:20	21:35	20:17	18:53	21	08:17 (8)
2	04:21	05:11	06:17	07:21	07:55 (9)	07:30
	22:20	21:33	20:15	18:51	21	08:16 (8)
3	04:22	05:13	06:19	07:23	07:55 (9)	07:32
	22:19	21:31	20:12	18:48	21	08:16 (8)
4	04:23	05:15	06:21	07:25	07:55 (9)	07:35
	22:18	21:29	20:09	18:45	22	08:17 (9)
5	04:24	05:17	06:23	07:27	07:57 (9)	07:37
	22:18	21:27	20:06	18:42	19	08:16 (9)
6	04:25	05:20	06:26	07:29	07:59 (9)	07:39
	22:17	21:24	20:04	18:40	16	08:15 (9)
7	04:26	05:22	06:28	07:31	08:01 (9)	07:41
	22:16	21:22	20:01	18:37	12	08:13 (9)
8	04:27	05:24	06:30	07:34	08:04 (9)	07:44
	22:15	21:20	19:58	18:34	9	08:13 (9)
9	04:29	05:26	06:32	07:33 (5)	07:36	08:06 (9)
	22:14	21:17	19:55	12	07:45 (5)	18:31
10	04:30	05:28	06:34	07:30 (5)	07:38	08:11 (9)
	22:13	21:15	19:52	17	07:47 (5)	18:29
11	04:31	05:30	06:36	07:28 (5)	07:40	08:07 (6)
	22:12	21:12	19:50	20	07:48 (5)	18:26
12	04:33	05:32	06:38	07:27 (5)	07:42	08:06 (6)
	22:10	21:10	19:47	22	07:49 (5)	18:23
13	04:34	05:34	06:40	07:26 (5)	07:45	08:04 (6)
	22:09	21:07	19:44	23	07:49 (5)	18:21
14	04:36	05:37	06:42	07:25 (5)	07:47	08:02 (6)
	22:08	21:05	19:41	24	07:49 (5)	18:18
15	04:38	05:39	06:45	07:24 (5)	07:49	08:02 (6)
	22:06	21:02	19:38	25	07:49 (5)	18:15
16	04:39	05:41	06:47	07:23 (5)	07:51	08:01 (6)
	22:05	21:00	19:36	26	07:49 (5)	18:13
17	04:41	05:43	06:49	07:23 (5)	07:54	08:01 (6)
	22:03	20:57	19:33	25	07:48 (5)	18:10
18	04:43	05:45	06:51	07:22 (5)	07:56	08:00 (6)
	22:02	20:55	19:30	26	07:48 (5)	18:07
19	04:44	05:47	06:53	07:23 (5)	07:58	08:00 (6)
	22:00	20:52	19:27	25	07:48 (5)	18:05
20	04:46	05:49	06:55	07:25 (5)	08:00	08:00 (6)
	21:59	20:50	19:24	22	07:47 (5)	18:02
21	04:48	05:51	06:57	07:27 (5)	08:02	08:01 (6)
	21:57	20:47	19:22	19	07:46 (5)	17:59
22	04:50	05:54	06:59	07:29 (5)	08:05	08:00 (6)
	21:55	20:44	19:19	15	07:44 (5)	17:57
23	04:51	05:56	07:01	07:31 (5)	08:07	08:00 (6)
	21:53	20:42	19:16	11	07:42 (5)	17:54
24	04:53	05:58	07:04	07:33 (5)	08:09	08:00 (6)
	21:52	20:39	19:13	6	07:39 (5)	17:52
25	04:55	06:00	07:06	07:12	07:51 (6)	08:21
	21:50	20:36	19:10	16:49	28	08:19 (6)
26	04:57	06:02	07:08	07:14	07:51 (6)	08:23
	21:48	20:34	19:07	16:47	28	08:19 (8)
27	04:59	06:04	07:10	08:03 (9)	07:16	07:53 (6)
	21:46	20:31	19:05	9	08:12 (9)	16:44
28	05:01	06:06	07:12	08:01 (9)	07:18	07:53 (6)
	21:44	20:28	19:02	14	08:15 (9)	16:42
29	05:03	06:09	07:14	07:59 (9)	07:21	07:56 (6)
	21:42	20:26	18:59	17	08:16 (9)	16:39
30	05:05	06:11	07:16	07:57 (9)	07:23	07:56 (8)
	21:40	20:23	18:56	19	08:16 (9)	16:37
31	05:07	06:13		07:25	07:59 (8)	
	21:38	20:20		16:34	19	08:18 (8)
Potential sun hours	538	474	386	321	241	207
Total, worst case			377	730	442	627
Sun reduction			0.46	0.28	0.08	0.06
Oper. time red.			1.00	1.00	1.00	1.00
Wind dir. red.			1.00	1.00	1.00	1.00
Total reduction			0.46	0.28	0.08	0.06
Total, real			174	206	35	39

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Liksnas - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (470)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:01	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	07:16 20:23	07:23 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Mazdzintari - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (458)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:51	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:14	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:46	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:50 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:01	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:19	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:36	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Medini - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (465)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:18	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:14 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 10 (94010010901001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (625) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 10 (94010010901002) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (624) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 12 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (619)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 13 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (629) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 13A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (640)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 14 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (598)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 15 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (612)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 16 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (637)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 16A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (597)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 17 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (639)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 18 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (599)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 19 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (627)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 20 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (623)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 21 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (628)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Merkela iela 23 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (602)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Mežmales - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (769)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:02	04:27 22:03	04:20 22:20	05:09 21:36	06:15 20:18	07:19 18:54	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	09:00 15:43	08:15 16:47	07:06 17:53	06:40 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:13	04:21 22:10	04:25 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:18	08:43 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:28 20:11	05:11 21:17	04:20 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:02 17:01	06:49 18:06	06:23 20:15	05:07 21:21	04:18 22:15	04:30 22:13	05:28 21:15	06:34 19:53	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:16	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:20	05:02 21:25	04:17 22:16	04:33 22:11	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:30
13	08:52 15:59	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:28	04:16 22:17	04:34 22:09	05:34 21:08	06:40 19:44	07:45 18:21	07:55 16:06	08:52 15:29
14	08:51 16:01	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:58 16:04	08:53 15:29
15	08:50 16:03	07:50 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:07	05:39 21:03	06:45 19:39	07:49 18:15	08:00 16:02	08:54 15:29
16	08:49 16:05	07:47 17:16	06:33 18:20	06:07 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:13	08:02 16:00	08:55 15:29
17	08:47 16:07	07:45 17:18	06:30 18:22	06:04 20:31	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:54 18:10	08:04 15:58	08:56 15:29
18	08:46 16:09	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:21	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:07 15:56	08:57 15:29
19	08:44 16:11	07:40 17:23	06:24 18:27	05:59 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:30
21	08:41 16:15	07:35 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:51 20:47	06:57 19:22	08:03 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:50 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:48	04:15 22:22	04:51 21:54	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:22	07:27 17:34	06:10 18:38	05:45 20:46	04:39 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:46	09:00 15:32
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26	08:33 16:26	07:22 17:39	06:05 18:42	05:40 20:51	04:35 21:53	04:17 22:22	04:57 21:48	06:02 20:34	07:08 19:08	07:14 16:47	08:24 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:26 15:42	09:01 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:32 21:56	04:18 22:22	05:01 21:44	06:06 20:28	07:12 19:02	07:19 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:09 20:26	07:14 18:59	07:21 16:39	08:29 15:40	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:30 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:38		05:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Mežvini 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (468)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
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12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
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17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
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22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
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30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Mežvini 2 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (462)
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	07:16 20:23	07:23 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Mež ares - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (773)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:14	06:48	05:28	04:27	04:20	05:09	06:15	07:19	07:28	08:33
	15:40	16:40	17:46	19:55	21:02	22:03	22:20	21:36	20:18	18:54	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:26	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:30	15:36
3	09:00	08:17	07:08	06:42	05:23	04:25	04:22	05:13	06:19	07:23	07:32	08:37
	15:42	16:45	17:51	20:00	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	09:00	08:15	07:06	06:40	05:21	04:23	04:23	05:15	06:21	07:25	07:35	08:38
	15:44	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:18	06:24	07:27	07:37	08:40
	15:45	16:50	17:55	20:04	21:10	22:09	22:18	21:27	20:07	18:42	16:23	15:34
6	08:58	08:11	07:00	06:34	05:16	04:21	04:25	05:20	06:26	07:29	07:39	08:42
	15:47	16:52	17:57	20:06	21:13	22:10	22:17	21:24	20:04	18:40	16:21	15:33
7	08:58	08:08	06:57	06:31	05:14	04:21	04:26	05:22	06:28	07:32	07:42	08:43
	15:48	16:54	18:00	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:29	05:11	04:20	04:28	05:24	06:30	07:34	07:44	08:45
	15:50	16:57	18:02	20:11	21:17	22:12	22:15	21:20	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:26	05:09	04:19	04:29	05:26	06:32	07:36	07:46	08:46
	15:52	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:02	06:49	06:23	05:07	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:07	20:15	21:21	22:14	22:13	21:15	19:53	18:29	16:12	15:30
11	08:54	07:59	06:47	06:20	05:04	04:18	04:32	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:18	05:02	04:17	04:33	05:32	06:38	07:43	07:53	08:50
	15:57	17:06	18:11	20:20	21:25	22:16	22:11	21:10	19:47	18:23	16:08	15:30
13	08:52	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55	08:52
	15:59	17:09	18:13	20:22	21:28	22:17	22:09	21:08	19:44	18:21	16:06	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:37	06:43	07:47	07:58	08:53
	16:01	17:11	18:16	20:24	21:30	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:50	06:35	06:09	04:56	04:16	04:38	05:39	06:45	07:49	08:00	08:54
	16:03	17:13	18:18	20:26	21:32	22:19	22:07	21:03	19:39	18:15	16:02	15:29
16	08:49	07:47	06:33	06:07	04:54	04:15	04:39	05:41	06:47	07:51	08:02	08:55
	16:05	17:16	18:20	20:28	21:34	22:19	22:05	21:00	19:36	18:13	16:00	15:29
17	08:47	07:45	06:30	06:04	04:52	04:15	04:41	05:43	06:49	07:54	08:04	08:56
	16:07	17:18	18:22	20:31	21:36	22:20	22:04	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:43	05:45	06:51	07:56	08:07	08:57
	16:09	17:20	18:24	20:33	21:38	22:21	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:40	06:24	05:59	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:11	17:23	18:27	20:35	21:40	22:21	22:00	20:52	19:27	18:05	15:55	15:29
20	08:43	07:37	06:22	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:30
21	08:41	07:35	06:19	05:53	04:44	04:15	04:48	05:52	06:57	08:03	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:22	21:57	20:47	19:22	17:59	15:51	15:30
22	08:40	07:32	06:16	05:51	04:42	04:15	04:50	05:54	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:42	21:46	22:22	21:55	20:44	19:19	17:57	15:50	15:31
23	08:38	07:29	06:13	05:48	04:41	04:16	04:52	05:56	07:02	08:07	08:17	09:00
	16:20	17:32	18:35	20:44	21:47	22:22	21:54	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:46	04:39	04:16	04:53	05:58	07:04	08:09	08:19	09:00
	16:22	17:34	18:38	20:46	21:49	22:22	21:52	20:39	19:13	17:52	15:46	15:32
25	08:35	07:24	06:08	05:43	04:37	04:16	04:55	06:00	07:06	07:12	08:21	09:01
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:37	19:10	16:49	15:45	15:32
26	08:33	07:22	06:05	05:40	04:36	04:17	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:51	21:53	22:22	21:48	20:34	19:08	16:47	15:44	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:29	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:33	04:18	05:01	06:07	07:12	07:19	08:27	09:01
	16:31	17:44	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:42	15:41	15:35
29	08:27		06:56	05:33	04:31	04:18	05:03	06:09	07:14	07:21	08:29	09:01
	16:33		19:49	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:40	15:36
30	08:25		06:54	05:30	04:30	04:19	05:05	06:11	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:39	15:37
31	08:23		06:51		04:28		05:07	06:13		07:25		09:01
	16:38		19:53		22:01		21:38	20:20		16:35		15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Miera iela 2 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (608)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:49	07:40 18:26	07:51 16:09	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:14 22:21	04:46 21:59	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:52	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Miera iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (738)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:49	07:40 18:26	07:51 16:09	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:55 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:14 22:21	04:46 21:59	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:52	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Miera iela 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (632)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:33 18:34	07:44 16:16	08:45 15:31
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:49	07:40 18:26	07:51 16:09	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:14 22:21	04:46 21:59	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
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Total, worst case												
Sun reduction												
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Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Muzeja iela 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (720)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Muzeja iela 10 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (709)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Muzeja iela 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (713)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Muzeja iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (701)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
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Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Muzeja iela 6 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (733)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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Total, worst case												
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Total reduction												
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Table layout: For each day in each month the following matrix apply

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	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Muzeja iela 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (722)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:21	07:30	08:35
	15:40	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:29	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:44	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:09	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
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	15:49	16:56	18:02	20:10	21:17	22:12	22:15	21:19	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:08	15:29
13	08:52	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55	08:51
	15:58	17:08	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:20	16:05	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57	08:53
	16:00	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:49	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49	08:00	08:54
	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:54	04:15	04:39	05:41	06:46	07:51	08:02	08:55
	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:35	18:12	16:00	15:29
17	08:47	07:44	06:30	06:04	04:52	04:15	04:40	05:43	06:49	07:53	08:04	08:56
	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56	08:06	08:56
	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:39	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:10	17:22	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:47	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:22	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:41	21:45	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:51	15:46	15:31
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:11	08:21	09:00
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:41	15:41	15:35
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	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:35
30	08:25		06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Muzeja iela 8 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (696)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:29	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:44	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:35	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:09	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:28	05:11	04:19	04:27	05:23	06:30	07:34	07:44	08:45
	15:49	16:56	18:02	20:10	21:17	22:12	22:15	21:19	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:08	15:29
13	08:52	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55	08:51
	15:58	17:08	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:20	16:05	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57	08:53
	16:00	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:49	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49	08:00	08:54
	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:54	04:15	04:39	05:41	06:46	07:51	08:02	08:55
	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:35	18:12	16:00	15:29
17	08:47	07:45	06:30	06:04	04:52	04:15	04:40	05:43	06:49	07:53	08:04	08:56
	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56	08:06	08:56
	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:39	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:10	17:22	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:47	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:22	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:41	21:45	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:51	15:46	15:31
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:11	08:21	09:00
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:41	15:41	15:35
29	08:27		06:56	05:32	04:31	04:18	05:03	06:08	07:14	07:21	08:29	09:01
	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:35
30	08:25		06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Muzeja iela 9 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (710)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 13 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (499)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
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18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
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22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
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24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 14 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (491)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
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22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
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25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 16 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (451)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	07:16 20:23	07:23 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 2 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (494)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:21	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:14	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:09	06:38 19:46	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:50 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:19	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:01	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 20 (94880100118001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (489)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
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23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Calculation: Flickering_Valke_Nordex175 Shadow receptor: Maja 20 (94880100123001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (590)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

January		February		March		April		May		June		July		August		September		October		November		December	
09:00	08:21			07:13		16:46 (4)	06:48			18:58 (2)	05:27	04:27	04:20	05:09	06:15			07:18		07:27		08:33	
15:39	16:40			17:46	23	17:09 (4)	19:55	20		19:18 (2)	21:01	22:02	22:20	21:35	20:17			18:53		16:32		15:37	
09:00	08:19			07:11		16:46 (4)	06:45			18:59 (2)	05:25	04:25	04:21	05:11	06:17			07:20		07:30		08:34	
15:41	16:42			17:48	22	17:08 (4)	19:57	19		19:18 (2)	21:03	22:04	22:19	21:33	20:14			18:50		16:29		15:36	
08:59	08:17			07:08		16:47 (4)	06:42			19:00 (2)	05:23	04:24	04:22	05:13	06:19			07:22		07:32		08:36	
15:42	16:44			17:50	20	17:07 (4)	19:59	16		19:16 (2)	21:05	22:05	22:19	21:31	20:12			18:48		16:27		15:35	
08:59	08:14			07:05		16:47 (4)	06:39			19:01 (2)	05:20	04:23	04:23	05:15	06:21			07:25		07:34		08:38	
15:43	16:47			17:52	19	17:06 (4)	20:01	13		19:14 (2)	21:08	22:07	22:18	21:28	20:09			18:45		16:25		15:34	
08:58	08:12			07:02		16:48 (4)	06:36			19:03 (2)	05:18	04:22	04:24	05:17	06:23			07:27		07:37		08:40	
15:45	16:49			17:55	16	17:04 (4)	20:04	8		19:11 (2)	21:10	22:08	22:17	21:26	20:06			18:42		16:22		15:33	
08:58	08:10			07:00		16:51 (4)	06:34			05:15	04:21	04:25	05:19	06:25	07:29			07:39		07:39		08:41	
15:46	16:52			17:57	12	17:03 (4)	20:06			21:12	22:09	22:16	21:24	20:03				18:39		16:20		15:32	
08:57	08:08			06:57		16:56 (4)	06:31			05:13	04:20	04:26	05:21	06:27		19:00 (2)		07:31	17:28 (4)	07:41		08:43	
15:48	16:54			17:59	1	16:57 (4)	20:08			21:14	22:11	22:15	21:22	20:01	7	19:07 (2)		18:37	8	17:36 (4)	16:18	15:32	
08:56	08:06			06:54			06:28			05:11	04:19	04:27	05:23	06:29		18:56 (2)		07:33		17:25 (4)	07:43	08:44	
15:49	16:56			18:02			20:10			21:16	22:12	22:15	21:19	19:58	13	19:09 (2)	18:34	14	17:39 (4)	16:16	15:31		
08:56	08:03			06:52			06:25			05:09	04:19	04:28	05:26	06:32		18:54 (2)	07:35		17:23 (4)	07:46	08:46		
15:51	16:59			18:04			20:12			21:19	22:13	22:13	21:17	19:55	16	19:10 (2)	18:31	18	17:41 (4)	16:14	15:31		
08:55	08:01			06:49			06:23			05:06	04:18	04:30	05:28	06:34		18:53 (2)	07:38		17:22 (4)	07:48	08:47		
15:53	17:01			18:06			20:15			21:21	22:14	22:12	21:14	19:52	18	19:11 (2)	18:28	19	17:41 (4)	16:12	15:30		
08:54	07:59			06:46			06:20			05:04	04:17	04:31	05:30	06:36		18:51 (2)	07:40		17:20 (4)	07:50	08:49		
15:55	17:03			18:08			20:17			21:23	22												

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker
			(WTG causing flicker last time)

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 22 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (467)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 3 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (501)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:51	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:21	06:27 20:00	07:31 18:36	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:14	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:09	06:38 19:46	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:50 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:01	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:19	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:01	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:30 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:01	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:36	08:31 15:38	09:00 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 4 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (474)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
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5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 5 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (588)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 6 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (493)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
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22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:36	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 7 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (473)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:51	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:21	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:14	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:06	06:38 19:46	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:50 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:01	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:19	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:01	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
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22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
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27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:36	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 8 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (587)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
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11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
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22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Maja 9 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (500)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
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4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
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17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Malkalni - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (482)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	16:57 (2) 17:16 (2)	06:48 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32
2	09:00 15:40	08:19 16:42	07:11 17:48	16:57 (2) 17:18 (2)	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29
3	09:00 15:42	08:17 16:44	07:08 17:50	16:57 (2) 17:18 (2)	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27
4	08:59 15:43	08:15 16:47	07:05 17:52	16:57 (2) 17:17 (2)	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25
5	08:59 15:45	08:12 16:49	07:02 17:55	16:57 (2) 17:16 (2)	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 17:41 (2)
6	08:58 15:46	08:10 16:52	07:00 17:57	16:58 (2) 17:16 (2)	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 17:49 (2)
7	08:57 15:48	08:08 16:54	06:57 17:59	17:00 (2) 17:14 (2)	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 17:50 (2)
8	08:56 15:49	08:06 16:56	06:54 18:02	17:01 (2) 17:11 (2)	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 17:51 (2)
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:36 17:52 (2)	07:46 16:14
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:38 17:52 (2)	07:48 16:12
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:40 17:52 (2)	07:50 16:09
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13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:44 17:48 (2)	07:55 16:05
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:47 18:18	07:47 17:45 (2)	07:57 16:03
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:49 17:41 (2)	07:59 16:02
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	07:51 17:39 (2)	08:02 16:00
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	07:53 17:36 (2)	08:04 15:58
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	07:55 17:52 (2)	08:06 15:56
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	07:58 17:50 (2)	08:08 15:54
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:00 17:48 (2)	08:10 15:52
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22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:04 17:41 (2)	08:15 15:49
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:07 17:36 (2)	08:17 15:48
24	08:36 16:21	07:26 17:34	17:02 (2) 17:03 (2)	06:10 18:37	05:45 20:46	04:38 21:49	04:53 22:22	05:58 21:51	07:03 20:39	08:09 19:13	08:09 18:59 (2)	08:19 15:46
25	08:34 16:24	07:24 17:36	17:01 (2) 17:06 (2)	06:07 18:39	05:43 20:48	04:37 21:51	04:55 22:22	06:00 21:49	07:05 20:36	07:11 19:10	07:11 18:49 (2)	08:21 15:45
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Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case		43	142							189		
Sun reduction		0.19	0.40							0.28		
Oper. time red.		1.00	1.00							1.00		
Wind dir. red.		1.00	1.00							1.00		
Total reduction		0.19	0.40							0.28		
Total, real		8	57							53		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Marstalu iela 6 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (681)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Naglinas - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (594)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:49	07:40 18:26	07:51 16:09	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:52 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:55 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:39 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:18	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:52	04:34 21:54	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Niedras - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (461)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:18	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:14 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	07:16 20:23	07:23 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Noras - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (502)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

		January	February	March	April	May	June	July	August	September	October	November	December
1	09:00	14:30 (4)	08:21	07:13	06:48	05:27	04:27	04:20	05:09	06:15	07:18	07:27	08:33
	15:39	23 14:53 (4)	16:40	17:46	19:55	21:01	22:02	22:20	21:35	20:17	18:53	16:32	7 15:56 (2)
2	09:00	14:30 (4)	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:20	07:30	08:35
	15:41	24 14:54 (4)	16:42	17:48	19:57	21:03	22:04	22:19	21:33	20:14	18:50	16:29	2 15:54 (2)
3	09:00	14:31 (4)	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:36
	15:42	25 14:56 (4)	16:44	17:50	19:59	21:06	22:05	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	14:31 (4)	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	25 14:56 (4)	16:47	17:53	20:01	21:08	22:07	22:18	21:28	20:09	18:45	16:25	15:34
5	08:59	14:31 (4)	08:12	07:03	06:36	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	25 14:56 (4)	16:49	17:55	20:04	21:10	22:08	22:17	21:26	20:06	18:42	16:23	15:33
6	08:58	14:32 (4)	08:10	07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29	07:39	08:41
	15:46	25 14:57 (4)	16:52	17:57	20:06	21:12	22:09	22:16	21:24	20:03	18:39	16:20	15:32
7	08:57	14:32 (4)	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	25 14:57 (4)	16:54	17:59	20:08	21:14	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	14:32 (4)	08:06	06:54	06:28	05:11	04:19	04:27	05:23	06:29	07:33	07:43	08:44
	15:49	26 14:58 (4)	16:56	18:02	20:10	21:16	22:12	22:15	21:19	19:58	18:34	16:16	15:31
9	08:56	14:33 (4)	08:03	6 16:22 (2)	06:52	06:25	05:09	04:19	04:28	05:26	06:32	07:36	08:46
	15:51	26 14:59 (4)	16:59	3 16:25 (2)	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14
10	08:55	14:34 (4)	08:01	16 16:19 (2)	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	08:47
	15:53	25 14:59 (4)	17:01	8 16:27 (2)	18:06	20:15	21:21	22:14	22:12	21:14	19:52	18:28	16:12
11	08:54	14:33 (4)	07:59	16 16:18 (2)	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	08:49
	15:55	26 14:59 (4)	17:03	12 16:30 (2)	18:08	20:17	21:23	22:15	22:11	21:12	19:49	18:26	16:10
12	08:53	14:34 (4)	07:56	16 16:16 (2)	06:43	06:17	05:02	04:17	04:33	05:32	06:38	07:42	08:50
	15:57	26 15:00 (4)	17:06	16 16:32 (2)	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:12
13	08:52	14:34 (4)	07:54	16 16:16 (2)	06:41	06:14	05:00	04:15	04:36	05:34	06:39	07:44	08:52
	15:58	25 14:59 (4)	17:08	19 16:35 (2)	18:13	20:21	21:27	22:17	22:09	21:07	19:44	18:20	5 17:02 (2)
14	08:51	14:35 (4)	07:52	19 16:14 (2)	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	16 16:52 (2)
	16:00	25 15:00 (4)	17:11	24 16:38 (2)	18:15	20:24	21:29	2					

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker
			(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Ozolkalni - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (799)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	08:54 (6)	07:14	06:48	05:28	04:27	04:20	05:09	06:15	07:19	07:28
15:40	16:40	16	09:10 (6)	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:54	16:32
2	09:00	08:19	08:51 (6)	07:11	06:45	05:25	04:26	04:21	05:11	06:17	07:21	07:30
15:41	16:42	19	09:10 (6)	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:30
3	09:00	08:17	08:49 (6)	07:08	06:42	05:23	04:25	04:22	05:13	06:19	07:23	07:32
15:42	16:45	22	09:11 (6)	17:51	20:00	21:06	22:06	22:19	21:31	20:12	18:48	16:27
4	08:59	08:15	08:48 (6)	07:06	06:40	05:21	04:23	04:23	05:15	06:21	07:25	07:35
15:44	16:47	23	09:11 (6)	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25
5	08:59	08:13	08:48 (6)	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37
15:45	16:49	24	09:12 (6)	17:55	20:04	21:10	22:09	22:18	21:27	20:06	18:42	16:23
6	08:58	08:11	08:49 (6)	07:00	06:34	05:16	04:21	04:25	05:20	06:26	07:29	07:39
15:47	16:52	23	09:12 (6)	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:40	16:21
7	08:58	08:08	08:48 (6)	06:57	06:31	05:13	04:20	04:26	05:22	06:28	07:32	07:42
15:48	16:54	24	09:12 (6)	18:00	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18
8	08:57	08:06	08:49 (6)	06:55	06:28	05:11	04:20	04:27	05:24	06:30	07:34	07:44
15:50	16:57	23	09:12 (6)	18:02	20:11	21:17	22:12	22:15	21:20	19:58	18:34	16:16
9	08:56	08:04	08:49 (6)	06:52	06:26	05:09	04:19	04:29	05:26	06:32	07:36	07:46
15:51	16:59	22	09:11 (6)	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14
10	08:55	08:01	08:50 (6)	06:49	06:23	05:07	04:18	04:30	05:28	06:34	07:38	07:48
15:53	17:01	21	09:11 (6)	18:06	20:15	21:21	22:14	22:13	21:15	19:53	18:29	16:12
11	08:54	07:59	08:51 (6)	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51
15:55	17:04	19	09:10 (6)	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10
12	08:53	07:57	08:52 (6)	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53
15:57	17:06	18	09:10 (6)	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:08
13	08:52	07:54	08:53 (6)	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55
15:59	17:09	15	09:08 (6)	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:21	16:06
14	08:51	07:52	08:55 (6)	06:38	06:12	04:58	04:16	04:36	05:37	06:42	07:47	07:58
16:01	17:11	10	09:05 (6)	18:15	20:24	21:30	22:18	22:08	21:05	19:41	18:18	16:04
15	08:50	07:50		06:35	06:09	04:56	04:16	04:38	05:39	06:45	07:49	08:00
16:03	17:13			18:18	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02
16	08:48	07:47		06:33	06:07	04:54	04:15	04:39	05:41	06:47	07:51	08:02
16:05	17:16			18:20	20:28	21:34	22:19	22:05	21:00	19:36	18:13	16:00
17	08:47	07:45		06:30	06:04	04:52	04:15	04:41	05:43	06:49	07:54	08:04
16:07	17:18			18:22	20:31	21:36	22:20	22:04	20:57	19:33	18:10	15:58
18	08:46	07:42		06:27	06:01	04:50	04:15	04:43	05:45	06:51	07:56	08:06
16:09	17:20			18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56
19	08:44	07:40		06:24	05:59	04:48	04:15	04:44	05:47	06:53	07:58	08:09
16:11	17:23			18:27	20:35	21:40	22:21	22:00	20:52	19:27	18:05	15:55
20	08:43	07:37		06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11
16:13	17:25			18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53
21	08:41	07:35		06:19	05:53	04:44	04:15	04:48	05:51	06:57	08:03	08:13
16:15	17:27			18:31	20:39	21:44	22:22	21:57	20:47	19:22	17:59	15:51
22	08:40	07:32		06:16	05:51	04:42	04:15	04:50	05:54	06:59	08:05	08:15
16:17	17:30			18:33	20:42	21:46	22:22	21:55	20:44	19:19	17:57	15:50
23	08:38	07:29		06:13	05:48	04:41	04:15	04:51	05:56	07:01	08:07	08:17
16:19	17:32			18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48
24	08:36	07:27		06:10	05:45	04:39	04:16	04:53	05:58	07:04	08:09	08:19
16:22	17:34			18:38	20:46	21:49	22:22	21:52	20:39	19:13	17:52	15:46
25	08:35	07:24		06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:12	08:21
16:24	17:37			18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45
26	08:33	07:22		06:05	05:40	04:36	04:17	04:57	06:02	07:08	07:14	08:23
16:26	17:39			18:42	20:50	21:53	22:22	21:48	20:34	19:08	16:47	15:44
27	08:31	07:19		06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:29
16:28	17:41			18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42
28	08:29	07:16		05:59	05:35	04:32	04:18	05:01	06:06	07:12	07:18	08:32
16:31	17:44			18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:42	15:41
29	08:27	09:00 (6)		06:56	05:33	04:31	04:18	05:03	06:09	07:14	07:21	08:35
16:33	5	09:05 (6)		19:49	20:57	21:58	22:21	21:42	20:26	18:59	16:39	08:22
30	08:25	08:58 (6)		06:53	05:30	04:30	04:19	05:05	06:11	07:16	07:23	08:38
16:35	9	09:07 (6)		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	08:21
31	08:23	08:56 (6)		06:51		04:28		05:07	06:13		07:25	08:39
16:38	12	09:08 (6)		19:53		22:01		21:38	20:20		16:34	08:20
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case	26	279								68	241	
Sun reduction	0.11	0.19								0.28	0.08	
Oper. time red.	1.00	1.00								1.00	1.00	
Wind dir. red.	1.00	1.00								1.00	1.00	
Total reduction	0.11	0.19								0.28	0.08	
Total, real	3	54								19	19	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: OŠ i - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (448)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	15:30 (2) 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	15:31 (2) 15:36
3	09:00 15:42	08:17 16:44	16:07 (2) 17:50	07:08 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	15:31 (2) 15:35
4	08:59 15:43	08:15 16:47	16:05 (2) 17:53	07:05 20:01	06:39 21:08	05:20 22:07	04:23 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	15:32 (2) 15:34
5	08:59 15:45	08:12 16:49	16:04 (2) 17:55	07:03 20:04	06:36 21:10	05:18 22:08	04:22 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	15:32 (2) 15:33
6	08:58 15:46	08:10 16:52	16:03 (2) 17:57	07:00 20:06	06:34 21:12	05:15 22:09	04:21 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	15:34 (2) 15:32
7	08:57 15:48	08:08 16:54	16:02 (2) 17:59	06:57 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	15:36 (2) 15:32
8	08:57 15:49	08:06 16:56	16:01 (2) 18:02	06:54 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	15:37 (2) 15:31
9	08:56 15:51	08:03 16:59	16:01 (2) 18:04	06:52 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	15:39 (2) 15:31
10	08:55 15:53	08:01 17:01	16:01 (2) 18:06	06:49 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	15:32 (2) 15:30
11	08:54 15:55	07:59 17:03	16:01 (2) 18:08	06:46 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:10	15:33 (2) 15:30
12	08:53 15:57	07:56 17:06	16:01 (2) 18:11	06:43 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	15:34 (2) 15:29
13	08:52 15:58	07:54 17:08	16:01 (2) 18:13	06:41 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	15:35 (2) 15:29
14	08:51 16:00	07:52 17:11	16:01 (2) 18:15	06:38 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	15:36 (2) 15:29
15	08:49 16:02	07:49 17:13	16:01 (2) 18:17	06:35 20:26	06:09 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	15:37 (2) 15:29
16	08:48 16:04	07:47 17:15	16:02 (2) 18:20	06:32 20:28	06:06 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	15:38 (2) 15:29
17	08:47 16:06	07:44 17:18	16:03 (2) 18:22	06:29 20:30	06:04 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:33	07:53 18:10	08:04 15:58	15:39 (2) 15:29
18	08:45 16:08	07:42 17:20	16:04 (2) 18:24	06:27 20:32	06:01 21:37	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:55 18:07	08:06 15:56	15:40 (2) 15:29
19	08:44 16:10	07:39 17:22	16:06 (2) 18:26	06:24 20:35	05:58 21:39	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	15:41 (2) 15:29
20	08:42 16:13	07:37 17:25	16:07 (2) 18:28	06:21 20:37	05:56 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	15:42 (2) 15:29
21	08:41 16:15	07:34 17:27	16:11 (2) 18:31	06:18 20:39	05:53 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 16:40 (2)	15:43 (2) 15:30
22	08:39 16:17	07:32 17:29	16:15 (2) 18:33	06:16 20:41	05:50 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 16:37 (2)	15:44 (2) 15:30
23	08:38 16:19	07:29 17:32	16:13 (2) 18:35	06:13 20:43	05:48 21:47	04:15 22:22	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 16:35 (2)	15:45 (2) 15:31
24	08:36 16:21	07:26 17:34	16:10 (2) 18:37	06:10 20:46	05:45 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 16:33 (2)	15:46 (2) 15:31
25	08:34 16:24	07:24 17:36	16:07 (2) 18:39	06:07 20:48	05:43 21:51	04:16 22:22	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:55 (2)	15:47 (2) 15:32
26	08:32 16:26	07:21 17:39	16:04 (2) 18:42	06:04 20:50	05:40 21:53	04:16 22:21	04:57 21:47	06:02 20:33	07:08 19:07	07:14 16:46	08:23 15:55 (2)	15:48 (2) 15:33
27	08:31 16:28	07:19 17:41	16:02 (2) 18:44	06:02 20:52	05:37 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:56 (2)	15:49 (2) 15:34
28	08:29 16:30	07:16 17:43	16:01 (2) 18:46	05:59 20:55	05:35 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:51 (2)	15:50 (2) 15:34
29	08:27 16:33		16:06 (2) 19:48	06:56 20:57	05:32 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:57 (2)	15:51 (2) 15:35
30	08:25 16:35		16:05 (2) 19:50	06:53 20:59	05:30 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:56 (2)	15:52 (2) 15:38
31	08:23 16:37		16:50 19:53	06:50 20:59	04:28 22:01		05:07 21:37	06:13 20:20	07:25 16:34	07:25 15:57 (2)		15:53 (2) 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case		347								237	118	
Sun reduction		0.19								0.28	0.08	
Oper. time red.		1.00								1.00	1.00	
Wind dir. red.		1.00								1.00	1.00	
Total reduction		0.19								0.28	0.08	
Total, real		67								67	9	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Pakalnini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (472)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:01	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:36	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Pastisli - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (790)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:18	07:19 18:54	07:28 16:32	08:33 15:38
2	09:00 15:41	08:19 16:43	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:25 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:28	08:37 15:35
4	08:59 15:44	08:15 16:47	07:06 17:53	06:40 20:02	05:21 21:08	04:24 22:07	04:23 22:18	05:16 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:35
5	08:59 15:45	08:13 16:50	07:03 17:55	06:37 20:04	05:18 21:10	04:23 22:08	04:24 22:18	05:18 21:27	06:24 20:06	07:27 18:42	07:37 16:23	08:40 15:34
6	08:58 15:47	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:22 22:10	04:25 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:14 21:15	04:21 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:19	08:43 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:29 20:11	05:11 21:17	04:20 22:12	04:28 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:32
9	08:56 15:52	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:02	06:49 18:07	06:23 20:15	05:07 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:53	07:38 18:29	07:48 16:12	08:48 15:31
11	08:54 15:55	07:59 17:04	06:47 18:09	06:20 20:17	05:05 21:23	04:18 22:15	04:32 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:18 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:30
13	08:52 15:59	07:54 17:09	06:41 18:13	06:15 20:22	05:00 21:27	04:17 22:17	04:35 22:09	05:35 21:07	06:40 19:44	07:45 18:21	07:55 16:06	08:51 15:30
14	08:51 16:01	07:52 17:11	06:38 18:16	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:37 21:05	06:43 19:41	07:47 18:18	07:58 16:04	08:53 15:29
15	08:50 16:03	07:50 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:16 22:19	04:38 22:06	05:39 21:02	06:45 19:39	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:05	07:47 17:16	06:33 18:20	06:07 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:13	08:02 16:00	08:55 15:29
17	08:47 16:07	07:45 17:18	06:30 18:22	06:04 20:31	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:54 18:10	08:04 15:58	08:56 15:29
18	08:46 16:09	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:43 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:40 17:23	06:24 18:27	05:59 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:55	08:57 15:30
20	08:43 16:13	07:37 17:25	06:22 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:30
21	08:41 16:15	07:35 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:52 20:47	06:57 19:22	08:03 18:00	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:45	04:15 22:22	04:50 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:50	08:59 15:31
23	08:38 16:20	07:29 17:32	06:13 18:35	05:48 20:44	04:41 21:47	04:16 22:22	04:52 21:53	05:56 20:42	07:02 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:22	07:27 17:34	06:10 18:38	05:46 20:46	04:39 21:49	04:16 22:22	04:54 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:47	09:00 15:32
25	08:35 16:24	07:24 17:37	06:08 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:22 17:39	06:05 18:42	05:40 20:50	04:36 21:53	04:17 22:22	04:57 21:48	06:02 20:34	07:08 19:08	07:14 16:47	08:23 15:44	09:01 15:33
27	08:31 16:29	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:33 21:56	04:18 22:21	05:01 21:44	06:07 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:49	05:33 20:57	04:31 21:58	04:19 22:21	05:03 21:42	06:09 20:26	07:14 18:59	07:21 16:39	08:29 15:40	09:01 15:36
30	08:25 16:36		05:54 19:51	05:30 20:59	04:30 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:39	09:01 15:37
31	08:23 16:38		05:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:35		09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Pilenieš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (779)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running
with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00	10:01 (1)	08:21	10:02 (1)	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18
2	15:39	121	14:10 (6)	16:40	14:46 (1)	17:46	19:55	21:01	22:03	22:20	21:35	20:17
3	09:00	10:02 (1)	08:19	10:02 (1)	07:11	06:45	05:25	04:26	04:21	05:11	06:17	07:21
4	15:41	121	14:11 (6)	16:42	14:46 (1)	17:48	19:57	21:04	22:04	22:20	21:33	20:15
5	09:00	10:01 (1)	08:17	10:03 (1)	07:08	06:42	05:23	04:24	04:22	05:13	06:19	07:23
6	15:42	120	14:11 (6)	16:45	14:47 (1)	17:50	19:59	21:06	22:06	22:19	21:31	20:12
7	08:59	10:01 (1)	08:15	10:03 (1)	07:05	06:39	05:20	04:23	04:23	05:15	06:21	07:25
8	15:43	117	14:11 (6)	16:47	14:48 (1)	17:53	20:02	21:08	22:07	22:18	21:29	20:09
9	08:59	10:00 (1)	08:13	10:05 (1)	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27
10	15:45	117	14:11 (6)	16:49	14:49 (1)	17:55	20:04	21:10	22:08	22:18	21:26	20:06
11	08:58	10:00 (1)	08:10	10:06 (1)	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29
12	15:46	115	14:11 (6)	16:52	14:45 (1)	17:57	20:06	21:12	22:10	22:17	21:24	20:04
13	08:58	10:00 (1)	08:08	10:06 (1)	06:57	06:31	05:13	04:20	04:26	05:22	06:28	07:31
14	15:48	111	14:11 (6)	16:54	14:44 (1)	18:00	20:08	21:15	22:11	22:16	21:22	20:01
15	08:57	10:00 (1)	08:06	10:08 (1)	06:55	06:28	05:11	04:19	04:27	05:24	06:30	07:34
16	15:50	105	14:11 (6)	16:56	14:43 (1)	18:02	20:10	21:17	22:12	22:15	21:19	19:58
17	08:56	10:00 (1)	08:04	10:09 (1)	06:52	06:26	05:09	04:19	04:29	05:26	06:32	07:36
18	15:51	98	14:11 (6)	16:59	14:42 (1)	18:04	20:13	21:19	22:13	22:14	21:17	19:55
19	08:55	10:00 (1)	08:01	10:11 (1)	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38
20	15:53	97	14:11 (6)	17:01	14:41 (1)	18:06	20:15	21:21	22:14	22:13	21:15	19:52
21	08:54	10:01 (1)	07:59	10:12 (1)	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40
22	15:55	93	14:11 (6)	17:04	14:38 (1)	18:09	20:17	21:23	22:15	22:12	21:12	19:50
23	08:53	10:00 (1)	07:57	10:14 (1)	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42
24	15:57	93	14:10 (6)	17:06	14:35 (1)	18:11	20:19	21:25	22:16	22:10	21:10	19:47
25	08:52	10:00 (1)	07:54	10:18 (1)	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45
26	15:59	91	14:09 (6)	17:08	14:32 (1)	18:13	20:22	21:27	22:17	22:09	21:07	19:44
27	08:51	10:00 (1)	07:52	10:32 (1)	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47
28	16:00	86	14:07 (6)	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18
29	08:50	10:00 (1)	07:49	18:18	06:35	06:09	04:56	04:15	04:37	05:39	06:44	07:49
30	16:02	81	13:29 (5)	17:13	18:18	20:26	21:31	22:19	22:06	21:02	19:38	18:15
31	08:48	10:00 (1)	07:47	18:18	06:32	06:06	04:54	04:15	04:39	05:41	06:47	07:51
32	16:04	79	13:28 (5)	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:36	18:12
33	08:47	09:59 (1)	07:44	18:17	06:30	06:04	04:52	04:15	04:41	05:43	06:49	07:53
34	16:06	81	13:28 (5)	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10
35	08:46	10:00 (1)	07:42	18:17	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56
36	16:09	80	13:29 (5)	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07
37	08:44	10:00 (1)	07:39	18:16	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58
38	16:11	78	13:28 (5)	17:23	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04
39	08:43	10:00 (1)	07:37	18:16	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00
40	16:13	79	13:28 (5)	17:25	18:29	20:37	21:42	22:21	22:00	20:50	19:24	18:02
41	08:41	10:00 (1)	07:34	18:16	06:19	05:53	04:44	04:15	04:48	05:51	06:57	08:02
42	16:15	77	13:27 (5)	17:27	18:31	20:39	21:43	22:21	22:00	20:47	19:21	17:59
43	08:40	10:00 (1)	07:32	18:16	06:16	05:51	04:42	04:15	04:49	05:53	06:59	08:05
44	16:17	75	13:26 (5)	17:30	18:33	20:41	21:45	22:22	22:00	20:44	19:19	17:57
45	08:38	10:00 (1)	07:29	18:13	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07
46	16:19	74	13:26 (5)	17:32	18:35	20:44	21:47	22:22	22:00	20:42	19:16	17:54
47	08:36	10:00 (1)	07:27	18:10	06:10	05:45	04:39	04:16	04:53	05:58	07:03	08:09
48	16:22	72	13:25 (5)	17:34	18:37	20:46	21:49	22:22	22:00	20:44	19:13	17:52
49	08:34	10:00 (1)	07:24	18:07	06:07	05:43	04:37	04:16	04:55	06:00	07:06	08:11
50	16:24	69	13:23 (5)	17:37	18:40	20:48	21:51	22:22	22:00	20:36	19:10	16:49
51	08:33	10:00 (1)	07:21	18:04	06:04	05:40	04:35	04:16	04:57	06:02	07:08	08:14
52	16:26	66	13:22 (5)	17:39	18:42	20:50	21:53	22:22	22:00	20:34	19:07	16:47
53	08:31	10:01 (1)	07:19	18:02	06:02	05:38	04:34	04:17	04:59	06:04	07:10	08:16
54	16:28	59	13:19 (5)	17:41	18:44	20:53	21:55	22:22	22:00	20:31	19:05	16:44
55	08:29	10:01 (1)	07:16	18:01	05:59	05:35	04:32	04:18	05:01	06:06	07:12	08:18
56	16:31	46	10:47 (1)	17:44	18:46	20:55	21:56	22:21	22:00	20:28	19:02	16:42
57	08:27	10:01 (1)	07:14	18:01	05:56	05:33	04:31	04:18	05:03	06:08	07:14	08:21
58	16:33	46	10:47 (1)	17:44	18:48	20:57	21:58	22:21	22:00	20:26	18:59	16:39
59	08:25	10:01 (1)	07:12	18:01	05:53	05:30	04:29	04:19	05:05	06:11	07:16	08:23
60	16:35	46	10:47 (1)	17:44	18:51	20:59	22:00	22:21	22:00	21:40	20:23	18:56
61	08:23	10:02 (1)	07:10	18:01	05:51	04:28	04:28	04:28	05:07	06:13	07:18	08:25
62	16:38	45	10:47 (1)	17:44	19:53	22:01	22:01	22:01	21:37	20:20	16:34	27
Potential sun hours	227		262		365	429	515	539	538	474	386	321
Total, worst case	2638		451									70
Sun reduction	0.11		0.19									0.28
Oper. time red.	1.00		1.00									1.00
Wind dir. red.	1.00		1.00									1.00
Total reduction	0.11		0.19									0.28
Total, real	288		88									20
												142
												227

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Planci - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (575)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:26 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:20 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:51	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:08 21:19	04:18 22:13	04:28 22:14	05:25 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:32 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:15 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:52 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:55 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:01	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:33	07:53 18:10	08:04 15:58	08:55 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:47 21:39	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:43 16:12	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:14 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:18	08:05 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:33
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:40	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 21:59	04:19 22:21	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:36	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Plumes - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (490)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:14 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	07:16 20:23	07:23 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Plumites - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (780)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:02	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:18	07:19 18:54	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:25 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:44	08:15 16:47	07:06 17:53	06:40 20:02	05:21 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:50	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:18 21:27	06:24 20:06	07:27 18:42	07:37 16:23	08:40 15:34
6	08:58 15:47	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:14 21:15	04:21 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:18	08:43 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:28 20:11	05:11 21:17	04:20 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:52	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:07	06:23 20:15	05:07 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:53	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:18 22:15	04:32 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:35		09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 13 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (617)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 15 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (739)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 17 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (618)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 19 (94010010924001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (609) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 19 (94010010924003) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (610) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 21 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (638)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:20	05:11	06:17	07:21	07:30	08:35
	15:40	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:29	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:44	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:36	05:18	04:22	04:23	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:09	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
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	15:49	16:56	18:02	20:10	21:17	22:12	22:15	21:19	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:30
10	08:55	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:03	18:08	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:17	05:02	04:16	04:33	05:32	06:38	07:42	07:53	08:50
	15:56	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:07	15:29
13	08:52	07:54	06:41	06:14	05:00	04:16	04:34	05:34	06:40	07:44	07:55	08:51
	15:58	17:08	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:20	16:05	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57	08:53
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15	08:50	07:49	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49	08:00	08:54
	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:53	04:15	04:39	05:41	06:46	07:51	08:02	08:55
	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:35	18:12	16:00	15:29
17	08:47	07:44	06:30	06:04	04:51	04:15	04:40	05:43	06:49	07:53	08:04	08:56
	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:49	04:15	04:42	05:45	06:51	07:56	08:06	08:56
	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:39	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:10	17:22	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:52	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:47	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:22	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:29	18:33	20:41	21:45	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:55	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:38	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:51	15:46	15:31
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:11	08:21	09:00
	16:24	17:36	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:04	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:41	15:41	15:34
29	08:27		06:56	05:32	04:31	04:18	05:03	06:08	07:14	07:21	08:29	09:01
	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:35
30	08:25		06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:36
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 21A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (630)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 21B - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (613)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 23 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (633)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Poruka iela 23A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (636)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Priedulaji - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (442)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:40	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:02	04:20 22:19	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:32 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:26 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:29 16:30	08:34 15:36
3	08:59 15:42	08:16 16:45	07:08 17:50	06:42 19:59	05:23 21:05	04:25 22:05	04:22 22:18	05:13 21:30	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:44	08:14 16:47	07:05 17:53	06:39 20:01	05:20 21:08	04:23 22:06	04:23 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:23	08:39 15:34
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7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:10	04:26 22:15	05:22 21:21	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:50	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:20 22:11	04:27 22:14	05:24 21:19	06:30 19:58	07:33 18:34	07:43 16:16	08:44 15:31
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10	08:54 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:07 21:20	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
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15	08:49 16:03	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:16 22:18	04:38 22:06	05:39 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:05	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:33	04:15 22:19	04:39 22:04	05:41 20:59	06:46 19:35	07:51 18:12	08:01 16:00	08:54 15:29
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18	08:45 16:09	07:42 17:20	06:27 18:24	06:01 20:32	04:50 21:37	04:15 22:20	04:43 22:01	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:34	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
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31	08:23 16:38		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:00 15:38
Potential sun hours	228	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Pumpura iela 10A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (668)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Purva iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (529)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:50	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Purva iela 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (523)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
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27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Purva iela 9 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (524)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Pinas - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (481)
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40		07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	08:33 15:37
2	09:00 15:40	08:19 16:42		07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	08:35 15:36
3	09:00 15:42	08:17 16:44		07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	08:36 15:35
4	08:59 15:43	08:15 16:47		07:05 17:53	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	08:38 15:34
5	08:59 15:45	08:12 16:49		07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	08:40 15:33
6	08:58 15:46	08:10 16:52	3	07:00 16:16 (2)	06:34 17:57	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	08:41 15:32
7	08:57 15:48	08:08 16:54	7	06:57 16:19 (2)	06:31 17:59	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	08:43 15:32
8	08:57 15:49	08:06 16:56	12	06:54 16:22 (2)	06:28 18:02	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	08:44 15:31
9	08:56 15:51	08:03 16:59	15	06:52 16:25 (2)	06:25 18:04	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	08:46 15:31
10	08:55 15:53	08:01 17:01	18	06:49 16:27 (2)	06:23 18:06	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	08:47 15:30
11	08:54 15:55	07:59 17:03	21	06:46 16:30 (2)	06:20 18:08	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	08:49 15:30
12	08:53 15:56	07:56 17:06	24	06:43 16:32 (2)	06:17 18:11	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	08:50 15:29
13	08:52 15:58	07:54 17:08	24	06:41 16:33 (2)	06:14 18:13	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	08:51 15:29
14	08:51 16:00	07:52 17:11	24	06:38 16:32 (2)	06:12 18:15	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	08:52 15:29
15	08:49 16:02	07:49 17:13	24	06:35 16:32 (2)	06:09 18:17	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:53 15:29
16	08:48 16:04	07:47 17:15	23	06:32 16:32 (2)	06:06 18:20	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:54 15:29
17	08:47 16:06	07:44 17:18	22	06:29 16:31 (2)	06:04 18:22	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:33	07:53 18:10	08:55 15:29
18	08:45 16:08	07:42 17:20	20	06:27 16:31 (2)	06:01 18:24	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:56 15:29
19	08:44 16:10	07:39 17:22	19	06:24 16:30 (2)	05:58 18:26	04:48 21:39	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:57 15:29
20	08:42 16:13	07:37 17:25	16	06:21 16:28 (2)	05:56 18:28	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:29
21	08:41 16:15	07:34 17:27	11	06:18 16:25 (2)	05:53 18:31	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:30
22	08:39 16:17	07:32 17:29		06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:30
23	08:38 16:19	07:29 17:32		06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:31
24	08:36 16:21	07:26 17:34		06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:31
25	08:34 16:24	07:24 17:36		06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:32
26	08:32 16:26	07:21 17:39		06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:21	04:57 21:47	06:02 20:33	07:08 19:07	07:14 16:46	08:23 15:33
27	08:31 16:28	07:19 17:41		06:02 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:34
28	08:29 16:30	07:16 17:43		05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:34
29	08:27 16:33			05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:35
30	08:25 16:35			05:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38
31	08:23 16:37			05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34	08:32 15:39
Potential sun hours	227	262		365	429	515	539	538	474	386	321	241
Total, worst case		283								236		56
Sun reduction		0.19								0.28		0.08
Oper. time red.		1.00								1.00		1.00
Wind dir. red.		1.00								1.00		1.00
Total reduction		0.19								0.28		0.08
Total, real		55								67		4

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 37 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (600)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 41 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (703)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 51 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (694)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 53 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (760)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 55 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (723)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 57 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (704)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
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15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 58 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (648)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 59 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (705)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 60 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (651)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 61 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (715)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 62 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (662)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 64 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (645)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 66 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (647)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
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22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 72 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (652)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 74 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (661)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 76 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (660)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 78 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (759)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:21	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:11	07:40 17:23	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:01 15:32
26	08:33 16:26	07:21 17:39	06:05 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:47	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 78A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (679)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:42	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 80 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (653)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
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19	08:44 16:11	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:42	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 82 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (682)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:29	07:48 16:12	08:48 15:30
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Raina iela 84 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (646)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Riekstini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (495)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39 09:00 15:40	08:21 16:40 08:19 16:42	07:13 17:46 07:11 17:48	06:48 19:55 06:45 19:57	05:27 21:01 05:25 21:03	04:27 22:02 04:25 22:04	04:20 21:35 04:21 21:33	05:09 20:17 05:11 20:14	06:15 18:53 06:17 18:50	07:18 16:32 07:20 16:30	07:27 15:37 07:30 15:36	08:33 14:53 08:35 14:52
2	09:00 15:40	08:21 16:42	07:13 17:48	06:48 19:57	05:27 21:03	04:27 22:04	04:20 21:33	05:09 20:14	06:15 18:50	07:18 16:30	07:27 15:36	08:33 14:52
3	09:00 15:42	14:54 (4) 16:44	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 21:31	05:13 20:12	06:19 18:48	07:23 16:27	08:36 15:35
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11	08:54 15:55	14:54 (4) 17:03	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 21:12	05:30 19:49	06:36 18:26	07:40 16:09	08:49 15:30
12	08:53 15:57	14:55 (4) 17:06	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 21:10	05:32 19:47	06:38 18:23	07:42 16:07	08:50 15:29
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15	08:49 16:02	14:55 (4) 17:13	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 21:02	05:38 19:38	06:44 18:15	07:49 16:02	08:53 15:29
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19	08:44 16:10	14:57 (4) 17:22	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:21	04:44 21:00	05:47 19:27	06:53 18:04	07:58 16:00	08:57 15:29
20	08:42 16:13	14:58 (4) 17:25	07:37 17:25	06:23 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 19:24	06:55 18:02	08:00 16:00	08:58 15:29
21	08:41 16:15	14:59 (4) 17:27	07:34 17:27	06:23 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 19:21	06:57 17:59	08:02 16:00	08:58 15:30
22	08:39 16:17	14:59 (4) 17:29	07:32 17:29	06:24 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 19:18	06:59 17:56	08:04 16:00	08:59 15:30
23	08:38 16:19	15:00 (4) 17:32	07:29 17:32	06:24 18:35	05:48 20:43	04:40 21:47	04:15 22:22	05:55 21:53	05:55 19:16	07:01 17:54	08:07 16:00	08:59 15:31
24	08:36 16:21	15:01 (4) 17:34	07:26 17:34	06:24 18:37	05:45 20:46	04:39 21:49	04:15 22:22	05:58 21:51	07:03 19:13	08:09 17:51	08:09 16:00	09:00 15:31
25	08:34 16:24	15:02 (4) 17:36	07:24 17:36	06:26 18:39	05:43 20:48	04:37 21:51	04:16 22:22	06:00 21:49	07:05 19:10	08:11 16:49	08:21 16:00	09:00 15:32
26	08:32 16:26	15:04 (4) 17:39	07:21 17:39	06:27 18:42	05:40 20:50	04:35 21:53	04:16 22:21	06:02 21:47	07:08 19:07	08:14 16:46	08:23 16:00	09:00 15:33
27	08:31 16:28	15:06 (4) 17:41	07:19 17:41	06:29 18:44	05:37 20:52	04:34 21:54	04:17 22:21	06:04 21:45	07:10 19:04	08:16 16:44	08:25 16:00	09:01 15:34
28	08:29 16:30	15:07 (4) 17:43	07:16 17:43	06:30 18:46	05:35 20:55	04:32 21:56	04:17 22:21	06:06 21:43	07:12 19:02	08:18 16:41	08:27 16:00	09:01 15:34
29	08:27 16:33	15:08 (4) 17:45	07:14 17:45	06:31 18:47	05:33 20:57	04:31 21:58	04:18 22:21	06:08 21:41	07:14 18:59	08:19 16:40	08:29 16:00	09:01 15:35
30	08:25 16:35	15:09 (4) 17:47	07:12 17:47	06:33 18:49	05:30 20:59	04:29 21:59	04:19 22:20	06:10 21:39	07:16 19:02	08:23 16:40	08:31 16:00	09:01 15:37
31	08:23 16:37	15:10 (4) 17:49	07:10 17:49	06:35 18:51	05:28 21:00	04:28 22:01	05:07 21:37	06:13 20:20	07:25 19:04	08:34 16:41	08:34 16:00	09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case	395	293								300	314	83
Sun reduction	0.11	0.19								0.28	0.08	0.06
Oper. time red.	1.00	1.00								1.00	1.00	1.00
Wind dir. red.	1.00	1.00								1.00	1.00	1.00
Total reduction	0.11	0.19								0.28	0.08	0.06
Total, real	43	57								85	25	5

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rozes - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (791)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:18	07:19 18:54	07:28 16:32	08:33 15:38
2	09:00 15:41	08:19 16:43	07:11 17:48	06:45 19:57	05:26 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:37
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:25 22:06	04:22 22:19	05:14 21:31	06:19 20:12	07:23 18:48	07:32 16:28	08:37 15:36
4	08:59 15:44	08:15 16:47	07:06 17:53	06:40 20:02	05:21 21:08	04:24 22:07	04:23 22:18	05:16 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:35
5	08:59 15:45	08:13 16:50	07:03 17:55	06:37 20:04	05:18 21:10	04:23 22:08	04:24 22:18	05:18 21:27	06:24 20:07	07:27 18:43	07:37 16:23	08:40 15:34
6	08:58 15:47	08:11 16:52	07:00 17:58	06:34 20:06	05:16 21:12	04:22 22:10	04:25 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:14 21:15	04:21 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:19	08:43 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:29 20:11	05:11 21:17	04:20 22:12	04:28 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:32
9	08:56 15:52	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:32	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:02	06:49 18:07	06:23 20:15	05:07 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:53	07:38 18:29	07:48 16:12	08:48 15:31
11	08:54 15:55	07:59 17:04	06:47 18:09	06:20 20:17	05:05 21:23	04:18 22:15	04:32 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:18 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:43 18:23	07:53 16:08	08:50 15:30
13	08:52 15:59	07:54 17:09	06:41 18:13	06:15 20:22	05:00 21:27	04:17 22:17	04:35 22:09	05:35 21:07	06:40 19:44	07:45 18:21	07:55 16:06	08:51 15:30
14	08:51 16:01	07:52 17:11	06:38 18:16	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:37 21:05	06:43 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:03	07:50 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:16 22:19	04:38 22:06	05:39 21:02	06:45 19:39	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:05	07:47 17:16	06:33 18:20	06:07 20:28	04:54 21:34	04:16 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:13	08:02 16:00	08:55 15:29
17	08:47 16:07	07:45 17:18	06:30 18:22	06:04 20:31	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:54 18:10	08:04 15:58	08:56 15:29
18	08:46 16:09	07:42 17:21	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:43 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:57	08:56 15:29
19	08:44 16:11	07:40 17:23	06:24 18:27	05:59 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:55	08:57 15:30
20	08:43 16:13	07:37 17:25	06:22 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:50 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:30
21	08:41 16:15	07:35 17:28	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:52 20:47	06:57 19:22	08:03 18:00	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:43 21:45	04:15 22:22	04:50 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:50	08:59 15:31
23	08:38 16:20	07:29 17:32	06:13 18:35	05:48 20:44	04:41 21:47	04:16 22:22	04:52 21:53	05:56 20:42	07:02 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:22	07:27 17:35	06:10 18:38	05:46 20:46	04:39 21:49	04:16 22:22	04:54 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:47	09:00 15:32
25	08:35 16:24	07:24 17:37	06:08 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:56 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:33
26	08:33 16:26	07:22 17:39	06:05 18:42	05:41 20:50	04:36 21:53	04:17 22:22	04:57 21:48	06:02 20:34	07:08 19:08	07:14 16:47	08:23 15:44	09:01 15:33
27	08:31 16:29	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:33 21:56	04:18 22:21	05:01 21:44	06:07 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:49	05:33 20:57	04:31 21:58	04:19 22:21	05:03 21:42	06:09 20:26	07:14 18:59	07:21 16:39	08:29 15:40	09:01 15:36
30	08:25 16:36		06:54 19:51	05:30 20:59	04:30 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:39	09:01 15:37
31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:35		09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rubeni - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (454)
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	09:00	08:21	07:13	17:04 (12)	06:48	18:40 (4)
	15:39	16:40	17:46	12	17:16 (12)	19:55
2	09:00	08:19	07:11	17:03 (12)	06:45	27
	15:41	16:42	17:48	15	17:18 (12)	19:57
3	08:59	08:17	07:08	17:02 (12)	06:42	26
	15:42	16:44	17:50	18	17:20 (12)	19:59
4	08:59	08:14	16:08 (11)	07:05	17:01 (12)	06:39
	15:43	16:47	3	16:11 (11)	17:53	22
5	08:58	08:12	16:07 (11)	07:02	17:01 (12)	06:36
	15:45	16:49	7	16:14 (11)	17:55	23
6	08:58	08:10	16:05 (11)	07:00	17:02 (12)	06:34
	15:46	16:52	11	16:16 (11)	17:57	22
7	08:57	08:08	16:04 (11)	06:57	17:02 (12)	06:31
	15:48	16:54	16	16:20 (11)	17:59	21
8	08:56	08:06	16:03 (11)	06:54	17:02 (12)	06:28
	15:50	16:56	19	16:22 (11)	18:02	20
9	08:56	08:03	16:03 (11)	06:52	17:03 (12)	06:25
	15:51	16:59	22	16:25 (11)	18:04	17
10	08:55	08:01	16:02 (11)	06:49	17:04 (12)	06:23
	15:53	17:01	25	16:27 (11)	18:06	14
11	08:54	07:59	16:02 (11)	06:46	17:07 (12)	06:20
	15:55	17:03	27	16:29 (11)	18:08	9
12	08:53	07:56	16:02 (11)	06:43	17:16 (12)	20:17
	15:57	17:06	27	16:29 (11)	18:11	06:17
13	08:52	07:54	16:02 (11)	06:41	17:04 (12)	06:17
	15:58	17:08	28	16:30 (11)	18:13	20:21
14	08:50	07:52	16:02 (11)	06:38	17:04 (12)	06:12
	16:00	17:11	27	16:29 (11)	18:15	20:23
15	08:49	07:49	16:02 (11)	06:35	17:03 (12)	06:09
	16:02	17:13	27	16:29 (11)	18:17	20:26
16	08:48	07:47	16:03 (11)	06:32	17:04 (12)	06:06
	16:04	17:15	26	16:29 (11)	18:20	20:28
17	08:47	07:44	16:03 (11)	06:29	17:04 (12)	06:04
	16:06	17:18	25	16:28 (11)	18:22	20:30
18	08:45	07:42	16:03 (11)	06:27	17:04 (12)	06:01
	16:08	17:20	24	16:27 (11)	18:24	20:32
19	08:44	07:39	16:05 (11)	06:24	17:05 (12)	05:58
	16:11	17:22	21	16:26 (11)	18:26	20:35
20	08:42	07:37	16:06 (11)	06:21	17:51 (4)	05:56
	16:13	17:25	19	16:25 (11)	18:28	20:37
21	08:41	07:34	16:07 (11)	06:18	17:48 (4)	05:53
	16:15	17:27	16	16:23 (11)	18:31	20:39
22	08:39	07:32	16:11 (11)	06:15	17:46 (4)	05:50
	16:17	17:29	9	16:20 (11)	18:33	20:41
23	08:38	07:29	16:13 (11)	06:13	17:45 (4)	05:48
	16:19	17:32	21	18:35	18:06 (4)	20:43
24	08:36	07:26	16:10 (11)	06:10	17:44 (4)	05:45
	16:21	17:34	18:37	24	18:08 (4)	20:46
25	08:34	07:24	16:07 (11)	06:07	17:43 (4)	05:43
	16:24	17:36	18:39	27	18:10 (4)	20:48
26	08:32	07:21	16:04 (11)	06:04	17:42 (4)	05:40
	16:26	17:39	18:42	28	18:10 (4)	20:50
27	08:31	07:19	17:06 (12)	06:01	17:41 (4)	05:37
	16:28	17:41	5	17:11 (12)	18:44	29
28	08:29	07:16	17:04 (12)	05:59	17:41 (4)	05:35
	16:30	17:43	9	17:13 (12)	18:46	29
29	08:27	07:14	16:05 (11)	06:56	18:41 (4)	05:32
	16:33	17:46	19:48	29	19:10 (4)	20:57
30	08:25	07:12	16:05 (11)	06:53	18:40 (4)	05:30
	16:35	17:49	19:50	29	19:09 (4)	20:59
31	08:23	07:10	16:06 (11)	06:50	18:40 (4)	05:28
	16:37	17:53	28	19:08 (4)	19:08 (4)	22:01
Potential sun hours	227	262	365	429	515	539
Total, worst case		393	475	259	167	
Sun reduction		0.19	0.40	0.43	0.58	
Oper. time red.		1.00	1.00	1.00	1.00	
Wind dir. red.		1.00	1.00	1.00	1.00	
Total reduction		0.19	0.40	0.43	0.58	
Total, real		76	191	110	97	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rubeni - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (454)
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20	05:09	06:15	07:18	07:27	15:32 (11)
	22:20	21:35	20:17	18:53	16:32	24 15:56 (11)
2	04:21	05:11	06:17	07:20	17:48 (12)	15:33 (11)
	22:19	21:33	20:14	18:50	4 17:52 (12)	16:29 15:54 (11)
3	04:22	05:13	20:20 (2)	07:22	17:43 (12)	07:32 15:33 (11)
	22:19	21:31	2 20:22 (2)	18:48	13 17:56 (12)	16:27 18 15:51 (11)
4	04:23	05:15	20:16 (2)	07:25	17:41 (12)	07:34 15:34 (11)
	22:18	21:28	10 20:26 (2)	18:45	16 17:57 (12)	16:25 15 15:49 (11)
5	04:24	05:17	20:14 (2)	07:27	17:40 (12)	07:37 15:35 (11)
	22:17	21:26	14 20:28 (2)	18:42	19 17:59 (12)	16:23 11 15:46 (11)
6	04:25	05:19	20:13 (2)	07:29	17:38 (12)	07:39 15:37 (11)
	22:16	21:24	16 20:29 (2)	18:39	21 17:59 (12)	16:20 7 15:44 (11)
7	04:26	05:21	20:11 (2)	07:31	17:37 (12)	07:41 15:39 (11)
	22:15	21:22	19 20:30 (2)	18:37	22 17:59 (12)	16:18 3 15:42 (11)
8	04:27	05:23	20:11 (2)	07:33	17:36 (12)	07:43 15:37 (11)
	22:14	21:19	20 20:31 (2)	18:34	23 17:59 (12)	16:16 15:31
9	04:28	05:26	20:10 (2)	07:36	17:37 (12)	07:46 15:31
	22:13	21:17	22 20:32 (2)	18:31	22 17:59 (12)	16:14 15:31
10	04:30	05:28	20:09 (2)	07:38	17:36 (12)	07:48 15:31
	22:12	21:14	23 20:32 (2)	18:28	20 17:56 (12)	16:12 15:30
11	04:31	05:30	20:09 (2)	07:40	17:36 (12)	07:50 15:30
	22:11	21:12	23 20:32 (2)	18:26	17 17:53 (12)	16:10 15:30
12	04:33	05:32	20:08 (2)	07:42	17:36 (12)	07:53 15:29
	22:10	21:10	23 20:31 (2)	18:23	14 17:50 (12)	16:07 15:29
13	04:34	05:34	20:07 (2)	07:44	17:37 (12)	07:55 15:29
	22:09	21:07	24 20:31 (2)	18:20	11 17:48 (12)	16:05 15:29
14	04:36	05:36	20:07 (2)	07:46	17:37 (12)	07:57 15:29
	22:07	21:05	23 20:30 (2)	18:18	8 17:45 (12)	16:04 15:29
15	04:37	05:38	20:07 (2)	07:49	17:38 (12)	07:59 15:29
	22:06	21:02	21 20:28 (2)	18:15	4 17:42 (12)	16:02 15:29
16	04:39	05:40	20:07 (2)	07:51	18:02	16:00 15:29
	22:05	21:00	19 20:26 (2)	18:12	29 18:59 (4)	18:12 16:00 15:29
17	04:41	05:43	20:08 (2)	07:53	18:04	15:58 15:29
	22:03	20:57	15 20:23 (2)	18:10	28 18:58 (4)	18:10 15:58 15:29
18	04:42	05:45	20:08 (2)	07:55	18:06	15:56 15:29
	22:01	20:54	13 20:21 (2)	18:07	28 18:58 (4)	18:07 15:56 15:29
19	04:44	05:47	20:09 (2)	07:58	18:08	15:54 15:29
	22:00	20:52	10 20:19 (2)	18:04	26 18:56 (4)	18:04 15:54 15:29
20	04:46	05:49	20:10 (2)	08:00	16:40 (11)	16:40 (11) 15:53
	21:58	20:49	6 20:16 (2)	18:02	12 16:52 (11)	15:53 15:29
21	04:48	05:51	20:12 (2)	08:02	16:38 (11)	16:38 (11) 15:51
	21:57	20:47	2 20:14 (2)	17:59	16 16:54 (11)	15:51 15:30
22	04:49	05:53	06:59	18:32 (4)	08:04	16:36 (11) 15:49
	21:55	20:44	19 18:47 (4)	17:57	19 16:55 (11)	15:49 15:30
23	04:51	05:55	07:01	18:35 (4)	08:07	16:35 (11) 15:48
	21:53	20:41	10 18:45 (4)	17:54	22 16:57 (11)	15:48 15:31
24	04:53	05:58	07:03	18:38 (4)	08:09	16:33 (11) 15:47
	21:51	20:39	4 18:42 (4)	17:51	24 16:57 (11)	15:46 15:31
25	04:55	06:00	07:05	18:40 (4)	08:11	16:31 (11) 15:45
	21:49	20:36	19 19:10	17:49	25 15:58 (11)	15:45 15:32
26	04:57	06:02	07:08	18:42 (4)	08:13	16:33 (11) 15:44
	21:47	20:33	19 19:07	17:47	26 15:58 (11)	15:43 15:33
27	04:59	06:04	07:10	18:44 (4)	08:15	16:35 (11) 15:42
	21:45	20:31	19 19:04	17:45	27 15:59 (11)	15:42 15:34
28	05:01	06:06	07:12	18:46 (4)	08:17	16:37 (11) 15:41
	21:43	20:28	19 19:02	17:43	28 15:59 (11)	15:41 15:35
29	05:03	06:08	07:14	18:48 (4)	08:19	16:39 (11) 15:40
	21:41	20:25	19 18:59	17:41	27 15:59 (11)	15:39 15:36
30	05:05	06:10	07:16	18:50 (4)	08:21	16:41 (11) 15:38
	21:39	20:23	19 18:56	17:39	27 15:58 (11)	15:38 15:37
31	05:07	06:13	07:18	18:52 (4)	08:23	16:43 (11) 15:36
	21:37	20:20	19 18:58	17:37	27 15:59 (11)	15:35 15:38
Potential sun hours	538	474	386	321	241	207
Total, worst case		305	414	494	99	
Sun reduction		0.50	0.46	0.28	0.08	
Oper. time red.		1.00	1.00	1.00	1.00	
Wind dir. red.		1.00	1.00	1.00	1.00	
Total reduction		0.50	0.46	0.28	0.08	
Total, real		154	191	140	8	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rudziš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (463)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:14 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 29 (94010010711001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (605)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 29 (94010010711002) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (607)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 31A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (603)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Riga iela 31B - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (740)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 33 (94010010712001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (596)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 33 (94010010712002) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (595)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 35 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (620)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Riga iela 35A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (615)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 35B - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (621)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
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29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 38 (94010010805002) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (626)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 40 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (601)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 41 (94010020105001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (582)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 41 (94010020105003) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (581)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Riga iela 42 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (641)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
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Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Riga iela 44 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (643)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:14 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Riga iela 45 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (578)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 45A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (573)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 46 (94010010811001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (634)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 46 (94010010811002) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (635)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 47 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (557)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 48 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (622)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
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17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 49 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (522)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
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29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 50 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (616)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 50A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (614)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 51 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (556)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 52 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (687)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 53 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (568)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
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15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 54 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (756)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 55 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (513)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
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27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 56 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (731)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 57 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (534)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 58 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (751)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
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22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 59 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (569)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 60 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (748)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 61 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (570)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
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Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 62 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (749)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 62A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (695)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
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29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 63 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (535)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:29	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:45	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:08	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:42
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7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
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	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
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	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
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	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:35	18:12	16:00	15:29
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	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
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	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
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	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:48	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:21	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:41	21:45	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:51	15:46	15:31
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:11	08:21	09:00
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:42	15:41	15:35
29	08:27		06:56	05:33	04:31	04:18	05:03	06:08	07:14	07:21	08:29	09:01
	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:36
30	08:25		06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 64 (94010040147001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (684)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 64 (94010040147003) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (683)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 65 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (560)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 67 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (551)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 68 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (735)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 69 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (531)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 70 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (794)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 71 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (509)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 72 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (727)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 73 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (563)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
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23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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Total, worst case												
Sun reduction												
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Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 74 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (755)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 75 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (510)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 76 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (747)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 78 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (693)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Riga iela 80 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (758)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February		March	April	May	June	July	August	September	October	November	December	
1	09:01	09:54 (1)	08:21	07:14	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28		08:33	09:42 (1)
	15:39	10:18 (1)	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32		15:37	10:04 (1)
2	09:00	09:55 (1)	08:19	07:11	06:45	05:25	04:26	04:21	05:11	06:17	07:21	07:30		08:35	09:42 (1)
	15:41	10:19 (1)	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:30		15:36	10:04 (1)
3	09:00	09:55 (1)	08:17	07:08	06:42	05:23	04:24	04:22	05:13	06:19	07:23	07:32		08:37	09:42 (1)
	15:42	10:19 (1)	16:45	17:50	20:00	21:06	22:06	22:19	21:31	20:12	18:48	16:27		15:35	10:05 (1)
4	08:59	09:55 (1)	08:15	07:05	06:39	05:20	04:23	04:23	05:15	06:21	07:25	07:35		08:38	09:42 (1)
	15:43	10:19 (1)	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25		15:34	10:06 (1)
5	08:59	09:56 (1)	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37		08:40	09:43 (1)
	15:45	10:20 (1)	16:49	17:55	20:04	21:10	22:09	22:18	21:27	20:06	18:42	16:23		15:33	10:06 (1)
6	08:58	09:57 (1)	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39		08:42	09:42 (1)
	15:46	10:21 (1)	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:40	16:20		15:33	10:06 (1)
7	08:58	09:57 (1)	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:28	07:31	07:41		08:43	09:43 (1)
	15:48	10:20 (1)	16:54	18:00	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18		15:32	10:07 (1)
8	08:57	09:57 (1)	08:06	06:55	06:28	05:11	04:19	04:27	05:24	06:30	07:34	07:44		08:45	09:43 (1)
	15:50	10:21 (1)	16:56	18:02	20:11	21:17	22:12	22:15	21:20	19:58	18:34	16:16		15:31	10:07 (1)
9	08:56	09:58 (1)	08:04	06:52	06:26	05:09	04:19	04:29	05:26	06:32	07:36	07:46		08:46	09:44 (1)
	15:51	10:21 (1)	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14		15:31	10:08 (1)
10	08:55	09:59 (1)	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48		08:48	09:44 (1)
	15:53	10:21 (1)	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:29	16:12		15:30	10:08 (1)
11	08:54	10:00 (1)	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51		08:49	09:45 (1)
	15:55	10:22 (1)	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10		15:30	10:09 (1)
12	08:53	10:00 (1)	07:57	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53		08:50	09:45 (1)
	15:57	10:21 (1)	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:08		15:29	10:09 (1)
13	08:52	10:01 (1)	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55		08:51	09:45 (1)
	15:59	10:22 (1)	17:08	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:20	16:06		15:29	10:09 (1)
14	08:51	10:02 (1)	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57		08:53	09:46 (1)
	16:00	10:21 (1)	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18	16:04		15:29	10:10 (1)
15	08:50	10:03 (1)	07:49	06:35	06:09	04:56	04:15	04:37	05:39	06:44	07:49	08:00		08:54	09:47 (1)
	16:02	10:21 (1)	17:13	18:18	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02		15:29	10:11 (1)
16	08:48	10:04 (1)	07:47	06:32	06:06	04:54	04:15	04:39	05:41	06:47	07:51	08:02		08:55	09:47 (1)
	16:04	10:20 (1)	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:36	18:12	16:00		15:29	10:11 (1)
17	08:47	10:05 (1)	07:45	06:30	06:04	04:52	04:15	04:41	05:43	06:49	07:53	08:04		08:56	09:48 (1)
	16:06	10:19 (1)	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58		15:29	10:12 (1)
18	08:46	10:08 (1)	07:42	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56	08:06		08:56	09:48 (1)
	16:09	10:19 (1)	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56		15:29	10:12 (1)
19	08:44	10:10 (1)	07:40	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09		08:57	09:48 (1)
	16:11	10:17 (1)	17:23	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54		15:29	10:12 (1)
20	08:43		07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11		08:58	09:49 (1)
	16:13		17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53		15:29	10:13 (1)
21	08:41		07:34	06:19	05:53	04:44	04:15	04:48	05:51	06:57	08:02	08:13		08:59	09:49 (1)
	16:15		17:27	18:31	20:39	21:44	22:21	21:57	20:47	19:21	17:59	15:51		15:30	10:13 (1)
22	08:40		07:32	06:16	05:51	04:42	04:15	04:49	05:53	06:59	08:05	08:15		08:59	09:49 (1)
	16:17		17:30	18:33	20:42	21:45	22:22	21:55	20:44	19:19	17:57	15:49		15:30	10:13 (1)
23	08:38		07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17		09:00	09:50 (1)
	16:19		17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	7	09:53 (1)	10:13 (1)
24	08:36		07:27	06:10	05:45	04:39	04:16	04:53	05:58	07:03	08:09	08:19		09:45 (1)	09:50 (1)
	16:21		17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:52	15:46	11	09:56 (1)	10:15 (1)
25	08:35		07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	08:12	08:21		09:43 (1)	09:50 (1)
	16:24		17:37	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	14	09:57 (1)	10:15 (1)
26	08:33		07:21	06:05	05:40	04:35	04:16	04:57	06:02	07:08	08:14	08:23		09:42 (1)	09:51 (1)
	16:26		17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:47	15:43	16	09:58 (1)	10:15 (1)
27	08:31		07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	08:16	08:25		09:43 (1)	09:51 (1)
	16:28		17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	17	10:00 (1)	10:16 (1)
28	08:29		07:16	05:59	05:35	04:32	04:18	05:01	06:06	07:12	08:18	08:27		09:42 (1)	09:52 (1)
	16:31		17:44	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:42	15:41	19	10:01 (1)	10:16 (1)
29	08:27			06:56	05:33	04:31	04:18	05:03	06:08	07:14	08:21	08:29		09:42 (1)	09:53 (1)
	16:33			19:49	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	20	10:02 (1)	10:17 (1)
30	08:25			06:53	05:30	04:29	04:19	05:05	06:11	07:16	08:23	08:31		09:41 (1)	09:53 (1)
	16:35			19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	21	10:02 (1)	10:17 (1)
31	08:23			06:51		04:28		05:07	06:13		07:25			09:01	09:54 (1)
	16:38			19:53		22:01		21:38	20:20		16:34			15:38	10:18 (1)
Potential sun hours	227		262		365	429		515	539	475	386	321	241	207	
Total, worst case	385												125		737
Sun reduction	0.11												0.08		0.06
Oper. time red.	1.00												1.00		1.00
Wind dir. red.	1.00												1.00		1.00
Total reduction	0.11												0.08		0.06
Total, real	42												10		45

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 82 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (752)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:30	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:45	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:23	05:15	06:21	07:25	07:34	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:08	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:28	05:11	04:19	04:27	05:24	06:30	07:34	07:44	08:45
	15:50	16:56	18:02	20:10	21:17	22:12	22:15	21:19	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:25	05:09	04:19	04:28	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:08	15:29
13	08:52	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55	08:51
	15:58	17:08	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:20	16:06	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57	08:53
	16:00	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:49	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49	08:00	08:54
	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:54	04:15	04:39	05:41	06:47	07:51	08:02	08:55
	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:36	18:12	16:00	15:29
17	08:47	07:44	06:30	06:04	04:52	04:15	04:41	05:43	06:49	07:53	08:04	08:56
	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56	08:06	08:56
	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:39	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:11	17:22	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:48	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:21	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:41	21:45	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:52	15:46	15:31
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:11	08:21	09:00
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:42	15:41	15:35
29	08:27		06:56	05:33	04:31	04:18	05:03	06:08	07:14	07:21	08:29	09:01
	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:36
30	08:25		06:53	05:30	04:29	04:19	05:05	06:11	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rigas iela 90 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (686)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:50	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:40 17:23	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Rukiš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (795)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:02	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:18	07:19 18:54	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:25 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:44	08:15 16:47	07:06 17:53	06:40 20:02	05:21 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:50	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:18 21:27	06:24 20:06	07:27 18:42	07:37 16:23	08:40 15:34
6	08:58 15:47	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:14 21:15	04:21 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:18	08:43 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:28 20:11	05:11 21:17	04:20 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:52	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:07 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:53	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:18 22:15	04:32 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:30
13	08:52 15:59	07:54 17:09	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:21	07:55 16:06	08:51 15:29
14	08:51 16:01	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:37 21:05	06:43 19:41	07:47 18:18	07:58 16:04	08:53 15:29
15	08:50 16:03	07:50 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:16 22:19	04:38 22:06	05:39 21:02	06:45 19:39	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:05	07:47 17:16	06:33 18:20	06:07 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:13	08:02 16:00	08:55 15:29
17	08:47 16:07	07:45 17:18	06:30 18:22	06:04 20:31	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:54 18:10	08:04 15:58	08:56 15:29
18	08:46 16:09	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:43 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:11	07:40 17:23	06:24 18:27	05:59 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:55	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:30
21	08:41 16:15	07:35 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:52 20:47	06:57 19:22	08:03 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:50 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:50	08:59 15:31
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:41 21:47	04:15 22:22	04:52 21:53	05:56 20:42	07:02 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:22	07:27 17:34	06:10 18:38	05:46 20:46	04:39 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:46	09:00 15:32
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:22 17:39	06:05 18:42	05:40 20:50	04:36 21:53	04:17 22:22	04:57 21:48	06:02 20:34	07:08 19:08	07:14 16:47	08:23 15:44	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:33 21:56	04:18 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:09 20:26	07:14 18:59	07:21 16:39	08:29 15:40	09:01 15:36
30	08:25 16:35		06:53 19:51	05:30 20:59	04:30 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:39	09:01 15:37
31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:35		09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Sauliešis - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (782)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40		07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	03:20 22:20	02:15 21:35	01:10 20:17	00:05 18:54	08:33 15:37
2	09:00 15:41	08:19 16:42	08:51 (6)	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	03:21 22:20	02:16 21:33	01:11 20:15	00:06 18:51	08:35 15:36
3	09:00 15:42	08:17 16:45	08:49 (6)	07:08 17:51	06:42 20:00	05:23 21:06	04:25 22:06	03:22 22:19	02:17 21:31	01:12 20:12	00:07 18:48	08:37 15:35
4	08:59 15:44	08:15 16:47	08:46 (6)	07:06 17:53	06:40 20:02	05:21 21:08	04:23 22:07	03:23 22:18	02:18 21:29	01:13 20:09	00:08 18:45	08:38 15:34
5	08:59 15:45	08:13 16:49	08:44 (6)	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	03:24 22:18	02:19 21:27	01:14 20:06	00:09 18:42	08:40 15:34
6	08:58 15:47	08:11 16:52	08:42 (6)	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	03:25 22:17	02:20 21:24	01:15 20:04	00:10 18:40	08:42 15:33
7	08:58 15:48	08:08 16:54	08:39 (6)	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	03:26 22:16	02:21 21:22	01:16 20:01	00:11 18:37	08:43 15:32
8	08:57 15:50	08:06 16:57	08:38 (6)	06:55 18:02	06:28 20:11	05:11 21:17	04:20 22:12	03:27 22:15	02:22 21:20	01:17 19:58	00:12 18:34	08:45 15:31
9	08:56 15:51	08:04 16:59	08:37 (6)	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	03:28 22:14	02:23 21:17	01:18 19:55	00:13 18:31	08:46 15:31
10	08:55 15:53	08:01 17:01	08:36 (6)	06:49 18:06	06:23 20:15	05:07 21:21	04:18 22:14	03:29 22:13	02:24 21:15	01:19 19:53	00:14 18:29	08:48 15:30
11	08:54 15:55	07:59 17:04	08:35 (6)	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	03:30 22:12	02:25 21:12	01:20 19:50	00:15 18:26	08:49 15:30
12	08:53 15:57	07:57 17:06	08:34 (6)	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	03:31 22:10	02:26 21:10	01:21 19:47	00:16 18:23	08:50 15:30
13	08:52 15:59	07:54 17:09	08:33 (6)	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	03:32 22:09	02:27 21:07	01:22 19:44	00:17 18:21	08:51 15:29
14	08:51 16:01	07:52 17:11	08:32 (6)	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	03:33 22:08	02:28 21:05	01:23 19:41	00:18 18:18	08:53 15:29
15	08:50 16:03	07:50 17:13	08:31 (6)	06:35 18:18	06:09 20:26	04:56 21:32	04:16 22:19	03:34 22:06	02:29 21:02	01:24 19:38	00:19 18:15	08:54 15:29
16	08:48 16:05	07:47 17:16	08:30 (6)	06:33 18:20	06:07 20:28	04:54 21:34	04:15 22:19	03:35 22:05	02:30 21:00	01:25 19:36	00:20 18:13	08:55 15:29
17	08:47 16:07	07:45 17:18	08:29 (6)	06:30 18:22	06:04 20:31	04:52 21:36	04:15 22:20	03:36 22:04	02:31 20:57	01:26 19:33	00:21 18:10	08:56 15:29
18	08:46 16:09	07:42 17:20	08:28 (6)	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	03:37 22:02	02:32 20:55	01:27 19:30	00:22 18:07	08:57 15:29
19	08:44 16:11	07:40 17:23	08:27 (6)	06:24 18:27	05:59 20:35	04:48 21:40	04:15 22:21	03:38 22:00	02:33 20:52	01:28 19:27	00:23 18:05	08:58 15:29
20	08:43 16:13	07:37 17:25	08:26 (6)	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	03:39 22:00	02:34 20:50	01:29 19:24	00:24 18:02	08:59 15:30
21	08:41 16:15	07:35 17:27	08:25 (6)	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	03:40 22:01	02:35 20:47	01:30 19:22	00:25 17:59	08:59 15:30
22	08:40 16:17	07:32 17:30	08:24 (6)	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	03:41 22:02	02:36 20:44	01:31 19:19	00:26 17:57	08:59 15:31
23	08:38 16:19	07:29 17:32	08:23 (6)	06:13 18:35	05:48 20:44	04:41 21:47	04:15 22:22	03:42 22:03	02:37 20:42	01:32 19:16	00:27 17:54	09:00 15:31
24	08:36 16:22	07:27 17:34	08:22 (6)	06:10 18:38	05:45 20:46	04:39 21:49	04:16 22:22	03:43 22:04	02:38 20:39	01:33 19:13	00:28 17:52	09:00 15:32
25	08:35 16:24	07:24 17:37	08:21 (6)	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	03:44 22:05	02:39 20:36	01:34 19:10	00:29 16:49	09:00 15:32
26	08:33 16:26	07:22 17:39	08:20 (6)	06:05 18:42	05:40 20:50	04:36 21:53	04:17 22:22	03:45 22:06	02:40 20:34	01:35 19:08	00:30 16:47	09:01 15:33
27	08:31 16:28	07:19 17:41	08:19 (6)	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	03:46 22:07	02:41 20:31	01:36 19:05	00:31 16:44	09:01 15:34
28	08:29 16:31	07:16 17:44	08:18 (6)	05:59 18:46	05:35 20:55	04:32 21:56	04:18 22:21	03:47 22:08	02:42 20:28	01:37 19:02	00:32 16:42	09:01 15:35
29	08:27 16:33		08:17 (6)	05:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	03:48 22:09	02:43 20:26	01:38 18:59	00:33 16:39	09:01 15:36
30	08:25 16:35		08:16 (6)	05:53 19:51	05:30 20:59	04:30 22:00	04:19 22:21	03:49 22:10	02:44 20:23	01:39 18:56	00:34 16:37	09:01 15:37
31	08:23 16:38		08:15 (6)	05:51 19:53		04:28 22:01	04:28 22:01	03:50 22:11	02:45 20:20	01:40 18:54	00:35 16:34	09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case		258							134		128	
Sun reduction		0.19							0.28		0.08	
Oper. time red.		1.00							1.00		1.00	
Wind dir. red.		1.00							1.00		1.00	
Total reduction		0.19							0.28		0.08	
Total, real		50							38		10	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Saulites - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (456)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	16:00 (2) 17:46	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	08:33 15:37
2	09:00 15:40	08:19 16:42	15:59 (2) 17:48	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	08:35 15:36
3	09:00 15:42	08:17 16:44	15:59 (2) 17:50	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	08:36 15:35
4	08:59 15:43	08:15 16:47	15:57 (2) 17:53	07:05 17:53	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	08:38 15:34
5	08:59 15:45	08:12 16:49	15:57 (2) 17:55	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	08:40 15:33
6	08:58 15:46	08:10 16:52	15:56 (2) 17:57	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	08:41 15:32
7	08:57 15:48	08:08 16:54	15:56 (2) 17:59	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	08:43 15:32
8	08:57 15:49	08:06 16:56	15:56 (2) 18:02	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	08:44 15:31
9	08:56 15:51	08:03 16:59	15:56 (2) 18:04	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	08:46 15:30
10	08:55 15:53	08:01 17:01	15:56 (2) 18:06	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	08:47 15:29
11	08:54 15:55	07:59 17:03	15:57 (2) 18:08	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	08:49 15:28
12	08:53 15:56	07:56 17:06	15:57 (2) 18:11	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	08:50 15:27
13	08:52 15:58	07:54 17:08	15:58 (2) 18:13	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	08:51 15:26
14	08:51 16:00	07:52 17:11	15:59 (2) 18:15	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	08:52 15:25
15	08:49 16:02	07:49 17:13	16:00 (2) 18:17	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:53 15:24
16	08:48 16:04	07:47 17:15	16:02 (2) 18:20	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:54 15:23
17	08:47 16:06	07:44 17:18	16:06 (2) 18:22	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:33	07:53 18:10	08:55 15:22
18	08:45 16:08	07:42 17:20	16:10 (2) 18:24	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:56 15:21
19	08:44 16:10	07:39 17:22	16:10 (2) 18:26	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:57 15:20
20	08:42 16:13	07:37 17:25	16:11 (2) 18:28	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:58 15:19
21	08:41 16:15	07:34 17:27	16:12 (2) 18:31	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:59 15:18
22	08:39 16:17	07:32 17:29	16:13 (2) 18:33	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:59 15:17
23	08:38 16:19	07:29 17:32	16:14 (2) 18:35	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:59 15:16
24	08:36 16:21	07:26 17:34	16:15 (2) 18:37	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:59 15:15
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27	08:31 16:28	07:19 17:41	16:18 (2) 18:44	06:02 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	09:01 15:12
28	08:29 16:30	07:16 17:43	16:19 (2) 18:46	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	09:01 15:11
29	08:27 16:33		16:20 (2) 19:48	05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	09:01 15:10
30	08:25 16:35		16:21 (2) 19:50	05:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	09:01 15:09
31	08:23 16:37		16:22 (2) 19:53	05:50 19:53	04:28 22:01	04:28 22:01	05:07 21:37	06:13 20:20	07:13 20:20	07:25 16:34	07:25 15:49	09:01 15:08
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case		280								120	165	
Sun reduction		0.19								0.28	0.08	
Oper. time red.		1.00								1.00	1.00	
Wind dir. red.		1.00								1.00	1.00	
Total reduction		0.19								0.28	0.08	
Total, real		54								34	13	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Sedaskalni (94880100120001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (496)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:01	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:36	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Sedaskalni (94880100255001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (584)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Table layout: For each day in each month the following matrix apply

windPRO 4.1.254 by EMD International A/S. Tel. +45 69 16 48 50. www.emd-international.com. support@emd.dk

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Sermuli - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (768)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:14	06:48	05:28	04:27	04:20	05:09	06:15	07:19	07:28	08:33
	15:39	16:40	17:46	19:55	21:02	22:03	22:20	21:36	20:18	18:54	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:26	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:30	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:22	05:13	06:19	07:23	07:32	08:37
	15:42	16:45	17:51	20:00	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	09:00	08:15	07:06	06:39	05:20	04:23	04:23	05:15	06:21	07:25	07:35	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:09	22:18	21:27	20:06	18:42	16:23	15:33
6	08:58	08:11	07:00	06:34	05:16	04:21	04:25	05:20	06:26	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:13	22:10	22:17	21:24	20:04	18:40	16:21	15:33
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:22	06:28	07:32	07:42	08:43
	15:48	16:54	18:00	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:28	05:11	04:19	04:27	05:24	06:30	07:34	07:44	08:45
	15:50	16:57	18:02	20:11	21:17	22:12	22:15	21:20	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:26	05:09	04:19	04:29	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:02	06:49	06:23	05:07	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:15	22:13	21:15	19:53	18:29	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:16	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:11	21:10	19:47	18:23	16:08	15:30
13	08:52	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55	08:52
	15:59	17:08	18:13	20:22	21:28	22:17	22:09	21:08	19:44	18:21	16:06	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:58	08:53
	16:01	17:11	18:15	20:24	21:30	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:50	06:35	06:09	04:56	04:15	04:37	05:39	06:45	07:49	08:00	08:54
	16:03	17:13	18:18	20:26	21:32	22:19	22:07	21:03	19:38	18:15	16:02	15:29
16	08:49	07:47	06:33	06:07	04:54	04:15	04:39	05:41	06:47	07:51	08:02	08:55
	16:05	17:16	18:20	20:28	21:34	22:19	22:05	21:00	19:36	18:13	16:00	15:29
17	08:47	07:45	06:30	06:04	04:52	04:15	04:41	05:43	06:49	07:54	08:04	08:56
	16:07	17:18	18:22	20:31	21:36	22:20	22:04	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56	08:07	08:57
	16:09	17:20	18:24	20:33	21:38	22:21	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:40	06:24	05:59	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:11	17:23	18:27	20:35	21:40	22:21	22:00	20:52	19:27	18:05	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:30
21	08:41	07:35	06:19	05:53	04:44	04:15	04:48	05:51	06:57	08:03	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:22	21:57	20:47	19:22	17:59	15:51	15:30
22	08:40	07:32	06:16	05:51	04:42	04:15	04:50	05:54	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:42	21:46	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:48	22:22	21:54	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:16	04:53	05:58	07:04	08:09	08:19	09:00
	16:22	17:34	18:38	20:46	21:49	22:22	21:52	20:39	19:13	17:52	15:46	15:32
25	08:35	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:12	08:21	09:01
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:37	19:10	16:49	15:45	15:32
26	08:33	07:22	06:05	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:24	09:01
	16:26	17:39	18:42	20:51	21:53	22:22	21:48	20:34	19:08	16:47	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:26	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:18	05:01	06:06	07:12	07:19	08:27	09:01
	16:31	17:44	18:46	20:55	21:56	22:22	21:44	20:28	19:02	16:42	15:41	15:35
29	08:27		06:56	05:33	04:31	04:18	05:03	06:09	07:14	07:21	08:29	09:01
	16:33		19:49	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:40	15:36
30	08:25		06:53	05:30	04:29	04:19	05:05	06:11	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:51		04:28		05:07	06:13		07:25		09:01
	16:38		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	515	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Silkalni - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (774)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:02	04:27 22:03	04:20 22:20	05:09 21:36	06:15 20:18	07:19 18:54	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:25 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	09:00 15:44	08:15 16:47	07:06 17:53	06:40 20:02	05:21 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:50	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:18 21:27	06:24 20:07	07:27 18:42	07:37 16:23	08:40 15:34
6	08:58 15:47	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:13	04:21 22:10	04:25 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
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11	08:54 15:55	07:59 17:04	06:47 18:09	06:20 20:17	05:04 21:23	04:18 22:15	04:32 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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21	08:41 16:15	07:35 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:52 20:47	06:57 19:22	08:03 17:59	08:13 15:51	08:59 15:30
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31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:35		09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Staldoti - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (798)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	08:54 (6) 17:46	07:14 19:55	06:48 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:19 18:54	07:28 16:32	08:16 (6) 15:37
2	09:00 15:41	08:19 16:42	08:51 (6) 17:48	07:11 19:57	06:45 21:04	05:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:38 (6) 15:36
3	09:00 15:42	08:17 16:45	08:49 (6) 17:51	07:08 19:57	06:42 21:00	05:23 22:06	04:25 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:38 (6) 15:35
4	08:59 15:44	08:15 16:47	08:46 (6) 17:53	07:06 19:57	06:40 21:02	05:21 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 (6) 15:34
5	08:59 15:45	08:13 16:49	08:45 (6) 17:55	07:03 19:58	06:37 21:04	05:18 22:09	04:22 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:38 (6) 15:34
6	08:58 15:47	08:11 16:52	08:46 (6) 17:57	07:00 19:59	06:34 21:06	05:16 22:10	04:21 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:38 (6) 15:33
7	08:58 15:48	08:08 16:54	08:45 (6) 18:00	06:57 20:08	06:31 21:15	05:13 22:11	04:20 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:18	08:37 (6) 15:32
8	08:57 15:50	08:06 16:57	08:46 (6) 18:02	06:55 20:11	06:28 21:17	05:11 22:12	04:20 22:25	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:37 (6) 15:31
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10	08:55 15:53	08:01 17:01	08:46 (6) 18:06	06:49 20:15	06:23 21:21	05:07 22:14	04:18 22:13	05:28 21:15	06:34 19:53	07:38 18:29	07:48 16:12	08:36 (6) 15:30
11	08:54 15:55	07:59 17:04	08:46 (6) 18:09	06:46 20:17	06:20 21:23	05:04 22:15	04:17 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:36 (6) 15:30
12	08:53 15:57	07:57 17:06	08:48 (6) 18:11	06:44 20:19	06:17 21:25	05:02 22:16	04:17 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:36 (6) 15:30
13	08:52 15:59	07:54 17:09	08:48 (6) 18:13	06:41 20:22	06:15 21:27	05:00 22:17	04:16 22:09	05:34 21:07	06:40 19:44	07:45 18:21	07:55 16:06	08:36 (6) 15:29
14	08:51 16:01	07:52 17:11	08:49 (6) 18:15	06:38 20:24	06:12 21:30	04:58 22:18	04:16 22:08	05:37 21:05	06:42 19:41	07:47 18:18	07:58 16:04	08:36 (6) 15:29
15	08:50 16:03	07:50 17:13	08:52 (6) 18:18	06:35 20:26	06:09 21:32	04:56 22:19	04:16 22:06	05:39 21:02	06:45 19:38	07:49 18:15	08:00 16:02	08:36 (6) 15:29
16	08:48 16:05	07:47 17:16	09:03 (6) 18:20	06:33 20:28	06:07 21:34	04:54 22:19	04:15 22:05	05:41 21:00	06:47 19:36	07:51 18:13	08:02 16:00	08:36 (6) 15:29
17	08:47 16:07	07:45 17:18	09:04 (6) 18:22	06:30 20:31	06:04 21:36	04:52 22:20	04:15 22:04	05:43 20:57	06:49 19:33	07:54 18:10	08:04 15:58	08:36 (6) 15:29
18	08:46 16:09	07:42 17:20	09:05 (6) 18:24	06:27 20:33	06:01 21:38	04:50 22:20	04:15 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:36 (6) 15:29
19	08:44 16:11	07:40 17:23	09:06 (6) 18:27	06:24 20:35	05:59 21:40	04:48 22:21	04:15 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:55	08:36 (6) 15:29
20	08:43 16:13	07:37 17:25	09:07 (6) 18:29	06:21 20:37	05:56 21:42	04:46 22:21	04:15 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:36 (6) 15:30
21	08:41 16:15	07:35 17:27	09:08 (6) 18:31	06:19 20:39	05:53 21:44	04:44 22:22	04:15 21:57	05:51 20:47	06:57 19:22	08:03 17:59	08:13 15:51	08:36 (6) 15:30
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23	08:38 16:19	07:29 17:32	09:10 (6) 18:35	06:13 20:44	05:48 21:47	04:41 22:22	04:15 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	08:36 (6) 15:31
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25	08:35 16:24	07:24 17:37	09:12 (6) 18:40	06:07 20:48	05:43 21:51	04:37 22:22	04:16 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	08:36 (6) 15:32
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Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case	10	287								93		
Sun reduction	0.11	0.19								0.28		
Oper. time red.	1.00	1.00								1.00		
Wind dir. red.	1.00	1.00								1.00		
Total reduction	0.11	0.19								0.28		
Total, real	1	56								26		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Sviestini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (471)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
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18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
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26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:14 16:46	08:23 15:43	09:00 15:33
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Seli 10 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (486)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
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12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Seli 12 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (457)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
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Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
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Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Seli Maja 18 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (464)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Sili - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (446)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:40	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:02	04:20 22:19	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:32 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:26 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:29 16:30	08:34 15:36
3	08:59 15:42	08:16 16:45	07:08 17:50	06:42 19:59	05:23 21:05	04:25 22:05	04:22 22:18	05:13 21:30	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:44	08:14 16:47	07:05 17:53	06:39 20:01	05:20 21:08	04:23 22:06	04:23 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:23	08:39 15:34
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31	08:23 16:38		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:00 15:38
Potential sun hours	228	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Taigas - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (466)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
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29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdekas - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (761)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:50	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:19 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:40 17:23	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdemara iela 11 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (732)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdemara iela 13 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (706)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdemara iela 13A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (707)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
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27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdemara iela 1A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (754)
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
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30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdemara iela 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (742)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdemara iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (746)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
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27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
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29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdemara iela 7 (94010040129001) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (711) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
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17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdemara iela 7 (94010040129004) - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (712) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valdemara iela 9 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (750)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valmieras iela 11 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (691)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valmieras iela 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (763)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valmieras iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (764)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valmieras iela 7 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (753)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valmieras iela 7A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (724)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Valmieras iela 9 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (743)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vanagi - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (771)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	09:18 (5) 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:19 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	09:18 (5) 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	09:20 (5) 17:50	06:42 20:00	05:23 21:06	04:24 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	09:20 (5) 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	09:23 (5) 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:55 (5) 15:33
6	08:58 15:46	08:11 16:52	09:26 (5) 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:26 20:04	07:29 18:40	07:39 16:21	8 08:52 (5) 15:33
7	08:58 15:48	08:08 16:54	7 09:33 (5)	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:31 18:37	07:41 16:18	13 08:51 (5) 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	17 09:08 (5) 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	19 09:09 (5) 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:07 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:29	07:48 16:12	21 09:10 (5) 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	22 09:11 (5) 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	23 09:11 (5) 15:29
13	08:52 15:59	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	24 09:12 (5) 15:29
14	08:51 16:01	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	25 09:13 (5) 15:29
15	08:50 16:03	09:28 (5) 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:39 21:02	06:45 19:38	07:49 18:15	08:00 16:02	25 09:13 (5) 15:29
16	08:48 16:05	09:26 (5) 17:16	06:33 18:20	06:07 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	25 09:13 (5) 15:29
17	08:47 16:07	09:24 (5) 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	24 09:13 (5) 15:29
18	08:46 16:09	09:23 (5) 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	24 09:13 (5) 15:29
19	08:44 16:11	09:21 (5) 17:23	06:24 18:26	05:59 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:54	23 09:13 (5) 15:29
20	08:43 16:13	09:19 (5) 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	23 09:13 (5) 15:30
21	08:41 16:15	09:17 (5) 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:51 20:47	06:57 19:22	08:02 17:59	08:13 15:51	20 09:13 (5) 15:30
22	08:40 16:17	09:15 (5) 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:50 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:49	17 09:12 (5) 15:30
23	08:38 16:19	09:15 (5) 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	15 09:12 (5) 15:31
24	08:36 16:22	09:15 (5) 17:34	06:10 18:38	05:45 20:46	04:39 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:46	12 09:12 (5) 15:32
25	08:35 16:24	09:15 (5) 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	08:12 17:49	08:21 15:45	9 09:11 (5) 15:32
26	08:33 16:26	09:15 (5) 17:39	06:05 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	08:23 17:47	08:23 15:43	6 09:11 (5) 15:33
27	08:31 16:28	09:15 (5) 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 18:44	07:16 15:42	2 09:09 (5) 15:34
28	08:29 16:31	09:16 (5) 17:44	05:59 18:46	05:35 20:55	04:32 21:56	04:18 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	07:18 15:41	08:27 15:35
29	08:27 16:33	09:15 (5) 17:45	06:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:09 20:26	07:14 18:59	07:21 16:39	07:21 15:40	08:29 15:36
30	08:25 16:35	09:16 (5) 17:46	06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	07:23 15:38	08:31 15:37
31	08:23 16:38	09:17 (5) 17:47	06:51 19:53	05:28 22:01	04:28 22:01	05:07 21:38	06:13 20:20	07:16 18:56	07:25 16:34	07:25 15:38	07:25 15:38	09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	475	386	321	241	207
Total, worst case	321	99									422	
Sun reduction	0.11	0.19									0.08	
Oper. time red.	1.00	1.00									1.00	
Wind dir. red.	1.00	1.00									1.00	
Total reduction	0.11	0.19									0.08	
Total, real	35	19									33	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vecrubeni - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (507)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	09:00	08:21	16:02 (11)	07:13	16:58 (12)	06:48
	15:39	16:40	1	16:03 (11)	17:46	18
2	09:00	08:19	16:01 (11)	07:11	16:57 (12)	06:45
	15:41	16:42	5	16:06 (11)	17:48	21
3	08:59	08:17	15:59 (11)	07:08	16:57 (12)	06:42
	15:42	16:44	9	16:08 (11)	17:50	23
4	08:59	08:14	15:58 (11)	07:05	16:57 (12)	06:39
	15:43	16:47	13	16:11 (11)	17:53	22
5	08:58	08:12	15:58 (11)	07:02	16:57 (12)	06:36
	15:45	16:49	16	16:14 (11)	17:55	22
6	08:58	08:10	15:56 (11)	07:00	16:58 (12)	06:34
	15:46	16:52	20	16:16 (11)	17:57	21
7	08:57	08:08	15:56 (11)	06:57	16:58 (12)	06:31
	15:48	16:54	24	16:20 (11)	17:59	19
8	08:56	08:06	15:55 (11)	06:54	16:59 (12)	06:28
	15:50	16:56	27	16:22 (11)	18:02	16
9	08:56	08:03	15:56 (11)	06:52	17:01 (12)	06:25
	15:51	16:59	27	16:23 (11)	18:04	12
10	08:55	08:01	15:55 (11)	06:49	17:05 (12)	06:23
	15:53	17:01	28	16:23 (11)	18:06	3
11	08:54	07:59	15:56 (11)	06:46	17:08 (12)	06:20
	15:55	17:03	27	16:23 (11)	18:08	
12	08:53	07:56	15:55 (11)	06:43	17:15 (12)	06:17
	15:57	17:06	28	16:23 (11)	18:11	
13	08:52	07:54	15:56 (11)	06:41	17:15 (12)	06:14
	15:58	17:08	27	16:23 (11)	18:13	
14	08:51	07:52	15:56 (11)	06:38	17:15 (12)	06:12
	16:00	17:11	26	16:22 (11)	18:15	
15	08:49	07:49	15:56 (11)	06:35	17:15 (12)	06:09
	16:02	17:13	25	16:21 (11)	18:17	
16	08:48	07:47	15:58 (11)	06:32	17:15 (12)	06:06
	16:04	17:15	23	16:21 (11)	18:20	
17	08:47	07:44	15:58 (11)	06:29	17:15 (12)	06:04
	16:06	17:18	22	16:20 (11)	18:22	
18	08:45	07:42	15:59 (11)	06:27	17:48 (4)	06:01
	16:08	17:20	19	16:18 (11)	18:24	7
19	08:44	07:39	16:02 (11)	06:24	17:44 (4)	05:58
	16:11	17:22	15	16:17 (11)	18:26	13
20	08:42	07:37	16:04 (11)	06:21	17:42 (4)	05:56
	16:13	17:25	10	16:14 (11)	18:28	17
21	08:41	07:34		06:18	17:40 (4)	05:53
	16:15	17:27		18:31	18:01 (4)	20:39
22	08:39	07:32		06:15	17:39 (4)	05:50
	16:17	17:29		18:33	18:03 (4)	20:41
23	08:38	07:29		06:13	17:38 (4)	05:48
	16:19	17:32		18:35	18:06 (4)	20:43
24	08:36	07:26		06:10	17:37 (4)	05:45
	16:21	17:34		18:37	18:06 (4)	20:46
25	08:34	07:24	17:02 (12)	06:07	17:36 (4)	05:43
	16:24	17:36	4	17:00 (12)	18:39	30
26	08:32	07:21	17:00 (12)	06:04	17:36 (4)	05:40
	16:26	17:39	8	17:08 (12)	18:42	29
27	08:31	07:19	16:59 (12)	06:01	17:35 (4)	05:37
	16:28	17:41	12	17:11 (12)	18:44	30
28	08:29	07:16	16:58 (12)	05:59	17:36 (4)	05:35
	16:30	17:43	15	17:13 (12)	18:46	29
29	08:27			06:56	18:36 (4)	05:32
	16:33			19:48	19:04 (4)	20:57
30	08:25			06:53	18:36 (4)	05:30
	16:35			19:50	19:03 (4)	20:59
31	08:23			06:50	18:36 (4)	
	16:37			19:53	19:02 (4)	
Potential sun hours	227	262	365	429	515	539
Total, worst case		431	515	251	159	
Sun reduction		0.19	0.40	0.43	0.58	
Oper. time red.		1.00	1.00	1.00	1.00	
Wind dir. red.		1.00	1.00	1.00	1.00	
Total reduction		0.19	0.40	0.43	0.58	
Total, real		84	208	107	92	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vecrubeni - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (507)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20	05:09	06:15	07:18	07:27	15:25 (11)
	22:20	21:35	20:17	18:53	16:32	27 15:52 (11)
2	04:21	05:11	06:17	07:20	07:30	15:25 (11)
	22:19	21:33	20:14	18:50	16:29	27 15:52 (11)
3	04:22	05:13	06:19	07:22	07:32	15:25 (11)
	22:19	21:31	20:12	18:48	16:27	26 15:51 (11)
4	04:23	05:15	20:15 (2)	06:21	07:25	17:39 (12)
	22:18	21:28	20:22 (2)	20:09	18:45	10 17:49 (12)
5	04:24	05:17	20:12 (2)	06:23	07:27	17:37 (12)
	22:17	21:26	13 20:25 (2)	20:06	18:42	15 17:52 (12)
6	04:25	05:19	20:11 (2)	06:25	07:29	17:35 (12)
	22:16	21:24	15 20:26 (2)	20:03	18:39	18 17:53 (12)
7	04:26	05:21	20:09 (2)	06:27	07:31	17:34 (12)
	22:15	21:22	19 20:28 (2)	20:01	5 18:46 (4)	19 17:53 (12)
8	04:27	05:23	20:08 (2)	06:29	18:36 (4)	07:33
	22:14	21:19	20 20:28 (2)	19:58	14 18:50 (4)	22 18:34
9	04:28	05:26	20:08 (2)	06:32	18:33 (4)	07:36
	22:13	21:17	21 20:29 (2)	19:55	19 18:52 (4)	23 17:55 (12)
10	04:30	05:28	20:07 (2)	06:34	18:31 (4)	07:38
	22:12	21:14	23 20:30 (2)	19:52	22 18:53 (4)	23 17:54 (12)
11	04:31	05:30	20:06 (2)	06:36	18:30 (4)	07:40
	22:11	21:12	24 20:30 (2)	19:49	24 18:54 (4)	22 17:53 (12)
12	04:33	05:32	20:05 (2)	06:38	18:28 (4)	07:42
	22:10	21:10	24 20:29 (2)	19:47	26 18:54 (4)	20 17:50 (12)
13	04:34	05:34	20:05 (2)	06:40	18:27 (4)	07:44
	22:09	21:07	24 20:29 (2)	19:44	28 18:55 (4)	17 17:48 (12)
14	04:36	05:36	20:04 (2)	06:42	18:26 (4)	07:46
	22:07	21:05	25 20:29 (2)	19:41	29 18:55 (4)	14 17:45 (12)
15	04:37	05:38	20:04 (2)	06:44	18:25 (4)	07:49
	22:06	21:02	24 20:28 (2)	19:38	30 18:55 (4)	11 17:42 (12)
16	04:39	05:40	20:04 (2)	06:46	18:25 (4)	07:51
	22:05	21:00	22 20:26 (2)	19:35	29 18:54 (4)	6 17:39 (12)
17	04:41	05:43	20:05 (2)	06:48	18:24 (4)	07:53
	22:03	20:57	18 20:23 (2)	19:32	30 18:54 (4)	2 17:36 (12)
18	04:42	05:45	20:05 (2)	06:51	18:24 (4)	07:55
	22:02	20:54	16 20:21 (2)	19:30	29 18:53 (4)	18:07
19	04:44	05:47	20:06 (2)	06:53	18:24 (4)	07:58
	22:00	20:52	13 20:19 (2)	19:27	29 18:53 (4)	18:04
20	04:46	05:49	20:06 (2)	06:55	18:24 (4)	08:00
	21:58	20:49	10 20:16 (2)	19:24	28 18:52 (4)	18:02
21	04:48	05:51	20:07 (2)	06:57	18:24 (4)	08:02
	21:57	20:47	7 20:14 (2)	19:21	26 18:50 (4)	17:59
22	04:49	05:53	20:09 (2)	06:59	18:25 (4)	08:04
	21:55	20:44	2 20:11 (2)	19:18	22 18:47 (4)	17:57
23	04:51	05:55		07:01	18:26 (4)	08:07
	21:53	20:41		19:16	19 18:45 (4)	17:54
24	04:53	05:58		07:03	18:27 (4)	08:09
	21:51	20:39		19:13	15 18:42 (4)	17:51
25	04:55	06:00		07:05	18:29 (4)	07:11
	21:49	20:36		19:10	10 18:39 (4)	16:49
26	04:57	06:02		07:08	18:33 (4)	07:13
	21:47	20:33		19:07	3 18:36 (4)	16:46
27	04:59	06:04		07:10		16:46
	21:45	20:31		19:04		16:44
28	05:01	06:06		07:12		16:41
	21:43	20:28		19:02		16:41
29	05:03	06:08		07:14		16:41
	21:41	20:25		18:59		16:39
30	05:05	06:10		07:16		16:37
	21:39	20:23		18:56		16:37
31	05:07	06:13				16:37
	21:37	20:20				16:34
Potential sun hours	538	474	386	321	241	207
Total, worst case		327	437	454	169	
Sun reduction		0.50	0.46	0.28	0.08	
Oper. time red.		1.00	1.00	1.00	1.00	
Wind dir. red.		1.00	1.00	1.00	1.00	
Total reduction		0.50	0.46	0.28	0.08	
Total, real		165	202	128	13	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Veikals Seli - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (460)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vetaptieka - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (505)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:15	05:21 21:22	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:17	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:01	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:36	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vidini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (503)
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	09:00 15:39	08:21 16:40	07:13 17:46	16:32 (2) 16:54 (2)	06:48 19:55	05:27 21:01
2	09:00 15:41	08:19 16:42	07:11 17:48	16:33 (2) 16:52 (2)	06:45 19:57	21:03 22:04
3	09:00 15:42	14:55 (4) 16:44	08:17 17:50	16:34 (2) 16:50 (2)	06:42 19:59	21:03 22:05
4	08:59 15:43	14:54 (4) 16:47	08:15 17:53	16:37 (2) 16:46 (2)	06:39 20:01	21:08 22:07
5	08:59 15:45	14:54 (4) 16:49	08:12 17:55	07:03 17:55	06:36 20:04	21:08 22:08
6	08:58 15:46	14:54 (4) 16:52	08:10 17:57	07:00 17:57	06:34 20:06	21:10 22:09
7	08:57 15:48	15:01 (4) 16:54	08:08 17:59	06:57 17:59	06:31 20:08	21:13 22:11
8	08:57 15:49	14:54 (4) 16:56	08:06 18:02	06:54 18:02	06:28 20:10	21:11 22:12
9	08:56 15:51	15:05 (4) 16:59	08:03 18:04	06:52 18:04	06:25 20:12	21:09 22:13
10	08:55 15:53	14:54 (4) 17:01	08:01 18:06	06:49 18:06	06:23 20:15	21:06 22:14
11	08:54 15:55	15:09 (4) 17:03	07:59 18:08	06:46 18:08	06:20 20:17	21:04 22:15
12	08:53 15:57	14:54 (4) 17:06	07:56 18:11	06:43 18:11	06:17 20:19	21:02 22:16
13	08:52 15:58	15:13 (4) 17:08	07:54 18:13	06:41 18:13	06:14 20:21	21:00 22:17
14	08:51 16:00	14:55 (4) 17:11	07:52 18:15	06:38 18:15	06:12 20:24	21:00 22:18
15	08:49 16:02	15:18 (4) 17:13	07:49 16:37 (2) 18:17	06:35 16:40 (2) 18:17	06:09 20:26	21:00 22:18
16	08:48 16:04	14:55 (4) 17:15	07:47 16:43 (2) 18:20	06:32 16:43 (2) 18:20	06:06 20:28	21:00 22:19
17	08:47 16:06	14:55 (4) 17:18	07:44 16:45 (2) 18:22	06:29 16:45 (2) 18:22	06:04 20:30	21:00 22:20
18	08:45 16:08	14:55 (4) 17:20	07:42 16:48 (2) 18:24	06:27 16:48 (2) 18:24	06:01 20:32	21:00 22:20
19	08:44 16:10	14:55 (4) 17:22	07:39 16:51 (2) 18:26	06:24 16:51 (2) 18:26	05:58 20:35	21:00 22:21
20	08:42 16:13	14:57 (4) 17:25	07:37 16:53 (2) 18:28	06:21 16:53 (2) 18:28	05:56 20:37	21:00 22:21
21	08:41 16:15	14:57 (4) 17:27	07:34 16:55 (2) 18:31	06:18 16:55 (2) 18:31	05:53 20:39	21:00 22:21
22	08:39 16:17	14:57 (4) 17:29	07:32 16:57 (2) 18:33	06:16 16:57 (2) 18:33	05:50 20:41	21:00 22:21
23	08:38 16:19	14:58 (4) 17:32	07:29 16:59 (2) 18:35	06:13 16:59 (2) 18:35	05:48 20:43	21:00 22:22
24	08:36 16:21	14:59 (4) 17:34	07:26 16:56 (2) 18:37	06:10 16:56 (2) 18:37	05:45 20:46	21:00 22:22
25	08:34 16:24	15:00 (4) 17:36	07:24 16:57 (2) 18:39	06:07 16:57 (2) 18:39	05:43 20:48	21:00 22:22
26	08:32 16:26	15:01 (4) 17:39	07:21 16:58 (2) 18:42	06:04 16:58 (2) 18:42	05:40 20:50	21:00 22:21
27	08:31 16:28	15:01 (4) 17:41	07:19 16:59 (2) 18:44	06:02 16:59 (2) 18:44	05:37 20:52	21:00 22:21
28	08:29 16:30	15:03 (4) 17:43	07:16 17:00 (2) 18:46	05:59 17:00 (2) 18:46	05:35 20:55	21:00 22:21
29	08:27 16:33	15:06 (4) 17:46	07:13 17:03 (2) 18:48	05:56 17:03 (2) 18:48	05:32 20:57	21:00 22:21
30	08:25 16:35	15:10 (4) 17:49	07:10 17:06 (2) 18:50	05:53 17:06 (2) 18:50	05:30 20:59	21:00 22:20
31	08:23 16:37	15:12 (4) 17:51	07:07 17:09 (2) 18:53	05:50 17:09 (2) 18:53	05:28 21:01	21:00 22:20
Potential sun hours	227	262	365	429	515	539
Total, worst case	470	286	66			
Sun reduction	0.11	0.19	0.40			
Oper. time red.	1.00	1.00	1.00			
Wind dir. red.	1.00	1.00	1.00			
Total reduction	0.11	0.19	0.40			
Total, real	51	56	27			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vidini - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (503)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October		November	December
1	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53		07:27 16:32	08:33 15:37 17
2	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50		07:30 16:29	08:35 15:36 15
3	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48		07:32 16:27	08:36 15:35 13
4	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45		07:34 16:25	08:38 15:34 11
5	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42		07:37 16:23	08:40 15:33 9
6	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39		07:39 16:20	08:41 15:32 7
7	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37		07:41 16:18	08:43 15:32 6
8	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34		07:43 16:16	08:44 15:31 4
9	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	2	07:46 17:16 (2) 17:18 (2)	08:46 15:31 1
10	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	13	07:48 17:10 (2) 17:23 (2)	08:47 15:30
11	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	17	07:50 17:07 (2) 17:24 (2)	08:49 15:30
12	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	20	07:53 17:05 (2) 17:25 (2)	08:50 14:40 (4) 15:29
13	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	23	07:55 17:04 (2) 17:27 (2)	08:51 14:48 (4) 15:29
14	04:36 22:07	05:36 21:05	06:42 19:41	07:47 18:18	24	07:57 17:03 (2) 17:27 (2)	08:52 14:46 (4) 15:29
15	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	25	07:59 17:02 (2) 17:27 (2)	08:53 14:51 (4) 15:29
16	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	27	08:02 17:01 (2) 17:28 (2)	08:54 14:53 (4) 15:29
17	04:40 22:03	05:43 20:57	06:48 19:33	07:53 18:10	27	08:04 17:01 (2) 17:28 (2)	08:55 14:33 (4) 15:29
18	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	27	08:06 17:01 (2) 17:28 (2)	08:56 14:33 (4) 15:29
19	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	28	08:08 17:00 (2) 17:28 (2)	08:57 14:55 (4) 15:29
20	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	27	08:10 17:00 (2) 17:27 (2)	08:58 14:32 (4) 15:29
21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	25	08:13 17:01 (2) 17:26 (2)	08:58 14:56 (4) 15:30
22	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	21	08:15 17:01 (2) 17:22 (2)	08:59 14:33 (4) 15:30
23	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	18	08:17 17:02 (2) 17:20 (2)	08:59 14:32 (4) 15:31
24	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	14	08:19 17:03 (2) 17:17 (2)	09:00 14:32 (4) 15:31
25	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	11	08:21 16:04 (2) 16:15 (2)	09:00 14:33 (4) 15:32
26	04:57 21:47	06:02 20:33	07:08 19:07	07:14 16:46	7	08:23 16:05 (2) 16:12 (2)	09:00 14:33 (4) 15:33
27	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	1	08:25 16:09 (2) 16:10 (2)	09:01 14:33 (4) 15:34
28	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41		08:27 15:41 23	09:01 14:35 (4) 15:35
29	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39		08:29 15:39 21	09:01 14:35 (4) 15:35
30	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37		08:31 15:38 20	09:01 14:35 (4) 15:37
31	05:07 21:37	06:13 20:20	07:25 16:34	07:25 16:34			09:00 15:38
Potential sun hours	538	474	386	321		241	207
Total, worst case				357		391	83
Sun reduction				0.28		0.08	0.06
Oper. time red.				1.00		1.00	1.00
Wind dir. red.				1.00		1.00	1.00
Total reduction				0.28		0.08	0.06
Total, real				101		31	5

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vienibas gatve 6 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (574)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:20	05:11	06:17	07:21	07:30	08:35
	15:40	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:29	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:44	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:36	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:08	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:03	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:28	05:11	04:19	04:27	05:23	06:30	07:34	07:44	08:45
	15:49	16:56	18:02	20:10	21:17	22:12	22:15	21:19	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:30
10	08:55	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:03	18:08	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:43	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	08:50
	15:56	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:07	15:29
13	08:52	07:54	06:41	06:14	05:00	04:16	04:34	05:34	06:40	07:44	07:55	08:51
	15:58	17:08	18:13	20:21	21:27	22:17	22:09	21:07	19:44	18:20	16:05	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57	08:53
	16:00	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18	16:03	15:29
15	08:50	07:49	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49	08:00	08:54
	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:53	04:15	04:39	05:41	06:46	07:51	08:02	08:55
	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:35	18:12	16:00	15:29
17	08:47	07:44	06:30	06:04	04:51	04:15	04:40	05:43	06:49	07:53	08:04	08:56
	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:49	04:15	04:42	05:45	06:51	07:56	08:06	08:56
	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:39	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:10	17:22	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:52	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:47	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:21	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:29	18:33	20:41	21:45	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:55	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:51	15:46	15:31
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:11	08:21	09:00
	16:24	17:36	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:04	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:41	15:41	15:34
29	08:27		06:56	05:32	04:31	04:18	05:03	06:08	07:14	07:21	08:29	09:01
	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:35
30	08:25		06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:37	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vienibas gatve 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (576)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Veverzemnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (586)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February		March		April		May		June	
1	09:00	08:21			07:13	16:16 (11)	06:48		18:33 (12)	05:28	19:47 (4)	04:27
	15:39	16:40			17:46	41 16:57 (11)	19:55	26	18:59 (12)	21:01	32 20:19 (4)	22:02
2	09:00	08:19			07:11	16:15 (11)	06:45		18:33 (12)	05:25	19:46 (4)	04:26
	15:41	16:42			17:48	42 16:57 (11)	19:57	24	18:57 (12)	21:03	33 20:19 (4)	22:04
3	08:59	08:17			07:08	16:14 (11)	06:42		18:34 (12)	05:23	19:45 (4)	04:24
	15:42	16:45			17:50	43 16:57 (11)	19:59	21	18:55 (12)	21:05	35 20:20 (4)	22:05
4	08:59	08:14			07:05	16:14 (11)	06:39		18:36 (12)	05:20	19:44 (4)	04:23
	15:43	16:47			17:53	43 16:57 (11)	20:01	17	18:53 (12)	21:08	37 20:21 (4)	22:07
5	08:58	08:12			07:03	16:13 (11)	06:36		18:39 (12)	05:18	19:44 (4)	04:22
	15:45	16:49			17:55	43 16:56 (11)	20:04	11	18:50 (12)	21:10	38 20:22 (4)	22:08
6	08:58	08:10			07:00	16:14 (11)	06:34		19:43 (4)	05:16	19:43 (4)	04:21
	15:46	16:52			17:57	43 16:57 (11)	20:06		21:12	38 20:21 (4)	22:09	17 21:28 (2)
7	08:57	08:08			06:57	16:14 (11)	06:31		05:13	19:42 (4)	04:20	21:18 (2)
	15:48	16:54			17:59	42 16:56 (11)	20:08		21:14	39 20:21 (4)	22:11	11 21:29 (2)
8	08:56	08:06			06:54	16:14 (11)	06:28		19:37 (14)	05:11	19:42 (4)	04:19
	15:50	16:56			18:02	42 16:56 (11)	20:10	3	19:40 (14)	21:16	40 20:22 (4)	22:12
9	08:56	08:03			06:52	16:14 (11)	06:25		19:35 (14)	05:09	19:42 (4)	04:19
	15:51	16:59			18:04	41 16:55 (11)	20:12	8	19:43 (14)	21:19	40 20:22 (4)	22:13
10	08:55	08:01			06:49	16:14 (11)	06:23		19:33 (14)	05:06	19:42 (4)	04:18
	15:53	17:01			18:06	40 16:54 (11)	20:15	11	19:44 (14)	21:21	40 20:22 (4)	22:14
11	08:54	07:59			06:46	16:15 (11)	06:20		19:31 (14)	05:04	19:42 (4)	04:17
	15:55	17:03			18:08	39 16:54 (11)	20:17	15	19:46 (14)	21:23	40 20:22 (4)	22:15
12	08:53	07:56			06:43	16:16 (11)	06:17		19:30 (14)	05:02	19:41 (4)	04:17
	15:57	17:06			18:11	36 16:52 (11)	20:19	19	19:49 (14)	21:25	41 20:22 (4)	22:16
13	08:52	07:54			06:41	16:16 (11)	06:14		19:29 (14)	05:00	19:41 (4)	04:16
	15:59	17:08			18:13	35 16:51 (11)	20:21	22	19:51 (14)	21:27	41 20:22 (4)	22:17
14	08:50	07:52			06:38	16:17 (11)	06:12		19:28 (14)	04:58	19:41 (4)	04:16
	16:00	17:11			18:15	32 16:49 (11)	20:24	24	19:52 (14)	21:29	41 20:22 (4)	22:17
15	08:49	07:49			06:35	16:19 (11)	06:09		19:28 (14)	04:56	19:42 (4)	04:15
	16:02	17:13			18:17	28 16:47 (11)	20:26	25	19:53 (14)	21:31	40 20:22 (4)	22:18
16	08:48	07:47			06:32	16:20 (11)	06:06		19:28 (14)	04:54	19:42 (4)	04:15
	16:04	17:15			18:20	25 16:45 (11)	20:28	24	19:52 (14)	21:33	40 20:22 (4)	22:19
17	08:47	07:44			06:29	16:24 (11)	06:04		19:28 (14)	04:52	19:42 (4)	04:15
	16:06	17:18			18:22	27 17:53 (12)	20:30	25	19:53 (14)	21:35	39 20:21 (4)	22:19
18	08:45	07:42			06:27	16:27 (11)	06:01		19:28 (14)	04:50	19:43 (4)	04:15
	16:08	17:20			18:24	25 17:55 (12)	20:32	24	19:52 (14)	21:37	38 20:21 (4)	22:20
19	08:44	07:39			06:24	17:39 (12)	05:58		19:27 (14)	04:48	19:44 (4)	04:15
	16:11	17:22	10	16:42 (11)	18:26	18 17:57 (12)	20:35	23	19:50 (14)	21:39	37 20:21 (4)	22:20
20	08:42	07:37			06:21	17:37 (12)	05:56		19:28 (14)	04:46	19:44 (4)	04:15
	16:13	17:25	18	16:46 (11)	18:28	22 17:59 (12)	20:37	22	19:50 (14)	21:41	37 20:21 (4)	22:21
21	08:41	07:34			06:18	17:35 (12)	05:53		19:29 (14)	04:44	19:44 (4)	04:15
	16:15	17:27	23	16:48 (11)	18:31	26 18:01 (12)	20:39	19	19:48 (14)	21:43	36 20:20 (4)	22:21
22	08:39	07:32			06:16	17:34 (12)	05:50		19:30 (14)	04:42	19:45 (4)	04:15
	16:17	17:29	28	16:51 (11)	18:33	29 18:03 (13)	20:41	18	19:48 (14)	21:45	35 20:20 (4)	22:21
23	08:38	07:29			06:13	17:34 (12)	05:48		19:31 (14)	04:40	19:45 (4)	04:15
	16:19	17:32	31	16:52 (11)	18:35	32 18:06 (13)	20:43	14	19:45 (14)	21:47	34 20:19 (4)	22:21
24	08:36	07:26			06:10	17:33 (12)	05:45		19:34 (14)	04:39	19:46 (4)	04:16
	16:21	17:34	33	16:53 (11)	18:37	32 18:05 (13)	20:46	9	19:43 (14)	21:49	33 20:19 (4)	22:21
25	08:34	07:24			06:07	17:32 (12)	05:43		20:03 (4)	04:37	19:47 (4)	04:16
	16:24	17:36	36	16:55 (11)	18:39	32 18:04 (13)	20:48	2	20:05 (4)	21:51	32 20:19 (4)	22:21
26	08:32	07:21			06:04	17:31 (12)	05:40		19:56 (4)	04:35	19:47 (4)	04:16
	16:26	17:39	37	16:55 (11)	18:42	32 18:03 (12)	20:50	15	20:11 (4)	21:52	31 20:18 (4)	22:21
27	08:31	07:19			06:02	17:31 (12)	05:38		19:54 (4)	04:34	19:48 (4)	04:17
	16:28	17:41	39	16:56 (11)	18:44	31 18:02 (12)	20:52	20	20:14 (4)	21:54	30 20:18 (4)	22:21
28	08:29	07:16			05:59	17:31 (12)	05:35		19:51 (4)	04:32	19:50 (4)	04:18
	16:31	17:43	40	16:56 (11)	18:46	31 18:02 (12)	20:54	24	20:15 (4)	21:56	27 20:17 (4)	22:21
29	08:27				06:56	18:31 (12)	05:32		19:49 (4)	04:31	19:50 (4)	04:18
	16:33				19:48	30 19:01 (12)	20:57	28	20:17 (4)	21:58	26 20:16 (4)	22:21
30	08:25				06:53	18:31 (12)	05:30		19:48 (4)	04:29	19:51 (4)	04:19
	16:35				19:50	29 19:00 (12)	20:59	30	20:18 (4)	21:59	24 20:15 (4)	22:20
31	08:23				06:50	18:31 (12)			04:28	19:52 (4)		
	16:37				19:53	28 18:59 (12)			22:01	23 20:15 (4)		
Potential sun hours	227	262			365		429		515		539	
Total, worst case			295		1039		523		1097		531	
Sun reduction			0.19		0.40		0.43		0.58		0.56	
Oper. time red.			1.00		1.00		1.00		1.00		1.00	
Wind dir. red.			1.00		1.00		1.00		1.00		1.00	
Total reduction			0.19		0.40		0.43		0.58		0.56	
Total, real			57		419		223		638		297	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Veverzemnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (586)
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July				August				September				October				November		December	
1	04:20		21:22 (2)	05:09		19:52 (4)	06:15		19:30 (14)	07:18		16:55 (11)	07:27		08:33					
	22:20	15	21:37 (2)	21:35	40	20:32 (4)	20:17	15	19:45 (14)	18:53	36	17:31 (11)	16:32		15:37					
2	04:21		21:22 (2)	05:11		19:52 (4)	06:17		19:31 (14)	07:20		16:54 (11)	07:30		08:34					
	22:19	15	21:37 (2)	21:33	40	20:32 (4)	20:14	11	19:42 (14)	18:50	37	17:31 (11)	16:29		15:36					
3	04:22		21:23 (2)	05:13		19:52 (4)	06:19		19:32 (14)	07:23		16:52 (11)	07:32		08:36					
	22:19	14	21:37 (2)	21:31	40	20:32 (4)	20:12	8	19:40 (14)	18:48	40	17:32 (11)	16:27		15:35					
4	04:23		21:24 (2)	05:15		19:52 (4)	06:21		19:35 (14)	07:25		16:51 (11)	07:34		08:38					
	22:18	12	21:36 (2)	21:28	40	20:32 (4)	20:09	3	19:38 (14)	18:45	41	17:32 (11)	16:25		15:34					
5	04:24		21:24 (2)	05:17		19:52 (4)	06:23			07:27		16:51 (11)	07:37		08:40					
	22:17	11	21:35 (2)	21:26	40	20:32 (4)	20:06			18:42	42	17:33 (11)	16:23		15:33					
6	04:25		20:08 (4)	05:19		19:53 (4)	06:25			07:29		16:50 (11)	07:39		08:41					
	22:16	16	21:35 (2)	21:24	39	20:32 (4)	20:03			18:39	43	17:33 (11)	16:20		15:33					
7	04:26		20:06 (4)	05:21		19:53 (4)	06:27		18:35 (12)	07:31		16:49 (11)	07:41		08:43					
	22:15	18	21:34 (2)	21:22	38	20:31 (4)	20:01	10	18:45 (12)	18:37	43	17:32 (11)	16:18		15:32					
8	04:27		20:05 (4)	05:24		19:53 (4)	06:30		18:31 (12)	07:33		16:49 (11)	07:43		08:44					
	22:14	19	21:33 (2)	21:19	38	20:31 (4)	19:58	17	18:48 (12)	18:34	43	17:32 (11)	16:16		15:31					
9	04:29		20:03 (4)	05:26		19:54 (4)	06:32		18:29 (12)	07:36		16:49 (11)	07:46		08:46					
	22:13	20	21:32 (2)	21:17	36	20:30 (4)	19:55	20	18:49 (12)	18:31	43	17:32 (11)	16:14		15:31					
10	04:30		20:02 (4)	05:28		19:55 (4)	06:34		18:27 (12)	07:38		16:49 (11)	07:48		08:47					
	22:12	20	21:31 (2)	21:14	34	20:29 (4)	19:52	23	18:50 (12)	18:28	43	17:32 (11)	16:12		15:30					
11	04:31		20:01 (4)	05:30		19:55 (4)	06:36		18:25 (12)	07:40		16:48 (11)	07:50		08:49					
	22:11	20	20:21 (4)	21:12	33	20:28 (4)	19:49	26	18:51 (12)	18:26	43	17:31 (11)	16:10		15:30					
12	04:33		20:01 (4)	05:32		19:56 (4)	06:38		18:24 (12)	07:42		16:48 (11)	07:53		08:50					
	22:10	22	20:23 (4)	21:10	31	20:27 (4)	19:47	27	18:51 (12)	18:23	42	17:30 (11)	16:08		15:29					
13	04:34		20:00 (4)	05:34		19:56 (4)	06:40		18:23 (12)	07:44		16:49 (11)	07:55		08:51					
	22:09	24	20:24 (4)	21:07	29	20:25 (4)	19:44	29	18:52 (12)	18:20	41	17:30 (11)	16:06		15:29					
14	04:36		19:59 (4)	05:36		19:57 (4)	06:42		18:22 (12)	07:47		16:49 (11)	07:57		08:52					
	22:07	25	20:24 (4)	21:05	27	20:24 (4)	19:41	30	18:52 (12)	18:18	40	17:29 (11)	16:04		15:29					
15	04:37		19:59 (4)	05:38		19:59 (4)	06:44		18:21 (12)	07:49		16:49 (11)	07:59		08:53					
	22:06	27	20:26 (4)	21:02	23	20:22 (4)	19:38	31	18:52 (12)	18:15	39	17:28 (11)	16:02		15:29					
16	04:39		19:57 (4)	05:41		20:01 (4)	06:46		18:20 (12)	07:51		16:50 (11)	08:02		08:54					
	22:05	29	20:26 (4)	21:00	19	20:20 (4)	19:35	31	18:51 (12)	18:12	37	17:27 (11)	16:00		15:29					
17	04:41		19:57 (4)	05:43		20:03 (4)	06:48		18:20 (12)	07:53		16:51 (11)	08:04		08:55					
	22:03	30	20:27 (4)	20:57	13	20:16 (4)	19:33	32	18:52 (13)	18:10	35	17:26 (11)	15:58		15:29					
18	04:42		19:56 (4)	05:45			06:51		18:19 (12)	07:55		16:52 (11)	08:06		08:56					
	22:01	31	20:27 (4)	20:54			19:30	33	18:52 (13)	18:07	33	17:25 (11)	15:56		15:29					
19	04:44		19:56 (4)	05:47		19:39 (14)	06:53		18:19 (12)	07:58		16:53 (11)	08:08		08:57					
	22:00	33	20:29 (4)	20:52	10	19:49 (14)	19:27	33	18:52 (13)	18:04	30	17:23 (11)	15:54		15:29					
20	04:46		19:56 (4)	05:49		19:36 (14)	06:55		18:19 (12)	08:00		16:54 (11)	08:10		08:58					
	21:58	34	20:30 (4)	20:49	15	19:51 (14)	19:24	32	18:51 (13)	18:02	27	17:21 (11)	15:53		15:29					
21	04:48		19:55 (4)	05:51		19:35 (14)	06:57		18:19 (12)	08:02		16:57 (11)	08:13		08:58					
	21:57	35	20:30 (4)	20:47	17	19:52 (14)	19:21	31	18:50 (13)	17:59	22	17:19 (11)	15:51		15:30					
22	04:49		19:55 (4)	05:53		19:33 (14)	06:59		18:21 (12)	08:04		16:59 (11)	08:15		08:59					
	21:55	35	20:30 (4)	20:44	20	19:53 (14)	19:18	27	18:48 (13)	17:57	16	17:15 (11)	15:49		15:30					
23	04:51		19:54 (4)	05:55		19:32 (14)	07:01		18:21 (12)	08:07		17:05 (11)	08:17		08:59					
	21:53	36	20:30 (4)	20:41	22	19:54 (14)	19:16	24	18:45 (12)	17:54	5	17:10 (11)	15:48		15:31					
24	04:53		19:54 (4)	05:58		19:31 (14)	07:03		18:22 (12)	08:09			08:19		09:00					
	21:51	37	20:31 (4)	20:39	23	19:54 (14)	19:13	20	18:42 (12)	17:51			15:46		15:31					
25	04:55		19:54 (4)	06:00		19:30 (14)	07:05		17:13 (11)	07:11			08:21		09:00					
	21:49	38	20:32 (4)	20:36	24	19:54 (14)	19:10	20	18:39 (12)	16:49			15:45		15:32					
26	04:57		19:54 (4)	06:02		19:30 (14)	07:08		17:07 (11)	07:14			08:23		09:00					
	21:47	38	20:32 (4)	20:33	24	19:54 (14)	19:07	27	18:36 (12)	16:46			15:43		15:33					
27	04:59		19:53 (4)	06:04		19:29 (14)	07:10		17:03 (11)	07:16			08:25		09:00					
	21:45	39	20:32 (4)	20:31	25	19:54 (14)	19:04	23	17:26 (11)	16:44			15:42		15:34					
28	05:01		19:53 (4)	06:06		19:29 (14)	07:12		17:00 (11)	07:18			08:27		09:01					
	21:43	39	20:32 (4)	20:28	25	19:54 (14)	19:02	28	17:28 (11)	16:41			15:41		15:35					
29	05:03		19:53 (4)	06:08		19:29 (14)	07:14		16:58 (11)	07:20			08:29		09:01					
	21:41	40	20:33 (4)	20:25	24	19:53 (14)	18:59	31	17:29 (11)	16:39			15:39		15:36					
30	05:05		19:53 (4)	06:10		19:29 (14)	07:16		16:57 (11)	07:23			08:31		09:01					
	21:39	40	20:33 (4)	20:23	21	19:50 (14)	18:56	34	17:31 (11)	16:37			15:38		15:37					
31	05:07		19:53 (4)	06:13		19:29 (14)				07:25					09:00					
	21:37	40	20:33 (4)	20:20	19	19:48 (14)				16:34					15:38					
Potential sun hours	538			474			386			321			241		207					
Total, worst case		852			829		676			821										
Sun reduction		0.47			0.50		0.46			0.28										
Oper. time red.		1.00			1.00		1.00			1.00										
Wind dir. red.		1.00			1.00		1.00			1.00										
Total reduction		0.47			0.50		0.46			0.28										
Total, real		400			418		312			232										

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vež i - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (784)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:14	06:48	05:28	04:27	04:20	05:09	06:15	07:19	07:28	08:33
	15:40	16:40	17:46	19:55	21:02	22:03	22:20	21:36	20:18	18:54	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:26	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:30	15:36
3	09:00	08:17	07:08	06:42	05:23	04:25	04:22	05:13	06:19	07:23	07:32	08:37
	15:42	16:45	17:51	20:00	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:06	06:40	05:21	04:23	04:23	05:15	06:21	07:25	07:35	08:38
	15:44	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:18	06:24	07:27	07:37	08:40
	15:45	16:50	17:55	20:04	21:10	22:09	22:18	21:27	20:07	18:42	16:23	15:34
6	08:58	08:11	07:00	06:34	05:16	04:21	04:25	05:20	06:26	07:29	07:39	08:42
	15:47	16:52	17:57	20:06	21:13	22:10	22:17	21:24	20:04	18:40	16:21	15:33
7	08:58	08:08	06:57	06:31	05:14	04:21	04:26	05:22	06:28	07:32	07:42	08:43
	15:48	16:54	18:00	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:29	05:11	04:20	04:28	05:24	06:30	07:34	07:44	08:45
	15:50	16:57	18:02	20:11	21:17	22:12	22:15	21:20	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:26	05:09	04:19	04:29	05:26	06:32	07:36	07:46	08:46
	15:52	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:02	06:49	06:23	05:07	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:07	20:15	21:21	22:14	22:13	21:15	19:53	18:29	16:12	15:30
11	08:54	07:59	06:47	06:20	05:04	04:18	04:32	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:18	05:02	04:17	04:33	05:32	06:38	07:43	07:53	08:50
	15:57	17:06	18:11	20:20	21:25	22:16	22:11	21:10	19:47	18:23	16:08	15:30
13	08:52	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55	08:52
	15:59	17:09	18:13	20:22	21:28	22:17	22:09	21:08	19:44	18:21	16:06	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:37	06:43	07:47	07:58	08:53
	16:01	17:11	18:16	20:24	21:30	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:50	06:35	06:09	04:56	04:16	04:38	05:39	06:45	07:49	08:00	08:54
	16:03	17:13	18:18	20:26	21:32	22:19	22:07	21:03	19:39	18:15	16:02	15:29
16	08:49	07:47	06:33	06:07	04:54	04:15	04:39	05:41	06:47	07:51	08:02	08:55
	16:05	17:16	18:20	20:28	21:34	22:19	22:05	21:00	19:36	18:13	16:00	15:29
17	08:47	07:45	06:30	06:04	04:52	04:15	04:41	05:43	06:49	07:54	08:04	08:56
	16:07	17:18	18:22	20:31	21:36	22:20	22:04	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:43	05:45	06:51	07:56	08:07	08:57
	16:09	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:40	06:24	05:59	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:11	17:23	18:27	20:35	21:40	22:21	22:00	20:52	19:27	18:05	15:55	15:29
20	08:43	07:37	06:22	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:30
21	08:41	07:35	06:19	05:53	04:44	04:15	04:48	05:52	06:57	08:03	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:22	21:57	20:47	19:22	17:59	15:51	15:30
22	08:40	07:32	06:16	05:51	04:42	04:15	04:50	05:54	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:42	21:46	22:22	21:55	20:44	19:19	17:57	15:50	15:31
23	08:38	07:29	06:13	05:48	04:41	04:16	04:52	05:56	07:02	08:07	08:17	09:00
	16:20	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:46	04:39	04:16	04:53	05:58	07:04	08:09	08:19	09:00
	16:22	17:34	18:38	20:46	21:49	22:22	21:52	20:39	19:13	17:52	15:47	15:32
25	08:35	07:24	06:08	05:43	04:37	04:16	04:55	06:00	07:06	07:12	08:21	09:01
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:37	19:10	16:49	15:45	15:32
26	08:33	07:22	06:05	05:40	04:36	04:17	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:51	21:53	22:22	21:48	20:34	19:08	16:47	15:44	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:29	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:33	04:18	05:01	06:07	07:12	07:19	08:27	09:01
	16:31	17:44	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:42	15:41	15:35
29	08:27		06:56	05:33	04:31	04:19	05:03	06:09	07:14	07:21	08:29	09:01
	16:33		19:49	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:40	15:36
30	08:25		06:54	05:30	04:30	04:19	05:05	06:11	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:39	15:37
31	08:23		06:51		04:28		05:07	06:13		07:25		09:01
	16:38		19:53		22:01		21:38	20:20		16:35		15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Vež ukrogs - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (797)
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:14	06:48	05:28	04:27	04:20	05:09	06:15	07:19	07:28	08:33
	15:40	16:40	17:46	19:55	21:02	22:03	22:20	21:35	20:18	18:54	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:26	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:30	15:36
3	09:00	08:17	07:08	06:42	05:23	04:25	04:22	05:13	06:19	07:23	07:32	08:37
	15:42	16:45	17:51	20:00	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:06	06:40	05:21	04:24	04:23	05:15	06:21	07:25	07:35	08:38
	15:44	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:35
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:18	06:24	07:27	07:37	08:40
	15:45	16:50	17:55	20:04	21:10	22:09	22:18	21:27	20:06	18:42	16:23	15:34
6	08:58	08:11	07:00	06:34	05:16	04:21	04:25	05:20	06:26	07:29	07:39	08:42
	15:47	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:40	16:21	15:33
7	08:58	08:08	06:57	06:31	05:14	04:21	04:26	05:22	06:28	07:32	07:42	08:43
	15:48	16:54	18:00	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:29	05:11	04:20	04:28	05:24	06:30	07:34	07:44	08:45
	15:50	16:57	18:02	20:11	21:17	22:12	22:15	21:20	19:58	18:34	16:16	15:32
9	08:56	08:04	06:52	06:26	05:09	04:19	04:29	05:26	06:32	07:36	07:46	08:46
	15:52	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:01	06:49	06:23	05:07	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:07	20:15	21:21	22:14	22:13	21:15	19:53	18:29	16:12	15:30
11	08:54	07:59	06:47	06:20	05:05	04:18	04:32	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:18	05:02	04:17	04:33	05:32	06:38	07:43	07:53	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:08	15:30
13	08:52	07:54	06:41	06:15	05:00	04:16	04:35	05:34	06:40	07:45	07:55	08:51
	15:59	17:09	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:21	16:06	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:37	06:43	07:47	07:58	08:53
	16:01	17:11	18:15	20:24	21:30	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:50	06:35	06:09	04:56	04:16	04:38	05:39	06:45	07:49	08:00	08:54
	16:03	17:13	18:18	20:26	21:32	22:19	22:06	21:02	19:39	18:15	16:02	15:29
16	08:48	07:47	06:33	06:07	04:54	04:15	04:39	05:41	06:47	07:51	08:02	08:55
	16:05	17:16	18:20	20:28	21:34	22:19	22:05	21:00	19:36	18:13	16:00	15:29
17	08:47	07:45	06:30	06:04	04:52	04:15	04:41	05:43	06:49	07:54	08:04	08:56
	16:07	17:18	18:22	20:31	21:36	22:20	22:04	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:43	05:45	06:51	07:56	08:06	08:56
	16:09	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:40	06:24	05:59	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:11	17:23	18:27	20:35	21:40	22:21	22:00	20:52	19:27	18:05	15:55	15:30
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:30
21	08:41	07:35	06:19	05:53	04:44	04:15	04:48	05:52	06:57	08:03	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:22	21:57	20:47	19:22	17:59	15:51	15:30
22	08:40	07:32	06:16	05:51	04:42	04:15	04:50	05:54	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:42	21:46	22:22	21:55	20:44	19:19	17:57	15:50	15:31
23	08:38	07:29	06:13	05:48	04:41	04:16	04:52	05:56	07:02	08:07	08:17	09:00
	16:20	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:46	04:39	04:16	04:53	05:58	07:04	08:09	08:19	09:00
	16:22	17:34	18:38	20:46	21:49	22:22	21:52	20:39	19:13	17:52	15:47	15:32
25	08:35	07:24	06:08	05:43	04:37	04:16	04:55	06:00	07:06	07:12	08:21	09:00
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:22	06:05	05:40	04:36	04:17	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:08	16:47	15:44	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:29	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:33	04:18	05:01	06:07	07:12	07:19	08:27	09:01
	16:31	17:44	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:42	15:41	15:35
29	08:27		06:56	05:33	04:31	04:19	05:03	06:09	07:14	07:21	08:29	09:01
	16:33		19:49	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:40	15:36
30	08:25		06:54	05:30	04:30	04:19	05:05	06:11	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:39	15:37
31	08:23		06:51		04:28		05:07	06:13		07:25		09:01
	16:38		19:53		22:01		21:38	20:20		16:35		15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Calculation: Flickering_Valke_Nordex175 Shadow receptor: Viteni - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (487)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

		January	February	March	April	May	June	July	August	September	October	November	December
1	09:00	14:32 (4)	08:21	07:13	06:48	05:27	04:27	04:20	05:09	06:15	07:18	07:27	14:18 (4)
	15:39	21 14:53 (4)	16:40	17:46	19:55	21:01	22:02	22:20	21:35	20:17	18:53	16:32	8 15:56 (2)
2	09:00	14:32 (4)	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:20	07:30	15:51 (2)
	15:41	22 14:54 (4)	16:42	17:48	19:57	21:03	22:04	22:19	21:33	20:14	18:50	16:29	3 15:54 (2)
3	09:00	14:33 (4)	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	15:36 (2)
	15:42	23 14:56 (4)	16:44	17:50	19:59	21:06	22:05	22:21	21:31	20:12	18:48	16:27	25 14:43 (4)
4	08:59	14:33 (4)	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	14:19 (4)
	15:43	24 14:57 (4)	16:47	17:53	20:01	21:08	22:07	22:18	21:28	20:09	18:45	16:25	25 14:44 (4)
5	08:59	14:33 (4)	08:12	07:03	06:36	05:18	04:22	04:24	05:17	06:23	07:27	07:37	14:19 (4)
	15:45	25 14:58 (4)	16:49	17:55	20:04	21:10	22:08	22:17	21:26	20:06	18:42	16:23	25 14:44 (4)
6	08:58	14:34 (4)	08:10	07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29	07:39	14:20 (4)
	15:46	24 14:58 (4)	16:52	17:57	20:06	21:12	22:09	22:16	21:24	20:03	18:39	16:20	24 14:44 (4)
7	08:57	14:34 (4)	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	14:21 (4)
	15:48	25 14:59 (4)	16:54	17:59	20:08	21:14	22:11	22:16	21:22	20:01	18:37	16:18	25 14:45 (4)
8	08:57	14:35 (4)	08:06	06:54	06:28	05:11	04:19	04:27	05:23	06:29	07:33	07:43	14:21 (4)
	15:49	24 14:59 (4)	16:56	18:02	20:10	21:16	22:12	22:15	21:19	19:58	18:34	16:16	25 14:46 (4)
9	08:56	14:35 (4)	08:03	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46	14:21 (4)
	15:51	25 15:00 (4)	16:59	4 16:25 (2)	18:04	20:13	21:19	22:13	22:14	21:17	19:55	16:14	23 14:44 (4)
10	08:55	14:36 (4)	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	14:22 (4)
	15:53	25 15:01 (4)	17:01	8 16:27 (2)	18:06	20:15	21:21	22:14	22:12	21:14	19:52	16:12	22 14:44 (4)
11	08:54	14:35 (4)	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:50	14:22 (4)
	15:55	25 15:00 (4)	17:03	12 16:30 (2)	18:08	20:17	21:23	22:15	22:11	21:12	19:49	16:10	21 14:43 (4)
12	08:53	14:36 (4)	07:56	06:43	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	14:24 (4)
	15:57	25 15:01 (4)	17:06	16 16:32 (2)	18:11	20:19	21:25	22:16	22:10	21:10	19:47	16:07	15:29 19 14:43 (4)
13	08:52	14:36 (4)	07:54	06:45	06:19	05:04	04:16	04:36	05:40	06:46	07:50	07:55	14:24 (4)
	15:58	25 15:01 (4)	17:08	20 16:35 (2)	18:13	20:21	21:27	22:17	22:09	21:07	19:44	16:05	15:29 18 14:42 (4)
14	08:51	14:37 (4)	07:52	06:42	06:16	04:58	04:16	04:36	05:36	06:42	07:47	07:57	14:24 (4)
	16:00	25 15:02 (4)											

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (657)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 10 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (667)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 12 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (650)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:20	05:11	06:17	07:21	07:30	08:35
	15:40	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:29	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:44	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:35	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:09	22:18	21:27	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	08:06	06:55	06:28	05:11	04:19	04:27	05:23	06:30	07:34	07:44	08:45
	15:49	16:56	18:02	20:11	21:17	22:12	22:15	21:20	19:58	18:34	16:16	15:31
9	08:56	08:04	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
12	08:53	07:57	06:44	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:53	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23	16:08	15:29
13	08:52	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:45	07:55	08:51
	15:58	17:08	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:20	16:05	15:29
14	08:51	07:52	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	07:57	08:53
	16:00	17:11	18:15	20:24	21:30	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:49	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49	08:00	08:54
	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:54	04:15	04:39	05:41	06:47	07:51	08:02	08:55
	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:36	18:12	16:00	15:29
17	08:47	07:45	06:30	06:04	04:51	04:15	04:40	05:43	06:49	07:53	08:04	08:56
	16:06	17:18	18:22	20:30	21:36	22:20	22:04	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56	08:06	08:57
	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:40	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:10	17:22	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:47	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:22	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:41	21:46	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:51	15:46	15:31
25	08:35	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:12	08:21	09:00
	16:24	17:37	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:41	15:41	15:34
29	08:27		06:56	05:32	04:31	04:18	05:03	06:08	07:14	07:21	08:29	09:01
	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:35
30	08:25		06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 14 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (677)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 16 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (669)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 1B - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (655)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 3A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (644)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 3B - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (670)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 5 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (673)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (654)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zala iela 8 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (659)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Flickering_Valka_Nordex175

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zeltini - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (476)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

		January	February	March	April	May	June	July	August	September	October	November	December
1	09:00	14:37 (4)	08:21	07:13	06:48	05:27	04:27	04:20	05:09	06:15	07:18	07:27	08:33
	15:39	16 14:53 (4)	16:40	17:46	19:55	21:01	22:02	22:20	21:35	20:17	18:53	16:32	15:44 (2)
2	09:00	14:37 (4)	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:20	07:30	08:35
	15:40	17 14:54 (4)	16:42	17:48	19:57	21:03	22:04	22:19	21:33	20:14	18:50	16:29	15:56 (2)
3	09:00	14:38 (4)	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:36
	15:42	18 14:56 (4)	16:44	17:50	19:59	21:06	22:05	22:19	21:31	20:12	18:48	16:27	15:51 (2)
4	08:59	14:38 (4)	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	20 14:58 (4)	16:47	17:53	20:01	21:08	22:07	22:18	21:28	20:09	18:45	16:25	15:34
5	08:59	14:38 (4)	08:12	07:03	06:36	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	21 14:59 (4)	16:49	17:55	20:04	21:10	22:08	22:17	21:26	20:06	18:42	16:23	15:33
6	08:58	14:39 (4)	08:10	07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29	07:39	08:41
	15:46	22 15:01 (4)	16:52	17:57	20:06	21:12	22:09	22:16	21:24	20:03	18:39	16:20	15:32
7	08:57	14:39 (4)	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	23 15:02 (4)	16:54	17:59	20:08	21:14	22:11	22:16	21:22	20:01	18:37	16:18	15:32
8	08:57	14:39 (4)	08:06	16:17 (2)	06:54	06:28	05:11	04:19	04:27	05:23	07:33	07:43	08:44
	15:49	24 15:03 (4)	16:56	5 16:22 (2)	18:02	20:10	21:16	22:12	22:15	21:19	19:58	16:16	15:31
9	08:56	14:40 (4)	08:03	16:16 (2)	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	08:46
	15:51	23 15:03 (4)	16:59	9 16:25 (2)	18:04	20:12	21:19	22:13	22:14	21:17	19:55	16:14	15:31
10	08:55	14:40 (4)	08:01	16:14 (2)	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	08:47
	15:53	24 15:04 (4)	17:01	13 16:27 (2)	18:06	20:15	21:21	22:14	22:12	21:14	19:52	16:12	15:30
11	08:54	14:40 (4)	07:59	16:14 (2)	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	08:49
	15:55	24 15:04 (4)	17:03	16 16:30 (2)	18:08	20:17	21:23	22:15	22:11	21:12	19:49	16:26	15:30
12	08:53	14:41 (4)	07:56	16:13 (2)	06:43	06:17	05:02	04:17	04:33	05:32	06:38	07:42	08:50
	15:57	23 15:04 (4)	17:06	19 16:32 (2)	18:11	20:19	21:25	22:16	22:10	21:10	19:47	16:23	15:29
13	08:52	14:41 (4)	07:54	16:13 (2)	06:41	06:14	05:00	04:16	04:34	05:36	06:44	07:55	08:59
	15:58	23 15:04 (4)	17:08	22 16:35 (2)	18:13	20:21	21:27	22:17	22:09	21:07	19:44	16:20	15:29
14	08:51	14:42 (4)	07:52	22 16:12 (2)	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47	08:52
	16:00	23 15:05 (4)	17:11	26 16:38 (2)	18:15	20:24	21:29	22:18	22:08				

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Baiba / baiba.ozolina@environment.lv
Calculated:
16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemdegas - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (450)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00	14:14 (4)	08:21	15:55 (2)	07:13	06:48	05:27	04:27	04:20	05:09	06:15	07:18
2	15:39	14:38 (4)	16:40	16:03 (2)	17:46	19:55	21:01	22:02	22:20	21:35	20:17	18:53
3	09:00	14:14 (4)	08:19	15:54 (2)	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:20
4	15:41	14:38 (4)	16:42	16:06 (2)	17:48	19:57	21:03	22:04	22:19	21:33	20:14	18:50
5	09:00	14:15 (4)	08:17	15:54 (2)	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23
6	15:42	14:39 (4)	16:44	16:09 (2)	17:50	19:59	21:06	22:05	22:19	21:31	20:12	18:48
7	08:59	14:16 (4)	08:15	15:52 (2)	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25
8	15:43	14:39 (4)	16:47	16:11 (2)	17:53	20:01	21:08	22:07	22:18	21:29	20:09	18:45
9	08:59	14:16 (4)	08:12	15:52 (2)	07:03	06:36	05:18	04:22	04:24	05:17	06:23	07:27
10	15:45	14:39 (4)	16:49	16:14 (2)	17:55	20:04	21:10	22:08	22:17	21:26	20:06	18:42
11	08:58	14:17 (4)	08:10	15:51 (2)	07:00	06:34	05:15	04:21	04:25	05:19	06:25	07:29
12	15:46	14:40 (4)	16:52	16:16 (2)	17:57	20:06	21:12	22:09	22:16	21:24	20:03	18:39
13	08:57	14:17 (4)	08:08	15:51 (2)	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31
14	15:48	14:40 (4)	16:54	16:19 (2)	17:59	20:08	21:14	22:11	22:16	21:22	20:01	18:37
15	08:57	14:18 (4)	08:06	15:50 (2)	06:54	06:28	05:11	04:19	04:27	05:23	06:29	07:33
16	15:49	14:40 (4)	16:56	16:19 (2)	18:02	20:10	21:16	22:12	22:15	21:19	19:58	18:34
17	08:56	14:19 (4)	08:03	15:51 (2)	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36
18	15:51	14:41 (4)	16:59	16:19 (2)	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31
19	08:55	14:20 (4)	08:01	15:50 (2)	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38
20	15:53	14:41 (4)	17:01	16:19 (2)	18:06	20:15	21:21	22:14	22:13	21:14	19:52	18:28
21	08:54	14:20 (4)	07:59	15:51 (2)	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40
22	15:55	14:40 (4)	17:03	16:20 (2)	18:08	20:17	21:23	22:15	22:11	21:12	19:49	18:26
23	08:53	14:21 (4)	07:56	15:51 (2)	06:43	06:17	05:02	04:17	04:33	05:32	06:38	07:42
24	15:57	14:40 (4)	17:06	16:19 (2)	18:11	20:19	21:25	22:16	22:10	21:10	19:47	18:23
25	08:52	14:22 (4)	07:54	15:51 (2)	06:41	06:14	05:00	04:16	04:34	05:34	06:40	07:44
26	15:58	14:40 (4)	17:08	16:19 (2)	18:13	20:21	21:27	22:17	22:09	21:07	19:44	18:20
27	08:51	14:24 (4)	07:52	15:51 (2)	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:47
28	16:00	14:40 (4)	17:11	16:19 (2)	18:15	20:24	21:29	22:18	22:12	21:05	19:41	18:18
29	08:49	14:25 (4)	07:49	15:52 (2)	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49
30	16:02	14:39 (4)	17:13	16:18 (2)	18:17	20:26	21:31	22:18	22:06	21:02	19:38	18:15
31	08:48	14:27 (4)	07:47	15:53 (2)	06:32	06:06	04:54	04:15	04:39	05:40	06:46	07:51
1	16:04	14:38 (4)	17:15	16:17 (2)	18:20	20:28	21:33	22:19	22:05	21:00	19:35	18:12
2	08:47	14:29 (4)	07:44	15:54 (2)	06:29	06:04	04:51	04:15	04:40	05:43	06:48	07:53
3	16:06	14:36 (4)	17:18	16:16 (2)	18:22	20:30	21:35	22:20	22:03	20:57	19:33	18:10
4	08:45		07:42	15:56 (2)	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:55
5	16:08		17:20	16:15 (2)	18:24	20:32	21:37	22:20	22:02	20:55	19:30	18:07
6	08:44		07:39	15:57 (2)	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58
7	16:10		17:22	16:13 (2)	18:26	20:35	21:39	22:21	22:00	20:52	19:27	18:04
8	08:42		07:37	16:00 (2)	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00
9	16:13		17:25	16:09 (2)	18:28	20:37	21:41	22:21	21:58	20:49	19:24	18:02
10	08:41		07:34		06:18	05:53	04:44	04:15	04:47	05:51	06:57	08:02
11	16:15		17:27		18:31	20:39	21:43	22:21	21:57	20:47	19:21	17:59
12	08:39		07:32		06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:04
13	16:17		17:29		18:33	20:41	21:45	22:21	21:55	20:44	19:18	17:57
14	08:38		07:29		06:13	05:48	04:40	04:15	04:51	05:55	07:01	08:07
15	16:19		17:32		18:35	20:43	21:47	22:22	21:53	20:41	19:16	17:54
16	08:36		07:26		06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09
17	16:21		17:34		18:37	20:46	21:49	22:22	21:51	20:39	19:13	17:51
18	08:34		07:24		06:07	05:43	04:37	04:16	04:55	06:00	07:05	08:11
19	16:24		17:36		18:39	20:48	21:51	22:22	21:49	20:36	19:10	17:49
20	08:32		07:21		06:04	05:40	04:35	04:16	04:57	06:02	07:08	08:14
21	16:26		17:39		18:42	20:50	21:53	22:21	21:47	20:33	19:07	17:46
22	08:31		07:19		06:02	05:37	04:34	04:17	04:59	06:04	07:10	08:16
23	16:28		17:41		18:44	20:52	21:54	22:21	21:46	20:31	19:04	17:44
24	08:29		07:16		05:59	05:35	04:32	04:17	05:01	06:06	07:12	08:18
25	16:30		17:43		18:46	20:55	21:56	22:21	21:44	20:28	19:02	17:41
26	08:27				06:56	05:32	04:31	04:18	05:03	06:08	07:14	08:20
27	16:33				19:48	20:57	21:58	22:21	21:41	20:25	18:59	17:39
28	08:25				06:53	05:30	04:29	04:19	05:05	06:10	07:16	08:23
29	16:35				19:50	20:59	21:59	22:20	21:39	20:23	18:56	17:37
30	08:23				06:50		04:28		05:07	06:13		07:25
31	16:37				19:53		22:01		21:37	20:20		16:34
Potential sun hours	227	3	15:58 (2)								29	15:49 (2)
Total, worst case	337		262		365	429	515	539	538	474	386	321
Sun reduction	0.11		0.19								0.28	0.08
Oper. time red.	1.00		1.00								1.00	1.00
Wind dir. red.	1.00		1.00								1.00	1.00
Total reduction	0.11		0.19								0.28	0.08
Total, real	37		86								67	24

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 11 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (744)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 12 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (757)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 13 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (734)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 13A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (692)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
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16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
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30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 14 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (726)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgaļes iela 15 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (688)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 16 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (719)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 17 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (685)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 17A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (766)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 18 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (745)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 19 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (699)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 19A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (716)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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19	08:44 16:11	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 20 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (708)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 22 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (721)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
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11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
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18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
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22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 24 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (697)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
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20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 28 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (730)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (540)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 30 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (725)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 31 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (678)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 34 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (717)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 36 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (702)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 38 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (737)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 4 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (508)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 40 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (700)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 56 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (680)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
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31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 56A - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (674)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:42	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgaļes iela 58 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (672)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:34
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
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Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 6 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (512)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:28	08:33
	15:39	16:40	17:46	19:55	21:01	22:03	22:20	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:25	04:21	05:11	06:17	07:21	07:30	08:35
	15:41	16:42	17:48	19:57	21:04	22:04	22:20	21:33	20:15	18:51	16:29	15:36
3	09:00	08:17	07:08	06:42	05:23	04:24	04:21	05:13	06:19	07:23	07:32	08:37
	15:42	16:44	17:50	19:59	21:06	22:06	22:19	21:31	20:12	18:48	16:27	15:35
4	08:59	08:15	07:05	06:39	05:20	04:23	04:22	05:15	06:21	07:25	07:34	08:38
	15:43	16:47	17:53	20:02	21:08	22:07	22:18	21:29	20:09	18:45	16:25	15:34
5	08:59	08:13	07:03	06:37	05:18	04:22	04:24	05:17	06:23	07:27	07:37	08:40
	15:45	16:49	17:55	20:04	21:10	22:08	22:18	21:26	20:06	18:42	16:23	15:33
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:42
	15:46	16:52	17:57	20:06	21:12	22:10	22:17	21:24	20:04	18:39	16:20	15:32
7	08:58	08:08	06:57	06:31	05:13	04:20	04:26	05:21	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:15	22:11	22:16	21:22	20:01	18:37	16:18	15:32
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9	08:56	08:04	06:52	06:25	05:09	04:18	04:28	05:26	06:32	07:36	07:46	08:46
	15:51	16:59	18:04	20:13	21:19	22:13	22:14	21:17	19:55	18:31	16:14	15:31
10	08:55	08:01	06:49	06:23	05:06	04:18	04:30	05:28	06:34	07:38	07:48	08:48
	15:53	17:01	18:06	20:15	21:21	22:14	22:13	21:15	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:17	04:31	05:30	06:36	07:40	07:51	08:49
	15:55	17:04	18:09	20:17	21:23	22:15	22:12	21:12	19:50	18:26	16:10	15:30
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	15:58	17:08	18:13	20:22	21:27	22:17	22:09	21:07	19:44	18:20	16:05	15:29
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	16:00	17:11	18:15	20:24	21:29	22:18	22:08	21:05	19:41	18:18	16:04	15:29
15	08:50	07:49	06:35	06:09	04:56	04:15	04:37	05:38	06:44	07:49	08:00	08:54
	16:02	17:13	18:17	20:26	21:32	22:19	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:54	04:15	04:39	05:41	06:46	07:51	08:02	08:55
	16:04	17:15	18:20	20:28	21:34	22:19	22:05	21:00	19:35	18:12	16:00	15:29
17	08:47	07:44	06:30	06:04	04:52	04:15	04:40	05:43	06:49	07:53	08:04	08:56
	16:06	17:18	18:22	20:30	21:36	22:20	22:03	20:57	19:33	18:10	15:58	15:29
18	08:46	07:42	06:27	06:01	04:50	04:15	04:42	05:45	06:51	07:56	08:06	08:56
	16:08	17:20	18:24	20:33	21:38	22:20	22:02	20:55	19:30	18:07	15:56	15:29
19	08:44	07:39	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:09	08:57
	16:10	17:22	18:26	20:35	21:40	22:21	22:00	20:52	19:27	18:04	15:54	15:29
20	08:43	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:11	08:58
	16:13	17:25	18:29	20:37	21:42	22:21	21:59	20:50	19:24	18:02	15:53	15:29
21	08:41	07:34	06:18	05:53	04:44	04:15	04:47	05:51	06:57	08:02	08:13	08:59
	16:15	17:27	18:31	20:39	21:44	22:21	21:57	20:47	19:21	17:59	15:51	15:30
22	08:40	07:32	06:16	05:50	04:42	04:15	04:49	05:53	06:59	08:05	08:15	08:59
	16:17	17:30	18:33	20:41	21:45	22:22	21:55	20:44	19:19	17:57	15:49	15:30
23	08:38	07:29	06:13	05:48	04:40	04:15	04:51	05:56	07:01	08:07	08:17	09:00
	16:19	17:32	18:35	20:44	21:47	22:22	21:53	20:42	19:16	17:54	15:48	15:31
24	08:36	07:27	06:10	05:45	04:39	04:15	04:53	05:58	07:03	08:09	08:19	09:00
	16:21	17:34	18:37	20:46	21:49	22:22	21:52	20:39	19:13	17:51	15:46	15:31
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:06	07:11	08:21	09:00
	16:24	17:36	18:40	20:48	21:51	22:22	21:50	20:36	19:10	16:49	15:45	15:32
26	08:33	07:21	06:04	05:40	04:35	04:16	04:57	06:02	07:08	07:14	08:23	09:01
	16:26	17:39	18:42	20:50	21:53	22:22	21:48	20:34	19:07	16:46	15:43	15:33
27	08:31	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:01
	16:28	17:41	18:44	20:53	21:55	22:22	21:46	20:31	19:05	16:44	15:42	15:34
28	08:29	07:16	05:59	05:35	04:32	04:17	05:01	06:06	07:12	07:18	08:27	09:01
	16:30	17:43	18:46	20:55	21:56	22:21	21:44	20:28	19:02	16:41	15:41	15:35
29	08:27		06:56	05:32	04:31	04:18	05:03	06:08	07:14	07:21	08:29	09:01
	16:33		19:48	20:57	21:58	22:21	21:42	20:26	18:59	16:39	15:39	15:35
30	08:25		06:53	05:30	04:29	04:19	05:05	06:10	07:16	07:23	08:31	09:01
	16:35		19:51	20:59	22:00	22:21	21:40	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:01
	16:37		19:53		22:01		21:38	20:20		16:34		15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 60 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (671) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:10	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:42	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 6A - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (561) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
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9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
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14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
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21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
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	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 7 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (539)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
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22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
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26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
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28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
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30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgales iela 8 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (555)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:08	04:24 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:19	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemgali - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (477)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running
 with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:22 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:23 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:23	08:40 15:33
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13	08:52 15:58	07:54 17:08	06:41 18:13	17:42 (4) 17:44 (4)	06:14 20:21	05:00 21:27	04:16 22:17	05:34 22:09	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:50 16:00	07:52 17:11	06:38 18:15	17:39 (4) 17:46 (4)	06:12 20:23	04:58 21:29	04:16 22:17	05:36 21:05	06:42 19:41	07:46 18:18	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	17:37 (4) 17:48 (4)	06:09 20:26	04:56 21:31	04:15 22:18	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	17:36 (4) 17:50 (4)	06:06 20:28	04:54 21:33	04:15 22:19	05:40 22:05	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	17:35 (4) 17:53 (4)	06:04 20:30	04:51 21:35	04:15 22:19	05:43 20:57	06:48 19:32	18:28 (4) 18:34 (4)	07:53 18:10	08:55 15:58
18	08:45 16:08	07:42 17:20	06:27 18:24	17:35 (4) 17:55 (4)	06:01 20:32	04:50 21:37	04:15 22:20	05:42 20:54	06:51 19:30	18:24 (4) 18:37 (4)	07:55 18:07	08:56 15:56
19	08:44 16:10	07:39 17:22	06:24 18:26	17:34 (4) 17:56 (4)	05:58 20:35	04:48 21:39	04:15 22:20	05:47 20:52	06:53 19:27	18:22 (4) 18:39 (4)	07:58 18:04	08:57 15:54
20	08:42 16:13	07:37 17:25	06:21 18:28	17:33 (4) 17:56 (4)	05:56 20:37	04:46 21:41	04:15 22:21	05:49 21:58	06:55 19:24	18:20 (4) 18:39 (4)	08:00 18:02	08:58 15:53
21	08:41 16:15	07:34 17:27	06:18 18:31	17:33 (4) 17:55 (4)	05:53 20:39	04:44 21:43	04:15 22:21	05:51 21:57	06:57 19:21	18:19 (4) 18:40 (4)	08:02 17:59	08:58 15:51
22	08:39 16:17	07:32 17:29	06:15 18:33	17:33 (4) 17:54 (4)	05:50 20:41	04:42 21:45	04:15 22:21	05:53 20:44	06:59 19:18	18:18 (4) 18:40 (4)	08:04 17:56	08:59 15:49
23	08:38 16:19	07:29 17:32	06:13 18:35	17:35 (4) 17:54 (4)	05:48 20:43	04:40 21:47	04:15 22:21	05:55 20:41	07:01 19:16	18:18 (4) 18:41 (4)	08:07 17:54	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	17:35 (4) 17:52 (4)	05:45 20:46	04:39 21:49	04:15 22:21	05:58 21:51	07:03 19:13	18:18 (4) 18:40 (4)	08:09 17:51	08:19 15:46
25	08:34 16:24	07:24 17:36	06:07 18:39	17:36 (4) 17:50 (4)	05:43 20:48	04:37 21:51	04:16 22:21	06:00 20:36	07:05 19:10	18:17 (4) 18:39 (4)	07:11 16:49	08:21 15:45
26	08:32 16:26	07:21 17:39	06:04 18:42	17:39 (4) 17:47 (4)	05:40 20:50	04:35 21:52	04:16 22:21	06:02 20:33	07:07 19:07	18:17 (4) 18:36 (4)	07:13 16:46	08:23 15:43
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	18:17 (4) 18:33 (4)	07:16 16:44	08:25 15:42
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	18:18 (4) 18:30 (4)	07:18 16:41	08:27 15:41
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	18:18 (4) 18:27 (4)	07:20 16:39	08:29 15:39
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	18:21 (4) 18:25 (4)	07:23 16:37	08:31 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20			07:25 16:34	09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case			218						225			
Sun reduction			0.40						0.46			
Oper. time red.			1.00						1.00			
Wind dir. red.			1.00						1.00			
Total reduction			0.40						0.46			
Total, real			88						104			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemites - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (485)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January			February			March			April	May	June
1	09:00		14:50 (4)	08:21		07:13		16:30 (2)	06:48	05:27	04:27	
	15:39	3	14:53 (4)	16:40		17:46	20	16:50 (2)	19:55	21:01	22:02	
2	09:00		14:49 (4)	08:19		07:11		16:31 (2)	06:45	05:25	04:25	
	15:41	5	14:54 (4)	16:42		17:48	17	16:48 (2)	19:57	21:03	22:04	
3	09:00		14:50 (4)	08:17		07:08		16:33 (2)	06:42	05:23	04:24	
	15:42	6	14:56 (4)	16:44		17:50	12	16:45 (2)	19:59	21:06	22:05	
4	08:59		14:50 (4)	08:15		07:05			06:39	05:20	04:23	
	15:43	8	14:58 (4)	16:47		17:53			20:01	21:08	22:07	
5	08:59		14:50 (4)	08:12		07:03			06:36	05:18	04:22	
	15:45	9	14:59 (4)	16:49		17:55			20:04	21:10	22:08	
6	08:58		14:50 (4)	08:10		07:00			06:34	05:15	04:21	
	15:46	11	15:01 (4)	16:52		17:57			20:06	21:12	22:09	
7	08:57		14:50 (4)	08:08		06:57			06:31	05:13	04:20	
	15:48	13	15:03 (4)	16:54		17:59			20:08	21:14	22:11	
8	08:57		14:50 (4)	08:06		06:54			06:28	05:11	04:19	
	15:49	15	15:05 (4)	16:56		18:02			20:10	21:16	22:12	
9	08:56		14:50 (4)	08:03		06:52			06:25	05:09	04:18	
	15:51	17	15:07 (4)	16:59		18:04			20:12	21:19	22:13	
10	08:55		14:51 (4)	08:01		06:49			06:23	05:06	04:18	
	15:53	18	15:09 (4)	17:01		18:06			20:15	21:21	22:14	
11	08:54		14:50 (4)	07:59		06:46			06:20	05:04	04:17	
	15:55	21	15:11 (4)	17:03		18:08			20:17	21:23	22:15	
12	08:53		14:51 (4)	07:56		06:43			06:17	05:02	04:17	
	15:57	22	15:13 (4)	17:06		18:11			20:19	21:25	22:16	
13	08:52		14:50 (4)	07:54		06:41			06:14	05:00	04:16	
	15:58	24	15:14 (4)	17:08		18:13			20:21	21:27	22:17	
14	08:51		14:51 (4)	07:52		16:35 (2)	06:38		06:12	04:58	04:16	
	16:00	24	15:15 (4)	17:11	3	16:38 (2)	18:15		20:24	21:29	22:18	
15	08:49		14:51 (4)	07:49		16:32 (2)	06:35		06:09	04:56	04:15	
	16:02	24	15:15 (4)	17:13	8	16:40 (2)	18:17		20:26	21:31	22:18	
16	08:48		14:52 (4)	07:47		16:31 (2)	06:32		06:06	04:53	04:15	
	16:04	24	15:16 (4)	17:15	12	16:43 (2)	18:20		20:28	21:33	22:19	
17	08:47		14:52 (4)	07:44		16:30 (2)	06:29		06:04	04:51	04:15	
	16:06	25	15:17 (4)	17:18	15	16:45 (2)	18:22		20:30	21:35	22:20	
18	08:45		14:52 (4)	07:42		16:29 (2)	06:27		06:01	04:50	04:15	
	16:08	25	15:17 (4)	17:20	19	16:48 (2)	18:24		20:32	21:37	22:20	
19	08:44		14:52 (4)	07:39		16:28 (2)	06:24		05:58	04:48	04:15	
	16:10	25	15:17 (4)	17:22	23	16:51 (2)	18:26		20:35	21:39	22:21	
20	08:42		14:53 (4)	07:37		16:27 (2)	06:21		05:56	04:46	04:15	
	16:13	25	15:18 (4)	17:25	26	16:53 (2)	18:28		20:37	21:41	22:21	
21	08:41		14:54 (4)	07:34		16:26 (2)	06:18		05:53	04:44	04:15	
	16:15	23	15:17 (4)	17:27	28	16:54 (2)	18:31		20:39	21:43	22:21	
22	08:39		14:54 (4)	07:32		16:27 (2)	06:16		05:50	04:42	04:15	
	16:17	23	15:17 (4)	17:29	27	16:54 (2)	18:33		20:41	21:45	22:21	
23	08:38		14:55 (4)	07:29		16:26 (2)	06:13		05:48	04:40	04:15	
	16:19	22	15:17 (4)	17:32	28	16:54 (2)	18:35		20:43	21:47	22:22	
24	08:36		14:56 (4)	07:26		16:26 (2)	06:10		05:45	04:39	04:15	
	16:21	21	15:17 (4)	17:34	28	16:54 (2)	18:37		20:46	21:49	22:22	
25	08:34		14:57 (4)	07:24		16:27 (2)	06:07		05:43	04:37	04:16	
	16:24	19	15:16 (4)	17:36	27	16:54 (2)	18:39		20:48	21:51	22:22	
26	08:32		14:59 (4)	07:21		16:27 (2)	06:04		05:40	04:35	04:16	
	16:26	17	15:16 (4)	17:39	26	16:53 (2)	18:42		20:50	21:53	22:21	
27	08:31		14:59 (4)	07:19		16:27 (2)	06:02		05:37	04:34	04:17	
	16:28	15	15:14 (4)	17:41	25	16:52 (2)	18:44		20:52	21:54	22:21	
28	08:29		15:02 (4)	07:16		16:28 (2)	05:59		05:35	04:32	04:17	
	16:30	10	15:12 (4)	17:43	23	16:51 (2)	18:46		20:55	21:56	22:21	
29	08:27		15:06 (4)			06:56			05:32	04:31	04:18	
	16:33	3	15:09 (4)			19:48			20:57	21:58	22:21	
30	08:25					06:53			05:30	04:29	04:19	
	16:35					19:50			20:59	21:59	22:20	
31	08:23					06:50				04:28		
	16:37					19:53				22:01		
Potential sun hours	227			262		365			429	515	539	
Total, worst case		497			318		49					
Sun reduction		0.11			0.19		0.40					
Oper. time red.		1.00			1.00		1.00					
Wind dir. red.		1.00			1.00		1.00					
Total reduction		0.11			0.19		0.40					
Total, real		54			62		20					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zemites - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (485)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:35 15:36
3	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:36 15:35
4	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:10	08:49 15:30
12	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:52 15:29
15	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	04:40 22:03	05:43 20:57	06:48 19:33	07:53 18:10	08:04 15:58	08:55 15:29
18	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:57	08:15 15:49	08:59 15:30
23	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	04:55 21:49	06:00 20:36	07:05 19:10	08:11 16:49	08:21 15:45	09:00 15:32
26	04:57 21:47	06:02 20:33	07:08 19:07	08:14 16:46	08:23 15:43	09:00 15:33
27	04:59 21:45	06:04 20:31	07:10 19:04	08:16 16:44	08:25 15:42	09:01 15:34
28	05:01 21:43	06:06 20:28	07:12 19:02	08:18 16:41	08:27 15:41	09:01 15:35
29	05:03 21:41	06:08 20:25	07:14 18:59	08:20 16:39	08:29 15:39	09:01 15:35
30	05:05 21:39	06:10 20:23	07:16 18:56	08:23 16:37	08:31 15:38	09:01 15:37
31	05:07 21:37	06:13 20:20	07:18 18:54	08:25 16:34	08:33 15:36	09:01 15:38
Potential sun hours	538	474	386	321	241	207
Total, worst case				374	378	132
Sun reduction				0.28	0.08	0.06
Oper. time red.				1.00	1.00	1.00
Wind dir. red.				1.00	1.00	1.00
Total reduction				0.28	0.08	0.06
Total, real				106	30	8

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zveru ferma - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (585)
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June
1	09:00 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	19:52 (4) 22:02
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	23 20:15 (4) 22:04
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	21 20:14 (4) 22:05
4	08:59 15:43	08:14 16:47	07:05 17:53	06:39 20:01	05:20 21:08	20 20:14 (4) 22:07
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	18 20:13 (4) 22:08
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	16 20:12 (4) 22:09
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	12 20:09 (4) 22:11
8	08:56 15:50	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	8 20:07 (4) 22:12
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:18	22:13
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	22:18
11	08:54 15:55	07:59 17:03	06:46 18:08	17:36 (11) 17:39 (11)	06:20 20:17	22:14
12	08:53 15:57	07:56 17:06	06:43 18:11	17:33 (11) 17:42 (11)	06:17 20:19	22:15
13	08:52 15:58	07:54 17:08	06:41 18:13	17:31 (11) 17:44 (11)	06:14 20:21	22:16
14	08:50 16:00	07:52 17:11	06:38 18:15	17:29 (11) 17:46 (11)	06:12 20:23	22:17
15	08:49 16:02	07:49 17:13	06:35 18:17	17:28 (11) 17:48 (11)	06:09 20:26	22:18
16	08:48 16:04	07:47 17:15	06:32 18:20	17:26 (11) 17:50 (11)	06:06 20:28	22:19
17	08:47 16:06	07:44 17:18	06:29 18:22	17:27 (11) 17:53 (11)	06:04 20:30	22:20
18	08:45 16:08	07:42 17:20	06:27 18:24	17:26 (11) 17:53 (11)	06:01 20:32	22:21
19	08:44 16:11	07:39 17:22	06:24 18:26	17:25 (11) 17:52 (11)	05:58 20:35	22:22
20	08:42 16:13	07:37 17:25	06:21 18:28	17:25 (11) 17:52 (11)	05:56 20:37	22:23
21	08:41 16:15	07:34 17:27	06:18 18:31	17:25 (11) 17:51 (11)	05:53 20:39	22:24
22	08:39 16:17	07:32 17:29	06:15 18:33	17:24 (11) 17:50 (11)	05:50 20:41	22:25
23	08:38 16:19	07:29 17:32	06:13 18:35	17:26 (11) 17:50 (11)	05:48 20:43	22:26
24	08:36 16:21	07:26 17:34	06:10 18:37	17:26 (11) 17:49 (11)	05:45 20:46	22:27
25	08:34 16:24	07:24 17:36	06:07 18:39	17:27 (11) 17:47 (11)	05:43 20:48	22:28
26	08:32 16:26	07:21 17:39	06:04 18:42	17:28 (11) 17:45 (11)	05:40 20:50	22:29
27	08:30 16:28	07:19 17:41	06:01 18:44	17:30 (11) 17:41 (11)	05:37 20:52	22:30
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	20:02 (4) 20:03 (4)	22:31
29	08:27 16:33		05:56 19:48	05:32 20:57	19:59 (4) 20:05 (4)	22:32
30	08:25 16:35		05:53 19:50	05:30 20:59	19:57 (4) 20:07 (4)	22:33
31	08:23 16:37		05:50 19:53		19:54 (4) 20:09 (4)	22:34
Potential sun hours	227	262	365	429	515	539
Total, worst case			340	211	118	
Sun reduction			0.40	0.43	0.58	
Oper. time red.			1.00	1.00	1.00	
Wind dir. red.			1.00	1.00	1.00	
Total reduction			0.40	0.43	0.58	
Total, real			137	90	69	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

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Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zveru ferma - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (585)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20	05:09	06:15	07:18	18:12 (11)	07:27
	22:20	21:35	20:17	18:53	10	18:22 (11)
2	04:21	05:11	06:17	07:20	18:13 (11)	07:30
	22:19	21:33	20:14	18:50	6	18:19 (11)
3	04:22	05:13	06:19	07:22		07:32
	22:19	21:31	20:12	18:48		16:27
4	04:23	05:15	06:21	07:25		07:34
	22:18	21:28	20:09	18:45		16:25
5	04:24	05:17	06:23	07:27		07:36
	22:17	21:26	20:06	18:42		16:23
6	04:25	05:19	20:08 (4)	07:29		07:39
	22:16	21:24	20:03 (4)	18:39		16:20
7	04:26	05:21	20:06 (4)	07:31		07:41
	22:15	21:21	20:20 (4)	18:37		16:18
8	04:27	05:23	20:05 (4)	07:33		07:43
	22:14	21:19	20:22 (4)	18:34		16:16
9	04:29	05:26	20:04 (4)	07:35		07:46
	22:13	21:17	20:23 (4)	18:31		16:14
10	04:30	05:28	20:03 (4)	07:38		07:48
	22:12	21:14	20:23 (4)	18:28		16:12
11	04:31	05:30	20:02 (4)	07:40		07:50
	22:11	21:12	20:24 (4)	18:26		16:10
12	04:33	05:32	20:00 (4)	07:42		07:53
	22:10	21:09	20:23 (4)	18:23		16:08
13	04:34	05:34	20:00 (4)	07:44		07:55
	22:09	21:07	20:24 (4)	18:20		16:05
14	04:36	05:36	19:59 (4)	07:46		07:57
	22:07	21:05	20:24 (4)	18:18		16:04
15	04:37	05:38	19:59 (4)	07:49		07:59
	22:06	21:02	20:24 (4)	18:15		16:02
16	04:39	05:41	19:59 (4)	07:51		08:02
	22:04	20:59	20:23 (4)	18:12		16:00
17	04:41	05:43	19:59 (4)	07:53		08:04
	22:03	20:57	20:23 (4)	18:10		15:58
18	04:42	05:45	19:59 (4)	07:55		08:06
	22:01	20:54	20:21 (4)	18:07		15:56
19	04:44	05:47	19:59 (4)	07:58		08:08
	22:00	20:52	20:19 (4)	18:04		15:54
20	04:46	05:49	20:00 (4)	08:00		08:10
	21:58	20:49	20:16 (4)	18:02		15:53
21	04:48	05:51	20:01 (4)	08:02		08:12
	21:56	20:47	20:14 (4)	17:59		15:51
22	04:49	05:53	20:02 (4)	08:04		08:15
	21:55	20:44	20:11 (4)	17:57		15:49
23	04:51	05:55	20:03 (4)	08:07		08:17
	21:53	20:41	20:09 (4)	17:54		15:48
24	04:53	05:58	07:03	08:09		08:19
	21:51	20:39	19:13	17:51		15:46
25	04:55	06:00	07:05	07:11		08:21
	21:49	20:36	19:10	16:49		15:45
26	04:57	06:02	07:07	07:13		08:23
	21:47	20:33	19:07	16:46		15:43
27	04:59	06:04	07:10	07:16		08:25
	21:45	20:31	19:04	16:44		15:42
28	05:01	06:06	07:12	07:18		08:27
	21:43	20:28	19:02	16:41		15:41
29	05:03	06:08	07:14	07:20		08:29
	21:41	20:25	18:59	16:39		15:39
30	05:05	06:10	07:16	07:23		08:31
	21:39	20:23	18:56	16:37		15:38
31	05:07	06:13		07:25		09:00
	21:37	20:20		16:34		15:38
Potential sun hours	538	474	386	321	241	207
Total, worst case		333	330	16		
Sun reduction		0.50	0.46	0.28		
Oper. time red.		1.00	1.00	1.00		
Wind dir. red.		1.00	1.00	1.00		
Total reduction		0.50	0.46	0.28		
Total, real		168	152	5		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zile - 1 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (447)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:40	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:02	04:20 22:19	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:32 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:26 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:29 16:30	08:34 15:36
3	08:59 15:42	08:16 16:45	07:08 17:50	06:42 19:59	05:23 21:05	04:25 22:05	04:22 22:18	05:13 21:30	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:44	08:14 16:47	07:05 17:53	06:39 20:01	05:20 21:08	04:23 22:06	04:23 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:23	08:39 15:34
6	08:58 15:47	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:33
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:10	04:26 22:15	05:22 21:21	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:50	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:20 22:12	04:27 22:14	05:24 21:19	06:30 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:55 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:18	04:19 22:13	04:29 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:31
10	08:54 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:07 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:04	06:46 18:08	06:20 20:17	05:04 21:23	04:18 22:15	04:32 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:10	08:48 15:30
12	08:53 15:57	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:09	06:38 19:47	07:42 18:23	07:52 16:08	08:50 15:30
13	08:51 15:59	07:54 17:08	06:41 18:13	06:15 20:21	05:00 21:27	04:16 22:16	04:34 22:08	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:06	08:51 15:29
14	08:50 16:01	07:51 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:17	04:36 22:07	05:36 21:04	06:42 19:41	07:46 18:18	07:57 16:04	08:52 15:29
15	08:49 16:03	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:16 22:18	04:38 22:06	05:39 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:05	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:33	04:15 22:19	04:39 22:04	05:41 20:59	06:46 19:35	07:51 18:12	08:01 16:00	08:54 15:29
17	08:47 16:07	07:44 17:18	06:29 18:22	06:04 20:30	04:52 21:35	04:15 22:19	04:41 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:09	07:42 17:20	06:27 18:24	06:01 20:32	04:50 21:37	04:15 22:20	04:43 22:01	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:34	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:20	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:53	08:57 15:30
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:48 21:56	05:51 20:47	06:57 19:21	08:02 17:59	08:12 15:51	08:58 15:30
22	08:39 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:50 21:55	05:53 20:44	06:59 19:18	08:04 17:57	08:15 15:49	08:59 15:31
23	08:37 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:41 21:47	04:16 22:21	04:51 21:53	05:56 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:22	07:26 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:16 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	08:59 15:32
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:50	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:36 21:52	04:17 22:21	04:57 21:47	06:02 20:33	07:08 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:30 16:28	07:18 17:41	06:02 18:44	05:38 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:28 16:31	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:18 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:00 15:35
29	08:27 16:33		06:56 19:48	05:33 20:57	04:31 21:57	04:18 22:20	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:40	09:00 15:36
30	08:25 16:35		06:53 19:50	05:30 20:59	04:30 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:00 15:37
31	08:23 16:38		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:00 15:38
Potential sun hours	228	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zile 3 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (583)
Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00	08:21	07:13	06:48	05:28	04:27	04:20	05:09	06:15	07:18	07:27	08:32
	15:40	16:40	17:46	19:55	21:01	22:02	22:19	21:35	20:17	18:53	16:32	15:37
2	09:00	08:19	07:11	06:45	05:25	04:26	04:21	05:11	06:17	07:20	07:29	08:34
	15:41	16:42	17:48	19:57	21:03	22:04	22:19	21:33	20:14	18:50	16:30	15:36
3	08:59	08:16	07:08	06:42	05:23	04:25	04:22	05:13	06:19	07:22	07:32	08:36
	15:42	16:45	17:50	19:59	21:05	22:05	22:18	21:30	20:12	18:48	16:27	15:35
4	08:59	08:14	07:05	06:39	05:20	04:23	04:23	05:15	06:21	07:25	07:34	08:38
	15:44	16:47	17:53	20:01	21:08	22:06	22:18	21:28	20:09	18:45	16:25	15:34
5	08:58	08:12	07:02	06:36	05:18	04:22	04:24	05:17	06:23	07:27	07:36	08:39
	15:45	16:49	17:55	20:04	21:10	22:08	22:17	21:26	20:06	18:42	16:23	15:34
6	08:58	08:10	07:00	06:34	05:16	04:21	04:25	05:19	06:25	07:29	07:39	08:41
	15:47	16:52	17:57	20:06	21:12	22:09	22:16	21:24	20:03	18:39	16:20	15:33
7	08:57	08:08	06:57	06:31	05:13	04:21	04:26	05:22	06:27	07:31	07:41	08:43
	15:48	16:54	17:59	20:08	21:14	22:10	22:15	21:21	20:00	18:37	16:18	15:32
8	08:56	08:06	06:54	06:28	05:11	04:20	04:27	05:24	06:30	07:33	07:43	08:44
	15:50	16:56	18:02	20:10	21:16	22:12	22:14	21:19	19:58	18:34	16:16	15:31
9	08:55	08:03	06:52	06:25	05:09	04:19	04:29	05:26	06:32	07:35	07:46	08:46
	15:51	16:59	18:04	20:12	21:18	22:13	22:13	21:17	19:55	18:31	16:14	15:31
10	08:54	08:01	06:49	06:23	05:07	04:18	04:30	05:28	06:34	07:38	07:48	08:47
	15:53	17:01	18:06	20:15	21:21	22:14	22:12	21:14	19:52	18:28	16:12	15:30
11	08:54	07:59	06:46	06:20	05:04	04:18	04:32	05:30	06:36	07:40	07:50	08:48
	15:55	17:04	18:08	20:17	21:23	22:15	22:11	21:12	19:49	18:26	16:10	15:30
12	08:53	07:56	06:43	06:17	05:02	04:17	04:33	05:32	06:38	07:42	07:52	08:50
	15:57	17:06	18:11	20:19	21:25	22:16	22:10	21:09	19:47	18:23	16:08	15:30
13	08:51	07:54	06:41	06:15	05:00	04:16	04:34	05:34	06:40	07:44	07:55	08:51
	15:59	17:08	18:13	20:21	21:27	22:16	22:08	21:07	19:44	18:20	16:06	15:29
14	08:50	07:51	06:38	06:12	04:58	04:16	04:36	05:36	06:42	07:46	07:57	08:52
	16:01	17:11	18:15	20:23	21:29	22:17	22:07	21:04	19:41	18:18	16:04	15:29
15	08:49	07:49	06:35	06:09	04:56	04:16	04:38	05:39	06:44	07:49	07:59	08:53
	16:03	17:13	18:17	20:26	21:31	22:18	22:06	21:02	19:38	18:15	16:02	15:29
16	08:48	07:47	06:32	06:06	04:54	04:15	04:39	05:41	06:46	07:51	08:01	08:54
	16:05	17:15	18:20	20:28	21:33	22:19	22:04	20:59	19:35	18:12	16:00	15:29
17	08:46	07:44	06:29	06:04	04:52	04:15	04:41	05:43	06:48	07:53	08:04	08:55
	16:07	17:18	18:22	20:30	21:35	22:19	22:03	20:57	19:32	18:10	15:58	15:29
18	08:45	07:42	06:27	06:01	04:50	04:15	04:43	05:45	06:51	07:55	08:06	08:56
	16:09	17:20	18:24	20:32	21:37	22:20	22:01	20:54	19:30	18:07	15:56	15:29
19	08:44	07:39	06:24	05:58	04:48	04:15	04:44	05:47	06:53	07:58	08:08	08:57
	16:11	17:22	18:26	20:34	21:39	22:20	22:00	20:52	19:27	18:04	15:54	15:29
20	08:42	07:37	06:21	05:56	04:46	04:15	04:46	05:49	06:55	08:00	08:10	08:57
	16:13	17:25	18:28	20:37	21:41	22:20	21:58	20:49	19:24	18:02	15:53	15:30
21	08:41	07:34	06:18	05:53	04:44	04:15	04:48	05:51	06:57	08:02	08:12	08:58
	16:15	17:27	18:31	20:39	21:43	22:21	21:56	20:47	19:21	17:59	15:51	15:30
22	08:39	07:32	06:16	05:50	04:42	04:15	04:50	05:53	06:59	08:04	08:15	08:59
	16:17	17:30	18:33	20:41	21:45	22:21	21:55	20:44	19:18	17:57	15:49	15:31
23	08:37	07:29	06:13	05:48	04:41	04:16	04:51	05:56	07:01	08:07	08:17	08:59
	16:19	17:32	18:35	20:43	21:47	22:21	21:53	20:41	19:16	17:54	15:48	15:31
24	08:36	07:26	06:10	05:45	04:39	04:16	04:53	05:58	07:03	08:09	08:19	08:59
	16:22	17:34	18:37	20:46	21:49	22:21	21:51	20:39	19:13	17:52	15:46	15:32
25	08:34	07:24	06:07	05:43	04:37	04:16	04:55	06:00	07:05	07:11	08:21	09:00
	16:24	17:36	18:39	20:48	21:50	22:21	21:49	20:36	19:10	16:49	15:45	15:32
26	08:32	07:21	06:04	05:40	04:36	04:17	04:57	06:02	07:08	07:13	08:23	09:00
	16:26	17:39	18:42	20:50	21:52	22:21	21:47	20:33	19:07	16:46	15:43	15:33
27	08:30	07:19	06:02	05:38	04:34	04:17	04:59	06:04	07:10	07:16	08:25	09:00
	16:28	17:41	18:44	20:52	21:54	22:21	21:45	20:31	19:04	16:44	15:42	15:34
28	08:28	07:16	05:59	05:35	04:32	04:18	05:01	06:06	07:12	07:18	08:27	09:00
	16:31	17:43	18:46	20:54	21:56	22:21	21:43	20:28	19:02	16:42	15:41	15:35
29	08:27		06:56	05:33	04:31	04:18	05:03	06:08	07:14	07:20	08:29	09:00
	16:33		19:48	20:57	21:57	22:20	21:41	20:25	18:59	16:39	15:40	15:36
30	08:25		06:53	05:30	04:30	04:19	05:05	06:10	07:16	07:23	08:31	09:00
	16:35		19:50	20:59	21:59	22:20	21:39	20:23	18:56	16:37	15:38	15:37
31	08:23		06:50		04:28		05:07	06:13		07:25		09:00
	16:38		19:53		22:01		21:37	20:20		16:34		15:38
Potential sun hours	228	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zile 4 - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (445)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:40	08:21 16:40	07:13 17:46	06:48 19:55	05:28 21:01	04:27 22:02	04:20 22:19	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:32 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:26 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:29 16:30	08:34 15:36
3	08:59 15:42	08:16 16:45	07:08 17:50	06:42 19:59	05:23 21:05	04:25 22:05	04:22 22:18	05:13 21:30	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:44	08:14 16:47	07:05 17:53	06:39 20:01	05:20 21:08	04:23 22:06	04:23 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:58 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:36 16:23	08:39 15:34
6	08:58 15:47	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:33
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:10	04:26 22:15	05:22 21:21	06:27 20:00	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:50	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:20 22:12	04:27 22:14	05:24 21:19	06:30 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:55 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:18	04:19 22:13	04:29 22:13	05:26 21:17	06:32 19:55	07:35 18:31	07:46 16:14	08:46 15:31
10	08:54 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:07 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:04	06:46 18:08	06:20 20:17	05:04 21:23	04:18 22:15	04:32 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:10	08:48 15:30
12	08:53 15:57	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:09	06:38 19:47	07:42 18:23	07:52 16:08	08:50 15:30
13	08:51 15:59	07:54 17:08	06:41 18:13	06:15 20:21	05:00 21:27	04:16 22:16	04:34 22:08	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:06	08:51 15:29
14	08:50 16:01	07:51 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:17	04:36 22:07	05:36 21:04	06:42 19:41	07:46 18:18	07:57 16:04	08:52 15:29
15	08:49 16:03	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:16 22:18	04:38 22:06	05:39 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:05	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:33	04:15 22:19	04:39 22:04	05:41 20:59	06:46 19:35	07:51 18:12	08:01 16:00	08:54 15:29
17	08:47 16:07	07:44 17:18	06:29 18:22	06:04 20:30	04:52 21:35	04:15 22:19	04:41 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:09	07:42 17:20	06:27 18:24	06:01 20:32	04:50 21:37	04:15 22:20	04:43 22:01	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:11	07:39 17:22	06:24 18:26	05:58 20:34	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:20	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:53	08:57 15:30
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:48 21:56	05:51 20:47	06:57 19:21	08:02 17:59	08:12 15:51	08:58 15:30
22	08:39 16:17	07:32 17:30	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:50 21:55	05:53 20:44	06:59 19:18	08:04 17:57	08:15 15:49	08:59 15:31
23	08:37 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:41 21:47	04:16 22:21	04:51 21:53	05:56 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:22	07:26 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:16 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	08:59 15:32
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26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:36 21:52	04:17 22:21	04:57 21:47	06:02 20:33	07:08 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:30 16:28	07:19 17:41	06:02 18:44	05:38 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:28 16:31	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:18 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:00 15:35
29	08:27 16:33		06:56 19:48	05:33 20:57	04:31 21:57	04:18 22:20	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:40	09:00 15:36
30	08:25 16:35		06:53 19:50	05:30 20:59	04:30 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:00 15:37
31	08:23 16:38		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:00 15:38
Potential sun hours	228	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Zitari - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (776)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:40	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:02	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:18	07:19 18:54	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:26 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:51	06:42 20:00	05:23 21:06	04:25 22:06	04:22 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:44	08:15 16:47	07:06 17:53	06:40 20:02	05:21 21:08	04:23 22:07	04:23 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:50	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:18 21:27	06:24 20:06	07:27 18:42	07:37 16:23	08:40 15:34
6	08:58 15:47	08:11 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:20 21:24	06:26 20:04	07:29 18:40	07:39 16:21	08:42 15:33
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:14 21:15	04:21 22:11	04:26 22:16	05:22 21:22	06:28 20:01	07:32 18:37	07:42 16:18	08:43 15:32
8	08:57 15:50	08:06 16:57	06:55 18:02	06:28 20:11	05:11 21:17	04:20 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:52	08:04 16:59	06:52 18:04	06:26 20:13	05:09 21:19	04:19 22:13	04:29 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:07 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:53	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:18 22:15	04:32 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:30
13	08:52 15:59	07:54 17:09	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:21	07:55 16:06	08:51 15:29
14	08:51 16:01	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:37 21:05	06:43 19:41	07:47 18:18	07:58 16:04	08:53 15:29
15	08:50 16:03	07:50 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:16 22:19	04:38 22:06	05:39 21:02	06:45 19:39	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:05	07:47 17:16	06:33 18:20	06:07 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:13	08:02 16:00	08:55 15:29
17	08:47 16:07	07:45 17:18	06:30 18:22	06:04 20:31	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:54 18:10	08:04 15:58	08:56 15:29
18	08:46 16:09	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:43 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:11	07:40 17:23	06:24 18:27	05:59 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:05	08:09 15:55	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:30
21	08:41 16:15	07:35 17:27	06:19 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:52 20:47	06:57 19:22	08:03 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:51 20:42	04:42 21:46	04:15 22:22	04:50 21:55	05:54 20:44	06:59 19:19	08:05 17:57	08:15 15:50	08:59 15:31
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:41 21:47	04:15 22:22	04:52 21:53	05:56 20:42	07:02 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:22	07:27 17:34	06:10 18:38	05:46 20:46	04:39 21:49	04:16 22:22	04:53 21:52	05:58 20:39	07:04 19:13	08:09 17:52	08:19 15:46	09:00 15:32
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:22 17:39	06:05 18:42	05:40 20:50	04:36 21:53	04:17 22:22	04:57 21:48	06:02 20:34	07:08 19:08	07:14 16:47	08:23 15:44	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:31	07:16 17:44	05:59 18:46	05:35 20:55	04:33 21:56	04:18 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		06:56 19:49	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:09 20:26	07:14 18:59	07:21 16:39	08:29 15:40	09:01 15:36
30	08:25 16:35		06:53 19:51	05:30 20:59	04:30 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:39	09:01 15:37
31	08:23 16:38		06:51 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:35		09:01 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Ares - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (506)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:34 15:36
3	08:59 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:05	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:14 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
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11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:48 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:09	06:38 19:46	07:42 18:23	07:53 16:07	08:50 15:29
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15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:19	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:19	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:09	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:01	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:21	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:13 16:46	08:23 15:43	09:00 15:33
27	08:30 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:00 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:01	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	07:16 20:23	07:23 18:56	07:23 16:36	08:31 15:38	09:00 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Corzemnieki - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (689)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:01 15:39	08:21 16:40	07:14 17:46	06:48 19:55	05:28 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:28 16:32	08:33 15:37
2	09:00 15:41	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:21 22:20	05:11 21:33	06:17 20:15	07:21 18:51	07:30 16:30	08:35 15:36
3	09:00 15:42	08:17 16:45	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:35 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:37 20:04	05:18 21:10	04:22 22:09	04:24 22:18	05:17 21:27	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:16 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:04	07:29 18:39	07:39 16:20	08:42 15:32
7	08:58 15:48	08:08 16:54	06:57 18:00	06:31 20:08	05:13 21:15	04:20 22:11	04:26 22:16	05:21 21:22	06:28 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:55 18:02	06:28 20:11	05:11 21:17	04:19 22:12	04:27 22:15	05:24 21:20	06:30 19:58	07:34 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:29	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:04	06:46 18:09	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:50	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:57	07:57 17:06	06:44 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:08	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:15 20:22	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:45 18:20	07:55 16:06	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:30	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:04	08:53 15:29
15	08:50 16:02	07:49 17:13	06:35 18:18	06:09 20:26	04:56 21:32	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:54 21:34	04:15 22:19	04:39 22:05	05:41 21:00	06:47 19:36	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:45 17:18	06:30 18:22	06:04 20:30	04:52 21:36	04:15 22:20	04:41 22:04	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:50 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:57 15:29
19	08:44 16:11	07:40 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:09 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:50	06:55 19:24	08:00 18:02	08:11 15:53	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:44	04:15 22:22	04:48 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:40 16:17	07:32 17:30	06:16 18:33	05:50 20:42	04:42 21:46	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:56 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:39 21:49	04:15 22:22	04:53 21:52	05:58 20:39	07:03 19:13	08:09 17:52	08:19 15:46	09:00 15:31
25	08:35 16:24	07:24 17:37	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:06 19:10	07:12 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:38 20:53	04:34 21:55	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:05	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:42	08:27 15:41	09:01 15:35
29	08:27 16:33		05:56 19:48	05:33 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:26	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:36
30	08:25 16:35		05:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:11 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		05:50 19:53		04:28 22:01		05:07 21:38	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

Project:

Flickering_Valka_Nordex175

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Baiba / baiba.ozolina@environment.lv

Calculated:

16/01/2026 09:49/4.1.254

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Gerki - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (786)
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January		February		March		April		May		June	
1	09:00		08:21		09:25 (7)	07:14	07:42 (8)	06:48	07:18 (9)	05:28	06:19 (5)	04:27
	15:40		16:40	38	10:03 (7)	17:46	08:04 (8)	19:55	08:38 (6)	21:01	06:45 (5)	22:03
2	09:00		08:19		09:25 (7)	07:11	07:40 (8)	06:45	07:17 (9)	05:25	06:20 (5)	04:26
	15:41		16:42	39	10:04 (7)	17:48	08:05 (8)	19:57	08:37 (6)	21:04	06:44 (5)	22:04
3	09:00		08:17		09:26 (7)	07:08	07:39 (8)	06:42	07:17 (9)	05:23	06:20 (5)	04:25
	15:42		16:45	39	10:05 (7)	17:51	08:06 (8)	20:00	08:36 (6)	21:06	06:42 (5)	22:06
4	08:59		08:15		09:25 (7)	07:06	07:38 (8)	06:39	07:18 (9)	05:21	06:21 (5)	04:23
	15:44		16:47	39	10:04 (7)	17:53	08:06 (8)	20:02	08:35 (6)	21:08	06:41 (5)	22:07
5	08:59		08:13		09:26 (7)	07:03	07:38 (8)	06:37	07:18 (9)	05:18	06:22 (5)	04:22
	15:45		16:49	38	10:04 (7)	17:55	08:07 (8)	20:04	08:33 (6)	21:10	06:40 (5)	22:08
6	08:58		08:10		09:27 (7)	07:00	07:38 (8)	06:34	07:18 (9)	05:16	06:24 (5)	04:21
	15:47		16:52	38	10:05 (7)	17:57	08:07 (8)	20:06	08:31 (6)	21:12	06:38 (5)	22:10
7	08:58		08:08		09:27 (7)	06:57	07:37 (8)	06:31	07:19 (9)	05:13	06:26 (5)	04:20
	15:48		16:54	37	10:04 (7)	18:00	08:06 (8)	20:08	08:28 (6)	21:15	06:36 (5)	22:11
8	08:57		08:06		09:27 (7)	06:55	07:37 (8)	06:28	07:21 (9)	05:11		04:20
	15:50		16:57	37	10:04 (7)	18:02	08:06 (8)	20:11	08:26 (6)	21:17		22:12
9	08:56		08:04		09:28 (7)	06:52	07:36 (8)	06:26	07:23 (9)	05:09		04:19
	15:52		16:59	35	10:03 (7)	18:04	08:05 (8)	20:13	08:21 (6)	21:19		22:13
10	08:55		08:01		09:29 (7)	06:49	07:37 (8)	06:23		05:07		04:18
	15:53		17:01	34	10:03 (7)	18:06	08:05 (8)	20:15		21:21		22:14
11	08:54		07:59		09:29 (7)	06:46	07:38 (8)	06:20		05:04		04:17
	15:55		17:04	33	10:02 (7)	18:09	08:04 (8)	20:17		21:23		22:15
12	08:53		07:57		09:30 (7)	06:44	07:38 (8)	06:17		05:02		04:17
	15:57		17:06	31	10:01 (7)	18:11	08:03 (8)	20:19		21:25		22:16
13	08:52		07:54		09:31 (7)	06:41	07:22 (6)	06:15		05:00		04:16
	15:59		17:09	29	10:00 (7)	18:13	08:01 (8)	20:22		21:27		22:17
14	08:51		07:52		09:32 (7)	06:38	07:15 (6)	06:12		04:58		04:16
	16:01		17:11	26	09:58 (7)	18:15	07:59 (8)	20:24		21:29		22:18
15	08:50		07:49		09:35 (7)	06:35	07:13 (6)	06:09		04:56		04:16
	16:03		17:13	22	09:57 (7)	18:18	07:58 (8)	20:26		21:32		22:19
16	08:48		07:47		09:36 (7)	06:33	07:10 (6)	06:07	06:33 (5)	04:54		04:15
	16:05	7	09:44 (7)	17:16	18	09:54 (7)	18:20	07:54 (8)	06:38 (5)	21:34		22:19
17	08:47		07:45		09:40 (7)	06:30	07:08 (6)	06:04	06:31 (5)	04:52		04:15
	16:07	13	09:47 (7)	17:18	10	09:50 (7)	18:22	07:39 (6)	06:42 (5)	21:36		22:20
18	08:46		07:42			06:27	07:06 (6)	06:01	06:28 (5)	04:50		04:15
	16:09	17	09:50 (7)	17:20		18:24	07:40 (6)	20:33	06:43 (5)	21:38		22:20
19	08:44		07:40			06:24	07:04 (6)	05:59	06:26 (5)	04:48		04:15
	16:11	20	09:52 (7)	17:23		18:27	07:41 (6)	20:35	06:45 (5)	21:40		22:21
20	08:43		07:37			06:21	07:03 (6)	05:56	06:23 (5)	04:46		04:15
	16:13	23	09:53 (7)	17:25		18:29	07:41 (6)	20:37	06:45 (5)	21:42		22:21
21	08:41		07:34			06:19	07:03 (6)	05:53	06:21 (5)	04:44		04:15
	16:15	26	09:55 (7)	17:27		18:31	07:42 (6)	20:39	06:46 (5)	21:44		22:21
22	08:40		07:32			06:16	07:02 (6)	05:51	06:19 (5)	04:42		04:15
	16:17	27	09:56 (7)	17:30		18:33	07:42 (6)	20:42	06:46 (5)	21:45		22:22
23	08:38		07:29			06:13	07:01 (6)	05:48	06:19 (5)	04:41		04:15
	16:19	29	09:57 (7)	17:32		18:35	07:42 (6)	20:44	06:47 (5)	21:47		22:22
24	08:36		07:27			06:10	07:00 (6)	05:45	06:18 (5)	04:39		04:16
	16:22	31	09:58 (7)	17:34		18:38	07:42 (6)	20:46	06:47 (5)	21:49		22:22
25	08:34		07:24			06:07	06:33 (9)	05:43	06:18 (5)	04:37		04:16
	16:24	32	09:59 (7)	17:37		18:40	07:42 (6)	20:48	06:47 (5)	21:51		22:22
26	08:33		07:22		07:50 (8)	06:05	06:31 (9)	05:40	06:17 (5)	04:36		04:17
	16:26	33	10:00 (7)	17:39	7	07:57 (8)	07:43 (6)	20:50	06:46 (5)	21:53		22:22
27	08:31		07:19		07:46 (8)	06:02	06:28 (9)	05:38	06:18 (5)	04:34		04:17
	16:28	34	10:01 (7)	17:41	14	08:00 (8)	07:42 (6)	20:53	06:46 (5)	21:55		22:22
28	08:29		07:16		07:44 (8)	05:59	06:25 (9)	05:35	06:18 (5)	04:32		04:18
	16:31	36	10:02 (7)	17:44	19	08:03 (8)	07:41 (6)	20:55	06:47 (5)	21:56		22:21
29	08:27		07:14			06:56	07:22 (9)	05:33	06:17 (5)	04:31		04:18
	16:33	37	10:02 (7)			19:49	08:41 (6)	20:57	06:45 (5)	21:58		22:21
30	08:25		07:12			06:53	07:19 (9)	05:30	06:18 (5)	04:30		04:19
	16:35	37	10:03 (7)			19:51	08:40 (6)	20:59	06:45 (5)	22:00		22:21
31	08:23		07:10			06:51	07:19 (9)			04:28		
	16:38	38	10:04 (7)			19:53	08:40 (6)			22:01		
Potential sun hours	227		262			365		429		515		539
Total, worst case	440		583			1175		797		134		
Sun reduction	0.11		0.19			0.40		0.43		0.58		
Oper. time red.	1.00		1.00			1.00		1.00		1.00		
Wind dir. red.	1.00		1.00			1.00		1.00		1.00		
Total reduction	0.11		0.19			0.40		0.43		0.58		
Total, real	48		113			473		339		78		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Gerki - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (786)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.80	1.82	4.75	6.09	9.67	10.05	8.16	7.72	5.94	2.93	0.63	0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	July	August	September	October	November	December
1	04:20	05:09	06:15	07:19	08:17 (8)	07:28
	22:20	21:35	20:17	18:53	25	08:42 (8)
2	04:21	05:11	06:17	07:21	08:16 (8)	07:30
	22:20	21:33	20:15	18:51	26	08:42 (8)
3	04:22	05:13	06:19	07:23	08:15 (8)	07:32
	22:19	21:31	20:12	18:48	27	08:42 (8)
4	04:23	05:15	06:21	07:25	08:15 (8)	07:35
	22:18	21:29	20:09	18:45	28	08:43 (8)
5	04:24	05:17	06:23	07:27	08:14 (8)	07:37
	22:18	21:26	20:06	18:42	29	08:43 (8)
6	04:25	05:20	06:26	07:29	08:13 (8)	07:39
	22:17	21:24	20:04	18:40	30	08:43 (8)
7	04:26	05:22	06:28	07:31	08:13 (8)	07:41
	22:16	21:22	20:01	18:37	29	08:42 (8)
8	04:27	05:24	06:30	07:34	08:13 (8)	07:44
	22:15	21:20	19:58	18:34	29	08:42 (8)
9	04:29	05:26	06:32	07:36	08:13 (8)	07:46
	22:14	21:17	19:55	18:31	28	08:41 (8)
10	04:30	05:28	06:34	07:38	08:13 (8)	07:48
	22:13	21:15	19:52	18:29	27	08:40 (8)
11	04:32	05:30	06:36	07:40	08:13 (8)	07:51
	22:12	21:12	19:50	18:26	26	08:39 (8)
12	04:33	05:32	06:38	07:42	08:15 (8)	07:53
	22:10	21:10	19:47	18:23	23	08:38 (8)
13	04:34	05:34	06:40	07:45	08:16 (8)	07:55
	22:09	21:07	19:44	18:21	21	08:37 (8)
14	04:36	05:37	06:42	07:47	08:17 (8)	07:57
	22:08	21:05	19:41	18:18	17	08:34 (8)
15	04:38	05:39	06:45	07:49	08:20 (8)	08:00
	22:06	21:02	19:38	18:15	12	08:32 (8)
16	04:39	05:41	06:47	07:51	08:02	09:00 (7)
	22:05	21:00	19:36	18:13	16:00	09:33 (7)
17	04:41	05:43	06:49	07:53	08:04	09:00 (7)
	22:03	20:57	19:33	18:10	15:58	09:32 (7)
18	04:43	05:45	06:51	07:56	08:06	09:01 (7)
	22:02	20:55	19:30	18:07	15:56	09:32 (7)
19	04:44	05:47	06:53	07:58	08:09	09:03 (7)
	22:00	20:52	19:27	18:05	15:55	09:32 (7)
20	04:46	05:49	06:55	08:00	08:11	09:04 (7)
	21:59	20:50	19:24	18:02	15:53	09:31 (7)
21	04:48	05:51	06:57	08:02	08:13	09:04 (7)
	21:57	20:47	19:22	17:59	15:51	09:30 (7)
22	04:50	05:54	06:59	08:05	08:15	09:06 (7)
	21:55	20:44	19:19	17:57	15:50	09:30 (7)
23	04:52	05:56	07:01	08:07	08:17	09:08 (7)
	21:53	20:42	19:16	17:54	15:48	09:28 (7)
24	04:53	05:58	07:04	08:09	08:19	09:10 (7)
	21:52	20:39	19:13	17:52	15:46	09:27 (7)
25	04:55	06:00	07:06	07:12	09:09 (7)	08:21
	21:50	20:36	19:10	16:49	12	09:21 (7)
26	04:57	06:02	07:08	07:14	09:05 (7)	08:23
	21:48	20:34	19:07	16:47	19	09:24 (7)
27	04:59	06:04	07:10	07:16	09:03 (7)	08:25
	21:46	20:31	19:05	16:44	24	09:27 (7)
28	05:01	06:06	07:12	07:18	09:01 (7)	08:27
	21:44	20:28	19:02	16:42	27	09:28 (7)
29	05:03	06:09	07:14	07:21	09:00 (7)	08:29
	21:42	20:26	18:59	16:39	30	09:30 (7)
30	05:05	06:11	07:16	07:23	08:59 (7)	08:31
	21:40	20:23	18:56	16:37	31	09:30 (7)
31	05:07	06:13		07:25	08:58 (7)	
	21:38	20:20		16:34	34	09:32 (7)
Potential sun hours	538	474	386	321	241	207
Total, worst case		493	1318	554	819	
Sun reduction		0.50	0.46	0.28	0.08	
Oper. time red.		1.00	1.00	1.00	1.00	
Wind dir. red.		1.00	1.00	1.00	1.00	
Total reduction		0.50	0.46	0.28	0.08	
Total, real		249	609	157	64	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Kirš i - Shadow Receptor: 1.0 × 1.0 Azimuth: 3.1° Slope: 90.0° (504)
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:47 19:55	05:27 21:01	04:27 22:02	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:03	04:25 22:04	04:21 22:19	05:11 21:33	06:17 20:14	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:05	04:21 22:19	05:13 21:31	06:19 20:12	07:22 18:48	07:32 16:27	08:36 15:35
4	08:59 15:43	08:15 16:47	07:05 17:52	06:39 20:01	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:28	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:12 16:49	07:02 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:24 22:17	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:22	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:09	04:25 22:16	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:41 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:56 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:16	04:19 22:12	04:27 22:15	05:23 21:19	06:29 19:58	07:33 18:34	07:43 16:16	08:44 15:31
9	08:56 15:51	08:03 16:59	06:52 18:04	06:25 20:12	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:31
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:12	05:28 21:14	06:34 19:52	07:38 18:28	07:48 16:12	08:47 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:11	05:30 21:12	06:36 19:49	07:40 18:26	07:50 16:09	08:49 15:30
12	08:53 15:56	07:56 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:17 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:23	04:58 21:29	04:16 22:18	04:36 22:07	05:36 21:05	06:42 19:41	07:46 18:18	07:57 16:03	08:52 15:29
15	08:49 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:18	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	07:59 16:02	08:53 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:33	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:54 15:29
17	08:47 16:06	07:44 17:18	06:29 18:22	06:04 20:30	04:51 21:35	04:15 22:20	04:40 22:03	05:43 20:57	06:48 19:32	07:53 18:10	08:04 15:58	08:55 15:29
18	08:45 16:08	07:42 17:20	06:27 18:24	06:01 20:32	04:49 21:37	04:15 22:20	04:42 22:02	05:45 20:54	06:51 19:30	07:55 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:39	04:15 22:20	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:42 16:13	07:37 17:25	06:21 18:28	05:56 20:37	04:46 21:41	04:15 22:21	04:46 21:58	05:49 20:49	06:55 19:24	08:00 18:02	08:10 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:58 15:30
22	08:39 16:17	07:32 17:29	06:15 18:33	05:50 20:41	04:42 21:45	04:15 22:21	04:49 21:55	05:53 20:44	06:59 19:18	08:04 17:56	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:43	04:40 21:47	04:15 22:21	04:51 21:53	05:55 20:41	07:01 19:16	08:07 17:54	08:17 15:48	08:59 15:31
24	08:36 16:21	07:26 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:39	05:43 20:48	04:37 21:51	04:16 22:21	04:55 21:49	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:32 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:52	04:16 22:21	04:57 21:47	06:02 20:33	07:07 19:07	07:14 16:46	08:23 15:43	09:00 15:33
27	08:31 16:28	07:19 17:41	06:01 18:44	05:37 20:52	04:34 21:54	04:17 22:21	04:59 21:45	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:54	04:32 21:56	04:17 22:21	05:01 21:43	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:41	06:08 20:25	07:14 18:59	07:20 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:50	05:30 20:59	04:29 21:59	04:19 22:20	05:05 21:39	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:37
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:12 20:20		07:25 16:34		09:00 15:38
Potential sun hours	227	262	365	429	515	539	538	474	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Flickering_Valka_Nordex175 Shadow receptor: Ž uldini 2 km dzivojama maja Nr.1 - Shadow Receptor: 1.0×1.0 Azimuth: 3.1° Slope: 90.0° (579) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
0.80 1.82 4.75 6.09 9.67 10.05 8.16 7.72 5.94 2.93 0.63 0.41

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

	January	February	March	April	May	June	July	August	September	October	November	December
1	09:00 15:39	08:21 16:40	07:13 17:46	06:48 19:55	05:27 21:01	04:27 22:03	04:20 22:20	05:09 21:35	06:15 20:17	07:18 18:53	07:27 16:32	08:33 15:37
2	09:00 15:40	08:19 16:42	07:11 17:48	06:45 19:57	05:25 21:04	04:25 22:04	04:20 22:20	05:11 21:33	06:17 20:15	07:20 18:50	07:30 16:29	08:35 15:36
3	09:00 15:42	08:17 16:44	07:08 17:50	06:42 19:59	05:23 21:06	04:24 22:06	04:21 22:19	05:13 21:31	06:19 20:12	07:23 18:48	07:32 16:27	08:37 15:35
4	08:59 15:43	08:15 16:47	07:05 17:53	06:39 20:02	05:20 21:08	04:23 22:07	04:22 22:18	05:15 21:29	06:21 20:09	07:25 18:45	07:34 16:25	08:38 15:34
5	08:59 15:45	08:13 16:49	07:03 17:55	06:36 20:04	05:18 21:10	04:22 22:08	04:23 22:18	05:17 21:26	06:23 20:06	07:27 18:42	07:37 16:23	08:40 15:33
6	08:58 15:46	08:10 16:52	07:00 17:57	06:34 20:06	05:15 21:12	04:21 22:10	04:25 22:17	05:19 21:24	06:25 20:03	07:29 18:39	07:39 16:20	08:42 15:32
7	08:57 15:48	08:08 16:54	06:57 17:59	06:31 20:08	05:13 21:14	04:20 22:11	04:26 22:16	05:21 21:22	06:27 20:01	07:31 18:37	07:41 16:18	08:43 15:32
8	08:57 15:49	08:06 16:56	06:54 18:02	06:28 20:10	05:11 21:17	04:19 22:12	04:27 22:15	05:23 21:19	06:30 19:58	07:33 18:34	07:44 16:16	08:45 15:31
9	08:56 15:51	08:04 16:59	06:52 18:04	06:25 20:13	05:09 21:19	04:18 22:13	04:28 22:14	05:26 21:17	06:32 19:55	07:36 18:31	07:46 16:14	08:46 15:30
10	08:55 15:53	08:01 17:01	06:49 18:06	06:23 20:15	05:06 21:21	04:18 22:14	04:30 22:13	05:28 21:15	06:34 19:52	07:38 18:28	07:48 16:12	08:48 15:30
11	08:54 15:55	07:59 17:03	06:46 18:08	06:20 20:17	05:04 21:23	04:17 22:15	04:31 22:12	05:30 21:12	06:36 19:49	07:40 18:26	07:51 16:10	08:49 15:30
12	08:53 15:56	07:57 17:06	06:43 18:11	06:17 20:19	05:02 21:25	04:16 22:16	04:33 22:10	05:32 21:10	06:38 19:47	07:42 18:23	07:53 16:07	08:50 15:29
13	08:52 15:58	07:54 17:08	06:41 18:13	06:14 20:21	05:00 21:27	04:16 22:17	04:34 22:09	05:34 21:07	06:40 19:44	07:44 18:20	07:55 16:05	08:51 15:29
14	08:51 16:00	07:52 17:11	06:38 18:15	06:12 20:24	04:58 21:29	04:16 22:18	04:36 22:08	05:36 21:05	06:42 19:41	07:47 18:18	07:57 16:03	08:52 15:29
15	08:50 16:02	07:49 17:13	06:35 18:17	06:09 20:26	04:56 21:31	04:15 22:19	04:37 22:06	05:38 21:02	06:44 19:38	07:49 18:15	08:00 16:02	08:54 15:29
16	08:48 16:04	07:47 17:15	06:32 18:20	06:06 20:28	04:53 21:34	04:15 22:19	04:39 22:05	05:40 21:00	06:46 19:35	07:51 18:12	08:02 16:00	08:55 15:29
17	08:47 16:06	07:44 17:18	06:30 18:22	06:04 20:30	04:51 21:36	04:15 22:20	04:40 22:03	05:43 20:57	06:49 19:33	07:53 18:10	08:04 15:58	08:56 15:29
18	08:46 16:08	07:42 17:20	06:27 18:24	06:01 20:33	04:49 21:38	04:15 22:20	04:42 22:02	05:45 20:55	06:51 19:30	07:56 18:07	08:06 15:56	08:56 15:29
19	08:44 16:10	07:39 17:22	06:24 18:26	05:58 20:35	04:48 21:40	04:15 22:21	04:44 22:00	05:47 20:52	06:53 19:27	07:58 18:04	08:08 15:54	08:57 15:29
20	08:43 16:13	07:37 17:25	06:21 18:29	05:56 20:37	04:46 21:42	04:15 22:21	04:46 21:59	05:49 20:49	06:55 19:24	08:00 18:02	08:11 15:52	08:58 15:29
21	08:41 16:15	07:34 17:27	06:18 18:31	05:53 20:39	04:44 21:43	04:15 22:21	04:47 21:57	05:51 20:47	06:57 19:21	08:02 17:59	08:13 15:51	08:59 15:30
22	08:39 16:17	07:32 17:29	06:16 18:33	05:50 20:41	04:42 21:45	04:15 22:22	04:49 21:55	05:53 20:44	06:59 19:19	08:05 17:57	08:15 15:49	08:59 15:30
23	08:38 16:19	07:29 17:32	06:13 18:35	05:48 20:44	04:40 21:47	04:15 22:22	04:51 21:53	05:55 20:42	07:01 19:16	08:07 17:54	08:17 15:48	09:00 15:31
24	08:36 16:21	07:27 17:34	06:10 18:37	05:45 20:46	04:38 21:49	04:15 22:22	04:53 21:51	05:58 20:39	07:03 19:13	08:09 17:51	08:19 15:46	09:00 15:31
25	08:34 16:24	07:24 17:36	06:07 18:40	05:43 20:48	04:37 21:51	04:16 22:22	04:55 21:50	06:00 20:36	07:05 19:10	07:11 16:49	08:21 15:45	09:00 15:32
26	08:33 16:26	07:21 17:39	06:04 18:42	05:40 20:50	04:35 21:53	04:16 22:22	04:57 21:48	06:02 20:34	07:08 19:07	07:14 16:46	08:23 15:43	09:01 15:33
27	08:31 16:28	07:19 17:41	06:02 18:44	05:37 20:52	04:34 21:54	04:17 22:22	04:59 21:46	06:04 20:31	07:10 19:04	07:16 16:44	08:25 15:42	09:01 15:34
28	08:29 16:30	07:16 17:43	05:59 18:46	05:35 20:55	04:32 21:56	04:17 22:21	05:01 21:44	06:06 20:28	07:12 19:02	07:18 16:41	08:27 15:41	09:01 15:34
29	08:27 16:33		06:56 19:48	05:32 20:57	04:31 21:58	04:18 22:21	05:03 21:42	06:08 20:25	07:14 18:59	07:21 16:39	08:29 15:39	09:01 15:35
30	08:25 16:35		06:53 19:51	05:30 20:59	04:29 22:00	04:19 22:21	05:05 21:40	06:10 20:23	07:16 18:56	07:23 16:37	08:31 15:38	09:01 15:36
31	08:23 16:37		06:50 19:53		04:28 22:01		05:07 21:37	06:13 20:20		07:25 16:34		09:01 15:38
Potential sun hours	227	262	365	429	516	539	539	475	386	321	241	207
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		