

Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: 76740020095007 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (600)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
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	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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		

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Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Alksniš i - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:21	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:34	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:28	07:34	08:32
	15:54	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:41
	16:06	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:43
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:06	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:19	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:48	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:15		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

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0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Apšaukums - Shadow Receptor: 1,0 x 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:29	05:14	06:15	07:15	07:20	08:22
	15:47	16:43	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:46	16:30	15:42
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:34	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:26	06:27	07:27	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	04:28	04:35	05:28	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:10	15:36
14	08:40	07:45	06:35	06:13	05:03	04:25	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:13	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:35	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:37
19	08:34	07:33	06:21	06:00	04:54	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:53	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:58	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:58	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:25	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:33	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:07	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Apšūpes - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (478)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March		April	May	June	July	August	September		October		November	December	
1	08:48	08:12	07:09		06:47	05:30	04:34	04:28	05:14	06:15		07:15		18:03 (PrRR3)	07:20	08:22
	15:46	16:43	17:45		19:51	20:53	21:50	22:06	21:25	20:12		18:51	17	18:20 (PrRR3)	16:34	15:43
2	08:48	08:10	07:06		06:44	05:28	04:33	04:29	05:16	06:17		07:17		18:05 (PrRR3)	07:22	08:23
	15:47	16:45	17:48		19:53	20:55	21:51	22:06	21:23	20:09		18:49	14	18:19 (PrRR3)	16:32	15:42
3	08:48	08:08	07:03		06:41	05:26	04:32	04:30	05:17	06:19		07:19		18:07 (PrRR3)	07:25	08:25
	15:49	16:48	17:50		19:55	20:57	21:53	22:05	21:21	20:06		18:46	9	18:16 (PrRR3)	16:30	15:41
4	08:47	08:06	07:01		06:39	05:24	04:31	04:31	05:19	06:21		07:21		18:11 (PrRR3)	07:27	08:27
	15:50	16:50	17:52		19:57	20:59	21:54	22:05	21:19	20:04		18:43	2	18:13 (PrRR3)	16:27	15:40
5	08:47	08:04	06:58		06:36	05:21	04:30	04:32	05:21	06:23		07:23			07:29	08:28
	15:51	16:52	17:54		19:59	21:01	21:55	22:04	21:17	20:01		18:41			16:25	15:40
6	08:46	08:02	06:56		06:33	05:19	04:29	04:33	05:23	06:25		07:25			07:31	08:30
	15:53	16:54	17:56		20:01	21:03	21:57	22:03	21:15	19:59		18:38			16:23	15:39
7	08:46	08:00	06:53		06:31	05:17	04:28	04:34	05:25	06:27		07:27			07:33	08:31
	15:54	16:57	17:58		20:03	21:05	21:58	22:03	21:13	19:56		18:36			16:21	15:38
8	08:45	07:58	06:50		06:28	05:15	04:27	04:35	05:27	06:29		07:29			07:35	08:33
	15:56	16:59	18:00		20:05	21:07	21:59	22:02	21:11	19:53		18:33			16:19	15:38
9	08:44	07:56	06:48		06:25	05:13	04:27	04:36	05:29	06:31		07:31			07:38	08:34
	15:58	17:01	18:03		20:07	21:09	22:00	22:01	21:08	19:51		18:30			16:17	15:37
10	08:44	07:54	06:45		06:23	05:11	04:26	04:37	05:31	06:33		07:33			07:40	08:35
	15:59	17:03	18:05	7	17:37 (PrRR3)	20:09	21:11	22:01	22:00	21:06		19:48			16:15	15:37
11	08:43	07:52	06:43		06:20	05:09	04:25	04:39	05:33	06:35		07:36			07:42	08:37
	16:01	17:06	18:07	12	17:39 (PrRR3)	20:12	21:13	22:02	21:59	21:04		19:45			16:13	15:37
12	08:42	07:49	06:40		06:18	05:06	04:25	04:40	05:35	06:37		07:38			07:44	08:38
	16:03	17:08	18:09	15	17:40 (PrRR3)	20:14	21:15	22:03	21:58	21:01		19:43			16:11	15:36
13	08:41	07:47	06:37		06:15	05:04	04:24	04:41	05:37	06:39		07:40			07:46	08:39
	16:04	17:10	18:11	19	17:43 (PrRR3)	20:16	21:17	22:03	21:57	20:59		19:40			16:09	15:36
14	08:40	07:45	06:35		06:12	05:03	04:24	04:43	05:39	06:41		07:42			07:48	08:40
	16:06	17:12	18:13	21	17:44 (PrRR3)	20:18	21:19	22:04	21:55	20:57		19:37			16:07	15:36
15	08:39	07:43	06:32		06:10	05:01	04:24	04:44	05:41	06:43		07:44			07:50	08:41
	16:08	17:15	18:15	22	17:44 (PrRR3)	20:20	21:21	22:05	21:54	20:54		19:34			16:06	15:36
16	08:38	07:40	06:29		06:07	04:59	04:24	04:46	05:43	06:45		07:46			07:53	08:42
	16:10	17:17	18:17	23	17:45 (PrRR3)	20:22	21:23	22:05	21:53	20:52		19:32			16:04	15:36
17	08:36	07:38	06:27		06:05	04:57	04:23	04:47	05:45	06:47		07:48			07:55	08:43
	16:12	17:19	18:20	23	17:44 (PrRR3)	20:24	21:25	22:06	21:51	20:50		19:29			16:02	15:36
18	08:35	07:36	06:24		06:02	04:55	04:23	04:49	05:47	06:49		07:50			07:57	08:44
	16:14	17:21	18:22	23	17:44 (PrRR3)	20:26	21:27	22:06	21:50	20:47		19:26			16:00	15:36
19	08:34	07:33	06:21		06:00	04:53	04:23	04:51	05:49	06:51		07:52			07:59	08:45
	16:16	17:23	18:24	23	17:43 (PrRR3)	20:28	21:29	22:07	21:49	20:45		19:24			15:59	15:36
20	08:32	07:31	06:19		05:57	04:51	04:23	04:52	05:51	06:53		07:54		18:11 (PrRR3)	08:01	08:45
	16:18	17:26	18:26	22	17:43 (PrRR3)	20:30	21:30	22:07	21:47	20:42	12	18:23 (PrRR3)		18:23 (PrRR3)	15:57	15:37
21	08:31	07:28	06:16		05:55	04:50	04:23	04:54	05:53	06:55		07:57		18:09 (PrRR3)	08:03	08:46
	16:20	17:28	18:28	19	17:41 (PrRR3)	20:32	21:32	22:07	21:45	20:40	15	18:24 (PrRR3)		18:24 (PrRR3)	15:56	15:37
22	08:29	07:26	06:13		05:52	04:48	04:24	04:56	05:55	06:57		07:59		18:07 (PrRR3)	08:05	08:47
	16:22	17:30	18:30	16	17:39 (PrRR3)	20:34	21:34	22:08	21:44	20:37	18	18:25 (PrRR3)		18:25 (PrRR3)	15:54	15:38
23	08:28	07:24	06:11		05:50	04:46	04:24	04:57	05:57	06:59		08:01		18:05 (PrRR3)	08:07	08:47
	16:24	17:32	18:32	13	17:38 (PrRR3)	20:36	21:36	22:08	21:42	20:35	21	18:26 (PrRR3)		18:26 (PrRR3)	15:53	15:38
24	08:26	07:21	06:08		05:47	04:45	04:24	04:59	05:59	07:01		08:04		18:04 (PrRR3)	08:09	08:47
	16:26	17:34	18:34	5	17:33 (PrRR3)	20:39	21:38	22:08	21:40	20:32	22	18:26 (PrRR3)		18:26 (PrRR3)	15:51	15:39
25	08:25	07:19	06:05		05:45	04:43	04:25	05:01	06:01	07:03		08:04		18:04 (PrRR3)	08:11	08:48
	16:28	17:37	18:36		20:41	21:39	22:08	21:39	20:30	19:08	22	18:26 (PrRR3)		18:26 (PrRR3)	15:50	15:39
26	08:23	07:16	06:03		05:42	04:42	04:25	05:03	06:03	07:05		08:03		18:03 (PrRR3)	08:13	08:48
	16:30	17:39	18:38		20:43	21:41	22:08	21:37	20:27	19:05	23	18:26 (PrRR3)		18:26 (PrRR3)	15:49	15:40
27	08:21	07:14	06:00		05:40	04:40	04:25	05:04	06:05	07:07		08:03		18:03 (PrRR3)	08:15	08:48
	16:32	17:41	18:40		20:45	21:43	22:08	21:35	20:25	19:02	23	18:26 (PrRR3)		18:26 (PrRR3)	15:47	15:41
28	08:20	07:11	05:57		05:38	04:39	04:26	05:06	06:07	07:09		08:02		18:02 (PrRR3)	08:16	08:48
	16:34	17:43	18:42		20:47	21:44	22:07	21:33	20:22	18:59	23	18:25 (PrRR3)		18:25 (PrRR3)	15:46	15:42
29	08:18		06:55		05:35	04:38	04:27	05:08	06:09	07:11		08:02		18:02 (PrRR3)	08:18	08:49
	16:37		19:45		20:49	21:46	22:07	21:31	20:20	18:57	22	18:24 (PrRR3)		18:24 (PrRR3)	15:45	15:43
30	08:16		06:52		05:33	04:36	04:27	05:10	06:11	07:13		08:03		18:03 (PrRR3)	08:20	08:49
	16:39		19:47		20:51	21:47	22:07	21:29	20:17	18:54	20	18:23 (PrRR3)		18:23 (PrRR3)	15:44	15:44
31	08:14		06:49			04:35		05:12	06:13			07:18				08:48
	16:41		19:49			21:49		21:27	20:14			16:36				15:45
Potential sun hours	236	266	366		426	507	528	529	469	384		324			248	217
Total, worst case				263							221		42			
Sun reduction				0,39							0,43		0,29			
Oper. time red.				1,00							1,00		1,00			
Wind dir. red.				1,00							1,00		1,00			
Total reduction				0,39							0,43		0,29			
Total, real				103							95		12			

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Atvasites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (553)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:47	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:05	15:36
16	08:37	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Avenes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (567)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:35	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:07	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14	07:18 16:36			08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Avenaji - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January		February		March	April	May	June	July	August	September	October	November	December			
1	08:48		10:02 (PrRR3)	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22	09:51 (PrRR3)		
	15:46	23	10:25 (PrRR3)	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43	16	10:07 (PrRR3)	
2	08:48		10:02 (PrRR3)	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24	09:51 (PrRR3)		
	15:48	23	10:25 (PrRR3)	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42	17	10:08 (PrRR3)	
3	08:48		10:03 (PrRR3)	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25	09:51 (PrRR3)		
	15:49	23	10:26 (PrRR3)	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41	18	10:09 (PrRR3)	
4	08:48		10:03 (PrRR3)	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27	09:51 (PrRR3)		
	15:50	23	10:26 (PrRR3)	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41	19	10:10 (PrRR3)	
5	08:47		10:04 (PrRR3)	08:05	06:58	06:36	05:22	04:30	04:32	05:21	06:23	07:23	07:29	08:29	09:51 (PrRR3)		
	15:52	21	10:25 (PrRR3)	16:52	17:54	19:59	21:01	21:56	22:04	21:17	20:01	18:41	16:25	15:40	20	10:11 (PrRR3)	
6	08:47		10:05 (PrRR3)	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30	09:50 (PrRR3)		
	15:53	21	10:26 (PrRR3)	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39	21	10:11 (PrRR3)	
7	08:46		10:06 (PrRR3)	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:32	09:51 (PrRR3)		
	15:54	20	10:26 (PrRR3)	16:57	17:58	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38	22	10:13 (PrRR3)	
8	08:45		10:07 (PrRR3)	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33	09:51 (PrRR3)		
	15:56	19	10:26 (PrRR3)	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38	23	10:14 (PrRR3)	
9	08:45		10:07 (PrRR3)	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34	09:51 (PrRR3)		
	15:58	19	10:26 (PrRR3)	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37	23	10:14 (PrRR3)	
10	08:44		10:08 (PrRR3)	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36	09:52 (PrRR3)		
	15:59	18	10:26 (PrRR3)	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37	23	10:15 (PrRR3)	
11	08:43		10:09 (PrRR3)	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37	09:52 (PrRR3)		
	16:01	16	10:25 (PrRR3)	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37	23	10:15 (PrRR3)	
12	08:42		10:10 (PrRR3)	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38	09:52 (PrRR3)		
	16:03	15	10:25 (PrRR3)	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36	23	10:15 (PrRR3)	
13	08:41		10:12 (PrRR3)	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39	09:52 (PrRR3)		
	16:04	12	10:24 (PrRR3)	17:10	18:11	20:16	21:17	22:04	21:57	20:59	19:40	18:20	16:09	15:36	24	10:16 (PrRR3)	
14	08:40		10:14 (PrRR3)	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40	09:53 (PrRR3)		
	16:06	9	10:23 (PrRR3)	17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:18	16:07	15:36	24	10:17 (PrRR3)	
15	08:39		10:17 (PrRR3)	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:41	09:54 (PrRR3)		
	16:08	3	10:20 (PrRR3)	17:15	18:15	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36	23	10:17 (PrRR3)	
16	08:38			07:40	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42	09:54 (PrRR3)		
	16:10		17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36	24	10:18 (PrRR3)		
17	08:37		17:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43	09:54 (PrRR3)			
	16:12		17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36	25	10:19 (PrRR3)		
18	08:35		17:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44	09:54 (PrRR3)			
	16:14		17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	15:36	24	10:18 (PrRR3)		
19	08:34		17:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45	09:55 (PrRR3)			
	16:16		17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36	24	10:19 (PrRR3)		
20	08:33		17:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46	09:56 (PrRR3)			
	16:18		17:26	18:26	20:30	21:31	22:07	21:47	20:43	19:21	18:02	15:57	15:37	24	10:20 (PrRR3)		
21	08:31		17:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46	09:55 (PrRR3)			
	16:20		17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37	25	10:20 (PrRR3)		
22	08:30		17:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47	09:56 (PrRR3)			
	16:22		17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:38	25	10:21 (PrRR3)		
23	08:28		17:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47	09:56 (PrRR3)			
	16:24		17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38	25	10:21 (PrRR3)		
24	08:27		17:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48	09:58 (PrRR3)			
	16:26		17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39	24	10:22 (PrRR3)		
25	08:25		17:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	07:05	08:11	08:48	09:58 (PrRR3)			
	16:28		17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39	24	10:22 (PrRR3)		
26	08:23		17:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	07:07	08:13	08:48	09:58 (PrRR3)			
	16:30		17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40	24	10:22 (PrRR3)		
27	08:22		17:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	07:10	08:15	08:49	09:59 (PrRR3)			
	16:32		17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48	3	09:59 (PrRR3)	15:41	24	10:23 (PrRR3)
28	08:20		17:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	07:12	08:17	08:49	09:59 (PrRR3)			
	16:35		17:43	18:43	20:47	21:44	22:08	21:33	20:22	19:00	16:43	15:46	9	10:02 (PrRR3)	15:42	24	10:23 (PrRR3)
29	08:18			06:55	05:35	04:38	04:27	05:08	06:09	07:11	07:14	08:18	08:49	09:52 (PrRR3)	15:43	24	10:24 (PrRR3)
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	16:41	15:45	12	10:04 (PrRR3)	15:43	24	10:24 (PrRR3)	
30	08:16			06:52	05:33	04:36	04:27	05:10	06:11	07:13	07:16	08:20	08:49	09:51 (PrRR3)	15:44	23	10:24 (PrRR3)
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15	10:06 (PrRR3)	15:44	23	10:24 (PrRR3)	
31	08:14			06:49		04:35		05:12	06:13		07:18		08:49	09:51 (PrRR3)	15:45	23	10:24 (PrRR3)
	16:41		19:49		21:49		21:49	21:28	20:15		16:36		15:45	23	10:24 (PrRR3)		
Potential sun hours	235		266	366	426	508	528	529	469	384	324	248		216			
Total, worst case	265											39		705			
Sun reduction	0,13											0,08		0,08			
Oper. time red.	1,00											1,00		1,00			
Wind dir. red.	1,00											1,00		1,00			
Total reduction	0,13											0,08		0,08			
Total, real	36											3		60			

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Avoti - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Avotini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (412)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February		March	April	May	June	July	August	September	October		November		December
1	08:48	08:12		07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15		07:20	15:51 (DD3)	08:22
	15:47	16:44		17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52		16:35	10 15:41 (DD3)	15:44
2	08:48	08:11		07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17		07:23	15:52 (DD3)	08:23
	15:48	16:46		17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49		16:32	6 15:58 (DD3)	15:43
3	08:48	08:09		07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19		07:25		08:25
	15:50	16:48		17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47		16:30		15:42
4	08:47	08:07		07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22		07:27		08:27
	15:51	16:51		17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44		16:28		15:41
5	08:47	08:05		06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24		07:29		08:28
	15:52	16:53		17:55	19:59	21:01	21:55	22:04	21:17	20:01	18:41		16:26		15:40
6	08:46	08:03		06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26		07:31		08:30
	15:54	16:55		17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39		16:24		15:40
7	08:46	08:00		06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28		07:33		08:31
	15:55	16:57		17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36		16:22		15:39
8	08:45	07:58		06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30		07:36		08:33
	15:57	16:59	2	16:26 (DD3)	18:01	20:06	21:07	21:59	22:02	21:11	19:54		16:20		15:39
9	08:44	07:56		06:22 (DD3)	06:48	06:26	05:13	04:28	04:37	05:30	06:32		07:38		08:34
	15:58	17:02	7	16:29 (DD3)	18:03	20:08	21:09	22:00	22:01	21:08	19:51		16:18		15:38
10	08:44	07:54		16:21 (DD3)	06:46	06:23	05:11	04:27	04:38	05:32	06:34		07:40		08:35
	16:00	17:04	11	16:32 (DD3)	18:05	20:10	21:11	22:01	22:00	21:06	19:48		16:16		15:38
11	08:43	07:52		16:19 (DD3)	06:43	06:21	05:09	04:26	04:40	05:34	06:36		07:42		08:37
	16:02	17:06	15	16:34 (DD3)	18:07	20:12	21:13	22:02	21:59	21:04	19:46		16:14		15:37
12	08:42	07:50		16:19 (DD3)	06:40	06:18	05:07	04:26	04:41	05:36	06:38		07:44		08:38
	16:03	17:08	18	16:37 (DD3)	18:09	20:14	21:15	22:02	21:58	21:02	19:43		16:12		15:37
13	08:41	07:47		16:18 (DD3)	06:38	06:16	05:05	04:25	04:42	05:38	06:40		07:46		08:39
	16:05	17:11	21	16:39 (DD3)	18:12	20:16	21:17	22:03	21:57	20:59	19:40		16:10		15:37
14	08:40	07:45		16:18 (DD3)	06:35	06:13	05:03	04:25	04:44	05:40	06:42		07:48		08:40
	16:07	17:13	21	16:39 (DD3)	18:14	20:18	21:19	22:04	21:55	20:57	19:37		16:08		15:37
15	08:39	07:43		16:18 (DD3)	06:32	06:10	05:01	04:25	04:45	05:42	06:44		07:51		08:41
	16:09	17:15	21	16:39 (DD3)	18:16	20:20	21:21	22:05	21:54	20:55	19:35		16:06		15:37
16	08:38	07:41		16:17 (DD3)	06:30	06:08	04:59	04:24	04:47	05:44	06:45		07:53		08:42
	16:11	17:17	22	16:39 (DD3)	18:18	20:22	21:23	22:05	21:53	20:52	19:32		16:05		15:37
17	08:36	07:38		16:18 (DD3)	06:27	06:05	04:58	04:24	04:48	05:46	06:47		07:55		08:43
	16:13	17:20	21	16:39 (DD3)	18:20	20:24	21:25	22:06	21:51	20:50	19:29		16:03		15:37
18	08:35	07:36		16:18 (DD3)	06:24	06:03	04:56	04:24	04:50	05:48	06:49		07:50		08:44
	16:14	17:22	20	16:38 (DD3)	18:22	20:26	21:27	22:06	21:50	20:47	19:27		16:01		15:37
19	08:34	07:33		16:19 (DD3)	06:22	06:00	04:54	04:24	04:51	05:50	06:51		07:53	16:55 (DD3)	07:59
	16:16	17:24	19	16:38 (DD3)	18:24	20:28	21:29	22:07	21:49	20:45	19:24		18:05	7 17:02 (DD3)	16:00
20	08:32	07:31		16:19 (DD3)	06:19	05:58	04:52	04:24	04:53	05:52	06:53		07:55	16:53 (DD3)	08:01
	16:18	17:26	18	16:37 (DD3)	18:26	20:30	21:31	22:07	21:47	20:43	19:21		18:03	12 17:05 (DD3)	15:58
21	08:31	07:29		16:21 (DD3)	06:16	05:55	04:50	04:24	04:55	05:54	06:55		07:57	16:51 (DD3)	08:03
	16:20	17:28	15	16:36 (DD3)	18:28	20:33	21:32	22:07	21:45	20:40	19:19		18:00	16 17:07 (DD3)	15:56
22	08:30	07:26		16:22 (DD3)	06:14	05:53	04:49	04:25	04:56	05:56	06:57		07:59	16:49 (DD3)	08:05
	16:22	17:31	11	16:33 (DD3)	18:30	20:35	21:34	22:08	21:44	20:38	19:16		17:58	18 17:07 (DD3)	15:55
23	08:28	07:24		16:27 (DD3)	06:11	05:50	04:47	04:25	04:58	05:58	06:59		08:01	16:49 (DD3)	08:07
	16:25	17:33	2	16:29 (DD3)	18:32	20:37	21:36	22:08	21:42	20:35	19:13		17:55	20 17:09 (DD3)	15:53
24	08:26	07:21		06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03		16:48 (DD3)	08:09	08:47
	16:27	17:35		18:35	20:39	21:38	22:08	21:40	20:33	19:11	17:53		17:09 (DD3)	21 17:09 (DD3)	15:52
25	08:25	07:19		06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05		15:47 (DD3)	08:11	08:48
	16:29	17:37		18:37	20:41	21:39	22:08	21:39	20:30	19:08	16:51		16:09 (DD3)	22 16:09 (DD3)	15:51
26	08:23	07:16		06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07		15:48 (DD3)	08:13	08:48
	16:31	17:39		18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48		16:09 (DD3)	21 16:09 (DD3)	15:49
27	08:22	07:14		06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09		15:47 (DD3)	08:15	08:48
	16:33	17:42		18:41	20:45	21:42	22:08	21:35	20:25	19:03	16:46		16:09 (DD3)	22 16:09 (DD3)	15:48
28	08:20	07:11		05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12		15:47 (DD3)	08:16	08:48
	16:35	17:44		18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44		16:08 (DD3)	21 16:08 (DD3)	15:47
29	08:18			06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14		15:48 (DD3)	08:18	08:48
	16:37			19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41		16:08 (DD3)	20 16:08 (DD3)	15:46
30	08:16			06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16		15:48 (DD3)	08:20	08:48
	16:39			19:47	20:51	21:47	22:07	21:29	20:17	18:55	16:39		16:06 (DD3)	18 16:06 (DD3)	15:45
31	08:14			06:50		04:36		05:13	06:14		07:18		15:49 (DD3)		08:48
	16:42			19:49		21:49		21:28	20:15		16:37		16:03 (DD3)	14 16:03 (DD3)	15:46
Potential sun hours	236	266		366	426	507	528	528	469	384	324		248		217
Total, worst case		244									232		16		
Sun reduction		0,22									0,29		0,08		
Oper. time red.		1,00									1,00		1,00		
Wind dir. red.		1,00									1,00		1,00		
Total reduction		0,22									0,29		0,08		
Total, real		55									67		1		

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Bajari - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:47	16:43	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:42
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:26	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:02	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	04:28	04:35	05:28	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:35
	15:59	17:04	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:35	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:07	21:44	20:37	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:58	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:25	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:33	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:48		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Balož i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (547)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Betiški 1 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (576)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: BetiŠ ku kapseta - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
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Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Brenčani - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	05:31 20:53	04:34 21:50	20:36 (Pr3a) 20:57 (Pr3a)	04:28 22:06	20:46 (Pr3a) 21:01 (Pr3a)	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	21 20:57 (Pr3a)	04:29 22:06	20:45 (Pr3a) 21:01 (Pr3a)	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	21 20:57 (Pr3a)	04:30 22:05	20:45 (Pr3a) 21:01 (Pr3a)	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	20 20:58 (Pr3a)	04:31 22:05	20:45 (Pr3a) 21:02 (Pr3a)	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:27	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	20 20:38 (Pr3a)	04:32 22:04	20:45 (Pr3a) 21:03 (Pr3a)	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	19 20:38 (Pr3a)	04:33 22:03	20:45 (Pr3a) 21:03 (Pr3a)	05:23 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	19 20:57 (Pr3a)	04:34 22:03	20:45 (Pr3a) 21:04 (Pr3a)	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	05:15 21:07	04:27 21:59	18 20:40 (Pr3a)	04:35 22:02	20:44 (Pr3a) 21:04 (Pr3a)	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	17 20:40 (Pr3a)	04:36 22:01	20:44 (Pr3a) 21:04 (Pr3a)	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	16 20:56 (Pr3a)	04:38 22:00	20:44 (Pr3a) 21:05 (Pr3a)	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	16 20:57 (Pr3a)	04:39 21:59	20:45 (Pr3a) 21:06 (Pr3a)	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	15 20:41 (Pr3a)	04:40 21:58	20:44 (Pr3a) 21:06 (Pr3a)	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	15 20:42 (Pr3a)	04:42 21:57	20:44 (Pr3a) 21:06 (Pr3a)	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:03 21:19	20:42 (Pr3a) 22:04	14 20:43 (Pr3a)	04:43 21:55	20:44 (Pr3a) 21:06 (Pr3a)	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	20:40 (Pr3a) 22:05	13 20:44 (Pr3a)	04:44 21:54	20:44 (Pr3a) 21:07 (Pr3a)	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	20:38 (Pr3a) 22:05	13 20:43 (Pr3a)	04:46 21:53	20:44 (Pr3a) 21:07 (Pr3a)	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	20:38 (Pr3a) 22:06	12 20:44 (Pr3a)	04:48 21:51	20:44 (Pr3a) 21:07 (Pr3a)	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	20:37 (Pr3a) 22:06	12 20:44 (Pr3a)	04:49 21:50	20:44 (Pr3a) 21:07 (Pr3a)	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	20:37 (Pr3a) 22:07	12 20:44 (Pr3a)	04:51 21:48	20:44 (Pr3a) 21:07 (Pr3a)	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	20:36 (Pr3a) 22:07	11 20:46 (Pr3a)	04:52 21:47	20:45 (Pr3a) 21:07 (Pr3a)	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	20:35 (Pr3a) 22:07	11 20:46 (Pr3a)	04:54 21:45	20:45 (Pr3a) 21:07 (Pr3a)	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	20:35 (Pr3a) 22:08	11 20:46 (Pr3a)	04:56 21:44	20:45 (Pr3a) 21:07 (Pr3a)	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	20:35 (Pr3a) 22:08	12 20:45 (Pr3a)	04:57 21:42	20:45 (Pr3a) 21:05 (Pr3a)	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	20:34 (Pr3a) 22:08	12 20:46 (Pr3a)	04:59 21:40	20:46 (Pr3a) 21:04 (Pr3a)	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	20:35 (Pr3a) 22:08	12 20:46 (Pr3a)	05:01 21:39	20:47 (Pr3a) 21:03 (Pr3a)	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	20:35 (Pr3a) 22:08	13 20:46 (Pr3a)	05:03 21:37	20:47 (Pr3a) 21:01 (Pr3a)	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	20:35 (Pr3a) 22:08	13 20:46 (Pr3a)	05:04 21:35	20:48 (Pr3a) 21:00 (Pr3a)	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	20:35 (Pr3a) 22:07	14 20:46 (Pr3a)	05:06 21:33	20:50 (Pr3a) 20:58 (Pr3a)	06:07 20:22	07:09 18:59	08:12 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	20:35 (Pr3a) 22:07	13 20:46 (Pr3a)	05:08 21:31	20:51 (Pr3a) 20:56 (Pr3a)	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	20:35 (Pr3a) 22:07	13 20:46 (Pr3a)	05:10 21:29		06:10 20:17	07:13 18:54	08:15 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49	20:36 (Pr3a) 22:08	14 21:00 (Pr3a)	05:12 21:27		06:13 20:14	07:18 18:54	08:16 16:36	08:21 15:45	08:48 15:45
Potential sun hours	236	266	366	426	507	528		529		469	384	324	248	217
Total, worst case					327	442		541						
Sun reduction					0,56	0,57		0,47						
Oper. time red.					1,00	1,00		1,00						
Wind dir. red.					1,00	1,00		1,00						
Total reduction					0,56	0,57		0,47						
Total, real					184	251		255						

Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Brieži - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Briež udarzs - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (423)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January			February			March			April			May			June		
1	08:48		11:19 (DD3)	08:13		13:52 (DD1)	07:09		15:06 (O3)	06:47		17:27 (O2)	05:31		04:35			
	15:47	105	14:59 (O1.b)	16:44	60	15:44 (O4)	17:46	36	15:42 (O3)	19:51	49	18:16 (O2)	20:53		21:50			
2	08:48		11:20 (DD3)	08:11		13:54 (DD1)	07:06		15:07 (O3)	06:45		17:28 (O2)	05:29		04:34			
	15:48	102	15:00 (O1.b)	16:46	57	15:44 (O4)	17:48	33	15:40 (O3)	19:53	48	18:16 (O2)	20:55		21:52			
3	08:48		11:20 (DD3)	08:09		13:57 (DD1)	07:04		15:10 (O3)	06:42		17:29 (O2)	05:27		04:33			
	15:50	98	15:00 (O1.b)	16:48	54	15:45 (O4)	17:50	29	15:39 (O3)	19:55	46	18:15 (O2)	20:57		21:53			
4	08:47		11:22 (DD3)	08:07		14:03 (DD1)	07:01		15:12 (O3)	06:39		17:29 (O2)	05:24		04:32			
	15:51	97	15:01 (O1.b)	16:51	44	15:45 (O4)	17:53	23	15:35 (O3)	19:57	44	18:13 (O2)	20:59		21:54			
5	08:47		11:22 (DD3)	08:05		15:04 (O3)	06:59		15:17 (O3)	06:37		17:31 (O2)	05:22		04:31			
	15:52	98	15:02 (O1.b)	16:53	40	15:44 (O3)	17:55	15	15:32 (O3)	19:59	41	18:12 (O2)	21:02		21:55			
6	08:46		11:23 (DD3)	08:03		15:03 (O3)	06:56			06:34		17:31 (O2)	05:20		04:30			
	15:54	98	15:02 (O1.b)	16:55	42	15:45 (O3)	17:57			20:02	39	18:10 (O2)	21:04		21:57			
7	08:46		11:23 (DD3)	08:01		15:03 (O3)	06:54			06:31		17:33 (O2)	05:18		04:29			
	15:55	98	15:02 (O1.b)	16:57	43	15:46 (O3)	17:59			20:04	36	18:09 (O2)	21:06		21:58			
8	08:45		11:24 (DD3)	07:58		15:02 (O3)	06:51			06:29		17:35 (O2)	05:16		04:28			
	15:57	97	15:03 (O1.b)	17:00	46	15:48 (O3)	18:01			20:06	31	18:06 (O2)	21:08		21:59			
9	08:44		11:25 (DD3)	07:56		15:01 (O3)	06:48		16:50 (O2)	06:26		17:36 (O2)	05:14		04:28			
	15:58	96	15:03 (O1.b)	17:02	47	15:48 (O3)	18:03	16	17:06 (O2)	20:08	28	18:04 (O2)	21:10		22:00			
10	08:44		11:26 (DD3)	07:54		15:01 (O3)	06:46		16:46 (O2)	06:23		17:40 (O2)	05:11		04:27			
	16:00	96	15:04 (O1.b)	17:04	48	15:49 (O3)	18:05	24	17:10 (O2)	20:10	21	18:01 (O2)	21:12		22:01			
11	08:43		11:27 (DD3)	07:52		15:00 (O3)	06:43		16:42 (O2)	06:21		17:44 (O2)	05:09		04:26			
	16:02	94	15:04 (O1.b)	17:06	49	15:49 (O3)	18:07	30	17:12 (O2)	20:12	12	17:56 (O2)	21:14		22:02			
12	08:42		11:28 (DD3)	07:50		15:00 (O3)	06:40		16:41 (O2)	06:18			05:07		04:26			
	16:03	94	15:05 (O1.b)	17:09	50	15:50 (O3)	18:10	34	17:15 (O2)	20:14			21:16		22:03			
13	08:41		11:30 (DD3)	07:48		15:00 (O3)	06:38		16:38 (O2)	06:16			05:05		04:25			
	16:05	93	15:06 (O1.b)	17:11	50	15:50 (O3)	18:12	38	17:16 (O2)	20:16			21:17		22:03			
14	08:40		11:31 (DD3)	07:45		14:59 (O3)	06:35		16:36 (O2)	06:13			05:03		04:25			
	16:07	89	15:05 (O1.b)	17:13	51	15:50 (O3)	18:14	41	17:17 (O2)	20:18			21:19		22:04			
15	08:39		11:33 (DD3)	07:43		14:59 (O3)	06:33		16:35 (O2)	06:11			05:01		04:25			
	16:09	86	15:06 (O1.b)	17:15	52	15:51 (O3)	18:16	43	17:18 (O2)	20:20			21:21		22:05			
16	08:38		11:35 (DD3)	07:41		14:59 (O3)	06:30		16:34 (O2)	06:08			05:00		04:25			
	16:11	82	15:06 (O1.b)	17:17	51	15:50 (O3)	18:18	45	17:19 (O2)	20:22			21:23		22:05			
17	08:36		11:37 (DD3)	07:38		14:59 (O3)	06:27		16:32 (O2)	06:05			04:58		04:24			
	16:13	86	15:29 (O4)	17:20	52	15:51 (O3)	18:20	47	17:19 (O2)	20:24			21:25		22:06			
18	08:35		11:42 (DD3)	07:36		14:59 (O3)	06:25		16:32 (O2)	06:03			04:56		04:24			
	16:15	80	15:32 (O4)	17:22	51	15:50 (O3)	18:22	49	17:21 (O2)	20:26			21:27		22:06			
19	08:34		13:40 (DD1)	07:34		14:59 (O3)	06:22		16:30 (O2)	06:00			04:54		04:24			
	16:17	79	15:34 (O4)	17:24	52	15:51 (O3)	18:24	51	17:21 (O2)	20:28			21:29		22:07			
20	08:33		13:40 (DD1)	07:31		14:59 (O3)	06:19		16:29 (O2)	05:58			04:52		04:24			
	16:19	80	15:35 (O4)	17:26	51	15:50 (O3)	18:26	52	17:21 (O2)	20:31			21:31		22:07			
21	08:31		13:41 (DD1)	07:29		15:00 (O3)	06:17		16:29 (O2)	05:55			04:51		04:24			
	16:21	80	15:37 (O4)	17:29	50	15:50 (O3)	18:28	52	17:21 (O2)	20:33			21:32		22:07			
22	08:30		13:41 (DD1)	07:26		15:00 (O3)	06:14		16:28 (O2)	05:53			04:49		04:25			
	16:23	81	15:38 (O4)	17:31	49	15:49 (O3)	18:30	53	17:21 (O2)	20:35			21:34		22:08			
23	08:28		13:42 (DD1)	07:24		15:01 (O3)	06:11		16:27 (O2)	05:50			04:47		04:25			
	16:25	77	15:39 (O4)	17:33	48	15:49 (O3)	18:33	54	17:21 (O2)	20:37			21:36		22:08			
24	08:27		13:42 (DD1)	07:21		15:01 (O3)	06:09		16:28 (O2)	05:48			04:46		04:25			
	16:27	76	15:40 (O4)	17:35	47	15:48 (O3)	18:35	53	17:21 (O2)	20:39			21:38		22:08			
25	08:25		13:43 (DD1)	07:19		15:02 (O3)	06:06		16:27 (O2)	05:45			04:44		04:26			
	16:29	68	15:41 (O4)	17:37	46	15:48 (O3)	18:37	54	17:21 (O2)	20:41			21:39		22:08			
26	08:23		13:44 (DD1)	07:16		15:03 (O3)	06:03		16:26 (O2)	05:43			04:43		04:26			
	16:31	64	15:41 (O4)	17:39	43	15:46 (O3)	18:39	54	17:20 (O2)	20:43			21:41		22:08			
27	08:22		13:45 (DD1)	07:14		15:03 (O3)	06:01		16:26 (O2)	05:41			04:41		04:26			
	16:33	65	15:42 (O4)	17:42	42	15:45 (O3)	18:41	54	17:20 (O2)	20:45			21:43		22:08			
28	08:20		13:46 (DD1)	07:11		15:05 (O3)	05:58		16:26 (O2)	05:38			04:40		04:27			
	16:35	64	15:43 (O4)	17:44	39	15:44 (O3)	18:43	54	17:20 (O2)	20:47			21:44		22:08			
29	08:18		13:47 (DD1)				06:55		17:26 (O2)	05:36			04:39		04:28			
	16:37	63	15:43 (O4)				19:45	53	18:19 (O2)	20:49			21:46		22:07			
30	08:16		13:48 (DD1)				06:53		17:26 (O2)	05:34			04:37		04:28			
	16:40	62	15:44 (O4)				19:47	52	18:18 (O2)	20:51			21:47		22:07			
31	08:14		13:50 (DD1)				06:50		17:27 (O2)				04:36					
	16:42	61	15:44 (O4)				19:49	51	18:18 (O2)				21:49					
Potential sun hours	236			266			366			426			507			528		
Total, worst case	2609			1354			1190			395								
Sun reduction	0,13			0,22			0,39			0,44								
Oper. time red.	1,00			1,00			1,00			1,00								
Wind dir. red.	1,00			1,00			1,00			1,00								
Total reduction	0,13			0,22			0,39			0,44								
Total, real	350			305			466			174								

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Briež udarzs - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (423)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:29 22:07	05:15 21:26	06:16 20:12	17:42 (O2) 17:55 (O2)	07:16 17:19 (O2)	17:21 14:31 (O3)
2	04:30 22:06	05:16 21:24	06:18 20:09	17:38 (O2) 17:59 (O2)	07:18 17:20 (O2)	07:23 14:31 (O3)
3	04:31 22:06	05:18 21:22	06:20 20:07	17:34 (O2) 18:02 (O2)	07:20 18:47	07:25 16:30
4	04:32 22:05	05:20 21:19	06:22 20:04	17:32 (O2) 18:04 (O2)	07:22 18:44	07:27 16:28
5	04:33 22:04	05:22 21:17	06:24 20:02	17:30 (O2) 18:05 (O2)	07:24 18:41	07:29 16:26
6	04:34 22:04	05:24 21:15	06:26 19:59	17:28 (O2) 18:06 (O2)	07:26 18:39	07:31 16:24
7	04:35 22:03	05:26 21:13	06:28 19:56	17:26 (O2) 18:07 (O2)	07:28 18:36	07:34 16:22
8	04:36 22:02	05:28 21:11	06:30 19:54	17:24 (O2) 18:08 (O2)	07:30 18:34	07:36 16:04 (O3)
9	04:37 22:01	05:30 21:09	06:32 19:51	17:23 (O2) 18:09 (O2)	07:32 18:31	07:38 16:09 (O3)
10	04:38 22:00	05:32 21:06	06:34 19:48	17:22 (O2) 18:09 (O2)	07:34 18:28	07:40 16:16
11	04:40 21:59	05:34 21:04	06:36 19:46	17:19 (O2) 18:09 (O2)	07:36 18:26	07:42 16:13 (O3)
12	04:41 21:58	05:36 21:02	06:38 19:43	17:18 (O2) 18:09 (O2)	07:38 18:23	07:44 16:12 (O3)
13	04:42 21:57	05:38 20:59	06:40 19:40	17:18 (O2) 18:09 (O2)	07:40 18:21	07:46 16:10
14	04:44 21:55	05:40 20:57	06:42 19:38	17:17 (O2) 18:09 (O2)	07:42 18:18	07:49 16:17 (O3)
15	04:45 21:54	05:42 20:55	06:44 19:35	17:16 (O2) 18:09 (O2)	07:44 18:15	07:51 16:18 (O3)
16	04:47 21:53	05:44 20:52	06:46 19:32	17:15 (O2) 18:09 (O2)	07:46 18:13	07:53 16:19 (O3)
17	04:48 21:52	05:46 20:50	06:48 19:30	17:15 (O2) 18:09 (O2)	07:48 18:10	07:55 16:03
18	04:50 21:50	05:48 20:48	06:50 19:27	17:14 (O2) 18:08 (O2)	07:51 18:08	07:57 16:01
19	04:51 21:49	05:50 20:45	06:52 19:24	17:14 (O2) 18:08 (O2)	07:53 18:05	07:59 16:00
20	04:53 21:47	05:52 20:43	06:54 19:21	17:14 (O2) 18:08 (O2)	07:55 18:03	08:01 15:58
21	04:55 21:46	05:54 20:40	06:56 19:19	17:14 (O2) 18:07 (O2)	07:57 18:00	08:03 15:57
22	04:56 21:44	05:56 20:38	06:58 19:16	17:14 (O2) 18:06 (O2)	07:59 17:58	08:05 15:55
23	04:58 21:42	05:58 20:35	06:59 19:13	17:14 (O2) 18:05 (O2)	08:01 17:56	08:07 15:54
24	05:00 21:41	06:00 20:33	07:01 19:11	17:14 (O2) 18:05 (O2)	08:03 17:53	08:09 15:52
25	05:02 21:39	06:02 20:30	07:03 19:08	17:14 (O2) 18:04 (O2)	07:05 16:51	08:11 15:51
26	05:03 21:37	06:04 20:28	07:05 19:05	17:15 (O2) 18:02 (O2)	07:08 16:48	08:13 15:50
27	05:05 21:35	06:06 20:25	07:07 19:03	17:15 (O2) 18:01 (O2)	07:10 16:46	08:15 15:48
28	05:07 21:33	06:08 20:22	07:09 19:00	17:16 (O2) 18:00 (O2)	07:12 16:44	08:17 15:47
29	05:09 21:32	06:10 20:20	07:12 18:57	17:17 (O2) 17:58 (O2)	07:14 16:41	08:18 15:46
30	05:11 21:30	06:12 20:17	07:14 18:55	17:18 (O2) 17:56 (O2)	07:16 16:39	08:20 15:45
31	05:13 21:28	06:14 20:15			07:18 16:37	08:21 15:44
Potential sun hours	528	469	384	324	248	217
Total, worst case			1345	1159	2013	3286
Sun reduction			0,43	0,29	0,08	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			0,43	0,29	0,08	0,08
Total, real			580	336	151	277

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Bruveri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (434)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:21	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:52	19:57	20:59	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:52	16:53	17:55	19:59	21:02	21:55	22:04	21:17	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:31
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:45	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:48	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:56	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:04	15:37
17	08:37	07:38	06:27	06:05	04:57	04:24	04:48	05:46	06:48	07:48	07:55	08:43
	16:12	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:33	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:32	22:08	21:46	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:53	15:39
24	08:27	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	16:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:08	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	16:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:48
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:44	22:08	21:33	20:22	19:00	16:44	15:47	15:42
29	08:18		06:55	05:36	04:38	04:27	05:09	06:10	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	16:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:55	16:39	15:45	15:44
31	08:15		06:50		04:36		05:12	06:14		07:18		08:49
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Bucinieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (573)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:09 16:48	07:04 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:34 20:01	05:19 21:03	04:29 21:57	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 20:01	07:32 18:30	07:38 16:17	08:34 15:38
10	08:44 15:59	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:02	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:55	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:30 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:49	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:31	04:24 22:07	04:52 21:47	05:51 20:42	06:53 20:01	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:30 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 20:01	08:14 17:41	08:18 15:45	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 20:01	08:16 17:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14	07:18 20:01	08:18 17:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Burtņieki - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:11	06:29 20:01	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 20:01	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 20:01	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 17:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 17:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
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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)	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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Berzainites - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

January			February			March			April			May			June		
1	08:48	12:49 (DD3)	08:13	12:50 (DD3)	07:09	16:08 (DD1)	06:47	18:33 (O3)	05:31	19:32 (O2)	04:35						
	15:47	70	14:40 (JV1)	16:44	99	15:15 (O5)	17:46	62	17:14 (O4)	19:51	32	19:05 (O3)	20:53	34	20:06 (O2)	21:50	
2	08:48	12:50 (DD3)	08:11	12:50 (DD3)	07:06	16:07 (DD1)	06:45	18:32 (O3)	05:29	19:31 (O2)	04:34						
	15:48	77	14:52 (O5)	16:46	98	15:15 (O5)	17:48	66	17:15 (O4)	19:53	34	19:06 (O3)	20:55	36	20:07 (O2)	21:51	
3	08:48	12:49 (DD3)	08:09	12:51 (DD3)	07:04	16:06 (DD1)	06:42	18:30 (O3)	05:27	19:31 (O2)	04:33						
	15:50	81	14:53 (O5)	16:48	97	15:15 (O5)	17:50	70	17:16 (O4)	19:55	37	19:07 (O3)	20:57	36	20:07 (O2)	21:53	
4	08:47	12:50 (DD3)	08:07	12:51 (DD3)	07:01	16:05 (DD1)	06:39	18:28 (O3)	05:24	19:30 (O2)	04:32						
	15:51	85	14:56 (O5)	16:51	95	15:14 (O5)	17:52	72	17:17 (O4)	19:57	39	19:07 (O3)	20:59	38	20:08 (O2)	21:54	
5	08:47	12:50 (DD3)	08:05	12:51 (DD3)	06:59	16:04 (DD1)	06:37	18:28 (O3)	05:22	19:30 (O2)	04:31						
	15:52	86	14:57 (O5)	16:53	93	15:13 (O5)	17:55	73	17:17 (O4)	19:59	40	19:08 (O3)	21:01	38	20:08 (O2)	21:55	
6	08:46	12:50 (DD3)	08:03	12:52 (DD3)	06:56	16:04 (DD1)	06:34	18:26 (O3)	05:20	19:29 (O2)	04:30						
	15:54	88	14:58 (O5)	16:55	98	16:22 (O1.b)	17:57	74	17:18 (O4)	20:02	42	19:08 (O3)	21:04	38	20:07 (O2)	21:57	
7	08:46	12:49 (DD3)	08:01	12:52 (DD3)	06:53	16:04 (DD1)	06:31	18:25 (O3)	05:18	19:29 (O2)	04:29						
	15:55	91	15:00 (O5)	16:57	99	16:24 (O1.b)	17:59	73	17:17 (O4)	20:04	43	19:08 (O3)	21:06	38	20:07 (O2)	21:58	
8	08:45	12:49 (DD3)	07:58	12:52 (DD3)	06:51	16:04 (DD1)	06:29	18:25 (O3)	05:16	19:29 (O2)	04:28						
	15:57	93	15:01 (O5)	17:00	99	16:26 (O1.b)	18:01	74	17:18 (O4)	20:06	44	19:09 (O3)	21:08	39	20:08 (O2)	21:59	
9	08:44	12:49 (DD3)	07:56	12:53 (DD3)	06:48	16:03 (DD1)	06:26	18:24 (O3)	05:14	19:29 (O2)	04:28						
	15:58	94	15:02 (O5)	17:02	95	16:28 (O1.b)	18:03	74	17:17 (O4)	20:08	45	19:09 (O3)	21:10	39	20:08 (O2)	22:00	
10	08:44	12:49 (DD3)	07:54	12:54 (DD3)	06:46	16:03 (DD1)	06:23	18:24 (O3)	05:11	19:29 (O2)	04:27						
	16:00	94	15:03 (O5)	17:04	86	16:30 (O1.b)	18:05	74	17:17 (O4)	20:10	45	19:09 (O3)	21:12	39	20:08 (O2)	22:01	
11	08:43	12:49 (DD3)	07:52	12:54 (DD3)	06:43	16:02 (DD1)	06:21	18:23 (O3)	05:09	19:29 (O2)	04:26						
	16:02	96	15:05 (O5)	17:06	83	16:30 (O1.b)	18:07	74	17:16 (O4)	20:12	45	19:08 (O3)	21:14	39	20:08 (O2)	22:02	
12	08:42	12:50 (DD3)	07:50	12:56 (DD3)	06:40	16:03 (DD1)	06:18	18:23 (O3)	05:07	19:29 (O2)	04:26						
	16:03	97	15:06 (O5)	17:09	81	16:31 (O1.b)	18:10	72	17:15 (O4)	20:14	46	19:09 (O3)	21:15	38	20:07 (O2)	22:03	
13	08:41	12:50 (DD3)	07:47	12:57 (DD3)	06:38	16:03 (DD1)	06:16	18:23 (O3)	05:05	19:29 (O2)	04:26						
	16:05	98	15:07 (O5)	17:11	80	16:31 (O1.b)	18:12	71	17:14 (O4)	20:16	45	19:08 (O3)	21:17	38	20:07 (O2)	22:03	
14	08:40	12:49 (DD3)	07:45	12:58 (DD3)	06:35	16:03 (DD1)	06:13	18:23 (O3)	05:03	19:29 (O2)	04:25						
	16:07	99	15:08 (O5)	17:13	77	16:31 (O1.b)	18:14	69	17:12 (O4)	20:18	45	19:08 (O3)	21:19	37	20:06 (O2)	22:04	
15	08:39	12:49 (DD3)	07:43	12:59 (DD3)	06:32	16:04 (DD1)	06:10	18:23 (O3)	05:01	19:30 (O2)	04:25						
	16:09	99	15:09 (O5)	17:15	76	16:31 (O1.b)	18:16	65	17:11 (O4)	20:20	44	19:07 (O3)	21:21	37	20:07 (O2)	22:05	
16	08:38	12:50 (DD3)	07:41	13:00 (DD3)	06:30	16:04 (DD1)	06:08	18:23 (O3)	05:00	19:31 (O2)	04:25						
	16:11	98	15:10 (O5)	17:17	73	16:31 (O1.b)	18:18	60	17:09 (O4)	20:22	44	19:07 (O3)	21:23	35	20:06 (O2)	22:05	
17	08:36	12:49 (DD3)	07:38	13:02 (DD3)	06:27	16:05 (DD1)	06:05	18:23 (O3)	04:58	19:31 (O2)	04:24						
	16:13	97	15:10 (O5)	17:20	70	16:31 (O1.b)	18:20	50	17:05 (O4)	20:24	43	19:06 (O3)	21:25	34	20:05 (O2)	22:06	
18	08:35	12:49 (DD3)	07:36	13:04 (DD3)	06:25	16:06 (DD1)	06:03	18:24 (O3)	04:56	19:32 (O2)	04:24						
	16:15	94	15:11 (O5)	17:22	64	16:30 (O1.b)	18:22	40	16:46 (DD1)	20:26	41	19:05 (O3)	21:27	33	20:05 (O2)	22:06	
19	08:34	12:49 (DD3)	07:34	13:07 (DD3)	06:22	16:07 (DD1)	06:00	18:24 (O3)	04:54	19:32 (O2)	04:24						
	16:17	95	15:12 (O5)	17:24	58	16:30 (O1.b)	18:24	37	16:44 (DD1)	20:28	40	19:04 (O3)	21:29	32	20:04 (O2)	22:07	
20	08:33	12:49 (DD3)	07:31	13:09 (DD3)	06:19	16:08 (DD1)	05:58	18:25 (O3)	04:52	19:33 (O2)	04:24						
	16:19	95	15:12 (O5)	17:26	50	16:28 (O1.b)	18:26	34	16:42 (DD1)	20:31	38	19:03 (O3)	21:31	31	20:04 (O2)	22:07	
21	08:31	12:50 (DD3)	07:29	13:13 (DD3)	06:17	16:10 (DD1)	05:55	18:26 (O3)	04:51	19:34 (O2)	04:24						
	16:21	98	15:14 (O5)	17:29	40	16:27 (O1.b)	18:28	31	16:41 (DD1)	20:33	36	19:02 (O3)	21:32	29	20:03 (O2)	22:07	
22	08:30	12:49 (DD3)	07:26	13:19 (DD3)	06:14	16:12 (DD1)	05:53	18:27 (O3)	04:49	19:35 (O2)	04:25						
	16:23	99	15:14 (O5)	17:31	36	16:37 (DD1)	18:30	26	16:38 (DD1)	20:35	33	19:00 (O3)	21:34	28	20:03 (O2)	22:08	
23	08:28	12:49 (DD3)	07:24	16:15 (O1.b)	06:11	16:15 (DD1)	05:50	18:28 (O3)	04:47	19:35 (O2)	04:25						
	16:25	99	15:14 (O5)	17:33	26	16:41 (DD1)	18:33	19	16:34 (DD1)	20:37	31	18:59 (O3)	21:36	27	20:02 (O2)	22:08	
24	08:27	12:49 (DD3)	07:21	16:16 (DD1)	06:09	16:19 (DD1)	05:48	18:30 (O3)	04:46	19:37 (O2)	04:25						
	16:27	101	15:15 (O5)	17:35	27	16:43 (DD1)	18:35	10	16:29 (DD1)	20:39	41	19:57 (O2)	21:38	24	20:01 (O2)	22:08	
25	08:25	12:49 (DD3)	07:19	16:15 (DD1)	06:06		05:45		05:45	18:31 (O3)	04:44						
	16:29	101	15:15 (O5)	17:37	31	16:46 (DD1)	18:37		20:41	19:59 (O2)	21:39						
26	08:23	12:49 (DD3)	07:16	16:12 (DD1)	06:03		05:43		18:34 (O3)	04:43							
	16:31	101	15:15 (O5)	17:39	35	16:47 (DD1)	18:39		20:43	20:01 (O2)	21:41						
27	08:22	12:49 (DD3)	07:14	16:10 (DD1)	06:00		05:41		18:37 (O3)	04:41							
	16:33	102	15:15 (O5)	17:42	46	17:08 (O4)	18:41		20:45	20:03 (O2)	21:43						
28	08:20	12:49 (DD3)	07:11	16:10 (DD1)	05:58		05:38		19:35 (O2)	04:40							
	16:35	101	15:15 (O5)	17:44	55	17:12 (O4)	18:43		20:03 (O2)	21:44							
29	08:18	12:49 (DD3)			06:55		05:55		18:41 (O3)	05:36							
	16:37	101	15:15 (O5)		19:45		18:59 (O3)		20:49	20:04 (O2)	21:46						
30	08:16	12:49 (DD3)			06:52		06:52		18:37 (O3)	05:34							
	16:40	102	15:15 (O5)		19:47		19:01 (O3)		20:51	20:05 (O2)	21:47						
31	08:14	12:50 (DD3)			06:50		18:35 (O3)				04:36						
	16:42	100	15:15 (O5)		19:49		19:04 (O3)				21:49						
Potential sun hours	236		266		366		426		507		528						
Total, worst case	2932		1967		1448		1187		928								
Sun reduction	0,13		0,22		0,39		0,44		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	0,13		0,22		0,39		0,44		0,56								
Total, real	393		443		567		524		523								

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Berzainites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (591)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	July		August		September		October		November		December	
1	04:29		05:15	19:39 (O2)	06:16	18:22 (O3)	07:16	16:42 (DD1)	07:21	12:24 (DD3)	08:22	12:32 (DD3)
2	22:06		21:26	39 20:18 (O2)	20:12	45 19:07 (O3)	18:52	72 17:54 (O4)	16:35	88 15:59 (O1.b)	15:44	96 14:47 (O5)
3	04:30		05:16	19:39 (O2)	06:18	18:22 (O3)	07:18	16:42 (DD1)	07:23	12:23 (DD3)	08:24	12:32 (DD3)
4	22:06		21:24	39 20:18 (O2)	20:09	45 19:07 (O3)	18:49	72 17:54 (O4)	16:32	97 15:58 (O1.b)	15:43	96 14:47 (O5)
5	04:31		05:18	19:40 (O2)	06:20	18:22 (O3)	07:20	16:41 (DD1)	07:25	12:22 (DD3)	08:25	12:33 (DD3)
6	22:05		21:22	38 20:18 (O2)	20:07	45 19:07 (O3)	18:47	73 17:54 (O4)	16:30	99 15:56 (O1.b)	15:42	94 14:46 (O5)
7	04:32		05:20	19:39 (O2)	06:22	18:22 (O3)	07:22	16:40 (DD1)	07:27	12:22 (DD3)	08:27	12:34 (DD3)
8	22:05		21:19	38 20:17 (O2)	20:04	44 19:06 (O3)	18:44	74 17:54 (O4)	16:28	100 15:54 (O1.b)	15:41	93 14:46 (O5)
9	04:33		05:22	19:39 (O2)	06:24	18:22 (O3)	07:24	16:40 (DD1)	07:29	12:21 (DD3)	08:28	12:35 (DD3)
10	22:04		21:17	39 20:18 (O2)	20:02	43 19:05 (O3)	18:41	74 17:54 (O4)	16:26	99 15:51 (O1.b)	15:41	90 14:45 (O5)
11	04:34		05:24	19:39 (O2)	06:26	18:22 (O3)	07:26	16:40 (DD1)	07:31	12:22 (DD3)	08:30	12:36 (DD3)
12	22:03		21:15	39 20:18 (O2)	19:59	43 19:05 (O3)	18:39	74 17:54 (O4)	16:24	93 14:44 (O5)	15:40	89 14:45 (O5)
13	04:35		05:26	19:39 (O2)	06:28	18:23 (O3)	07:28	16:39 (DD1)	07:34	12:21 (DD3)	08:31	12:37 (DD3)
14	22:03		21:13	38 20:17 (O2)	19:56	41 19:04 (O3)	18:36	74 17:53 (O4)	16:22	96 14:44 (O5)	15:39	87 14:44 (O5)
15	04:36		05:28	19:40 (O2)	06:30	18:23 (O3)	07:30	16:40 (DD1)	07:36	12:21 (DD3)	08:33	12:37 (DD3)
16	22:02		21:11	37 20:17 (O2)	19:54	40 19:03 (O3)	18:34	73 17:53 (O4)	16:20	97 14:45 (O5)	15:39	84 14:43 (O5)
17	04:37		05:30	19:39 (O2)	06:32	18:24 (O3)	07:32	16:40 (DD1)	07:38	12:21 (DD3)	08:34	12:39 (DD3)
18	22:01		21:09	37 20:16 (O2)	19:51	37 19:01 (O3)	18:31	72 17:52 (O4)	16:18	99 14:46 (O5)	15:38	82 14:43 (O5)
19	04:38		05:32	19:39 (O2)	06:34	18:25 (O3)	07:34	16:40 (DD1)	07:40	12:21 (DD3)	08:36	12:39 (DD3)
20	22:00		21:06	37 20:16 (O2)	19:48	35 19:00 (O3)	18:28	71 17:51 (O4)	16:16	99 14:46 (O5)	15:38	77 14:41 (O5)
21	04:40		05:34	19:40 (O2)	06:36	18:25 (O3)	07:36	16:41 (DD1)	07:42	12:21 (DD3)	08:37	12:40 (DD3)
22	21:59		21:04	35 20:15 (O2)	19:46	32 18:57 (O3)	18:26	68 17:50 (O4)	16:14	101 14:47 (O5)	15:38	71 14:39 (O5)
23	04:41		05:36	19:41 (O2)	06:38	18:26 (O3)	07:38	16:41 (DD1)	07:44	12:21 (DD3)	08:38	12:41 (DD3)
24	21:58		21:02	33 20:14 (O2)	19:43	29 18:55 (O3)	18:23	64 17:48 (O4)	16:12	102 14:47 (O5)	15:37	70 14:32 (JV1)
25	04:42		05:38	19:41 (O2)	06:40	18:28 (O3)	07:40	16:42 (DD1)	07:46	12:21 (DD3)	08:39	12:41 (DD3)
26	21:57		20:59	33 20:14 (O2)	19:40	25 18:53 (O3)	18:21	59 17:46 (O4)	16:10	101 14:47 (O5)	15:37	68 14:32 (JV1)
27	04:44	19:54 (O2)	05:40	19:42 (O2)	06:42	18:30 (O3)	07:42	16:42 (DD1)	07:49	12:22 (DD3)	08:40	12:42 (DD3)
28	21:55	8 20:02 (O2)	20:57	31 20:13 (O2)	19:38	20 18:50 (O3)	18:18	52 17:43 (O4)	16:08	102 14:48 (O5)	15:37	67 14:32 (JV1)
29	04:45	19:51 (O2)	05:42	19:42 (O2)	06:44	18:35 (O3)	07:44	16:44 (DD1)	07:51	12:22 (DD3)	08:41	12:43 (DD3)
30	21:54	13 20:04 (O2)	20:55	29 20:11 (O2)	19:35	10 18:45 (O3)	18:15	36 17:20 (DD1)	16:06	102 14:48 (O5)	15:37	68 14:33 (JV1)
31	04:47	19:51 (O2)	05:44	18:43 (O3)	06:46	17:09 (DD1)	07:46	16:45 (DD1)	07:53	12:22 (DD3)	08:42	12:43 (DD3)
32	21:53	16 20:07 (O2)	20:52	39 20:09 (O2)	19:32	18:13	17:19 (DD1)	16:05	101 14:48 (O5)	15:37	67 14:33 (JV1)	
33	04:48	19:49 (O2)	05:46	18:40 (O3)	06:48	17:09 (DD1)	07:48	16:46 (DD1)	07:55	12:23 (DD3)	08:43	12:44 (DD3)
34	21:51	19 20:08 (O2)	20:50	42 20:07 (O2)	19:30	18:10	17:16 (DD1)	16:03	101 14:49 (O5)	15:37	67 14:34 (JV1)	
35	04:50	19:48 (O2)	05:48	18:37 (O3)	06:50	17:09 (DD1)	07:51	16:48 (DD1)	07:57	12:23 (DD3)	08:44	12:45 (DD3)
36	21:50	22 20:10 (O2)	20:47	43 20:05 (O2)	19:27	18:08	17:14 (DD1)	16:01	101 14:49 (O5)	15:37	66 14:34 (JV1)	
37	04:51	19:47 (O2)	05:50	18:35 (O3)	06:52	17:15 (DD1)	07:53	16:45 (O1.b)	07:59	12:23 (DD3)	08:45	12:46 (DD3)
38	21:49	23 20:10 (O2)	20:45	40 20:02 (O2)	19:24	6 17:15 (DD1)	18:05	27 17:12 (DD1)	16:00	99 14:48 (O5)	15:37	65 14:35 (JV1)
39	04:53	19:46 (O2)	05:52	18:33 (O3)	06:54	17:02 (DD1)	07:55	13:48 (DD3)	08:01	12:24 (DD3)	08:45	12:46 (DD3)
40	21:47	26 20:12 (O2)	20:43	32 19:05 (O3)	19:21	18 17:20 (DD1)	18:03	40 17:07 (DD1)	15:58	99 14:49 (O5)	15:38	66 14:35 (JV1)
41	04:55	19:45 (O2)	05:54	18:32 (O3)	06:55	16:58 (DD1)	07:57	13:42 (DD3)	08:03	12:25 (DD3)	08:46	12:47 (DD3)
42	21:46	27 20:12 (O2)	20:40	34 19:06 (O3)	19:19	25 17:23 (DD1)	18:00	44 16:58 (O1.b)	15:57	98 14:49 (O5)	15:38	66 14:36 (JV1)
43	04:56	19:45 (O2)	05:56	18:30 (O3)	06:57	16:56 (DD1)	07:59	13:38 (DD3)	08:05	12:25 (DD3)	08:47	12:47 (DD3)
44	21:44	29 20:14 (O2)	20:38	36 19:06 (O3)	19:16	29 17:25 (DD1)	17:58	53 16:59 (O1.b)	15:55	95 14:48 (O5)	15:38	66 14:36 (JV1)
45	04:58	19:44 (O2)	05:58	18:29 (O3)	06:59	16:53 (DD1)	08:01	13:36 (DD3)	08:07	12:25 (DD3)	08:47	12:48 (DD3)
46	21:42	30 20:14 (O2)	20:35	38 19:07 (O3)	19:13	33 17:26 (DD1)	17:56	60 17:00 (O1.b)	15:54	95 14:48 (O5)	15:39	66 14:37 (JV1)
47	05:00	19:43 (O2)	06:00	18:28 (O3)	07:01	16:51 (DD1)	08:03	13:34 (DD3)	08:09	12:27 (DD3)	08:48	12:48 (DD3)
48	21:41	32 20:15 (O2)	20:33	39 19:07 (O3)	19:11	36 17:27 (DD1)	17:53	64 17:00 (O1.b)	15:52	94 14:49 (O5)	15:40	66 14:37 (JV1)
49	05:02	19:42 (O2)	06:02	18:27 (O3)	07:03	16:49 (DD1)	07:05	12:31 (DD3)	08:11	12:27 (DD3)	08:48	12:48 (DD3)
50	21:39	33 20:15 (O2)	20:30	41 19:08 (O3)	19:08	39 17:28 (DD1)	16:51	69 16:00 (O1.b)	15:51	98 14:49 (O5)	15:40	65 14:37 (JV1)
51	05:03	19:42 (O2)	06:04	18:26 (O3)	07:05	16:48 (DD1)	07:08	12:30 (DD3)	08:13	12:28 (DD3)	08:48	12:49 (DD3)
52	21:37	34 20:16 (O2)	20:28	42 19:08 (O3)	19:05	46 17:46 (O4)	16:48	73 16:01 (O1.b)	15:50	98 14:48 (O5)	15:41	66 14:38 (JV1)
53	05:05	19:42 (O2)	06:06	18:25 (O3)	07:07	16:46 (DD1)	07:10	12:28 (DD3)	08:15	12:28 (DD3)	08:48	12:49 (DD3)
54	21:35	35 20:17 (O2)	20:25	44 19:09 (O3)	19:03	57 17:50 (O4)	16:46	77 16:01 (O1.b)	15:48	99 14:48 (O5)	15:42	66 14:39 (JV1)
55	05:07	19:41 (O2)	06:08	18:25 (O3)	07:09	64 16:45 (DD1)	07:12	12:27 (DD3)	08:16	12:29 (DD3)	08:48	12:50 (DD3)
56	21:33	35 20:16 (O2)	20:22	44 19:09 (O3)	19:00	64 17:52 (O4)	16:44	78 16:00 (O1.b)	15:47	99 14:48 (O5)	15:43	66 14:39 (JV1)
57	05:09	19:41 (O2)	06:10	18:24 (O3)	07:11	64 16:44 (DD1)	07:14	12:26 (DD3)	08:18	12:30 (DD3)	08:49	12:49 (DD3)
58	21:31	36 20:17 (O2)	20:20	45 19:09 (O3)	18:57	68 17:53 (O4)	16:41	80 16:01 (O1.b)	15:46	98 14:47 (O5)	15:44	67 14:39 (JV1)
59	05:11	19:40 (O2)	06:12	18:24 (O3)	07:14	71 16:43 (DD1)	07:16	12:25 (DD3)	08:20	12:31 (DD3)	08:49	12:49 (DD3)
60	21:30	38 20:18 (O2)	20:17	45 19:09 (O3)	18:55	71 17:54 (O4)	16:39	81 16:00 (O1.b)	15:45	97 14:47 (O5)	15:45	69 14:40 (JV1)
61	05:13	19:39 (O2)	06:14	18:22 (O3)	07:15	81 17:54 (O4)	07:18	12:24 (DD3)	08:24	14:47 (O5)	15:46	12:50 (DD3)
62	21:28	38 20:17 (O2)	20:15	46 19:08 (O3)	07:16	81 16:37	16:37	81 15:59 (O1.b)	15:45	248 14:47 (O5)	15:46	68 14:40 (JV1)
Potential sun hours	528		469		384		324		248		217	
Total, worst case	494		1192		1026		1925		2947		2294	
Sun reduction	0,47		0,52		0,43		0,29		0,08		0,08	
Oper. time red.	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	
Total reduction	0,47		0,52		0,43		0,29		0,08		0,08	
Total, real	233		623		443		558		221		193	

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Celinmajas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (574)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:10	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:07	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Celmalas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (555)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Celtekas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (518)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

Project:

Flickering\_Vestas\_V172\_Prikuli\_A

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Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Dadziš i - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:47	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:05	15:36
16	08:37	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Dauguli - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Driveniš ki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (449)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	
1	08:48	08:13	07:09	06:47	05:31	04:35	05:37 (P19.2b)
	15:47	16:44	17:46	19:51	20:53	21:50	19 05:56 (P19.2b)
2	08:48	08:11	07:06	06:45	05:29	04:34	05:37 (P19.2b)
	15:49	16:46	17:48	19:53	20:55	21:51	18 05:55 (P19.2b)
3	08:48	08:09	07:04	06:42	05:27	04:33	05:38 (P19.2b)
	15:50	16:49	17:50	19:55	20:57	21:53	17 05:55 (P19.2b)
4	08:47	08:07	07:01	06:39	05:25	04:32	05:39 (P19.2b)
	15:51	16:51	17:53	19:57	20:59	21:54	16 05:55 (P19.2b)
5	08:47	08:05	06:59	06:37	05:22	04:31	05:40 (P19.2b)
	15:53	16:53	17:55	20:00	21:01	21:55	14 05:54 (P19.2b)
6	08:46	08:03	06:56	06:34	05:20	04:30	05:41 (P19.2b)
	15:54	16:55	17:57	20:02	21:04	21:57	13 05:54 (P19.2b)
7	08:46	08:01	06:54	06:31	05:18	04:29	05:42 (P19.2b)
	15:56	16:58	17:59	20:04	21:06	21:58	12 05:54 (P19.2b)
8	08:45	07:58	06:51	06:29	05:16	04:29	05:43 (P19.2b)
	15:57	17:00	18:01	20:06	21:08	21:59	9 05:52 (P19.2b)
9	08:44	07:56	06:48	06:26	05:14	04:28	05:43 (P19.2b)
	15:59	17:02	18:03	20:08	21:10	5 05:48 (P19.2b)	22:00 8 05:51 (P19.2b)
10	08:44	07:54	06:46	06:24	05:12	04:27	05:41 (P19.2b)
	16:00	17:04	18:05	20:10	21:12	10 05:51 (P19.2b)	22:01 6 05:51 (P19.2b)
11	08:43	07:52	06:43	06:21	05:10	04:27	05:39 (P19.2b)
	16:02	17:06	18:08	20:12	21:14	14 05:53 (P19.2b)	22:02
12	08:42	07:50	06:41	06:18	05:08	04:26	05:37 (P19.2b)
	16:04	17:09	18:10	20:14	21:15	17 05:54 (P19.2b)	22:03
13	08:41	07:48	06:38	06:16	05:06	04:26	05:35 (P19.2b)
	16:05	17:11	18:12	20:16	21:17	20 05:55 (P19.2b)	22:03
14	08:40	07:45	06:35	06:13	05:04	04:25	05:35 (P19.2b)
	16:07	17:13	18:14	20:18	21:19	21 05:56 (P19.2b)	22:04
15	08:39	07:43	06:33	06:11	05:02	04:25	05:34 (P19.2b)
	16:09	17:15	18:16	20:20	21:21	22 05:56 (P19.2b)	22:05
16	08:38	07:41	06:30	06:08	05:00	04:25	05:34 (P19.2b)
	16:11	17:18	18:18	20:22	21:23	22 05:56 (P19.2b)	22:05
17	08:36	07:38	06:27	06:06	04:58	04:25	05:34 (P19.2b)
	16:13	17:20	18:20	20:24	21:25	23 05:57 (P19.2b)	22:06
18	08:35	07:36	06:25	06:03	04:56	04:25	05:33 (P19.2b)
	16:15	17:22	18:22	20:26	21:27	24 05:57 (P19.2b)	22:06
19	08:34	07:34	06:22	06:01	04:54	04:25	05:33 (P19.2b)
	16:17	17:24	18:24	20:29	21:29	24 05:57 (P19.2b)	22:07
20	08:33	07:31	06:19	05:58	04:53	04:25	05:33 (P19.2b)
	16:19	17:26	18:26	20:31	21:31	25 05:58 (P19.2b)	22:07
21	08:31	07:29	06:17	05:55	04:51	04:25	05:33 (P19.2b)
	16:21	17:29	18:29	20:33	21:32	24 05:57 (P19.2b)	22:07
22	08:30	07:26	06:14	05:53	04:49	04:25	05:33 (P19.2b)
	16:23	17:31	18:31	20:35	21:34	25 05:58 (P19.2b)	22:08
23	08:28	07:24	06:11	05:51	04:48	04:25	05:34 (P19.2b)
	16:25	17:33	18:33	20:37	21:36	24 05:58 (P19.2b)	22:08
24	08:27	07:21	06:09	05:48	04:46	04:25	05:33 (P19.2b)
	16:27	17:35	18:35	20:39	21:38	25 05:58 (P19.2b)	22:08
25	08:25	07:19	06:06	05:46	04:44	04:26	05:34 (P19.2b)
	16:29	17:37	18:37	20:41	21:39	24 05:58 (P19.2b)	22:08
26	08:23	07:17	06:03	05:43	04:43	04:26	05:34 (P19.2b)
	16:31	17:40	18:39	20:43	21:41	24 05:58 (P19.2b)	22:08
27	08:22	07:14	06:01	05:41	04:42	04:27	05:34 (P19.2b)
	16:33	17:42	18:41	20:45	21:43	23 05:57 (P19.2b)	22:08
28	08:20	07:11	05:58	05:38	04:40	04:27	05:35 (P19.2b)
	16:35	17:44	18:43	20:47	21:44	22 05:57 (P19.2b)	22:07
29	08:18		06:55	05:36	04:39	04:28	05:35 (P19.2b)
	16:38		19:45	20:49	21:46	22 05:57 (P19.2b)	22:07
30	08:16		06:53	05:34	04:38	04:29	05:36 (P19.2b)
	16:40		19:47	20:51	21:47	20 05:56 (P19.2b)	22:07
31	08:14		06:50		04:36		05:36 (P19.2b)
	16:42		19:49		21:49	20 05:56 (P19.2b)	
Potential sun hours	236	266	366	426	507	528	
Total, worst case					480		132
Sun reduction					0,56		0,57
Oper. time red.					1,00		1,00
Wind dir. red.					1,00		1,00
Total reduction					0,56		0,57
Total, real					270		75

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Driveniški - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (449)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:29 22:06	05:15 21:26	05:48 (P19.2b) 06:16	07:16 18:52	07:21 16:35	08:22 15:44
2	04:30 22:06	05:17 21:24	05:50 (P19.2b) 06:18	07:18 18:49	07:23 16:33	08:24 15:43
3	04:31 22:05	05:19 21:22	05:52 (P19.2b) 06:20	07:20 18:47	07:25 16:30	08:25 15:42
4	04:32 22:05	05:20 21:19	06:01 (P19.2b) 06:22	07:22 18:44	07:27 16:28	08:27 15:42
5	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:42	07:29 16:26	08:28 15:41
6	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:36	07:34 16:22	08:31 15:40
8	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	04:37 22:01	05:30 21:09	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:39
10	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	04:43 21:57	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:49 16:08	08:40 15:37
15	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:51 16:07	08:41 15:37
16	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	04:49 21:51	05:46 20:50	06:48 19:30	07:48 18:11	07:55 16:03	08:43 15:37
18	04:50 21:50	05:48 20:48	06:50 19:27	07:51 18:08	07:57 16:01	08:44 15:37
19	04:52 21:49	05:50 20:45	06:52 19:24	07:53 18:06	07:59 16:00	08:45 15:38
20	04:53 21:47	05:52 20:43	06:54 19:22	07:55 18:03	08:01 15:58	08:45 15:38
21	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	04:57 21:44	05:56 20:38	06:58 19:16	07:59 17:58	08:05 15:55	08:47 15:39
23	04:58 21:42	05:58 20:35	07:00 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	05:00 21:41	06:00 20:33	07:02 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	05:02 21:39	06:02 20:30	07:04 19:08	07:05 16:51	08:11 15:51	08:48 15:41
26	05:04 21:37	06:04 20:28	07:06 19:05	07:08 16:49	08:13 15:50	08:48 15:41
27	05:05 21:35	06:06 20:25	07:08 19:03	07:10 16:46	08:15 15:49	08:48 15:42
28	05:07 21:33	06:08 20:22	07:10 19:00	07:12 16:44	08:16 15:47	08:48 15:43
29	05:09 21:31	06:10 20:20	07:12 18:57	07:14 16:42	08:18 15:46	08:49 15:44
30	05:11 21:30	06:12 20:17	07:14 18:55	07:16 16:39	08:20 15:45	08:49 15:45
31	05:13 21:28	06:14 20:15	07:18 16:37	07:18 16:37	08:20 15:45	08:48 15:46
Potential sun hours	528	469	384	324	248	217
Total, worst case	578	38				
Sun reduction	0,47	0,52				
Oper. time red.	1,00	1,00				
Wind dir. red.	1,00	1,00				
Total reduction	0,47	0,52				
Total, real	273	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)

Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Dubultnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (556)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: DzeniŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (411)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January			February			March			April			May			June		
1	08:48		14:48 (P19.2b)	08:13			07:09		16:04 (DD3)	06:47		18:54 (O3)	05:31			04:35		
	15:47	16	15:04 (P19.2b)	16:44			17:46	34	16:38 (DD3)	19:51	24	19:18 (O3)	20:53			21:50		
2	08:48		14:48 (P19.2b)	08:11			07:06		16:04 (DD3)	06:44		18:53 (O3)	05:29			04:34		
	15:48	18	15:06 (P19.2b)	16:46			17:48	33	16:37 (DD3)	19:53	24	19:17 (O3)	20:55			21:51		
3	08:48		14:48 (P19.2b)	08:09			07:04		16:06 (DD3)	06:42		18:54 (O3)	05:27			04:33		
	15:50	19	15:07 (P19.2b)	16:48			17:50	31	16:37 (DD3)	19:55	24	19:18 (O3)	20:57			21:53		
4	08:47		14:49 (P19.2b)	08:07			07:01		16:06 (DD3)	06:39		18:53 (O3)	05:24			04:32		
	15:51	20	15:09 (P19.2b)	16:51			17:52	29	16:35 (DD3)	19:57	24	19:17 (O3)	20:59			21:54		
5	08:47		14:49 (P19.2b)	08:05			06:59		16:07 (DD3)	06:37		18:54 (O3)	05:22			04:31		
	15:52	20	15:09 (P19.2b)	16:53			17:55	27	16:34 (DD3)	19:59	23	19:17 (O3)	21:01			21:55		
6	08:46		14:48 (P19.2b)	08:03			06:56		16:09 (DD3)	06:34		18:54 (O3)	05:20			04:30		
	15:54	21	15:09 (P19.2b)	16:55			17:57	23	16:32 (DD3)	20:01	22	19:16 (O3)	21:03			21:57		
7	08:46		14:49 (P19.2b)	08:00			06:53		16:11 (DD3)	06:31		18:54 (O3)	05:18			04:29		
	15:55	21	15:10 (P19.2b)	16:57			17:59	19	16:30 (DD3)	20:04	20	19:14 (O3)	21:05			21:58		
8	08:45		14:49 (P19.2b)	07:58			06:51		16:14 (DD3)	06:29		18:56 (O3)	05:16			04:28		
	15:57	22	15:11 (P19.2b)	17:00			18:01	15	17:30 (DD1)	20:06	17	19:13 (O3)	21:07			21:59		
9	08:44		14:49 (P19.2b)	07:56		16:27 (O5)	06:48		17:23 (DD1)	06:26		18:57 (O3)	05:13			04:28		
	15:58	22	15:11 (P19.2b)	17:02	2	16:29 (O5)	18:03	12	17:35 (DD1)	20:08	14	19:11 (O3)	21:09			22:00		
10	08:44		14:49 (P19.2b)	07:54		16:23 (O5)	06:46		17:20 (DD1)	06:23		19:00 (O3)	05:11			04:27		
	16:00	23	15:12 (P19.2b)	17:04	9	16:32 (O5)	18:05	17	17:37 (DD1)	20:10	12	19:41 (O2)	21:11			22:01		
11	08:43		14:49 (P19.2b)	07:52		16:21 (O5)	06:43		17:18 (DD1)	06:21		19:33 (O2)	05:09			04:26		
	16:02	24	15:13 (P19.2b)	17:06	13	16:34 (O5)	18:07	20	17:38 (DD1)	20:12	9	19:42 (O2)	21:13			22:02		
12	08:42		14:50 (P19.2b)	07:50		16:20 (O5)	06:40		17:17 (DD1)	06:18		19:32 (O2)	05:07			04:26		
	16:03	23	15:13 (P19.2b)	17:08	17	16:37 (O5)	18:09	23	17:40 (DD1)	20:14	13	19:45 (O2)	21:15			22:03		
13	08:41		14:51 (P19.2b)	07:47		16:17 (DD3)	06:38		17:16 (DD1)	06:16		19:30 (O2)	05:05			04:25		
	16:05	23	15:14 (P19.2b)	17:11	22	16:39 (O5)	18:12	24	17:40 (DD1)	20:16	16	19:46 (O2)	21:17			22:03		
14	08:40		14:50 (P19.2b)	07:45		16:14 (DD3)	06:35		17:15 (DD1)	06:13		19:29 (O2)	05:03			04:25		
	16:07	24	15:14 (P19.2b)	17:13	26	16:40 (O5)	18:14	25	17:40 (DD1)	20:18	20	19:49 (O2)	21:19			22:04		
15	08:39		14:51 (P19.2b)	07:43		16:12 (DD3)	06:32		17:15 (DD1)	06:10		19:28 (O2)	05:01			04:25		
	16:09	24	15:15 (P19.2b)	17:15	29	16:41 (O5)	18:16	25	17:40 (DD1)	20:20	21	19:49 (O2)	21:21			22:05		
16	08:38		14:51 (P19.2b)	07:41		16:10 (DD3)	06:30		17:14 (DD1)	06:08		19:28 (O2)	04:59			04:25		
	16:11	23	15:14 (P19.2b)	17:17	30	16:40 (O5)	18:18	26	17:40 (DD1)	20:22	22	19:50 (O2)	21:23			22:05		
17	08:36		14:52 (P19.2b)	07:38		16:09 (DD3)	06:27		17:14 (DD1)	06:05		19:27 (O2)	04:58			04:24		
	16:13	23	15:15 (P19.2b)	17:20	32	16:41 (O5)	18:20	25	17:39 (DD1)	20:24	22	19:49 (O2)	21:25			22:06		
18	08:35		14:52 (P19.2b)	07:36		16:07 (DD3)	06:24		17:14 (DD1)	06:03		19:27 (O2)	04:56			04:24		
	16:15	23	15:15 (P19.2b)	17:22	33	16:40 (O5)	18:22	25	17:39 (DD1)	20:26	22	19:49 (O2)	21:27			22:06		
19	08:34		14:53 (P19.2b)	07:33		16:07 (DD3)	06:22		17:14 (DD1)	06:00		19:27 (O2)	04:54			04:24		
	16:16	22	15:15 (P19.2b)	17:24	34	16:41 (O5)	18:24	24	17:38 (DD1)	20:28	21	19:48 (O2)	21:29			22:07		
20	08:32		14:53 (P19.2b)	07:31		16:05 (DD3)	06:19		17:14 (DD1)	05:58		19:28 (O2)	04:52			04:24		
	16:18	22	15:15 (P19.2b)	17:26	35	16:40 (O5)	18:26	23	17:37 (DD1)	20:30	20	19:48 (O2)	21:31			22:07		
21	08:31		14:54 (P19.2b)	07:29		16:05 (DD3)	06:16		17:16 (DD1)	05:55		19:28 (O2)	04:51			04:24		
	16:21	21	15:15 (P19.2b)	17:28	35	16:40 (DD3)	18:28	20	17:36 (DD1)	20:33	20	19:48 (O2)	21:32			22:07		
22	08:30		14:55 (P19.2b)	07:26		16:04 (DD3)	06:14		17:17 (DD1)	05:53		19:28 (O2)	04:49			04:25		
	16:23	20	15:15 (P19.2b)	17:31	36	16:40 (DD3)	18:30	17	17:34 (DD1)	20:35	18	19:46 (O2)	21:34			22:08		
23	08:28		14:56 (P19.2b)	07:24		16:04 (DD3)	06:11		17:18 (DD1)	05:50		19:30 (O2)	04:47			04:25		
	16:25	18	15:14 (P19.2b)	17:33	36	16:40 (DD3)	18:32	14	17:32 (DD1)	20:37	15	19:45 (O2)	21:36			22:08		
24	08:27		14:57 (P19.2b)	07:21		16:04 (DD3)	06:08		17:21 (DD1)	05:48		19:32 (O2)	04:46			04:25		
	16:27	17	15:14 (P19.2b)	17:35	36	16:40 (DD3)	18:35	7	17:28 (DD1)	20:39	11	19:43 (O2)	21:38			22:08		
25	08:25		14:59 (P19.2b)	07:19		16:03 (DD3)	06:06			05:45		19:35 (O2)	04:44			04:25		
	16:29	13	15:12 (P19.2b)	17:37	37	16:40 (DD3)	18:37			20:41	3	19:38 (O2)	21:39			22:08		
26	08:23		15:01 (P19.2b)	07:16		16:04 (DD3)	06:03		18:05 (O3)	05:43			04:43			04:26		
	16:31	10	15:11 (P19.2b)	17:39	36	16:40 (DD3)	18:39	6	18:11 (O3)	20:43			21:41			22:08		
27	08:22		15:05 (P19.2b)	07:14		16:03 (DD3)	06:00		18:01 (O3)	05:41			04:41			04:26		
	16:33	2	15:07 (P19.2b)	17:42	36	16:39 (DD3)	18:41	11	18:12 (O3)	20:45			21:43			22:08		
28	08:20			07:11		16:04 (DD3)	05:58		17:59 (O3)	05:38			04:40			04:27		
	16:35			17:44	35	16:39 (DD3)	18:43	16	18:15 (O3)	20:47			21:44			22:07		
29	08:18						06:55		18:57 (O3)	05:36			04:39			04:28		
	16:37						19:45	20	19:17 (O3)	20:49			21:46			22:07		
30	08:16						06:52		18:56 (O3)	05:34			04:37			04:28		
	16:40						19:47	21	19:17 (O3)	20:51			21:47			22:07		
31	08:14						06:50		18:55 (O3)				04:36					
	16:42						19:49	23	19:18 (O3)				21:49					
Potential sun hours	236			266			366			426			507			528		
Total, worst case		534			569			635			457							
Sun reduction		0,13			0,22			0,39			0,44							
Oper. time red.		1,00			1,00			1,00			1,00							
Wind dir. red.		1,00			1,00			1,00			1,00							
Total reduction		0,13			0,22			0,39			0,44							
Total, real		72			128			249			202							

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: DzeniŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (411)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:29 22:06	05:14 21:26	06:16 20:12	9 19:41 (O2) 18:52	23 18:19 (DD1) 16:35	8 15:53 (O5) 08:22
2	04:30 22:06	05:16 21:24	06:18 20:09	12 19:39 (O2) 18:49	22 18:18 (DD1) 16:32	23 15:43 08:23
3	04:31 22:05	05:18 21:21	06:20 20:07	14 19:09 (O3) 18:47	19 18:16 (DD1) 16:30	22 15:42 08:25
4	04:32 22:05	05:20 21:19	06:22 20:04	17 19:10 (O3) 18:44	14 18:13 (DD1) 16:28	22 15:41 08:27
5	04:33 22:04	05:22 21:17	06:24 20:02	20 19:11 (O3) 18:41	17 18:10 (DD1) 16:26	21 15:41 08:28
6	04:34 22:03	05:24 21:15	06:26 19:59	22 19:12 (O3) 18:39	17 17:05 (DD3) 16:24	21 15:40 08:30
7	04:35 22:03	05:26 21:13	06:28 19:56	23 19:12 (O3) 18:36	22 17:07 (DD3) 16:22	20 15:39 08:31
8	04:36 22:02	05:28 21:11	06:30 19:54	24 19:12 (O3) 18:33	25 17:08 (DD3) 16:20	20 15:39 08:33
9	04:37 22:01	05:30 21:08	06:32 19:51	24 19:12 (O3) 18:31	28 17:10 (DD3) 16:18	19 15:38 08:34
10	04:38 22:00	05:32 21:06	06:34 19:48	24 19:11 (O3) 18:28	31 17:11 (DD3) 16:16	18 15:38 08:35
11	04:40 21:59	05:34 21:04	06:36 19:46	23 19:10 (O3) 18:26	32 17:11 (DD3) 16:14	16 15:37 08:37
12	04:41 21:58	05:36 21:02	06:38 19:43	23 19:10 (O3) 18:23	34 17:12 (DD3) 16:12	16 15:37 08:38
13	04:42 21:57	05:38 20:59	06:40 19:40	22 19:09 (O3) 18:21	35 17:12 (DD3) 16:10	14 15:37 08:39
14	04:44 21:55	05:40 20:57	06:42 19:38	19 19:07 (O3) 18:18	36 17:12 (DD3) 16:08	14 15:37 08:40
15	04:45 21:54	05:42 20:55	06:44 19:35	17 19:05 (O3) 18:15	36 17:12 (DD3) 16:06	2 14:38 (P19.2b) 15:37
16	04:47 21:53	05:44 20:52	06:46 19:32	12 19:02 (O3) 18:13	36 17:12 (DD3) 16:05	10 14:40 (P19.2b) 15:37
17	04:48 21:51	05:46 20:50	06:48 19:29	7 19:00 (O3) 18:10	37 17:12 (DD3) 16:03	13 14:33 (P19.2b) 15:37
18	04:50 21:50	05:48 20:47	06:49 19:27	7 19:00 (O3) 18:10	37 17:12 (DD3) 16:03	13 14:33 (P19.2b) 15:37
19	04:51 21:49	05:50 20:45	06:51 19:24	3 18:13 (DD1) 18:05	36 17:12 (DD3) 16:00	18 14:30 (P19.2b) 15:37
20	04:53 21:47	05:52 20:43	06:53 19:21	13 18:18 (DD1) 18:03	35 17:11 (DD3) 15:58	20 14:30 (P19.2b) 15:38
21	04:55 21:45	05:54 20:40	06:55 19:19	17 18:20 (DD1) 18:00	34 17:10 (DD3) 15:56	21 14:30 (P19.2b) 15:38
22	04:56 21:44	05:56 20:38	06:57 19:16	20 18:21 (DD1) 17:58	34 17:10 (O5) 15:55	22 14:29 (P19.2b) 15:38
23	04:58 21:42	05:58 20:35	06:59 19:13	22 18:21 (DD1) 17:56	34 17:11 (O5) 15:54	22 14:29 (P19.2b) 15:39
24	05:00 21:41	06:00 20:33	07:01 19:11	24 18:22 (DD1) 17:53	33 17:11 (O5) 15:52	23 14:30 (P19.2b) 15:40
25	05:02 21:39	06:02 20:30	07:03 19:08	25 18:22 (DD1) 16:51	32 16:10 (O5) 15:51	23 14:30 (P19.2b) 15:40
26	05:03 21:37	06:04 20:27	07:05 19:05	26 18:22 (DD1) 16:48	31 16:11 (O5) 15:50	23 14:30 (P19.2b) 15:41
27	05:05 21:35	06:06 20:25	07:07 19:03	26 18:22 (DD1) 16:46	28 16:10 (O5) 15:48	24 14:30 (P19.2b) 15:42
28	05:07 21:33	06:08 20:22	07:09 19:00	25 18:21 (DD1) 16:44	25 16:09 (O5) 15:47	24 14:30 (P19.2b) 15:43
29	05:09 21:31	06:10 20:20	07:11 18:57	26 18:21 (DD1) 16:41	20 16:08 (O5) 15:46	23 14:31 (P19.2b) 15:44
30	05:11 21:30	06:12 20:17	07:13 18:55	24 18:20 (DD1) 16:39	16 16:06 (O5) 15:45	23 14:31 (P19.2b) 15:45
31	05:13 21:28	06:14 20:15	19:44 (O2)	16:37	12 16:03 (O5)	15 15:46 08:48
Potential sun hours	528	469	384	324	248	217
Total, worst case		248	563	870	316	465
Sun reduction		0,52	0,43	0,29	0,08	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		0,52	0,43	0,29	0,08	0,08
Total, real		130	243	252	24	39

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Dzeni - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Dzintarnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (559)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Dzirnava - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (568)  
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:47	16:43	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:42
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:26	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:04	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:58	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:33	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:48		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Dzitari - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December				
1	08:48 15:46	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	19:55 (AP2) 23 20:18 (AP2)	04:34 21:50	04:28 22:06	05:14 21:25	20:04 (AP2) 24 20:28 (AP2)	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43		
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	19:54 (AP2) 25 20:19 (AP2)	04:33 21:51	04:29 22:06	05:16 21:23	20:04 (AP2) 24 20:28 (AP2)	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42		
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	19:54 (AP2) 25 20:19 (AP2)	04:32 21:53	04:30 22:05	05:18 21:21	20:04 (AP2) 25 20:29 (AP2)	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41		
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	19:54 (AP2) 26 20:20 (AP2)	04:31 21:54	04:31 22:05	05:20 21:19	20:04 (AP2) 25 20:29 (AP2)	06:21 20:04	07:21 18:44	07:27 16:27	08:27 15:41		
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	19:53 (AP2) 27 20:20 (AP2)	04:30 21:55	04:32 22:04	05:22 21:17	20:04 (AP2) 26 20:30 (AP2)	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40		
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	19:53 (AP2) 27 20:20 (AP2)	04:29 21:56	04:33 22:03	05:23 21:15	20:03 (AP2) 26 20:29 (AP2)	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39		
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	19:53 (AP2) 27 20:20 (AP2)	04:28 21:58	04:34 22:03	05:25 21:13	20:03 (AP2) 26 20:29 (AP2)	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39		
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	19:53 (AP2) 26 20:19 (AP2)	04:28 21:59	04:35 22:02	05:27 21:11	20:03 (AP2) 26 20:29 (AP2)	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38		
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	19:53 (AP2) 26 20:19 (AP2)	04:27 22:00	04:36 22:01	05:29 21:08	20:03 (AP2) 26 20:29 (AP2)	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38		
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	19:54 (AP2) 25 20:19 (AP2)	04:26 22:01	04:38 22:00	05:31 21:06	20:03 (AP2) 26 20:29 (AP2)	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37		
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	19:54 (AP2) 24 20:18 (AP2)	04:26 22:02	04:39 21:59	05:33 21:04	20:03 (AP2) 24 20:27 (AP2)	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37		
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	19:54 (AP2) 23 20:17 (AP2)	04:25 22:03	04:40 21:58	05:35 21:01	20:04 (AP2) 23 20:27 (AP2)	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:36		
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	19:56 (AP2) 21 20:17 (AP2)	04:25 22:03	04:42 21:57	05:37 20:59	20:04 (AP2) 22 20:26 (AP2)	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36		
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	19:56 (AP2) 20 20:16 (AP2)	04:24 22:04	04:43 21:55	05:39 20:57	20:05 (AP2) 20 20:25 (AP2)	06:41 19:37	07:42 18:17	07:48 16:08	08:40 15:36		
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	19:57 (AP2) 18 20:15 (AP2)	04:24 22:05	04:45 21:54	05:41 20:54	20:07 (AP2) 15 20:22 (AP2)	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36		
16	08:38 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	19:58 (AP2) 16 20:14 (AP2)	04:24 22:05	04:46 21:53	05:43 20:52	20:09 (AP2) 11 20:20 (AP2)	06:45 19:32	07:46 18:12	07:53 16:04	08:42 15:36		
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	20:00 (AP2) 13 20:13 (AP2)	04:24 22:06	04:48 21:51	05:45 20:50	20:12 (AP2) 5 20:17 (AP2)	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36		
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	20:02 (AP2) 8 20:10 (AP2)	04:24 22:06	04:49 21:50	05:47 20:47		06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36		
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:27	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37			
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30		04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37			
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32		04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37			
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34		04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38			
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36		04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38			
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37		04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39			
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39		04:25 22:08	05:01 21:39	4 20:15 (AP2) 4 20:19 (AP2)	06:01 20:30	07:03 19:08	07:05 16:50	08:11 15:50	08:48 15:40		
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	7 20:04 (AP2) 7 20:11 (AP2)	04:24 22:08	05:03 21:37	11 20:11 (AP2) 11 20:22 (AP2)	06:03 20:27	07:06 19:05	07:07 16:48	08:13 15:49	08:48 15:40		
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	20:01 (AP2) 12 20:13 (AP2)	04:26 22:08	05:05 21:35	20:10 (AP2) 14 20:24 (AP2)	06:05 20:25	07:07 19:02	07:09 16:46	08:14 15:48	08:48 15:41		
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	19:59 (AP2) 16 20:15 (AP2)	04:26 22:07	05:06 21:33	20:09 (AP2) 16 20:25 (AP2)	06:07 20:22	07:09 19:00	07:12 16:43	08:16 15:46	08:48 15:42		
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	19:58 (AP2) 19 20:17 (AP2)	04:27 22:07	05:08 21:31	20:07 (AP2) 19 20:26 (AP2)	06:09 20:20	07:11 18:57	07:14 16:41	08:18 15:45	08:48 15:43		
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	19:56 (AP2) 21 20:17 (AP2)	04:28 22:07	05:10 21:29	20:06 (AP2) 21 20:27 (AP2)	06:11 20:17	07:13 18:54	07:16 16:39	08:20 15:44	08:48 15:44		
31	08:14 16:41		06:49 19:49		04:35 21:49			05:12 21:27	20:06 (AP2) 22 20:28 (AP2)	06:13 20:14		07:18 16:36		08:48 15:45		
Potential sun hours	236	266	366	426	507		528	529		469		384	324	248	217	
Total, worst case				75	400			107		374						
Sun reduction				0.44	0.56			0.47		0.52						
Oper. time red.				1.00	1.00			1.00		1.00						
Wind dir. red.				1.00	1.00			1.00		1.00						
Total reduction				0.44	0.56			0.47		0.52						
Total, real				33	225			50		195						

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Darzini - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:51	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:34	08:32
	15:54	16:57	17:58	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:38
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:34	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:15		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Darznieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (435)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:16	07:21	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:10	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:49	16:48	17:50	19:55	20:58	21:53	22:06	21:22	20:07	18:47	16:30	15:42
4	08:48	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:29
	15:52	16:53	17:55	19:59	21:02	21:56	22:04	21:17	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:59	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:45	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:48	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:47	08:39
	16:05	17:11	18:12	20:16	21:18	22:04	21:57	21:00	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:20	22:04	21:56	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:05	15:37
17	08:37	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:48	07:48	07:55	08:43
	16:12	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:30	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:24	04:50	05:48	06:50	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:51	05:50	06:52	07:53	07:59	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:33	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:17	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:53	15:39
24	08:27	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:08	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:49
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	17:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:27	05:09	06:10	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	17:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:14	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:55	17:39	15:45	15:44
31	08:15		06:50		04:36		05:12	06:14		07:18		08:49
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Elsti - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
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4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
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	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
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	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
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	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
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	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Elviras - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:34 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:29 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:31 20:01	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 16:00	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:10	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:51 20:42	06:53 20:01	07:54 18:02	08:01 15:58	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:07 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 20:01	08:14 17:41	08:18 15:46	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 20:01	08:16 17:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14	07:18 20:01	08:18 17:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Fridrisgofa - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (436)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:25	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:10 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:23	06:18 20:09	07:18 18:49	07:23 16:33	08:23 15:43
3	08:48 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:02 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:00 16:57	06:53 17:59	06:31 20:04	05:18 21:05	04:29 21:57	04:35 22:02	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
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10	08:43 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:10 21:13	04:27 22:01	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:07 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
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16	08:37 16:11	07:40 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:05	07:59 16:00	08:44 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:30	04:25 22:07	04:53 21:47	05:52 20:42	06:54 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:32	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:29 16:23	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:25 22:07	04:57 21:44	05:56 20:38	06:57 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:50 20:37	04:48 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:37	04:25 22:08	05:00 21:40	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:03 19:08	08:05 17:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:27	07:05 19:05	08:07 17:49	08:13 15:50	08:48 15:41
27	08:21 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:07	05:05 21:35	06:06 20:25	07:07 19:03	08:09 17:46	08:14 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 19:00	08:12 17:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:45	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 17:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 17:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:48		05:13 21:27	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Gabri - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Gaitnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (446)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:24	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:37	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:05	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:05	04:58	04:25	04:48	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	16:00	15:37
20	08:32	07:31	06:19	05:58	04:52	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:47
	16:23	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:38	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:44	04:26	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:05	08:08	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:41	04:27	05:05	06:06	07:07	08:10	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:08	21:35	20:25	19:03	17:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:37	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
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Calculated:  
15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Grovani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (483)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December					
1	08:48	08:12	07:09	16:49 (Pr3a)	06:47	05:31	04:34	04:28	05:14	06:15	07:15	17:48 (PrRR3)	07:20	08:22			
	15:46	16:43	17:45	20	17:09 (Pr3a)	19:51	20:53	22:07	21:25	20:12	18:51	18:15 (PrRR3)	16:34	15:43			
2	08:48	08:10	07:06	16:48 (Pr3a)	06:44	05:28	04:33	04:29	05:16	06:17	07:17	17:49 (PrRR3)	07:22	08:23			
	15:47	16:45	17:48	21	17:09 (Pr3a)	19:53	20:55	21:51	22:06	21:23	20:09	18:49	24	18:13 (PrRR3)	16:32	15:42	
3	08:48	08:08	07:03	16:48 (Pr3a)	06:41	05:26	04:32	04:30	05:18	06:19	07:19	17:49 (PrRR3)	07:25	08:25			
	15:49	16:48	17:50	19	17:07 (Pr3a)	19:55	20:57	21:53	22:05	21:21	20:06	18:46	23	18:12 (PrRR3)	16:30	15:41	
4	08:47	08:07	07:01	16:50 (Pr3a)	06:39	05:24	04:31	04:31	05:19	06:21	07:21	17:51 (PrRR3)	07:27	08:27			
	15:50	16:50	17:52	17	17:07 (Pr3a)	19:57	20:59	21:54	22:05	21:19	20:04	18:43	19	18:10 (PrRR3)	16:27	15:40	
5	08:47	08:04	06:58	16:51 (Pr3a)	06:36	05:21	04:30	04:32	05:21	06:23	07:23	17:53 (PrRR3)	07:29	08:28			
	15:51	16:52	17:54	14	17:05 (Pr3a)	19:59	21:01	21:55	22:04	21:17	20:01	18:41	14	18:07 (PrRR3)	16:25	15:40	
6	08:46	08:02	06:56	16:52 (Pr3a)	06:33	05:19	04:29	04:33	05:23	06:25	07:25	17:57 (PrRR3)	07:31	08:30			
	15:53	16:54	17:56	10	17:02 (Pr3a)	20:01	21:03	21:57	22:03	21:15	20:01	18:38	5	18:02 (PrRR3)	16:23	15:39	
7	08:46	08:00	06:53		06:31	05:17	04:28	04:34	05:25	06:27	07:27	17:30 (Pr3a)	07:33	08:31			
	15:54	16:57	17:58		20:03	21:05	21:58	22:03	21:13	20:01	18:36	7	17:37 (Pr3a)	16:21	15:38		
8	08:45	07:58	06:50		17:17 (PrRR3)	06:28	05:15	04:27	04:35	05:27	06:29	17:27 (Pr3a)	07:35	08:33			
	15:56	16:59	18:01	11	17:28 (PrRR3)	20:05	21:07	21:59	22:02	21:11	19:53	18:33	12	17:39 (Pr3a)	16:19	15:38	
9	08:44	07:56	06:48		17:14 (PrRR3)	06:25	05:13	04:27	04:36	05:29	06:31	17:25 (Pr3a)	07:38	08:34			
	15:58	17:01	18:03	17	17:31 (PrRR3)	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16	17:41 (Pr3a)	16:17	15:37	
10	08:44	07:54	06:45		17:12 (PrRR3)	06:23	05:11	04:26	04:37	05:31	06:33	17:23 (Pr3a)	07:40	08:35			
	15:59	17:03	18:05	21	17:33 (PrRR3)	20:09	21:11	22:01	22:00	21:06	19:48	18:28	18	17:41 (Pr3a)	16:15	15:37	
11	08:43	07:52	06:43		17:10 (PrRR3)	06:20	05:09	04:25	04:39	05:33	06:35	17:23 (Pr3a)	07:42	08:37			
	16:01	17:06	18:07	24	17:34 (PrRR3)	20:12	21:13	22:02	21:59	21:04	19:45	18:25	20	17:43 (Pr3a)	16:13	15:37	
12	08:42	07:49	06:40		17:08 (PrRR3)	06:18	05:07	04:25	04:40	05:35	06:37	17:22 (Pr3a)	07:44	08:38			
	16:03	17:08	18:09	26	17:34 (PrRR3)	20:14	21:15	22:03	21:58	21:02	19:43	18:23	21	17:43 (Pr3a)	16:11	15:36	
13	08:41	07:47	06:37		17:08 (PrRR3)	06:15	05:05	04:25	04:41	05:37	06:39	17:21 (Pr3a)	07:46	08:39			
	16:04	17:10	18:11	28	17:36 (PrRR3)	20:16	21:17	22:03	21:57	20:59	19:40	18:20	22	17:43 (Pr3a)	16:09	15:36	
14	08:40	07:45	06:35		17:07 (PrRR3)	06:12	05:03	04:24	04:43	05:39	06:41	17:21 (Pr3a)	07:48	08:40			
	16:06	17:12	18:13	29	17:36 (PrRR3)	20:18	21:19	22:04	21:55	20:57	19:37	18:17	21	17:42 (Pr3a)	16:07	15:36	
15	08:39	07:43	06:32		17:06 (PrRR3)	06:10	05:01	04:24	04:44	05:41	06:43	17:21 (Pr3a)	07:50	08:41			
	16:08	17:15	18:15	34	17:47 (Pr25)	20:20	21:21	22:05	21:54	20:54	19:34	18:15	21	17:42 (Pr3a)	16:06	15:36	
16	08:38	07:40	06:29		17:06 (PrRR3)	06:07	04:59	04:24	04:46	05:43	06:45	17:22 (Pr3a)	07:53	08:42			
	16:10	17:17	18:17	39	17:50 (Pr25)	20:22	21:23	22:05	21:53	20:52	19:32	18:38 (Pr25)	18:12	19	17:41 (Pr3a)	16:04	15:36
17	08:36	07:38	06:27		17:05 (PrRR3)	06:05	04:57	04:23	04:47	05:45	06:47	17:22 (Pr3a)	07:55	08:43			
	16:12	17:19	18:20	44	17:52 (Pr25)	20:24	21:25	22:06	21:51	20:50	19:29	18:40 (Pr25)	18:10	16	17:38 (Pr3a)	16:02	15:36
18	08:35	07:36	06:24		17:05 (PrRR3)	06:02	04:55	04:23	04:49	05:47	06:49	17:57 (PrRR3)	07:50	17	17:22 (Pr3a)	07:57	08:44
	16:14	17:21	18:22	46	17:53 (Pr25)	20:26	21:27	22:06	21:50	20:47	19:26	18:40 (Pr25)	18:07	13	17:35 (Pr3a)	16:00	15:36
19	08:34	07:33	06:21		17:05 (PrRR3)	06:00	04:53	04:23	04:51	05:49	06:51	17:55 (PrRR3)	07:52	14	17:23 (Pr3a)	07:59	08:45
	16:16	17:23	18:24	49	17:56 (Pr25)	20:28	21:29	22:07	21:49	20:45	19:24	18:41 (Pr25)	18:05	9	17:32 (Pr3a)	15:59	15:36
20	08:32	07:31	06:19		17:05 (PrRR3)	05:57	04:51	04:23	04:52	05:51	06:53	17:53 (PrRR3)	07:54	17:26 (Pr3a)	08:01	08:45	
	16:18	17:26	18:26	50	17:57 (Pr25)	20:30	21:31	22:07	21:47	20:42	19:21	18:41 (Pr25)	18:02	4	17:30 (Pr3a)	15:57	15:37
21	08:31	07:28	06:16		17:05 (PrRR3)	05:55	04:50	04:23	04:54	05:53	06:55	17:51 (PrRR3)	07:57		08:03	08:46	
	16:20	17:28	18:28	48	17:56 (Pr25)	20:32	21:32	22:07	21:45	20:40	19:18	18:41 (Pr25)	18:00		15:56	15:37	
22	08:30	07:26	06:13		17:05 (PrRR3)	05:52	04:48	04:24	04:56	05:55	06:57	17:50 (PrRR3)	07:59		08:05	08:47	
	16:22	17:30	18:30	48	17:56 (Pr25)	20:34	21:34	22:08	21:44	20:37	19:16	18:41 (Pr25)	17:57		15:54	15:38	
23	08:28	07:24	06:11		17:07 (PrRR3)	05:50	04:46	04:24	04:57	05:57	06:59	17:49 (PrRR3)	08:01		08:07	08:47	
	16:24	17:32	18:32	44	17:56 (Pr25)	20:36	21:36	22:08	21:42	20:35	19:13	18:41 (Pr25)	17:55		15:53	15:38	
24	08:26	07:21	06:08		17:08 (PrRR3)	05:47	04:45	04:24	04:59	05:59	07:01	17:48 (PrRR3)	08:03		08:09	08:48	
	16:26	17:35	18:34	39	17:54 (Pr25)	20:39	21:38	22:08	21:40	20:32	19:10	18:40 (Pr25)	17:53		15:51	15:39	
25	08:25	07:19	06:05		17:09 (PrRR3)	05:45	04:43	04:25	05:01	06:01	07:03	17:48 (PrRR3)	07:05		08:11	08:48	
	16:28	17:37	18:36	34	17:53 (Pr25)	20:41	21:39	22:08	21:39	20:30	19:08	18:37 (Pr25)	16:50		15:50	15:39	
26	08:23	07:16	06:03		17:13 (PrRR3)	05:42	04:42	04:25	05:03	06:03	07:05	17:47 (PrRR3)	07:07		08:13	08:48	
	16:30	17:39	18:38	25	17:52 (Pr25)	20:43	21:41	22:08	21:37	20:27	19:05	18:34 (Pr25)	16:48		15:49	15:40	
27	08:21	07:14	06:00		17:40 (Pr25)	05:40	04:40	04:25	05:04	06:05	07:07	17:47 (PrRR3)	07:09		08:15	08:48	
	16:32	17:41	18:40	9	17:49 (Pr25)	20:45	21:43	22:08	21:35	20:25	19:02	18:31 (Pr25)	16:45		15:47	15:41	
28	08:20	07:11	05:57			05:38	04:39	04:26	05:06	06:07	07:09	17:46 (PrRR3)	07:12		08:16	08:48	
	16:34	17:43	18:42			20:47	21:44	22:08	21:33	20:22	18:59	18:29 (Pr25)	16:43		15:46	15:42	
29	08:18		06:55			05:35	04:38	04:27	05:08	06:09	07:11	17:46 (PrRR3)	07:14		08:18	08:49	
	16:37		19:45			20:49	21:46	22:07	21:31	20:20	18:57	18:16 (PrRR3)	16:41		15:45	15:43	
30	08:16		06:52			05:33	04:36	04:27	05:10	06:11	07:13	17:47 (PrRR3)	07:16		08:20	08:49	
	16:39		19:47			20:51	21:47	22:07	21:29	20:17	18:54	18:15 (PrRR3)	16:38		15:44	15:44	
31	08:14		06:49			04:35		05:12	06:13			17:18			08:48		
	16:41		19:49			21:49		21:27	20:14			16:36			15:45		
Potential sun hours	236	266	366		426	507	528	529	469	384		324		248	217		
Total, worst case		110	766							564		331					
Sun reduction		0,23	0,39							0,43		0,29					
Oper. time red.		1,00	1,00							1,00		1,00					
Wind dir. red.		1,00	1,00							1,00		1,00					
Total reduction		0,23	0,39							0,43		0,29					
Total, real		25	300							243		96					

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\_Vestas\_V172\_Prikuli\_A Shadow receptor: Ievaiš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (452)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January			February			March			April			May			June		
1	08:48		10:26 (AP6.1)	08:13		15:25 (Pr11)	07:09		07:44 (Pr25)	06:47		05:31	04:34					
	15:46	53	12:06 (JU1)	16:43	38	16:03 (Pr12)	17:46	47	15:50 (Pr11)	19:51	20:53	21:50						
2	08:48		10:26 (AP6.1)	08:11		15:23 (Pr11)	07:06		07:42 (Pr25)	06:44		05:28	04:33					
	15:48	53	12:06 (JU1)	16:46	42	16:05 (Pr12)	17:48	45	15:47 (Pr11)	19:53	20:55	21:52						
3	08:48		10:28 (AP6.1)	08:09		08:43 (Pr3a)	07:04		07:41 (Pr25)	06:41		05:26	04:32					
	15:49	51	12:07 (JU1)	16:48	46	16:06 (Pr12)	17:50	41	15:44 (Pr11)	19:55	20:57	21:53						
4	08:48		10:28 (AP6.1)	08:07		08:39 (Pr3a)	07:01		07:27 (PrRR3)	06:39		05:24	04:31					
	15:50	50	12:07 (JU1)	16:50	57	16:07 (Pr12)	17:52	38	08:08 (Pr25)	19:57	20:59	21:54						
5	08:47		10:29 (AP6.1)	08:05		08:36 (Pr3a)	06:58		07:24 (PrRR3)	06:36		05:22	04:30					
	15:52	48	12:06 (JU1)	16:52	64	16:07 (Pr12)	17:54	44	08:08 (Pr25)	19:59	21:01	21:56						
6	08:47		10:30 (AP6.1)	08:03		08:35 (Pr3a)	06:56		07:22 (PrRR3)	06:34		05:19	04:29					
	15:53	47	12:07 (JU1)	16:55	69	16:08 (Pr12)	17:56	47	08:09 (Pr25)	20:01	21:04	21:57						
7	08:46		10:31 (AP6.1)	08:01		08:34 (Pr3a)	06:53		07:20 (PrRR3)	06:31		05:17	04:28					
	15:55	45	12:07 (JU1)	16:57	72	16:09 (Pr12)	17:59	49	08:09 (Pr25)	20:03	21:06	21:58						
8	08:45		10:32 (AP6.1)	07:58		08:34 (Pr3a)	06:51		07:19 (PrRR3)	06:28		05:15	04:28					
	15:56	41	12:06 (JU1)	16:59	74	16:09 (Pr12)	18:01	49	08:08 (Pr25)	20:06	21:08	21:59						
9	08:45		10:33 (AP6.1)	07:56		08:33 (Pr3a)	06:48		07:19 (PrRR3)	06:26		05:13	04:27					
	15:58	39	12:06 (JU1)	17:01	76	16:09 (Pr12)	18:03	50	08:09 (Pr25)	20:08	21:10	22:00						
10	08:44		10:35 (AP6.1)	07:54		08:33 (Pr3a)	06:45		07:18 (PrRR3)	06:23		05:11	04:26					
	15:59	36	12:06 (JU1)	17:04	77	16:09 (Pr12)	18:05	50	08:08 (Pr25)	20:10	21:12	22:01						
11	08:43		10:35 (AP6.1)	07:52		08:32 (Pr3a)	06:43		07:18 (PrRR3)	06:20		05:09	04:26					
	16:01	31	12:04 (JU1)	17:06	78	16:08 (Pr12)	18:07	61	17:32 (O6)	20:12	21:14	22:02						
12	08:42		10:37 (AP6.1)	07:50		08:32 (Pr3a)	06:40		07:19 (PrRR3)	06:18		05:07	04:25					
	16:03	25	12:03 (JU1)	17:08	80	16:08 (Pr12)	18:09	66	17:35 (O6)	20:14	21:16	22:03						
13	08:41		10:41 (AP6.1)	07:47		08:32 (Pr3a)	06:38		07:19 (PrRR3)	06:15		05:05	04:25					
	16:05	15	12:02 (JU1)	17:10	79	16:08 (Pr12)	18:11	69	17:37 (O6)	20:16	21:18	22:04						
14	08:40		11:54 (JU1)	07:45		08:32 (Pr3a)	06:35		07:19 (PrRR3)	06:13		05:03	04:24					
	16:06	6	12:00 (JU1)	17:12	79	16:07 (Pr12)	18:13	71	17:38 (O6)	20:18	21:19	22:04						
15	08:39			07:43		08:32 (Pr3a)	06:32		07:21 (PrRR3)	06:10		05:01	04:24					
	16:08			17:15	79	16:07 (Pr12)	18:16	68	17:40 (O6)	20:20	21:21	22:05						
16	08:38			07:41		08:32 (Pr3a)	06:30		07:23 (PrRR3)	06:07		04:59	04:24					
	16:10			17:17	77	16:05 (Pr12)	18:18	64	17:40 (O6)	20:22	21:23	22:06						
17	08:37			07:38		08:33 (Pr3a)	06:27		07:39 (Pr25)	06:05		04:57	04:24					
	16:12			17:19	74	16:04 (Pr12)	18:20	51	17:40 (O6)	20:24	21:25	22:06						
18	08:35			07:36		08:34 (Pr3a)	06:24		07:41 (Pr25)	06:02		04:55	04:24					
	16:14			17:21	69	16:01 (Pr12)	18:22	47	17:40 (O6)	20:26	21:27	22:07						
19	08:34			07:33		08:35 (Pr3a)	06:22		07:45 (Pr25)	06:00		04:53	04:23					
	16:16			17:24	65	16:00 (Pr11)	18:24	41	17:41 (O6)	20:28	21:29	22:07						
20	08:33			07:31		08:36 (Pr3a)	06:19		17:08 (O6)	05:57		04:52	04:24					
	16:18			17:26	61	15:59 (Pr11)	18:26	32	17:40 (O6)	20:30	21:31	22:07						
21	08:31			07:29		08:39 (Pr3a)	06:16		17:07 (O6)	05:55		04:50	04:24					
	16:20			17:28	55	15:59 (Pr11)	18:28	33	17:40 (O6)	20:33	21:33	22:08						
22	08:30			07:26		15:15 (Pr11)	06:14		17:08 (O6)	05:52		04:48	04:24					
	16:22			17:30	43	15:58 (Pr11)	18:30	32	17:40 (O6)	20:35	21:34	22:08						
23	08:28			07:24		15:16 (Pr11)	06:11		17:08 (O6)	05:50		04:47	04:24					
	16:24			17:32	42	15:58 (Pr11)	18:32	31	17:39 (O6)	20:37	21:36	22:08						
24	08:27			07:21		15:16 (Pr11)	06:08		17:08 (O6)	05:47		04:45	04:24					
	16:26			17:35	41	15:57 (Pr11)	18:34	30	17:38 (O6)	20:39	21:38	22:08						
25	08:25			07:19		15:16 (Pr11)	06:06		17:09 (O6)	05:45		04:43	04:25					
	16:28			17:37	39	15:55 (Pr11)	18:36	29	17:38 (O6)	20:41	21:39	22:08						
26	08:23			07:16		15:18 (Pr11)	06:03		17:09 (O6)	05:43		04:42	04:25					
	16:30			17:39	37	15:55 (Pr11)	18:39	27	17:36 (O6)	20:43	21:41	22:08						
27	08:22			07:14		07:50 (Pr25)	06:00		17:09 (O6)	05:40		04:41	04:26					
	16:33			17:41	43	15:53 (Pr11)	18:41	25	17:34 (O6)	20:45	21:43	22:08						
28	08:20			07:11		07:47 (Pr25)	05:58		17:11 (O6)	05:38		04:39	04:26					
	16:35			17:43	47	15:52 (Pr11)	18:43	22	17:33 (O6)	20:47	21:44	22:08						
29	08:18		15:49 (Pr12)				06:55		18:13 (O6)	05:35		04:38	04:27					
	16:37	9	15:58 (Pr12)				19:45	18	18:31 (O6)	20:49	21:46	22:07						
30	08:16		15:46 (Pr12)				06:52		18:15 (O6)	05:33		04:37	04:28					
	16:39	14	16:00 (Pr12)				19:47	12	18:27 (O6)	20:51	21:47	22:07						
31	08:14		15:28 (Pr11)				06:49					04:35						
	16:41	32	16:02 (Pr12)				19:49					21:49						
Potential sun hours	236			266			366		426		507	528						
Total, worst case		595			1703			1289										
Sun reduction		0,13			0,23			0,39										
Oper. time red.		1,00			1,00			1,00										
Wind dir. red.		1,00			1,00			1,00										
Total reduction		0,13			0,23			0,39										
Total, real		80			383			505										

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Ievaiši - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (452)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:28	05:14	06:15	07:15	07:58 (PrRR3)	08:02 (Pr3a)
	22:07	21:26	20:12	18:52	18:15 (O6)	16:34
2	04:29	05:16	06:17	07:17	07:57 (PrRR3)	08:23
	22:06	21:24	20:09	18:49	18:12 (O6)	16:32
3	04:30	05:18	06:19	07:19	07:57 (PrRR3)	08:25
	22:06	21:22	20:07	18:46	18:07 (O6)	16:30
4	04:31	05:20	06:21	07:21	07:56 (PrRR3)	08:27
	22:05	21:19	20:04	18:44	08:46 (Pr25)	16:28
5	04:32	05:22	06:23	07:23	07:56 (PrRR3)	08:29
	22:04	21:17	20:01	18:41	08:46 (Pr25)	16:25
6	04:33	05:24	06:25	07:25	07:56 (PrRR3)	08:31
	22:04	21:15	19:59	18:38	08:45 (Pr25)	16:23
7	04:34	05:25	06:27	07:28	07:56 (PrRR3)	08:33
	22:03	21:13	19:56	18:36	08:44 (Pr25)	16:21
8	04:35	05:27	06:29	07:30	07:58 (PrRR3)	08:36
	22:02	21:11	19:53	18:33	08:43 (Pr25)	16:19
9	04:36	05:29	06:31	07:32	08:01 (PrRR3)	08:38
	22:01	21:09	19:51	18:31	08:43 (Pr25)	16:17
10	04:38	05:31	06:33	07:34	08:03 (PrRR3)	08:40
	22:00	21:06	19:48	18:28	16:15 (Pr11)	16:15
11	04:39	05:33	06:35	07:36	08:15 (Pr25)	08:42
	21:59	21:04	19:45	18:25	16:19 (Pr11)	16:13
12	04:40	05:35	06:37	07:38	08:16 (Pr25)	08:44
	21:58	21:02	19:43	18:23	16:22 (Pr11)	16:11
13	04:42	05:37	06:39	18:07 (O6)	07:40	08:18 (Pr25)
	21:57	20:59	19:40	18:18 (O6)	18:20	16:23 (Pr11)
14	04:43	05:39	06:41	18:04 (O6)	07:42	08:20 (Pr25)
	21:56	20:57	19:37	18:21 (O6)	18:18	16:25 (Pr11)
15	04:45	05:41	06:43	18:01 (O6)	07:44	15:51 (Pr11)
	21:54	20:55	19:35	18:22 (O6)	18:15	16:27 (Pr11)
16	04:46	05:43	06:45	17:59 (O6)	07:46	15:50 (Pr11)
	21:53	20:52	19:32	18:24 (O6)	18:13	16:27 (Pr11)
17	04:48	05:45	06:47	17:58 (O6)	07:48	15:48 (Pr11)
	21:52	20:50	19:29	18:24 (O6)	18:10	16:28 (Pr11)
18	04:49	05:47	06:49	17:56 (O6)	07:50	15:47 (Pr11)
	21:50	20:47	19:27	18:25 (O6)	18:07	16:28 (Pr11)
19	04:51	05:49	06:51	17:55 (O6)	07:52	15:46 (Pr11)
	21:49	20:45	19:24	18:25 (O6)	18:05	16:28 (Pr11)
20	04:52	05:51	06:53	17:54 (O6)	07:55	09:13 (Pr3a)
	21:47	20:43	19:21	18:25 (O6)	18:02	16:29 (Pr11)
21	04:54	05:53	06:55	17:54 (O6)	07:57	09:08 (Pr3a)
	21:46	20:40	19:18	18:25 (O6)	18:00	16:29 (Pr11)
22	04:56	05:55	06:57	17:53 (O6)	07:59	09:06 (Pr3a)
	21:44	20:38	19:16	18:25 (O6)	17:58	16:29 (Pr11)
23	04:57	05:57	06:59	17:53 (O6)	08:01	09:05 (Pr3a)
	21:42	20:35	19:13	18:25 (O6)	17:55	16:30 (Pr12)
24	04:59	05:59	07:01	08:31 (Pr25)	08:03	09:04 (Pr3a)
	21:41	20:33	19:10	18:24 (O6)	17:53	16:32 (Pr12)
25	05:01	06:01	07:03	08:26 (Pr25)	07:05	08:03 (Pr3a)
	21:39	20:30	19:08	18:24 (O6)	16:50	15:34 (Pr12)
26	05:03	06:03	07:05	08:23 (Pr25)	07:07	08:03 (Pr3a)
	21:37	20:27	19:05	18:23 (O6)	16:48	15:36 (Pr12)
27	05:05	06:05	07:07	08:06 (PrRR3)	07:10	08:02 (Pr3a)
	21:35	20:25	19:02	18:22 (O6)	16:46	15:36 (Pr12)
28	05:06	06:07	07:09	08:03 (PrRR3)	07:12	08:01 (Pr3a)
	21:33	20:22	19:00	18:21 (O6)	16:43	15:37 (Pr12)
29	05:08	06:09	07:11	08:01 (PrRR3)	07:14	08:02 (Pr3a)
	21:32	20:20	18:57	18:19 (O6)	16:41	15:38 (Pr12)
30	05:10	06:11	07:13	07:59 (PrRR3)	07:16	08:01 (Pr3a)
	21:30	20:17	18:54	18:18 (O6)	16:39	15:38 (Pr12)
31	05:12	06:13			07:18	08:01 (Pr3a)
	21:28	20:15			16:36	15:38 (Pr12)
Potential sun hours	529	469	384	324		248
Total, worst case			683	1740		708
Sun reduction			0,43	0,29		0,08
Oper. time red.			1,00	1,00		1,00
Wind dir. red.			1,00	1,00		1,00
Total reduction			0,43	0,29		0,08
Total, real			295	505		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)

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Irbeni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (497)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April		May		June		
1	08:48	08:12	07:09	06:47		19:18 (Pr3a)	05:31	19:53 (Pr25)	04:34	20:07 (PrRR3)
	15:46	16:43	17:45	19:51	5	19:23 (Pr3a)	20:53	20:15 (Pr25)	21:50	20:36 (PrRR3)
2	08:48	08:10	07:06	06:44		19:14 (Pr3a)	05:28	19:53 (Pr25)	04:33	20:08 (PrRR3)
	15:48	16:45	17:48	19:53	10	19:24 (Pr3a)	20:55	20:14 (Pr25)	21:51	20:36 (PrRR3)
3	08:48	08:08	07:03	06:41		19:11 (Pr3a)	05:26	19:54 (Pr25)	04:32	20:08 (PrRR3)
	15:49	16:48	17:50	19:55	15	19:26 (Pr3a)	20:57	20:14 (Pr25)	21:53	20:35 (PrRR3)
4	08:47	08:06	07:01	06:39		19:10 (Pr3a)	05:24	19:54 (Pr25)	04:31	20:09 (PrRR3)
	15:50	16:50	17:52	19:57	19	19:29 (Pr3a)	20:59	20:14 (Pr25)	21:54	20:36 (PrRR3)
5	08:47	08:04	06:58	06:36		19:08 (Pr3a)	05:21	19:55 (Pr25)	04:30	20:10 (PrRR3)
	15:52	16:52	17:54	19:59	21	19:29 (Pr3a)	21:01	20:13 (Pr25)	21:55	20:36 (PrRR3)
6	08:46	08:02	06:56	06:33		19:08 (Pr3a)	05:19	19:56 (Pr25)	04:29	20:10 (PrRR3)
	15:53	16:54	17:56	20:01	22	19:30 (Pr3a)	21:03	20:25 (PrRR3)	21:57	20:35 (PrRR3)
7	08:46	08:00	06:53	06:31		19:07 (Pr3a)	05:17	19:57 (Pr25)	04:28	20:11 (PrRR3)
	15:54	16:57	17:58	20:03	23	19:30 (Pr3a)	21:05	20:28 (PrRR3)	21:58	20:35 (PrRR3)
8	08:45	07:58	06:50	06:28		19:06 (Pr3a)	05:15	19:58 (Pr25)	04:27	20:11 (PrRR3)
	15:56	16:59	18:01	20:05	24	19:30 (Pr3a)	21:07	20:30 (PrRR3)	21:59	20:35 (PrRR3)
9	08:44	07:56	06:48	06:25		19:06 (Pr3a)	05:13	20:01 (Pr25)	04:27	20:11 (PrRR3)
	15:58	17:01	18:03	20:07	24	19:30 (Pr3a)	21:09	20:31 (PrRR3)	22:00	20:34 (PrRR3)
10	08:44	07:54	06:45	06:23		19:05 (Pr3a)	05:11	20:09 (PrRR3)	04:26	20:12 (PrRR3)
	15:59	17:03	18:05	20:09	24	19:29 (Pr3a)	21:11	20:32 (PrRR3)	22:01	20:35 (PrRR3)
11	08:43	07:52	06:43	06:20		19:06 (Pr3a)	05:09	20:07 (PrRR3)	04:26	20:13 (PrRR3)
	16:01	17:06	18:07	20:12	23	19:29 (Pr3a)	21:13	20:33 (PrRR3)	22:02	20:35 (PrRR3)
12	08:42	07:49	06:40	06:18		19:06 (Pr3a)	05:07	20:06 (PrRR3)	04:25	20:13 (PrRR3)
	16:03	17:08	18:09	20:14	22	19:28 (Pr3a)	21:15	20:34 (PrRR3)	22:03	20:34 (PrRR3)
13	08:41	07:47	06:37	06:15		19:07 (Pr3a)	05:05	20:06 (PrRR3)	04:25	20:14 (PrRR3)
	16:04	17:10	18:11	20:16	20	19:27 (Pr3a)	21:17	20:34 (PrRR3)	22:03	20:34 (PrRR3)
14	08:40	07:45	06:35	06:12		19:07 (Pr3a)	05:03	20:06 (PrRR3)	04:24	20:15 (PrRR3)
	16:06	17:12	18:13	20:18	18	19:25 (Pr3a)	21:19	20:35 (PrRR3)	22:04	20:34 (PrRR3)
15	08:39	07:43	06:32	06:10		19:09 (Pr3a)	05:01	20:05 (PrRR3)	04:24	20:15 (PrRR3)
	16:08	17:15	18:15	20:20	15	19:24 (Pr3a)	21:21	20:35 (PrRR3)	22:05	20:35 (PrRR3)
16	08:38	07:40	06:29	06:07		19:11 (Pr3a)	04:59	20:04 (PrRR3)	04:24	20:15 (PrRR3)
	16:10	17:17	18:17	20:22	10	19:21 (Pr3a)	21:23	20:35 (PrRR3)	22:05	20:34 (PrRR3)
17	08:36	07:38	06:27	06:05			04:57	20:05 (PrRR3)	04:24	20:15 (PrRR3)
	16:12	17:19	18:20	20:24			21:25	20:36 (PrRR3)	22:06	20:34 (PrRR3)
18	08:35	07:36	06:24	06:02			04:55	20:04 (PrRR3)	04:23	20:16 (PrRR3)
	16:14	17:21	18:22	20:26			21:27	20:36 (PrRR3)	22:06	20:34 (PrRR3)
19	08:34	07:33	06:21	06:00			04:53	20:04 (PrRR3)	04:23	20:16 (PrRR3)
	16:16	17:23	18:24	20:28			21:29	20:36 (PrRR3)	22:07	20:34 (PrRR3)
20	08:32	07:31	06:19	05:57			04:51	20:04 (PrRR3)	04:23	20:17 (PrRR3)
	16:18	17:26	18:26	20:30			21:30	20:37 (PrRR3)	22:07	20:35 (PrRR3)
21	08:31	07:28	06:16	05:55			04:50	20:04 (PrRR3)	04:24	20:17 (PrRR3)
	16:20	17:28	18:28	20:32			21:32	20:36 (PrRR3)	22:07	20:35 (PrRR3)
22	08:29	07:26	06:13	05:52			04:48	20:04 (PrRR3)	04:24	20:17 (PrRR3)
	16:22	17:30	18:30	20:34			21:34	20:37 (PrRR3)	22:08	20:35 (PrRR3)
23	08:28	07:24	06:11	05:50		20:00 (Pr25)	04:46	20:05 (PrRR3)	04:24	20:17 (PrRR3)
	16:24	17:32	18:32	20:36	5	20:05 (Pr25)	21:36	20:37 (PrRR3)	22:08	20:35 (PrRR3)
24	08:26	07:21	06:08	05:47		19:58 (Pr25)	04:45	20:04 (PrRR3)	04:24	20:18 (PrRR3)
	16:26	17:35	18:34	20:39	10	20:08 (Pr25)	21:38	20:37 (PrRR3)	22:08	20:36 (PrRR3)
25	08:25	07:19	06:05	05:45		19:57 (Pr25)	04:43	20:05 (PrRR3)	04:25	20:18 (PrRR3)
	16:28	17:37	18:36	20:41	13	20:10 (Pr25)	21:39	20:37 (PrRR3)	22:08	20:36 (PrRR3)
26	08:23	07:16	06:03	05:42		19:55 (Pr25)	04:42	20:05 (PrRR3)	04:25	20:17 (PrRR3)
	16:30	17:39	18:38	20:43	16	20:11 (Pr25)	21:41	20:37 (PrRR3)	22:08	20:36 (PrRR3)
27	08:21	07:14	06:00	05:40		19:55 (Pr25)	04:40	20:05 (PrRR3)	04:26	20:18 (PrRR3)
	16:32	17:41	18:40	20:45	18	20:13 (Pr25)	21:42	20:36 (PrRR3)	22:08	20:37 (PrRR3)
28	08:20	07:11	05:57	05:38		19:54 (Pr25)	04:39	20:05 (PrRR3)	04:26	20:18 (PrRR3)
	16:35	17:43	18:42	20:47	21	20:15 (Pr25)	21:44	20:36 (PrRR3)	22:07	20:37 (PrRR3)
29	08:18		06:55	05:35		19:54 (Pr25)	04:38	20:06 (PrRR3)	04:27	20:17 (PrRR3)
	16:37		19:45	20:49	22	20:16 (Pr25)	21:46	20:36 (PrRR3)	22:07	20:37 (PrRR3)
30	08:16		06:52	05:33		19:53 (Pr25)	04:36	20:06 (PrRR3)	04:27	20:17 (PrRR3)
	16:39		19:47	20:51	22	20:15 (Pr25)	21:47	20:36 (PrRR3)	22:07	20:38 (PrRR3)
31	08:14		06:49				04:35	20:07 (PrRR3)		
	16:41		19:49				21:49	20:36 (PrRR3)		
Potential sun hours	236	266	366	426			507		528	
Total, worst case				422			877		638	
Sun reduction				0,44			0,56		0,57	
Oper. time red.				1,00			1,00		1,00	
Wind dir. red.				1,00			1,00		1,00	
Total reduction				0,44			0,56		0,57	
Total, real				186			493		362	

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)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_A

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Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Irbeni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (497)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July			August			September			October	November	December
1	04:28	20:18 (PrRR3)	05:14	20:17 (PrRR3)	06:15	19:05 (Pr3a)	07:15	07:20	08:22			
	22:06	21	20:39 (PrRR3)	21:25	27	20:44 (PrRR3)	20:12	23	19:28 (Pr3a)	18:51	16:34	15:43
2	04:29	20:17 (PrRR3)	05:16	20:18 (PrRR3)	06:17	19:04 (Pr3a)	07:17	07:22	08:23			
	22:06	22	20:39 (PrRR3)	21:23	25	20:43 (PrRR3)	20:09	24	19:28 (Pr3a)	18:49	16:32	15:42
3	04:30	20:17 (PrRR3)	05:18	20:19 (PrRR3)	06:19	19:04 (Pr3a)	07:19	07:25	08:25			
	22:05	22	20:39 (PrRR3)	21:21	23	20:42 (PrRR3)	20:06	24	19:28 (Pr3a)	18:46	16:30	15:41
4	04:31	20:17 (PrRR3)	05:20	20:10 (Pr25)	06:21	19:04 (Pr3a)	07:21	07:27	08:27			
	22:05	23	20:40 (PrRR3)	21:19	28	20:41 (PrRR3)	20:04	24	19:28 (Pr3a)	18:44	16:27	15:41
5	04:32	20:16 (PrRR3)	05:21	20:07 (Pr25)	06:23	19:03 (Pr3a)	07:23	07:29	08:28			
	22:04	25	20:41 (PrRR3)	21:17	29	20:38 (PrRR3)	20:01	23	19:26 (Pr3a)	18:41	16:25	15:40
6	04:33	20:16 (PrRR3)	05:23	20:06 (Pr25)	06:25	19:03 (Pr3a)	07:25	07:31	08:30			
	22:03	25	20:41 (PrRR3)	21:15	27	20:36 (PrRR3)	19:59	23	19:26 (Pr3a)	18:38	16:23	15:39
7	04:34	20:16 (PrRR3)	05:25	20:05 (Pr25)	06:27	19:03 (Pr3a)	07:27	07:33	08:31			
	22:03	26	20:42 (PrRR3)	21:13	21	20:32 (PrRR3)	19:56	22	19:25 (Pr3a)	18:36	16:21	15:38
8	04:35	20:16 (PrRR3)	05:27	20:04 (Pr25)	06:29	19:04 (Pr3a)	07:29	07:35	08:33			
	22:02	26	20:42 (PrRR3)	21:11	19	20:23 (Pr25)	19:53	19	19:23 (Pr3a)	18:33	16:19	15:38
9	04:36	20:16 (PrRR3)	05:29	20:03 (Pr25)	06:31	19:05 (Pr3a)	07:31	07:38	08:34			
	22:01	27	20:43 (PrRR3)	21:08	20	20:23 (Pr25)	19:51	15	19:20 (Pr3a)	18:30	16:17	15:37
10	04:38	20:15 (PrRR3)	05:31	20:03 (Pr25)	06:33	19:07 (Pr3a)	07:33	07:40	08:35			
	22:00	28	20:43 (PrRR3)	21:06	21	20:24 (Pr25)	19:48	11	19:18 (Pr3a)	18:28	16:15	15:37
11	04:39	20:15 (PrRR3)	05:33	20:02 (Pr25)	06:35	19:10 (Pr3a)	07:36	07:42	08:37			
	21:59	28	20:43 (PrRR3)	21:04	21	20:23 (Pr25)	19:45	5	19:15 (Pr3a)	18:25	16:13	15:37
12	04:40	20:15 (PrRR3)	05:35	20:02 (Pr25)	06:37		07:38	07:44	08:38			
	21:58	29	20:44 (PrRR3)	21:01	21	20:23 (Pr25)	19:43	18:23	16:11	15:36		
13	04:42	20:15 (PrRR3)	05:37	20:02 (Pr25)	06:39		07:40	07:46	08:39			
	21:57	30	20:45 (PrRR3)	20:59	21	20:23 (Pr25)	19:40	18:20	16:09	15:36		
14	04:43	20:15 (PrRR3)	05:39	20:02 (Pr25)	06:41		07:42	07:48	08:40			
	21:55	30	20:45 (PrRR3)	20:57	21	20:23 (Pr25)	19:37	18:17	16:07	15:36		
15	04:44	20:15 (PrRR3)	05:41	20:02 (Pr25)	06:43		07:44	07:50	08:41			
	21:54	31	20:46 (PrRR3)	20:54	20	20:22 (Pr25)	19:34	18:15	16:06	15:36		
16	04:46	20:15 (PrRR3)	05:43	20:02 (Pr25)	06:45		07:46	07:53	08:42			
	21:53	31	20:46 (PrRR3)	20:52	18	20:20 (Pr25)	19:32	18:12	16:04	15:36		
17	04:47	20:14 (PrRR3)	05:45	20:03 (Pr25)	06:47		07:48	07:55	08:43			
	21:51	32	20:46 (PrRR3)	20:50	15	20:18 (Pr25)	19:29	18:10	16:02	15:36		
18	04:49	20:15 (PrRR3)	05:47	20:03 (Pr25)	06:49		07:50	07:57	08:44			
	21:50	32	20:47 (PrRR3)	20:47	12	20:15 (Pr25)	19:26	18:07	16:00	15:36		
19	04:51	20:14 (PrRR3)	05:49	20:04 (Pr25)	06:51		07:52	07:59	08:45			
	21:49	32	20:46 (PrRR3)	20:45	9	20:13 (Pr25)	19:24	18:05	15:59	15:36		
20	04:52	20:15 (PrRR3)	05:51	20:06 (Pr25)	06:53		07:54	08:01	08:45			
	21:47	32	20:47 (PrRR3)	20:42	5	20:11 (Pr25)	19:21	18:02	15:57	15:37		
21	04:54	20:14 (PrRR3)	05:53		06:55		07:57	08:03	08:46			
	21:45	33	20:47 (PrRR3)	20:40		19:18	18:00	15:56	15:37			
22	04:56	20:14 (PrRR3)	05:55		06:57		07:59	08:05	08:47			
	21:44	33	20:47 (PrRR3)	20:37		19:16	17:57	15:54	15:38			
23	04:57	20:14 (PrRR3)	05:57		06:59		08:01	08:07	08:47			
	21:42	33	20:47 (PrRR3)	20:35		19:13	17:55	15:53	15:38			
24	04:59	20:15 (PrRR3)	05:59		07:01		08:03	08:09	08:47			
	21:40	32	20:47 (PrRR3)	20:32		19:10	17:53	15:51	15:39			
25	05:01	20:15 (PrRR3)	06:01		07:03		07:05	08:11	08:48			
	21:39	32	20:47 (PrRR3)	20:30		19:08	16:50	15:50	15:39			
26	05:03	20:15 (PrRR3)	06:03		07:05		07:07	08:13	08:48			
	21:37	31	20:46 (PrRR3)	20:27		19:05	16:48	15:49	15:40			
27	05:04	20:15 (PrRR3)	06:05	19:12 (Pr3a)	07:07		07:09	08:15	08:48			
	21:35	32	20:47 (PrRR3)	20:25	11	19:23 (Pr3a)	19:02	16:45	15:48	15:41		
28	05:06	20:16 (PrRR3)	06:07	19:10 (Pr3a)	07:09		07:12	08:16	08:48			
	21:33	31	20:47 (PrRR3)	20:22	15	19:25 (Pr3a)	18:59	16:43	15:46	15:42		
29	05:08	20:16 (PrRR3)	06:09	19:08 (Pr3a)	07:11		07:14	08:18	08:48			
	21:31	30	20:46 (PrRR3)	20:20	18	19:26 (Pr3a)	18:57	16:41	15:45	15:43		
30	05:10	20:16 (PrRR3)	06:11	19:07 (Pr3a)	07:13		07:16	08:20	08:48			
	21:29	29	20:45 (PrRR3)	20:17	20	19:27 (Pr3a)	18:54	16:39	15:44	15:44		
31	05:12	20:17 (PrRR3)	06:13	19:06 (Pr3a)			07:18		08:48			
	21:27	28	20:45 (PrRR3)	20:14	22	19:28 (Pr3a)		16:36		15:45		
Potential sun hours	529		469			384		324	248	217		
Total, worst case	896		489		213							
Sun reduction	0,47		0,52		0,43							
Oper. time red.	1,00		1,00		1,00							
Wind dir. red.	1,00		1,00		1,00							
Total reduction	0,47		0,52		0,43							
Total, real	422		255		92							

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Irš i - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Ivaļš i - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Ivdri - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jasmini - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:29	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:57	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:50	07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:08 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:22	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:02 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:14	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:19	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:55 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:37
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:38	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:52	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:24 22:08	05:01 21:39	06:01 20:30	07:03 19:07	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:02 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:37 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	08:11 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:44	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:13 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunbruveri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (592)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:07	05:14 21:26	06:16 20:12	07:15 18:52	07:21 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:52	04:30 22:06	05:16 21:24	06:18 20:09	07:18 18:49	07:23 16:32	08:24 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:06	05:18 21:22	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:02	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:40
6	08:47 15:54	08:03 16:55	06:56 17:57	06:34 20:02	05:20 21:04	04:30 21:57	04:34 22:04	05:24 21:15	06:26 20:00	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:01 16:57	06:53 17:59	06:31 20:04	05:18 21:06	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:00	07:28 18:36	07:34 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:08	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:04	07:30 18:33	07:36 16:20	08:33 15:39
9	08:45 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:10	04:27 22:00	04:37 22:01	05:30 21:09	06:32 20:00	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:12	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:00	07:34 18:28	07:40 16:16	08:36 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:14	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:00	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:16	04:26 22:03	04:41 21:58	05:36 21:02	06:38 20:00	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:48 17:11	06:38 18:12	06:16 20:16	05:05 21:18	04:25 22:04	04:42 21:57	05:38 20:59	06:40 20:00	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:56	05:40 20:57	06:42 20:00	07:42 18:18	07:49 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:44 20:00	07:44 18:15	07:51 16:06	08:41 15:37
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:06	04:47 21:53	05:44 20:52	06:46 20:00	07:46 18:13	07:53 16:04	08:42 15:37
17	08:37 16:12	07:38 17:20	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:52	05:46 20:50	06:48 20:00	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:07	04:50 21:50	05:48 20:48	06:49 20:00	07:51 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:34 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 20:00	07:53 18:05	07:59 15:59	08:45 15:37
20	08:33 16:18	07:31 17:26	06:19 18:26	05:58 20:31	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:43	06:53 20:00	07:55 18:03	08:01 15:58	08:46 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:08	04:55 21:46	05:54 20:40	06:55 20:00	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 20:00	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:24	07:24 17:33	06:11 18:33	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 20:00	08:01 17:56	08:07 15:53	08:47 15:39
24	08:27 16:27	07:21 17:35	06:08 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:41	06:00 20:33	07:01 20:00	08:03 17:53	08:09 15:52	08:48 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 20:00	08:05 17:51	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:28	07:05 20:00	08:07 17:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:00	08:09 17:46	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:08	05:07 21:33	06:08 20:22	07:09 20:00	08:12 17:44	08:17 15:47	08:49 15:42
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:27 22:07	05:09 21:32	06:10 20:20	07:11 20:00	08:14 17:41	08:18 15:46	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:30	06:12 20:17	07:13 20:00	08:16 17:39	08:20 15:45	08:49 15:44
31	08:15 16:42		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15	07:18 20:00	08:18 17:37		08:49 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaundzelzava - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (451)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:29	05:14	06:15	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:07	18:46	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:03	06:56	06:34	05:20	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:26	06:27	07:27	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	04:28	04:35	05:28	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:17	15:38
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:32	06:33	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:37
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:10	15:36
14	08:40	07:45	06:35	06:13	05:03	04:25	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:13	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:51	08:41
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:40	06:30	06:08	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:53	05:51	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:03	15:58	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:37	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:58	05:57	06:59	08:01	08:07	08:47
	16:24	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:25	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:40
26	08:23	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:15	08:48
	16:33	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:46	15:48	15:41
28	08:20	07:11	05:58	05:38	04:39	04:26	05:07	06:07	07:09	08:11	08:16	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:33	20:22	19:00	17:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:13	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:15	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:14		06:50		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaundzitari - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December				
1	08:48	08:12	07:09	06:47	05:31	19:54 (AP2)	04:34	04:28	05:14	20:04 (AP2)	06:15	07:15	07:20	08:22		
	15:46	16:43	17:46	19:51	20:53	24	20:18 (AP2)	21:50	22:06	21:25	23	20:27 (AP2)	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	19:54 (AP2)	04:33	04:29	05:16	20:04 (AP2)	06:17	07:17	07:22	08:23		
	15:48	16:46	17:48	19:53	20:55	25	20:19 (AP2)	21:51	22:06	21:23	24	20:28 (AP2)	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	19:53 (AP2)	04:32	04:30	05:18	20:03 (AP2)	06:19	07:19	07:25	08:25		
	15:49	16:48	17:50	19:55	20:57	26	20:19 (AP2)	21:53	22:05	21:21	26	20:29 (AP2)	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	19:53 (AP2)	04:31	04:31	05:20	20:03 (AP2)	06:21	07:21	07:27	08:27		
	15:50	16:50	17:52	19:57	20:59	26	20:19 (AP2)	21:54	22:05	21:19	26	20:29 (AP2)	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	19:53 (AP2)	04:30	04:32	05:22	20:03 (AP2)	06:23	07:23	07:29	08:28		
	15:52	16:52	17:54	19:59	21:01	26	20:19 (AP2)	21:55	22:04	21:17	26	20:29 (AP2)	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	19:53 (AP2)	04:29	04:33	05:23	20:02 (AP2)	06:25	07:25	07:31	08:30		
	15:53	16:54	17:56	20:01	21:03	26	20:19 (AP2)	21:56	22:03	21:15	27	20:29 (AP2)	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	19:53 (AP2)	04:28	04:34	05:25	20:02 (AP2)	06:27	07:27	07:33	08:31		
	15:55	16:57	17:58	20:03	21:05	26	20:19 (AP2)	21:58	22:03	21:13	27	20:29 (AP2)	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	19:53 (AP2)	04:28	04:35	05:27	20:02 (AP2)	06:29	07:29	07:35	08:33		
	15:56	16:59	18:01	20:05	21:07	26	20:19 (AP2)	21:59	22:02	21:11	27	20:29 (AP2)	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	19:53 (AP2)	04:27	04:36	05:29	20:03 (AP2)	06:31	07:31	07:38	08:34		
	15:58	17:01	18:03	20:07	21:09	26	20:19 (AP2)	22:00	22:01	21:08	26	20:29 (AP2)	19:51	18:30	16:17	15:38
10	08:44	07:54	06:45	06:23	05:11	19:53 (AP2)	04:26	04:38	05:31	20:03 (AP2)	06:33	07:33	07:40	08:35		
	15:59	17:03	18:05	20:09	21:11	25	20:18 (AP2)	22:01	22:00	21:06	25	20:28 (AP2)	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	19:53 (AP2)	04:26	04:39	05:33	20:03 (AP2)	06:35	07:36	07:42	08:37		
	16:01	17:06	18:07	20:12	21:13	25	20:18 (AP2)	22:02	21:59	21:04	24	20:27 (AP2)	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	19:54 (AP2)	04:25	04:40	05:35	20:03 (AP2)	06:37	07:38	07:44	08:38		
	16:03	17:08	18:09	20:14	21:15	23	20:17 (AP2)	22:03	21:58	21:01	23	20:26 (AP2)	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	19:55 (AP2)	04:25	04:42	05:37	20:04 (AP2)	06:39	07:40	07:46	08:39		
	16:05	17:10	18:11	20:16	21:17	22	20:17 (AP2)	22:03	21:57	20:59	21	20:25 (AP2)	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	19:56 (AP2)	04:24	04:43	05:39	20:05 (AP2)	06:41	07:42	07:48	08:40		
	16:06	17:12	18:13	20:18	21:19	20	20:16 (AP2)	22:04	21:55	20:57	19	20:24 (AP2)	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	19:57 (AP2)	04:24	04:45	05:41	20:06 (AP2)	06:43	07:44	07:50	08:41		
	16:08	17:15	18:15	20:20	21:21	18	20:15 (AP2)	22:05	21:54	20:54	16	20:22 (AP2)	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	19:58 (AP2)	04:24	04:46	05:43	20:08 (AP2)	06:45	07:46	07:53	08:42		
	16:10	17:17	18:18	20:22	21:23	15	20:13 (AP2)	22:05	21:53	20:52	12	20:20 (AP2)	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	20:00 (AP2)	04:24	04:48	05:45	20:11 (AP2)	06:47	07:48	07:55	08:43		
	16:12	17:19	18:20	20:24	21:25	12	20:12 (AP2)	22:06	21:51	20:50	6	20:17 (AP2)	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	20:02 (AP2)	04:24	04:49	05:47	20:09	06:49	07:50	07:57	08:44		
	16:14	17:21	18:22	20:26	21:27	8	20:10 (AP2)	22:06	21:50	20:47		19:26	18:07	16:01	15:36	
19	08:34	07:33	06:21	06:00	04:53		04:23	04:51	05:49		06:51	07:52	07:59	08:45		
	16:16	17:24	18:24	20:28	21:29		22:07	21:48	20:45		19:24	18:05	15:59	15:37		
20	08:32	07:31	06:19	05:57	04:52		04:24	04:52	05:51		06:53	07:54	08:01	08:45		
	16:18	17:26	18:26	20:30	21:30		22:07	21:47	20:42		19:21	18:02	15:57	15:37		
21	08:31	07:28	06:16	05:55	04:50		04:24	04:54	05:53		06:55	07:57	08:03	08:46		
	16:20	17:28	18:28	20:32	21:32		22:07	21:45	20:40		19:18	18:00	15:56	15:37		
22	08:29	07:26	06:13	05:52	04:48		04:24	04:56	05:55		06:57	07:59	08:05	08:47		
	16:22	17:30	18:30	20:34	21:34		22:08	21:44	20:37		19:16	17:57	15:54	15:38		
23	08:28	07:24	06:11	05:50	04:47		04:24	04:57	05:57		06:59	08:01	08:07	08:47		
	16:24	17:32	18:32	20:36	21:36		22:08	21:42	20:35		19:13	17:55	15:53	15:38		
24	08:26	07:21	06:08	05:47	04:45		04:24	04:59	05:59		07:01	08:03	08:09	08:47		
	16:26	17:35	18:34	20:39	21:37		22:08	21:40	20:32		19:10	17:53	15:51	15:39		
25	08:25	07:19	06:05	05:45	04:43		04:25	05:01			06:01	07:03	07:05	08:11	08:48	
	16:28	17:37	18:36	20:41	21:39		22:08	21:39	5	20:19 (AP2)	20:30	19:08	16:50	15:50	15:40	
26	08:23	07:16	06:03	05:42	20:03 (AP2)	04:42	04:25	05:03		20:11 (AP2)	06:03	07:05	07:07	08:13	08:48	
	16:30	17:39	18:38	20:43	8	20:11 (AP2)	21:41	21:37	10	20:21 (AP2)	20:27	19:05	16:48	15:49	15:40	
27	08:21	07:14	06:00	05:40	20:00 (AP2)	04:41	04:26	05:05		20:09 (AP2)	06:05	07:07	07:09	08:14	08:48	
	16:32	17:41	18:40	20:45	13	20:13 (AP2)	21:42	21:35	14	20:23 (AP2)	20:25	19:02	16:46	15:48	15:41	
28	08:20	07:11	05:57	05:38	19:58 (AP2)	04:39	04:26	05:06		20:08 (AP2)	06:07	07:09	07:12	08:16	08:48	
	16:35	17:43	18:43	20:47	17	20:15 (AP2)	21:44	21:33	17	20:25 (AP2)	20:22	19:00	16:43	15:46	15:42	
29	08:18		06:55	05:35	19:57 (AP2)	04:38	04:27	05:08		20:06 (AP2)	06:09	07:11	07:14	08:18	08:48	
	16:37		19:45	20:49	20	20:17 (AP2)	21:46	21:31	19	20:25 (AP2)	20:20	18:57	16:41	15:45	15:43	
30	08:16		06:52	05:33	19:55 (AP2)	04:37	04:28	05:10		20:06 (AP2)	06:11	07:13	07:16	08:20	08:48	
	16:39		19:47	20:51	22	20:17 (AP2)	21:47	21:29	21	20:27 (AP2)	20:17	18:54	16:39	15:44	15:44	
31	08:14		06:49			04:35		05:12		20:05 (AP2)	06:13		07:18		08:48	
	16:41		19:49			21:49		21:27	23	20:28 (AP2)	20:14		16:36		15:45	
Potential sun hours	236	266	366	426	507		528	529		469		384	324	248	217	
Total, worst case				80	399			109		378						
Sun reduction				0,44	0,56			0,47		0,52						
Oper. time red.				1,00	1,00			1,00		1,00						
Wind dir. red.				1,00	1,00			1,00		1,00						
Total reduction				0,44	0,56			0,47		0,52						
Total, real				35	225			51		197						

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunie Grantkalni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (438)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:58	17:59	20:04	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:39
10	08:43	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:08	20:12	21:13	22:01	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:37	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:02	15:37
19	08:34	07:33	06:22	06:00	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:06	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:30	21:30	22:07	21:47	20:43	19:21	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:29	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:46
	16:23	17:31	18:31	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:37	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:21	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:09	08:14	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:45	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunie Mozuli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (414)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:57	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:03	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:40 19:40	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:37	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 19:35	07:44 18:15	07:51 16:06	08:41 15:37
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 19:32	07:46 18:13	07:53 16:04	08:42 15:37
17	08:36 16:12	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 19:24	07:53 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:43	06:53 19:21	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 19:19	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 19:16	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:25	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:40	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 19:08	08:05 17:51	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 19:05	08:07 17:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:06 20:25	07:07 19:03	08:09 17:46	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 19:00	08:12 17:44	08:16 15:47	08:48 15:43
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 17:41	08:18 15:46	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 17:39	08:20 15:45	08:48 15:44
31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunkaleji - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunkaleji 1 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (581)  
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunlauki - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:24	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:37	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:45	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:48		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunozoli - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunstikani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (421)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:10	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19	07:25	08:25
	15:50	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:46	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:21	07:27	08:27
	15:51	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:31	04:33	05:22	06:24	07:23	07:29	08:28
	15:52	16:53	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:02	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:25	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:35	08:33
	15:57	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:20	15:39
9	08:44	07:56	06:48	06:26	05:13	04:28	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:43	07:54	06:45	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:38	06:39	07:40	07:46	08:39
	16:05	17:11	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:41	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:43	07:44	07:50	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:37	07:40	06:30	06:08	04:59	04:24	04:47	05:44	06:45	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:04	15:37
17	08:36	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:47	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:03	15:58	15:38
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:19	18:00	15:56	15:38
22	08:29	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:46
	16:22	17:31	18:30	20:34	21:34	22:07	21:44	20:37	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:39
24	08:26	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:41
27	08:21	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	08:14	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:02	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:45	22:07	21:31	20:20	18:57	16:41	15:46	15:44
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:45	15:45
31	08:14		06:50		04:36		05:12	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:14		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunstikani - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:10	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:23	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19	07:25	08:25
	15:50	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:21	07:27	08:27
	15:51	16:51	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:23	07:29	08:28
	15:52	16:53	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:02	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:03	21:05	21:58	22:02	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:35	08:33
	15:57	16:59	18:01	20:06	21:07	21:59	22:02	21:11	19:53	18:33	16:20	15:39
9	08:44	07:56	06:48	06:26	05:13	04:28	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:38
10	08:43	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:41	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:43	07:44	07:50	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:37	07:40	06:30	06:08	04:59	04:24	04:47	05:44	06:45	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:47	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	16:00	15:37
20	08:32	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:03	15:58	15:38
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:19	18:00	15:56	15:38
22	08:29	07:26	06:14	05:53	04:49	04:25	04:56	05:56	06:57	07:59	08:05	08:46
	16:22	17:31	18:30	20:35	21:34	22:07	21:44	20:37	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:39
24	08:26	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:47
	16:27	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:41
27	08:21	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	08:14	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:02	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:46	15:44
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaunares - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (437)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:58	17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:39
10	08:44	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
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11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:08	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:02	15:37
19	08:34	07:34	06:22	06:01	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:06	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:31	21:30	22:07	21:47	20:43	19:22	18:03	15:58	15:38
21	08:31	07:29	06:17	05:56	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:46
	16:23	17:31	18:31	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:37	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jaurini - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 20:01	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:10	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:51 20:42	06:53 20:01	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 20:01	08:14 17:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 20:01	08:16 17:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14	07:18 20:01	08:18 17:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Jumiš i - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:24	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:22	16:11	15:36
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	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kalna Driva - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:24	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:02	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:24	04:51	05:49	06:51	07:52	07:59	08:44
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:07	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:07	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:45	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:48		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kalnbirzes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (571) Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:35	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14	07:18 16:36			08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kalnieš i 2 (kad. apz. 76740010016001) - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January			February			March			April	May	June
1	08:49		10:30 (JU1)	08:13		15:05 (O6)	07:09		08:06 (Pr25)	06:47	05:31	04:34
	15:46	83	14:07 (Pr12)	16:43	36	15:41 (O6)	17:46	7	08:13 (Pr25)	19:51	20:53	21:50
2	08:48		10:31 (JU1)	08:11		15:05 (O6)	07:06			06:44	05:28	04:33
	15:48	81	14:06 (Pr12)	16:46	37	15:42 (O6)	17:48			19:53	20:55	21:52
3	08:48		10:33 (JU1)	08:09		15:05 (O6)	07:04			06:42	05:26	04:32
	15:49	79	14:07 (Pr12)	16:48	38	15:43 (O6)	17:50			19:55	20:57	21:53
4	08:48		10:34 (JU1)	08:07		15:04 (O6)	07:01			06:39	05:24	04:31
	15:50	77	14:07 (Pr12)	16:50	40	15:44 (O6)	17:52			19:57	21:00	21:54
5	08:47		10:35 (JU1)	08:05		15:03 (O6)	06:59			06:36	05:22	04:30
	15:52	73	14:07 (Pr12)	16:52	41	15:44 (O6)	17:54			19:59	21:02	21:56
6	08:47		12:19 (Pr11)	08:03		15:03 (O6)	06:56			06:34	05:19	04:29
	15:53	66	14:08 (Pr12)	16:55	42	15:45 (O6)	17:56			20:01	21:04	21:57
7	08:46		12:20 (Pr11)	08:01		15:03 (O6)	06:53			06:31	05:17	04:28
	15:55	64	14:08 (Pr12)	16:57	43	15:46 (O6)	17:59			20:03	21:06	21:58
8	08:45		12:20 (Pr11)	07:58		15:04 (O6)	06:51			06:28	05:15	04:28
	15:56	63	14:08 (Pr12)	16:59	42	15:46 (O6)	18:01			20:06	21:08	21:59
9	08:45		12:21 (Pr11)	07:56		15:03 (O6)	06:48			06:26	05:13	04:27
	15:58	62	14:08 (Pr12)	17:01	43	15:46 (O6)	18:03			20:08	21:10	22:00
10	08:44		12:22 (Pr11)	07:54		15:03 (O6)	06:45			06:23	05:11	04:26
	15:59	60	14:08 (Pr12)	17:04	43	15:46 (O6)	18:05			20:10	21:12	22:01
11	08:43		12:23 (Pr11)	07:52		15:04 (O6)	06:43			06:20	05:09	04:26
	16:01	58	14:08 (Pr12)	17:06	43	15:47 (O6)	18:07			20:12	21:14	22:02
12	08:42		12:23 (Pr11)	07:50		15:03 (O6)	06:40			06:18	05:07	04:25
	16:03	56	14:07 (Pr12)	17:08	43	15:46 (O6)	18:09			20:14	21:16	22:03
13	08:41		12:24 (Pr11)	07:47		15:04 (O6)	06:38			06:15	05:05	04:25
	16:05	52	14:06 (Pr12)	17:10	42	15:46 (O6)	18:11			20:16	21:18	22:04
14	08:40		12:25 (Pr11)	07:45		15:04 (O6)	06:35			06:13	05:03	04:24
	16:06	50	14:06 (Pr12)	17:13	41	15:45 (O6)	18:13			20:18	21:20	22:04
15	08:39		12:25 (Pr11)	07:43		15:05 (O6)	06:32			06:10	05:01	04:24
	16:08	46	14:04 (Pr12)	17:15	40	15:45 (O6)	18:16			20:20	21:21	22:05
16	08:38		12:27 (Pr11)	07:41		08:08 (Pr25)	06:30			06:08	04:59	04:24
	16:10	38	14:02 (Pr12)	17:17	47	15:44 (O6)	18:18			20:22	21:23	22:06
17	08:37		12:27 (Pr11)	07:38		08:06 (Pr25)	06:27			06:05	04:57	04:24
	16:12	31	12:58 (Pr11)	17:19	50	15:44 (O6)	18:20			20:24	21:25	22:06
18	08:35		12:29 (Pr11)	07:36		08:03 (Pr25)	06:24			06:02	04:55	04:24
	16:14	29	12:58 (Pr11)	17:21	53	15:43 (O6)	18:22			20:26	21:27	22:07
19	08:34		12:30 (Pr11)	07:33		08:01 (Pr25)	06:22			06:00	04:53	04:23
	16:16	27	12:57 (Pr11)	17:24	53	15:42 (O6)	18:24			20:28	21:29	22:07
20	08:33		12:31 (Pr11)	07:31		08:00 (Pr25)	06:19			05:57	04:52	04:24
	16:18	25	12:56 (Pr11)	17:26	53	15:41 (O6)	18:26			20:31	21:31	22:07
21	08:31		12:34 (Pr11)	07:29		08:00 (Pr25)	06:16			05:55	04:50	04:24
	16:20	21	12:55 (Pr11)	17:28	51	15:40 (O6)	18:28			20:33	21:33	22:08
22	08:30		12:36 (Pr11)	07:26		08:00 (Pr25)	06:14			05:52	04:48	04:24
	16:22	17	12:53 (Pr11)	17:30	47	15:38 (O6)	18:30			20:35	21:34	22:08
23	08:28		12:39 (Pr11)	07:24		08:00 (Pr25)	06:11			05:50	04:47	04:24
	16:24	12	12:51 (Pr11)	17:33	42	15:36 (O6)	18:32			20:37	21:36	22:08
24	08:27		15:15 (O6)	07:21		08:00 (Pr25)	06:08			05:47	04:45	04:24
	16:26	13	15:28 (O6)	17:35	36	15:32 (O6)	18:34			20:39	21:38	22:08
25	08:25		15:13 (O6)	07:19		08:00 (Pr25)	06:06			05:45	04:44	04:25
	16:28	18	15:31 (O6)	17:37	20	08:20 (Pr25)	18:36			20:41	21:40	22:08
26	08:23		15:12 (O6)	07:16		08:01 (Pr25)	06:03			05:43	04:42	04:25
	16:30	22	15:34 (O6)	17:39	18	08:19 (Pr25)	18:39			20:43	21:41	22:08
27	08:22		15:10 (O6)	07:14		08:01 (Pr25)	06:00			05:40	04:41	04:26
	16:33	26	15:36 (O6)	17:41	17	08:18 (Pr25)	18:41			20:45	21:43	22:08
28	08:20		15:09 (O6)	07:11		08:03 (Pr25)	05:58			05:38	04:39	04:26
	16:35	28	15:37 (O6)	17:43	13	08:16 (Pr25)	18:43			20:47	21:44	22:08
29	08:18		15:08 (O6)				06:55			05:35	04:38	04:27
	16:37	31	15:39 (O6)				19:45			20:49	21:46	22:08
30	08:16		15:06 (O6)				06:52			05:33	04:37	04:28
	16:39	33	15:39 (O6)				19:47			20:51	21:47	22:07
31	08:15		15:06 (O6)				06:50				04:35	
	16:41	34	15:40 (O6)				19:49				21:49	
Potential sun hours	236			266			366		426	507	528	
Total, worst case	1375			1114			7					
Sun reduction	0,13			0,23			0,39					
Oper. time red.	1,00			1,00			1,00					
Wind dir. red.	1,00			1,00			1,00					
Total reduction	0,13			0,23			0,39					
Total, real	185			251			3					

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kalnieš i 2 (kad. apz. 76740010016001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (465)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October		November		December		
1	04:28 22:07	05:14 21:26	06:15 20:12	07:15 18:52		07:21 16:34	43	14:33 (O6) 15:16 (O6)	08:22 15:43	12:04 (Pr11) 13:49 (Pr12)
2	04:29 22:06	05:16 21:24	06:17 20:09	07:17 18:49		07:23 16:32	43	14:32 (O6) 15:15 (O6)	08:24 15:42	12:04 (Pr11) 13:50 (Pr12)
3	04:30 22:06	05:18 21:22	06:19 20:07	07:19 18:46		07:25 16:30	43	14:33 (O6) 15:16 (O6)	08:25 15:41	12:04 (Pr11) 13:51 (Pr12)
4	04:31 22:05	05:20 21:20	06:21 20:04	07:21 18:44		07:27 16:28	42	14:33 (O6) 15:15 (O6)	08:27 15:41	12:04 (Pr11) 13:52 (Pr12)
5	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41		07:29 16:25	42	14:33 (O6) 15:15 (O6)	08:29 15:40	12:05 (Pr11) 13:53 (Pr12)
6	04:33 22:04	05:24 21:15	06:25 19:59	07:25 18:38		07:31 16:23	41	14:34 (O6) 15:15 (O6)	08:30 15:39	12:04 (Pr11) 13:53 (Pr12)
7	04:34 22:03	05:26 21:13	06:27 19:56	07:28 18:36		07:34 16:21	40	14:34 (O6) 15:14 (O6)	08:32 15:39	10:23 (JU1) 13:54 (Pr12)
8	04:35 22:02	05:27 21:11	06:29 19:53	07:30 18:33		07:36 16:19	39	14:35 (O6) 15:14 (O6)	08:33 15:38	10:22 (JU1) 13:55 (Pr12)
9	04:36 22:01	05:29 21:09	06:31 19:51	07:32 18:31		07:38 16:17	37	14:36 (O6) 15:13 (O6)	08:34 15:38	10:21 (JU1) 13:55 (Pr12)
10	04:38 22:00	05:31 21:06	06:33 19:48	07:34 18:28		07:40 16:15	36	14:36 (O6) 15:12 (O6)	08:36 15:37	10:21 (JU1) 13:56 (Pr12)
11	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25		07:42 16:13	34	14:38 (O6) 15:12 (O6)	08:37 15:37	10:21 (JU1) 13:57 (Pr12)
12	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23		07:44 16:11	33	14:38 (O6) 15:11 (O6)	08:38 15:37	10:20 (JU1) 13:57 (Pr12)
13	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	10	08:37 (Pr25) 08:47 (Pr25)	31	14:40 (O6) 15:11 (O6)	08:39 15:36	10:21 (JU1) 13:58 (Pr12)
14	04:43 21:56	05:39 20:57	06:41 19:37	07:42 18:18	14	08:35 (Pr25) 08:49 (Pr25)	28	14:41 (O6) 15:09 (O6)	08:40 15:36	10:21 (JU1) 13:59 (Pr12)
15	04:45 21:54	05:41 20:55	06:43 19:35	07:44 18:15	17	08:34 (Pr25) 08:51 (Pr25)	26	14:42 (O6) 15:08 (O6)	08:41 15:36	10:21 (JU1) 13:59 (Pr12)
16	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:13	19	08:33 (Pr25) 08:52 (Pr25)	22	14:45 (O6) 15:07 (O6)	08:42 15:36	10:21 (JU1) 14:00 (Pr12)
17	04:48 21:52	05:45 20:50	06:47 19:29	07:48 18:10	27	08:32 (Pr25) 16:00 (O6)	18	14:47 (O6) 15:05 (O6)	08:43 15:36	10:22 (JU1) 14:00 (Pr12)
18	04:49 21:50	05:47 20:47	06:49 19:27	07:50 18:08	39	08:31 (Pr25) 16:05 (O6)	13	14:49 (O6) 15:02 (O6)	08:44 15:36	10:21 (JU1) 14:00 (Pr12)
19	04:51 21:49	05:49 20:45	06:51 19:24	07:53 18:05	44	08:31 (Pr25) 16:08 (O6)	12	12:14 (Pr11) 12:26 (Pr11)	08:45 15:37	10:22 (JU1) 14:01 (Pr12)
20	04:52 21:47	05:51 20:43	06:53 19:21	07:55 18:03	48	08:31 (Pr25) 16:11 (O6)	17	12:11 (Pr11) 12:28 (Pr11)	08:46 15:37	10:23 (JU1) 14:01 (Pr12)
21	04:54 21:46	05:53 20:40	06:55 19:19	07:57 18:00	51	08:31 (Pr25) 16:11 (O6)	21	12:09 (Pr11) 12:30 (Pr11)	08:46 15:37	10:22 (JU1) 14:01 (Pr12)
22	04:56 21:44	05:55 20:38	06:57 19:16	07:59 17:58	52	08:31 (Pr25) 16:11 (O6)	25	12:08 (Pr11) 12:33 (Pr11)	08:47 15:38	10:23 (JU1) 14:02 (Pr12)
23	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	53	08:32 (Pr25) 16:13 (O6)	27	12:07 (Pr11) 12:34 (Pr11)	08:47 15:38	10:23 (JU1) 14:02 (Pr12)
24	04:59 21:41	05:59 20:33	07:01 19:10	08:03 17:53	52	08:34 (Pr25) 16:13 (O6)	29	12:06 (Pr11) 12:35 (Pr11)	08:48 15:39	10:25 (JU1) 14:04 (Pr12)
25	05:01 21:39	06:01 20:30	07:03 19:08	07:05 16:50	50	07:36 (Pr25) 15:14 (O6)	31	12:05 (Pr11) 12:36 (Pr11)	08:48 15:40	10:25 (JU1) 14:04 (Pr12)
26	05:03 21:37	06:03 20:27	07:05 19:05	07:08 16:48	46	07:39 (Pr25) 15:15 (O6)	38	12:05 (Pr11) 13:40 (Pr12)	08:48 15:40	10:25 (JU1) 14:04 (Pr12)
27	05:05 21:35	06:05 20:25	07:07 19:02	07:10 16:46	41	14:34 (O6) 15:15 (O6)	46	12:04 (Pr11) 13:43 (Pr12)	08:49 15:41	10:26 (JU1) 14:04 (Pr12)
28	05:06 21:34	06:07 20:22	07:09 19:00	07:12 16:43	42	14:33 (O6) 15:15 (O6)	50	12:03 (Pr11) 13:45 (Pr12)	08:49 15:42	10:27 (JU1) 14:05 (Pr12)
29	05:08 21:32	06:09 20:20	07:11 18:57	07:14 16:41	43	14:33 (O6) 15:16 (O6)	53	12:05 (Pr11) 13:47 (Pr12)	08:49 15:43	10:28 (JU1) 14:05 (Pr12)
30	05:10 21:30	06:11 20:17	07:13 18:54	07:16 16:39	43	14:33 (O6) 15:16 (O6)	56	12:05 (Pr11) 13:49 (Pr12)	08:49 15:44	10:29 (JU1) 14:06 (Pr12)
31	05:12 21:28	06:13 20:15		07:18 16:36	43	14:32 (O6) 15:15 (O6)			08:49 15:45	10:29 (JU1) 14:06 (Pr12)
Potential sun hours	529	469	384	324	734	248	1016	217	2518	
Total, worst case					0,29		1,00		0,08	
Sun reduction					1,00		1,00		1,00	
Oper. time red.					1,00		1,00		1,00	
Wind dir. red.					0,29		0,08		0,08	
Total reduction					213		76		213	

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kalnieš i 2 (kad. apz. 76740030024001) - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

January			February			March			April	May	June	
1	08:49		10:12 (JU1)	08:13		12:34 (Pr11)	07:09		07:42 (Pr25)	06:47	05:31	04:34
	15:46	107	14:13 (Pr12)	16:43	12	12:46 (Pr11)	17:46	64	16:03 (O6)	19:51	20:53	21:50
2	08:48		10:12 (JU1)	08:11			07:06		07:42 (Pr25)	06:44	05:28	04:33
	15:48	106	14:13 (Pr12)	16:46			17:48	62	16:02 (O6)	19:53	20:55	21:52
3	08:48		10:13 (JU1)	08:09			07:04		07:43 (Pr25)	06:42	05:26	04:32
	15:49	106	14:14 (Pr12)	16:48			17:50	58	16:01 (O6)	19:55	20:57	21:53
4	08:48		10:13 (JU1)	08:07		15:35 (O6)	07:01		07:43 (Pr25)	06:39	05:24	04:31
	15:50	106	14:14 (Pr12)	16:50	15	15:50 (O6)	17:52	54	15:59 (O6)	19:57	21:00	21:54
5	08:47		10:14 (JU1)	08:05		15:31 (O6)	06:59		07:43 (Pr25)	06:36	05:22	04:30
	15:52	105	14:14 (Pr12)	16:52	21	15:52 (O6)	17:54	50	15:57 (O6)	19:59	21:02	21:56
6	08:47		10:15 (JU1)	08:03		15:29 (O6)	06:56		07:45 (Pr25)	06:34	05:19	04:29
	15:53	104	14:15 (Pr12)	16:55	26	15:55 (O6)	17:56	42	15:55 (O6)	20:01	21:04	21:57
7	08:46		10:16 (JU1)	08:01		15:28 (O6)	06:53		07:46 (Pr25)	06:31	05:17	04:28
	15:55	103	14:15 (Pr12)	16:57	29	15:57 (O6)	17:59	33	15:52 (O6)	20:03	21:06	21:58
8	08:45		10:17 (JU1)	07:58		15:27 (O6)	06:51		15:34 (O6)	06:28	05:15	04:28
	15:56	102	14:16 (Pr12)	16:59	32	15:59 (O6)	18:01	14	15:48 (O6)	20:06	21:08	21:59
9	08:45		10:18 (JU1)	07:56		15:25 (O6)	06:48			06:26	05:13	04:27
	15:58	100	14:16 (Pr12)	17:01	35	16:00 (O6)	18:03			20:08	21:10	22:00
10	08:44		10:19 (JU1)	07:54		15:24 (O6)	06:45			06:23	05:11	04:26
	15:59	98	14:16 (Pr12)	17:04	38	16:02 (O6)	18:05			20:10	21:12	22:01
11	08:43		10:20 (JU1)	07:52		15:23 (O6)	06:43			06:20	05:09	04:26
	16:01	96	14:16 (Pr12)	17:06	40	16:03 (O6)	18:07			20:12	21:14	22:02
12	08:42		10:21 (JU1)	07:50		15:22 (O6)	06:40			06:18	05:07	04:25
	16:03	93	14:16 (Pr12)	17:08	42	16:04 (O6)	18:09			20:14	21:16	22:03
13	08:41		10:23 (JU1)	07:47		15:21 (O6)	06:38			06:15	05:05	04:25
	16:05	89	14:16 (Pr12)	17:10	44	16:05 (O6)	18:11			20:16	21:18	22:04
14	08:40		10:25 (JU1)	07:45		15:20 (O6)	06:35			06:13	05:03	04:24
	16:06	85	14:16 (Pr12)	17:13	45	16:05 (O6)	18:13			20:18	21:20	22:04
15	08:39		10:28 (JU1)	07:43		15:20 (O6)	06:32			06:10	05:01	04:24
	16:08	78	14:16 (Pr12)	17:15	46	16:06 (O6)	18:16			20:20	21:21	22:05
16	08:38		12:12 (Pr11)	07:41		15:19 (O6)	06:30			06:08	04:59	04:24
	16:10	75	14:16 (Pr12)	17:17	47	16:06 (O6)	18:18			20:22	21:23	22:06
17	08:37		12:12 (Pr11)	07:38		15:19 (O6)	06:27			06:05	04:57	04:24
	16:12	72	14:15 (Pr12)	17:19	48	16:07 (O6)	18:20			20:24	21:25	22:06
18	08:35		12:14 (Pr11)	07:36		15:18 (O6)	06:24			06:02	04:55	04:24
	16:14	69	14:15 (Pr12)	17:21	49	16:07 (O6)	18:22			20:26	21:27	22:07
19	08:34		12:14 (Pr11)	07:33		15:19 (O6)	06:22			06:00	04:53	04:24
	16:16	66	14:14 (Pr12)	17:24	48	16:07 (O6)	18:24			20:28	21:29	22:07
20	08:33		12:14 (Pr11)	07:31		15:18 (O6)	06:19			05:57	04:52	04:24
	16:18	64	14:13 (Pr12)	17:26	49	16:07 (O6)	18:26			20:31	21:31	22:07
21	08:31		12:16 (Pr11)	07:29		15:18 (O6)	06:16			05:55	04:50	04:24
	16:20	58	14:12 (Pr12)	17:28	49	16:07 (O6)	18:28			20:33	21:33	22:08
22	08:30		12:16 (Pr11)	07:26		07:53 (Pr25)	06:14			05:52	04:48	04:24
	16:22	54	14:10 (Pr12)	17:30	52	16:07 (O6)	18:30			20:35	21:34	22:08
23	08:28		12:17 (Pr11)	07:24		07:51 (Pr25)	06:11			05:50	04:47	04:24
	16:24	41	12:58 (Pr11)	17:33	57	16:07 (O6)	18:32			20:37	21:36	22:08
24	08:27		12:18 (Pr11)	07:21		07:48 (Pr25)	06:08			05:47	04:45	04:24
	16:26	40	12:58 (Pr11)	17:35	61	16:06 (O6)	18:34			20:39	21:38	22:08
25	08:25		12:19 (Pr11)	07:19		07:45 (Pr25)	06:06			05:45	04:44	04:25
	16:28	38	12:57 (Pr11)	17:37	65	16:06 (O6)	18:36			20:41	21:40	22:08
26	08:23		12:21 (Pr11)	07:16		07:44 (Pr25)	06:03			05:43	04:42	04:25
	16:30	36	12:57 (Pr11)	17:39	66	16:06 (O6)	18:39			20:43	21:41	22:08
27	08:22		12:22 (Pr11)	07:14		07:43 (Pr25)	06:00			05:40	04:41	04:26
	16:33	35	12:57 (Pr11)	17:41	67	16:05 (O6)	18:41			20:45	21:43	22:08
28	08:20		12:24 (Pr11)	07:11		07:43 (Pr25)	05:58			05:38	04:39	04:26
	16:35	31	12:55 (Pr11)	17:43	65	16:04 (O6)	18:43			20:47	21:44	22:08
29	08:18		12:26 (Pr11)				06:55			05:35	04:38	04:27
	16:37	28	12:54 (Pr11)				19:45			20:49	21:46	22:08
30	08:16		12:27 (Pr11)				06:52			05:33	04:37	04:28
	16:39	25	12:52 (Pr11)				19:47			20:51	21:47	22:07
31	08:15		12:30 (Pr11)				06:50				04:35	
	16:41	19	12:49 (Pr11)				19:49				21:49	
Potential sun hours	236			266			366		426		507	528
Total, worst case		2229			1148			377				
Sun reduction		0,13			0,23			0,39				
Oper. time red.		1,00			1,00			1,00				
Wind dir. red.		1,00			1,00			1,00				
Total reduction		0,13			0,23			0,39				
Total, real		299			258			148				

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

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Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kalnieš i 2 (kad. apz. 76740030024001) - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	July	August	September	October	November	December
1	04:28	05:14	06:15	07:15	07:21	14:54 (O6)
	22:07	21:26	20:12	18:52	16:34	15:43
2	04:29	05:16	06:17	07:17	07:23	15:31 (O6)
	22:06	21:24	20:09	18:49	16:32	15:42
3	04:30	05:18	06:19	07:19	07:25	15:30 (O6)
	22:06	21:22	20:07	18:46	16:30	15:42
4	04:31	05:20	06:21	07:21	07:27	15:29 (O6)
	22:05	21:20	20:04	18:44	16:28	15:41
5	04:32	05:22	06:23	07:23	07:29	14:58 (O6)
	22:04	21:17	20:01	18:41	16:25	15:41
6	04:33	05:24	06:25	07:25	08:24 (Pr25)	15:25 (O6)
	22:04	21:15	19:59	18:38	16:23	15:40
7	04:34	05:26	06:27	07:28	08:21 (Pr25)	15:02 (O6)
	22:03	21:13	19:56	18:36	16:21	15:39
8	04:35	05:27	06:29	07:30	08:19 (Pr25)	15:05 (O6)
	22:02	21:11	19:53	18:33	16:19	15:39
9	04:36	05:29	06:31	07:32	08:18 (Pr25)	15:05 (O6)
	22:01	21:09	19:51	18:31	16:17	15:38
10	04:38	05:31	06:33	07:34	08:17 (Pr25)	15:04 (Pr11)
	22:00	21:06	19:48	18:28	16:15	15:37
11	04:39	05:33	06:35	07:36	08:16 (Pr25)	15:37
	21:59	21:04	19:45	18:25	16:13	15:37
12	04:40	05:35	06:37	07:38	08:16 (Pr25)	15:37
	21:58	21:02	19:43	18:23	16:11	15:37
13	04:42	05:37	06:39	07:40	08:15 (Pr25)	15:37
	21:57	20:59	19:40	18:20	16:09	15:36
14	04:43	05:39	06:41	07:42	08:15 (Pr25)	15:36
	21:56	20:57	19:37	18:18	16:08	15:36
15	04:45	05:41	06:43	07:44	08:16 (Pr25)	15:36
	21:54	20:55	19:35	18:15	16:06	15:36
16	04:46	05:43	06:45	07:46	08:16 (Pr25)	15:36
	21:53	20:52	19:32	18:13	16:04	15:36
17	04:48	05:45	06:47	07:48	08:18 (Pr25)	15:36
	21:52	20:50	19:29	18:10	16:02	15:36
18	04:49	05:47	06:49	07:50	08:20 (Pr25)	15:36
	21:50	20:47	19:27	18:08	16:01	15:36
19	04:51	05:49	06:51	07:53	08:23 (Pr25)	15:36
	21:49	20:45	19:24	18:05	15:59	15:37
20	04:52	05:51	06:53	07:55	15:49 (O6)	15:37
	21:47	20:43	19:21	18:03	15:57	15:37
21	04:54	05:53	06:55	07:57	15:49 (O6)	15:37
	21:46	20:40	19:19	18:00	15:56	15:37
22	04:56	05:55	06:57	07:59	15:48 (O6)	15:37
	21:44	20:38	19:16	17:58	15:54	15:38
23	04:57	05:57	06:59	08:01	15:49 (O6)	15:38
	21:42	20:35	19:13	17:55	15:53	15:38
24	04:59	05:59	07:01	08:03	15:49 (O6)	15:38
	21:41	20:33	19:10	17:53	15:52	15:39
25	05:01	06:01	07:03	07:05	14:49 (O6)	15:39
	21:39	20:30	19:08	16:50	15:36 (O6)	15:40
26	05:03	06:03	07:05	07:08	14:50 (O6)	15:40
	21:37	20:27	19:05	16:48	15:36 (O6)	15:40
27	05:05	06:05	07:07	07:10	14:50 (O6)	15:40
	21:35	20:25	19:02	16:46	15:35 (O6)	15:41
28	05:06	06:07	07:09	07:12	14:50 (O6)	15:41
	21:34	20:22	19:00	16:43	15:34 (O6)	15:42
29	05:08	06:09	07:11	07:14	14:51 (O6)	15:42
	21:32	20:20	18:57	16:41	15:34 (O6)	15:43
30	05:10	06:11	07:13	07:16	14:51 (O6)	15:43
	21:30	20:17	18:54	16:39	15:33 (O6)	15:44
31	05:12	06:13		07:18	14:52 (O6)	15:44
	21:28	20:15		16:36	15:32 (O6)	15:45
Potential sun hours	529	469	384	324	248	217
Total, worst case				1343	1302	3273
Sun reduction				0,29	0,08	0,08
Oper. time red.				1,00	1,00	1,00
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,29	0,08	0,08
Total, real				390	98	276

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

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Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kalvani - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (469)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:47	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:51	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:34	08:32
	15:54	16:57	17:58	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:38
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44	15:44
31	08:15		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

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 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kamenes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (536)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	18:48 (PrRR3) 19:16 (PrRR3)	05:31 20:53
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	18:47 (PrRR3) 19:16 (PrRR3)	05:28 20:55
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	18:46 (PrRR3) 19:16 (PrRR3)	05:26 20:57
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	18:46 (PrRR3) 19:16 (PrRR3)	05:24 20:59
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	18:46 (PrRR3) 19:16 (PrRR3)	05:21 21:01
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	18:46 (PrRR3) 19:16 (PrRR3)	05:19 21:03
7	08:46 15:54	08:00 16:57	06:53 17:58	17:26 (Pr3a) 17:30 (Pr3a)	18:46 (PrRR3) 19:15 (PrRR3)	05:17 21:05
8	08:45 15:56	07:58 16:59	06:50 18:01	17:23 (Pr3a) 17:32 (Pr3a)	18:45 (PrRR3) 19:14 (PrRR3)	05:15 21:07
9	08:44 15:58	07:56 17:01	06:48 18:03	17:21 (Pr3a) 17:34 (Pr3a)	18:46 (PrRR3) 19:13 (PrRR3)	05:13 21:09
10	08:44 15:59	07:54 17:03	06:45 18:05	17:20 (Pr3a) 17:37 (Pr3a)	18:46 (PrRR3) 19:12 (PrRR3)	05:11 21:11
11	08:43 16:01	07:52 17:06	06:43 18:07	17:19 (Pr3a) 17:39 (Pr3a)	18:48 (PrRR3) 19:11 (PrRR3)	05:09 21:13
12	08:42 16:03	07:49 17:08	06:40 18:09	17:18 (Pr3a) 17:39 (Pr3a)	18:48 (PrRR3) 19:09 (PrRR3)	05:07 21:15
13	08:41 16:04	07:47 17:10	06:37 18:11	17:18 (Pr3a) 17:40 (Pr3a)	18:51 (PrRR3) 19:07 (PrRR3)	05:05 21:17
14	08:40 16:06	07:45 17:12	06:35 18:13	17:18 (Pr3a) 17:39 (Pr3a)	18:53 (PrRR3) 19:04 (PrRR3)	05:03 21:19
15	08:39 16:08	07:43 17:15	06:32 18:15	17:18 (Pr3a) 17:38 (Pr3a)	19:04 (PrRR3) 21:19	05:01 21:22
16	08:38 16:10	07:40 17:17	06:29 18:17	17:19 (Pr3a) 17:38 (Pr3a)	21:21 21:23	22:05 22:05
17	08:36 16:12	07:38 17:19	06:27 18:20	17:19 (Pr3a) 17:36 (Pr3a)	06:05 20:24	04:57 21:25
18	08:35 16:14	07:36 17:21	06:24 18:22	17:20 (Pr3a) 17:34 (Pr3a)	06:02 20:26	04:55 21:27
19	08:34 16:16	07:33 17:23	06:21 18:24	17:22 (Pr3a) 17:33 (Pr3a)	06:00 20:28	04:53 21:29
20	08:32 16:18	07:31 17:26	06:19 18:26	20:30	21:29	22:07
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:38	04:24 22:08
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08
27	08:21 16:32	07:14 17:41	06:00 18:40	17:57 (PrRR3) 18:10 (PrRR3)	05:40 20:45	04:40 21:43
28	08:20 16:34	07:11 17:43	05:57 18:42	17:54 (PrRR3) 18:12 (PrRR3)	05:38 20:47	04:39 21:44
29	08:18 16:37		06:55 19:45	18:53 (PrRR3) 19:14 (PrRR3)	05:35 20:49	04:38 21:46
30	08:16 16:39		06:52 19:47	18:51 (PrRR3) 19:15 (PrRR3)	05:33 20:51	04:36 21:47
31	08:14 16:41		06:49 19:49	18:49 (PrRR3) 19:15 (PrRR3)	04:35 21:49	04:35 21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case			310	359		
Sun reduction			0,39	0,44		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,39	0,44		
Total, real			121	159		

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kamenes - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:28 22:06	05:14 21:25	06:15 20:12	18:47 (PrRR3) 23 19:10 (PrRR3)	07:15 21 18:19 (Pr3a)	07:20 16:34
2	04:29 22:06	05:16 21:23	06:17 20:09	18:45 (PrRR3) 26 19:11 (PrRR3)	07:17 20 18:18 (Pr3a)	07:22 16:32
3	04:30 22:05	05:18 21:21	06:19 20:06	18:44 (PrRR3) 27 19:11 (PrRR3)	07:19 18 18:16 (Pr3a)	07:25 16:30
4	04:31 22:05	05:19 21:19	06:21 20:04	18:43 (PrRR3) 29 19:12 (PrRR3)	07:21 15 18:13 (Pr3a)	07:27 16:27
5	04:32 22:04	05:21 21:17	06:23 20:01	18:42 (PrRR3) 29 19:11 (PrRR3)	07:23 11 18:10 (Pr3a)	07:29 16:25
6	04:33 22:03	05:23 21:15	06:25 19:59	18:41 (PrRR3) 30 19:11 (PrRR3)	07:25 6 18:07 (Pr3a)	07:31 16:23
7	04:34 22:03	05:25 21:13	06:27 19:56	18:41 (PrRR3) 30 19:11 (PrRR3)	07:27 1 18:05 (Pr3a)	07:33 16:21
8	04:35 22:02	05:27 21:11	06:29 19:53	18:40 (PrRR3) 30 19:10 (PrRR3)	07:29 18:33	07:35 16:19
9	04:36 22:01	05:29 21:08	06:31 19:51	18:40 (PrRR3) 30 19:10 (PrRR3)	07:31 18:30	07:38 16:17
10	04:38 22:00	05:31 21:06	06:33 19:48	18:40 (PrRR3) 29 19:09 (PrRR3)	07:33 18:28	07:40 16:15
11	04:39 21:59	05:33 21:04	06:35 19:45	18:41 (PrRR3) 27 19:08 (PrRR3)	07:36 18:25	07:42 16:13
12	04:40 21:58	05:35 21:02	06:37 19:43	18:41 (PrRR3) 26 19:07 (PrRR3)	07:38 18:23	07:44 16:11
13	04:42 21:57	05:37 20:59	06:39 19:40	18:42 (PrRR3) 24 19:06 (PrRR3)	07:40 18:20	07:46 16:09
14	04:43 21:55	05:39 20:57	06:41 19:37	18:43 (PrRR3) 22 19:05 (PrRR3)	07:42 18:17	07:48 16:07
15	04:44 21:54	05:41 20:54	06:43 19:34	18:44 (PrRR3) 19 19:03 (PrRR3)	07:44 18:15	07:50 16:06
16	04:46 21:53	05:43 20:52	06:45 19:32	18:46 (PrRR3) 14 19:00 (PrRR3)	07:46 18:12	07:53 16:04
17	04:47 21:51	05:45 20:50	06:47 19:29	18:51 (PrRR3) 4 18:55 (PrRR3)	07:48 18:10	07:55 16:02
18	04:49 21:50	05:47 20:47	06:49 19:26	18:50 (PrRR3) 07:50	07:50 18:07	07:57 16:00
19	04:51 21:49	05:49 20:45	06:51 19:24	18:50 (PrRR3) 07:52	07:52 18:05	07:59 15:59
20	04:52 21:47	05:51 20:42	06:53 19:21	18:50 (PrRR3) 07:54	07:54 18:02	08:01 15:57
21	04:54 21:45	05:53 20:40	06:55 19:18	18:50 (PrRR3) 07:57	07:57 18:00	08:03 15:56
22	04:56 21:44	05:55 20:37	06:57 19:16	18:50 (PrRR3) 07:59	07:59 17:57	08:05 15:54
23	04:57 21:42	05:57 20:35	06:59 19:13	18:50 (PrRR3) 08:01	08:01 17:55	08:07 15:53
24	04:59 21:40	05:59 20:32	07:01 19:10	18:06 (Pr3a) 8 18:14 (Pr3a)	08:03 17:53	08:09 15:51
25	05:01 21:39	06:01 20:30	07:03 19:08	18:03 (Pr3a) 13 18:16 (Pr3a)	07:05 16:50	08:11 15:50
26	05:03 21:37	06:03 20:27	07:05 19:05	18:01 (Pr3a) 17 18:18 (Pr3a)	07:07 16:48	08:13 15:49
27	05:04 21:35	06:05 20:25	07:07 19:02	18:00 (Pr3a) 18 18:18 (Pr3a)	07:09 16:45	08:15 15:47
28	05:06 21:33	06:07 20:22	07:09 18:59	18:19 (Pr3a) 20 18:19 (Pr3a)	07:12 16:43	08:16 15:46
29	05:08 21:31	06:09 20:20	07:11 19:05 (PrRR3)	18:19 (Pr3a) 21 18:19 (Pr3a)	07:14 16:41	08:18 15:45
30	05:10 21:29	06:11 20:17	07:13 19:07 (PrRR3)	18:18 (Pr3a) 21 18:18 (Pr3a)	07:16 16:38	08:20 15:44
31	05:12 21:27	06:13 20:14	07:15 19:09 (PrRR3)	18:18 (Pr3a) 07:18	07:18 16:36	08:21 15:45
Potential sun hours	529	469	384	324	248	217
Total, worst case		50	537	92		
Sun reduction		0,52	0,43	0,29		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29		
Total, real		26	232	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)



Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Kamiš i - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Karklini - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:27	15:41
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:28	07:34	08:32
	15:54	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:06	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:19	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:15		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Klavinas - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Klavu Sala - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (444)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:32	04:35	04:30	05:15	06:16	07:16	07:21	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:47	17:48	19:53	20:55	21:51	22:06	21:24	20:10	18:50	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:51	19:55	20:57	21:53	22:05	21:22	20:07	18:47	16:31	15:43
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:58	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:23	04:31	04:33	05:23	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	20:00	21:01	21:55	22:04	21:17	20:02	18:42	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:32	05:18	04:30	04:35	05:26	06:28	07:28	07:34	08:31
	15:56	16:58	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:39
10	08:44	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:06	20:10	21:12	22:01	22:00	21:06	19:48	18:29	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:07	18:08	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:41	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:48	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:26	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:09	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:49	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:48	19:27	18:08	16:02	15:38
19	08:34	07:34	06:22	06:01	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:06	16:00	15:38
20	08:33	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:27	18:26	20:31	21:31	22:07	21:47	20:43	19:22	18:03	15:58	15:38
21	08:31	07:29	06:17	05:56	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:29	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:47
	16:23	17:31	18:31	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:59	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:14	17:56	15:54	15:39
24	08:27	07:21	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:53	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:38	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:17	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:08	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:10	08:15	08:48
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:12	05:58	05:39	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:23	19:00	17:44	15:48	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:30	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Laimnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (415)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June
1	08:48	08:13	07:09	16:19 (DD3)	06:47	18:50 (O3)
	15:47	16:44	17:46	22	16:41 (DD3)	19:51
2	08:48	08:11	07:06	16:20 (DD3)	06:44	13
	15:48	16:46	17:48	19	16:39 (DD3)	19:53
3	08:48	08:09	07:04	16:23 (DD3)	06:42	8
	15:50	16:48	17:50	14	16:37 (DD3)	19:55
4	08:47	08:07	07:01	16:26 (DD3)	06:39	
	15:51	16:51	17:52	7	16:33 (DD3)	19:57
5	08:47	08:05	06:59	17:22 (DD1)	06:36	
	15:52	16:53	17:55	3	17:25 (DD1)	19:59
6	08:46	08:03	06:56	17:19 (DD1)	06:34	
	15:54	16:55	17:57	9	17:28 (DD1)	20:01
7	08:46	08:00	06:53	17:17 (DD1)	06:31	
	15:55	16:57	17:59	13	17:30 (DD1)	20:04
8	08:45	07:58	06:51	17:15 (DD1)	06:29	
	15:57	16:59	18:01	17	17:32 (DD1)	20:06
9	08:44	07:56	06:48	17:15 (DD1)	06:26	
	15:58	17:02	18:03	20	17:35 (DD1)	20:08
10	08:44	07:54	06:46	17:14 (DD1)	06:23	
	16:00	17:04	18:05	21	17:35 (DD1)	20:10
11	08:43	07:52	06:43	17:13 (DD1)	06:21	
	16:02	17:06	18:07	22	17:35 (DD1)	20:12
12	08:42	07:50	06:40	17:14 (DD1)	06:18	
	16:03	17:08	18:09	22	17:36 (DD1)	20:14
13	08:41	07:47	16:27 (DD3)	06:38	17:13 (DD1)	06:16
	16:05	17:11	9	16:36 (DD3)	18:12	22
14	08:40	07:45	16:24 (DD3)	06:35	17:13 (DD1)	06:13
	16:07	17:13	15	16:39 (DD3)	18:14	21
15	08:39	07:43	16:22 (DD3)	06:32	17:14 (DD1)	06:10
	16:09	17:15	19	16:41 (DD3)	18:16	19
16	08:38	07:41	16:20 (DD3)	06:30	17:15 (DD1)	06:08
	16:11	17:17	22	16:42 (DD3)	18:18	17
17	08:36	07:38	16:19 (DD3)	06:27	17:16 (DD1)	06:05
	16:13	17:20	25	16:44 (DD3)	18:20	14
18	08:35	07:36	16:18 (DD3)	06:24	17:19 (DD1)	06:03
	16:15	17:22	26	16:44 (DD3)	18:22	8
19	08:34	07:33	16:18 (DD3)	06:22		06:00
	16:16	17:24	27	16:45 (DD3)	18:24	
20	08:32	07:31	16:17 (DD3)	06:19		05:58
	16:18	17:26	28	16:45 (DD3)	18:26	
21	08:31	07:29	16:17 (DD3)	06:16	17:54 (O3)	05:55
	16:20	17:28	29	16:46 (DD3)	18:28	6
22	08:30	07:26	16:16 (DD3)	06:14	17:53 (O3)	05:53
	16:23	17:31	29	16:45 (DD3)	18:30	10
23	08:28	07:24	16:17 (DD3)	06:11	17:51 (O3)	05:50
	16:25	17:33	29	16:46 (DD3)	18:32	13
24	08:26	07:21	16:16 (DD3)	06:08	17:49 (O3)	05:48
	16:27	17:35	29	16:45 (DD3)	18:35	17
25	08:25	07:19	16:16 (DD3)	06:06	17:49 (O3)	05:45
	16:29	17:37	28	16:44 (DD3)	18:37	20
26	08:23	07:16	16:17 (DD3)	06:03	17:48 (O3)	05:43
	16:31	17:39	27	16:44 (DD3)	18:39	21
27	08:22	07:14	16:17 (DD3)	06:00	17:47 (O3)	05:41
	16:33	17:42	26	16:43 (DD3)	18:41	21
28	08:20	07:11	16:18 (DD3)	05:58	17:48 (O3)	05:38
	16:35	17:44	25	16:43 (DD3)	18:43	20
29	08:18			06:55	18:48 (O3)	05:36
	16:37			19:45	19:07 (O3)	20:49
30	08:16			06:52	18:48 (O3)	05:34
	16:40			19:47	19:06 (O3)	20:51
31	08:14			06:50	18:49 (O3)	
	16:42			19:49	19:05 (O3)	
Potential sun hours	236	266	366		426	507
Total, worst case				471	21	528
Sun reduction		0,22	0,39		0,44	
Oper. time red.		1,00	1,00		1,00	
Wind dir. red.		1,00	1,00		1,00	
Total reduction		0,22	0,39		0,44	
Total, real		88	184		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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Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Laimnieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (415)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	17:53 (DD1) 18:14 (DD1)	07:20 16:35
2	04:30 22:06	05:16 21:24	06:18 20:09	07:17 18:49	17:52 (DD1) 18:14 (DD1)	07:23 16:32
3	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	17:52 (DD1) 18:14 (DD1)	07:25 16:30
4	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	17:52 (DD1) 18:13 (DD1)	07:27 16:28
5	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	17:52 (DD1) 18:10 (DD1)	07:29 16:26
6	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	17:53 (DD1) 18:08 (DD1)	07:31 16:24
7	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:36	17:54 (DD1) 18:05 (DD1)	07:33 16:22
8	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:33	17:55 (DD1) 18:02 (DD1)	07:36 16:20
9	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:31	18:02 (DD1)	07:38 16:18
10	04:38 22:00	05:32 21:06	06:34 19:48	07:34 18:28	16:59 (DD3) 17:10 (DD3)	07:40 16:16
11	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	16:56 (DD3) 17:12 (DD3)	07:42 16:14
12	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	16:53 (DD3) 17:14 (DD3)	07:44 16:12
13	04:42 21:57	05:38 20:59	06:40 19:40	07:40 18:20	16:52 (DD3) 17:15 (DD3)	07:46 16:10
14	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	16:50 (DD3) 17:15 (DD3)	07:48 16:08
15	04:45 21:54	05:42 20:55	06:44 19:35	07:44 18:15	16:50 (DD3) 17:17 (DD3)	07:51 16:06
16	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	16:49 (DD3) 17:17 (DD3)	07:53 16:05
17	04:48 21:51	05:46 20:50	06:47 19:29	07:48 18:10	16:48 (DD3) 17:17 (DD3)	07:55 16:03
18	04:50 21:50	05:48 20:47	06:49 19:27	07:50 18:08	16:47 (DD3) 17:16 (DD3)	07:57 16:01
19	04:51 21:49	05:50 20:45	06:51 19:24	07:53 18:05	16:47 (DD3) 17:16 (DD3)	07:59 16:00
20	04:53 21:47	05:52 20:43	06:53 19:21	07:55 18:03	16:47 (DD3) 17:17 (DD3)	08:01 15:58
21	04:55 21:45	05:54 20:40	06:55 19:19	07:57 18:00	16:47 (DD3) 17:16 (DD3)	08:03 15:56
22	04:56 21:44	05:56 20:38	06:57 19:16	07:59 18:46 (O3)	16:47 (DD3) 17:15 (DD3)	08:05 15:55
23	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:56	16:48 (DD3) 17:15 (DD3)	08:07 15:54
24	05:00 21:40	06:00 20:33	07:01 19:11	08:03 17:53	16:49 (DD3) 17:14 (DD3)	08:09 15:52
25	05:02 21:39	06:02 20:30	07:03 19:08	07:05 18:03 (DD1)	15:49 (DD3) 16:13 (DD3)	08:11 15:51
26	05:03 21:37	06:04 20:27	07:05 19:05	07:07 18:09 (DD1)	15:51 (DD3) 16:12 (DD3)	08:13 15:49
27	05:05 21:35	06:06 20:25	07:07 19:03	07:10 18:12 (DD1)	15:52 (DD3) 16:10 (DD3)	08:15 15:48
28	05:07 21:33	06:08 20:22	07:09 19:00	07:12 18:14 (DD1)	15:54 (DD3) 16:08 (DD3)	08:16 15:47
29	05:09 21:31	06:10 20:20	07:11 18:57	07:14 18:14 (DD1)	15:58 (DD3) 16:05 (DD3)	08:18 15:46
30	05:11 21:29	06:12 20:17	07:13 18:55	07:16 18:15 (DD1)	16:05 (DD3)	08:20 15:45
31	05:13 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	528	469	384	324	248	217
Total, worst case			301	598		
Sun reduction			0,43	0,29		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,43	0,29		
Total, real			130	173		

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Lapegles - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (514)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Latini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (440)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:35	04:29	05:15	06:16	07:16	07:20	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:23
	15:49	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:03	21:56	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:56	16:58	17:59	20:04	21:05	21:57	22:02	21:13	19:56	18:36	16:22	15:40
8	08:45	07:58	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:09	22:00	22:01	21:08	19:51	18:31	16:18	15:39
10	08:43	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:08	20:12	21:13	22:01	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:40	06:18	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:15	22:02	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:47	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:56	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:36	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:02	15:37
19	08:34	07:34	06:22	06:00	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:06	16:00	15:38
20	08:32	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:26	18:26	20:30	21:30	22:07	21:47	20:43	19:21	18:03	15:58	15:38
21	08:31	07:29	06:17	05:55	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:46
	16:23	17:31	18:31	20:35	21:34	22:07	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:58	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:54	15:39
24	08:26	07:21	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:47
	16:27	17:35	18:35	20:39	21:37	22:08	21:40	20:33	19:11	17:53	15:52	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:16	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:07	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:42	22:07	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:10	08:12	08:16	08:48
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:48
	16:38		19:45	20:49	21:46	22:07	21:31	20:20	18:57	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:48
	16:40		19:47	20:51	21:47	22:07	21:29	20:17	18:55	17:39	15:45	15:45
31	08:14		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:48		21:27	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Laucini - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:20	20:04	18:44	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:51	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:34	08:32
	15:54	16:57	17:58	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:36	08:33
	15:56	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:00	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:33	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:34	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	247	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Lielo Orišu u 2 maju zeme - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (482)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	235	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Ludvigova - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (447)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:32	04:35	04:30	05:15	06:16	07:16	07:21	08:22
	15:48	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:07	06:45	05:29	04:34	04:30	05:17	06:18	07:18	07:23	08:24
	15:49	16:47	17:48	19:53	20:55	21:52	22:06	21:24	20:10	18:50	16:33	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:19	06:20	07:20	07:25	08:25
	15:50	16:49	17:51	19:55	20:57	21:53	22:05	21:22	20:07	18:47	16:31	15:43
4	08:47	08:07	07:01	06:39	05:25	04:32	04:32	05:21	06:22	07:22	07:27	08:27
	15:51	16:51	17:53	19:58	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:42
5	08:47	08:05	06:59	06:37	05:23	04:31	04:33	05:23	06:24	07:24	07:29	08:28
	15:53	16:53	17:55	20:00	21:02	21:55	22:04	21:17	20:02	18:42	16:26	15:41
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:32	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:31
	15:56	16:58	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:40
8	08:45	07:59	06:51	06:29	05:16	04:29	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	17:00	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:34	16:20	15:39
9	08:44	07:56	06:48	06:26	05:14	04:28	04:38	05:30	06:32	07:32	07:38	08:34
	15:59	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:39
10	08:44	07:54	06:46	06:24	05:12	04:27	04:39	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:06	20:10	21:12	22:01	22:00	21:06	19:48	18:29	16:16	15:38
11	08:43	07:52	06:43	06:21	05:10	04:27	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:07	18:08	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:38
12	08:42	07:50	06:41	06:19	05:08	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:04	17:09	18:10	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:38
13	08:41	07:48	06:38	06:16	05:06	04:26	04:43	05:38	06:40	07:40	07:46	08:39
	16:06	17:11	18:12	20:16	21:17	22:03	21:57	21:00	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:04	04:26	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:09	15:37
15	08:39	07:43	06:33	06:11	05:02	04:25	04:46	05:42	06:44	07:44	07:51	08:41
	16:09	17:16	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:16	16:07	15:37
16	08:38	07:41	06:30	06:08	05:00	04:25	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:18	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05	15:37
17	08:37	07:38	06:27	06:06	04:58	04:25	04:49	05:46	06:48	07:49	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:30	18:11	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:25	04:50	05:48	06:50	07:51	07:57	08:44
	16:15	17:22	18:22	20:27	21:27	22:06	21:50	20:48	19:27	18:08	16:02	15:38
19	08:34	07:34	06:22	06:01	04:54	04:25	04:52	05:50	06:52	07:53	07:59	08:45
	16:17	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:06	16:00	15:38
20	08:33	07:31	06:19	05:58	04:53	04:25	04:53	05:52	06:54	07:55	08:01	08:45
	16:19	17:27	18:27	20:31	21:31	22:07	21:47	20:43	19:22	18:03	15:58	15:38
21	08:31	07:29	06:17	05:56	04:51	04:25	04:55	05:54	06:56	07:57	08:03	08:46
	16:21	17:29	18:29	20:33	21:32	22:07	21:46	20:40	19:19	18:01	15:57	15:38
22	08:30	07:26	06:14	05:53	04:49	04:25	04:57	05:56	06:58	07:59	08:05	08:47
	16:23	17:31	18:31	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:39
23	08:28	07:24	06:11	05:51	04:48	04:25	04:59	05:58	07:00	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:14	17:56	15:54	15:39
24	08:27	07:22	06:09	05:48	04:46	04:26	05:00	06:00	07:02	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:53	15:40
25	08:25	07:19	06:06	05:46	04:45	04:26	05:02	06:02	07:04	08:06	08:11	08:48
	16:29	17:38	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:41
26	08:23	07:17	06:03	05:43	04:43	04:26	05:04	06:04	07:06	08:08	08:13	08:48
	16:31	17:40	18:39	20:43	21:41	22:08	21:37	20:28	19:06	17:49	15:50	15:41
27	08:22	07:14	06:01	05:41	04:42	04:27	05:06	06:06	07:08	08:10	08:15	08:48
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	17:46	15:49	15:42
28	08:20	07:12	05:58	05:39	04:40	04:27	05:07	06:08	07:10	08:12	08:17	08:49
	16:36	17:44	18:43	20:47	21:44	22:07	21:33	20:23	19:00	17:44	15:48	15:43
29	08:18		06:55	05:36	04:39	04:28	05:09	06:10	07:12	08:14	08:18	08:49
	16:38		19:45	20:49	21:46	22:07	21:32	20:20	18:58	17:42	15:46	15:44
30	08:16		06:53	05:34	04:38	04:29	05:11	06:12	07:14	08:16	08:20	08:49
	16:40		19:47	20:51	21:47	22:07	21:30	20:17	18:55	17:39	15:45	15:45
31	08:15		06:50		04:36		05:13	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Lidumi (kad. apz. 76740020172001) - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43		07:09 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:07	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34
2	08:48 15:47	08:10 16:45		07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:52	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32
3	08:48 15:49	08:09 16:48		07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:06	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:30
4	08:47 15:50	08:07 16:50		07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27
5	08:47 15:51	08:04 16:52		06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25
6	08:46 15:53	08:02 16:54		06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:57	04:33 22:04	05:23 21:15	06:25 19:59	07:25 18:38	07:31 16:23
7	08:46 15:54	08:00 16:57		06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21
8	08:45 15:56	07:58 16:59		06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19
9	08:44 15:57	07:56 17:01		06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17
10	08:44 15:59	07:54 17:03		06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15
11	08:43 16:01	07:52 17:06	16:30 (PrRR3)	06:43 18:07	06:20 20:12	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13
12	08:42 16:03	07:49 17:08	16:27 (PrRR3)	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23	07:44 16:11
13	08:41 16:04	07:47 17:10	16:25 (PrRR3)	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09
14	08:40 16:06	07:45 17:12	16:38 (PrRR3)	06:35 18:13	06:12 20:18	05:02 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07
15	08:39 16:08	07:43 17:15	16:23 (PrRR3)	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06
16	08:38 16:10	07:40 17:17	16:44 (PrRR3)	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	5 17:07 (PrRR3)
17	08:36 16:12	07:38 17:19	16:22 (PrRR3)	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	12 17:11 (PrRR3)
18	08:35 16:14	07:36 17:21	16:45 (PrRR3)	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	17 17:13 (PrRR3)
19	08:34 16:16	07:33 17:23	16:22 (PrRR3)	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:49	05:49 20:45	06:51 19:24	07:52 18:05	18 16:53 (PrRR3)
20	08:32 16:18	07:31 17:26	16:45 (PrRR3)	06:19 18:26	05:57 20:30	04:51 21:31	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	21 17:14 (PrRR3)
21	08:31 16:20	07:28 17:28	16:22 (PrRR3)	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:08	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	22 16:52 (PrRR3)
22	08:30 16:22	07:26 17:30	16:45 (PrRR3)	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	23 17:15 (PrRR3)
23	08:28 16:24	07:24 17:32	16:22 (PrRR3)	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	24 16:51 (PrRR3)
24	08:26 16:26	07:21 17:34	16:42 (PrRR3)	06:08 18:34	05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	25 17:15 (PrRR3)
25	08:25 16:28	07:19 17:37	16:25 (PrRR3)	06:05 18:36	05:45 20:41	04:43 21:39	04:24 22:08	05:01 21:39	06:01 20:30	07:03 19:08	07:05 16:50	26 15:52 (PrRR3)
26	08:23 16:30	07:16 17:39	16:40 (PrRR3)	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48	27 15:52 (PrRR3)
27	08:21 16:32	07:14 17:41	16:28 (PrRR3)	06:00 18:40	05:40 20:45	04:40 21:43	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	07:09 16:45	28 15:53 (PrRR3)
28	08:20 16:34	07:11 17:43	16:12 (PrRR3)	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:08	05:06 21:33	06:07 20:22	07:09 18:59	07:12 16:43	29 15:54 (PrRR3)
29	08:18 16:37		16:10 (PrRR3)	05:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	07:14 16:41	30 15:55 (PrRR3)
30	08:16 16:39		16:07 (PrRR3)	05:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	07:16 16:38	31 15:57 (PrRR3)
Potential sun hours	236	266		366	426	507	528	529	469	384	324	248
Total, worst case		286									286	217
Sun reduction		0,23									0,29	
Oper. time red.		1,00									1,00	
Wind dir. red.		1,00									1,00	
Total reduction		0,23									0,29	
Total, real		64									83	

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\_Vestas\_V172\_Prikuli\_A Shadow receptor: Malova - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January		February		March		April		May		June	
1	08:48	13:08 (JU1)	08:13	09:32 (Pr3a)	07:09	07:53 (PrRR3)	06:47	05:31	04:34			
	15:46	25 13:33 (JU1)	16:43	28 10:00 (Pr3a)	17:46	80 16:26 (Pr11)	19:51	20:53	21:50			
2	08:48	13:08 (JU1)	08:11	09:33 (Pr3a)	07:06	07:52 (PrRR3)	06:44	05:28	04:33			
	15:48	24 13:32 (JU1)	16:46	26 09:59 (Pr3a)	17:48	70 16:21 (Pr11)	19:53	20:55	21:52			
3	08:48	13:09 (JU1)	08:09	09:34 (Pr3a)	07:04	07:53 (PrRR3)	06:41	05:26	04:32			
	15:49	24 13:33 (JU1)	16:48	25 09:59 (Pr3a)	17:50	61 09:20 (Pr25)	19:55	20:57	21:53			
4	08:48	13:10 (JU1)	08:07	09:36 (Pr3a)	07:01	07:53 (PrRR3)	06:39	05:24	04:31			
	15:50	22 13:32 (JU1)	16:50	22 09:58 (Pr3a)	17:52	57 09:18 (Pr25)	19:57	20:59	21:54			
5	08:47	09:36 (Pr3a)	08:05	09:01 (Pr25)	06:58	07:53 (PrRR3)	06:36	05:22	04:30			
	15:52	24 13:32 (JU1)	16:52	25 09:55 (Pr3a)	17:54	52 09:16 (Pr25)	19:59	21:01	21:56			
6	08:47	09:34 (Pr3a)	08:03	08:56 (Pr25)	06:56	07:55 (PrRR3)	06:34	05:19	04:29			
	15:53	30 13:33 (JU1)	16:55	37 16:21 (Pr12)	17:56	45 09:14 (Pr25)	20:01	21:04	21:57			
7	08:46	09:33 (Pr3a)	08:01	08:54 (Pr25)	06:53	07:56 (PrRR3)	06:31	05:17	04:28			
	15:55	30 13:32 (JU1)	16:57	40 16:24 (Pr12)	17:59	35 09:10 (Pr25)	20:03	21:06	21:58			
8	08:45	09:32 (Pr3a)	07:58	08:52 (Pr25)	06:51	07:57 (PrRR3)	06:28	05:15	04:28			
	15:56	31 13:32 (JU1)	16:59	40 16:27 (Pr12)	18:01	21 17:32 (O6)	20:05	21:08	21:59			
9	08:45	09:31 (Pr3a)	07:56	08:50 (Pr25)	06:48	08:01 (PrRR3)	06:26	05:13	04:27			
	15:58	32 13:31 (JU1)	17:01	46 16:28 (Pr12)	18:03	20 17:35 (O6)	20:08	21:10	22:00			
10	08:44	09:31 (Pr3a)	07:54	08:49 (Pr25)	06:45	17:21 (O6)	06:23	05:11	04:26			
	15:59	30 13:30 (JU1)	17:03	52 16:31 (Pr12)	18:05	16 17:37 (O6)	20:10	21:12	22:01			
11	08:43	09:30 (Pr3a)	07:52	08:47 (Pr25)	06:43	17:19 (O6)	06:20	05:09	04:26			
	16:01	28 13:28 (JU1)	17:06	56 16:31 (Pr12)	18:07	20 17:39 (O6)	20:12	21:14	22:02			
12	08:42	09:29 (Pr3a)	07:50	08:46 (Pr25)	06:40	17:19 (O6)	06:18	05:07	04:25			
	16:03	22 09:51 (Pr3a)	17:08	60 16:32 (Pr12)	18:09	21 17:40 (O6)	20:14	21:16	22:03			
13	08:41	09:29 (Pr3a)	07:47	08:46 (Pr25)	06:38	17:18 (O6)	06:15	05:05	04:25			
	16:05	23 09:52 (Pr3a)	17:10	63 16:32 (Pr12)	18:11	22 17:40 (O6)	20:16	21:17	22:04			
14	08:40	09:29 (Pr3a)	07:45	08:44 (Pr25)	06:35	17:17 (O6)	06:13	05:03	04:24			
	16:06	25 09:54 (Pr3a)	17:12	67 16:33 (Pr11)	18:13	23 17:40 (O6)	20:18	21:19	22:04			
15	08:39	09:29 (Pr3a)	07:43	08:44 (Pr25)	06:32	17:16 (O6)	06:10	05:01	04:24			
	16:08	25 09:54 (Pr3a)	17:15	70 16:34 (Pr11)	18:16	24 17:40 (O6)	20:20	21:21	22:05			
16	08:38	09:29 (Pr3a)	07:40	08:43 (Pr25)	06:30	17:17 (O6)	06:07	04:59	04:24			
	16:10	26 09:55 (Pr3a)	17:17	72 16:34 (Pr11)	18:18	23 17:40 (O6)	20:22	21:23	22:06			
17	08:37	09:28 (Pr3a)	07:38	08:43 (Pr25)	06:27	17:16 (O6)	06:05	04:57	04:24			
	16:12	28 09:56 (Pr3a)	17:19	74 16:35 (Pr11)	18:20	23 17:39 (O6)	20:24	21:25	22:06			
18	08:35	09:29 (Pr3a)	07:36	08:42 (Pr25)	06:24	17:16 (O6)	06:02	04:55	04:23			
	16:14	28 09:57 (Pr3a)	17:21	76 16:35 (Pr11)	18:22	22 17:38 (O6)	20:26	21:27	22:07			
19	08:34	09:28 (Pr3a)	07:33	08:42 (Pr25)	06:22	17:18 (O6)	06:00	04:53	04:23			
	16:16	29 09:57 (Pr3a)	17:24	76 16:35 (Pr11)	18:24	19 17:37 (O6)	20:28	21:29	22:07			
20	08:33	09:28 (Pr3a)	07:31	08:02 (PrRR3)	06:19	17:18 (O6)	05:57	04:52	04:23			
	16:18	30 09:58 (Pr3a)	17:26	87 16:35 (Pr11)	18:26	18 17:36 (O6)	20:30	21:31	22:07			
21	08:31	09:28 (Pr3a)	07:29	08:00 (PrRR3)	06:16	17:20 (O6)	05:55	04:50	04:24			
	16:20	31 09:59 (Pr3a)	17:28	93 16:35 (Pr11)	18:28	13 17:33 (O6)	20:33	21:32	22:08			
22	08:30	09:28 (Pr3a)	07:26	07:57 (PrRR3)	06:14	17:23 (O6)	05:52	04:48	04:24			
	16:22	31 09:59 (Pr3a)	17:30	97 16:35 (Pr11)	18:30	8 17:31 (O6)	20:35	21:34	22:08			
23	08:28	09:28 (Pr3a)	07:24	07:57 (PrRR3)	06:11		05:50	04:47	04:24			
	16:24	32 10:00 (Pr3a)	17:32	97 16:35 (Pr11)	18:32		20:37	21:36	22:08			
24	08:27	09:28 (Pr3a)	07:21	07:55 (PrRR3)	06:08		05:47	04:45	04:24			
	16:26	32 10:00 (Pr3a)	17:35	98 16:34 (Pr11)	18:34		20:39	21:38	22:08			
25	08:25	09:28 (Pr3a)	07:19	07:54 (PrRR3)	06:06		05:45	04:43	04:25			
	16:28	32 10:00 (Pr3a)	17:37	98 16:32 (Pr11)	18:36		20:41	21:39	22:08			
26	08:23	09:29 (Pr3a)	07:16	07:54 (PrRR3)	06:03		05:43	04:42	04:25			
	16:30	31 10:00 (Pr3a)	17:39	96 16:32 (Pr11)	18:38		20:43	21:41	22:08			
27	08:22	09:30 (Pr3a)	07:14	07:53 (PrRR3)	06:00		05:40	04:41	04:26			
	16:32	31 10:01 (Pr3a)	17:41	92 16:30 (Pr11)	18:41		20:45	21:43	22:08			
28	08:20	09:30 (Pr3a)	07:11	07:53 (PrRR3)	05:57		05:38	04:39	04:26			
	16:35	31 10:01 (Pr3a)	17:43	88 16:29 (Pr11)	18:43		20:47	21:44	22:08			
29	08:18	09:30 (Pr3a)			06:55		05:35	04:38	04:27			
	16:37	30 10:00 (Pr3a)			19:45		20:49	21:46	22:07			
30	08:16	09:30 (Pr3a)			06:52		05:33	04:37	04:28			
	16:39	30 10:00 (Pr3a)			19:47		20:51	21:47	22:07			
31	08:14	09:31 (Pr3a)			06:49			04:35				
	16:41	29 10:00 (Pr3a)			19:49			21:49				
Potential sun hours	236		266		366		426	507	528			
Total, worst case	876		1801		693							
Sun reduction	0,13		0,23		0,39							
Oper. time red.	1,00		1,00		1,00							
Wind dir. red.	1,00		1,00		1,00							
Total reduction	0,13		0,23		0,39							
Total, real	118		405		271							

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Malova - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (472)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	July	August	September	October	November	December
1	04:28	05:14	06:15	07:15	17:58 (06)	07:20
2	22:07	21:26	20:12	18:52	22	18:20 (06)
3	04:30	05:18	06:19	07:19	18:18 (06)	16:32
4	04:31	05:20	06:21	07:21	18:13 (06)	16:28
5	22:05	21:19	20:04	18:44	13	18:13 (06)
6	04:32	05:22	06:23	07:23	08:36 (PrRR3)	07:29
7	22:04	21:17	20:01	18:41	20	18:10 (06)
8	04:33	05:24	06:25	07:25	08:33 (PrRR3)	07:31
9	22:04	21:15	19:59	18:38	28	09:43 (Pr25)
10	04:34	05:25	06:27	07:27	08:31 (PrRR3)	07:33
11	22:03	21:13	19:56	18:36	40	09:47 (Pr25)
12	04:35	05:27	06:29	07:30	08:29 (PrRR3)	07:36
13	22:02	21:11	19:53	18:33	49	09:50 (Pr25)
14	04:36	05:29	06:31	07:32	08:28 (PrRR3)	07:38
15	22:01	21:09	19:51	18:30	53	09:51 (Pr25)
16	04:38	05:31	06:33	07:34	08:28 (PrRR3)	07:40
17	22:00	21:06	19:48	18:28	59	09:54 (Pr25)
18	04:39	05:33	06:35	07:36	08:27 (PrRR3)	07:42
19	21:59	21:04	19:45	18:25	63	09:55 (Pr25)
20	04:40	05:35	06:37	07:38	08:26 (PrRR3)	07:44
21	21:58	21:02	19:43	18:23	76	16:57 (Pr11)
22	04:42	05:37	06:39	07:40	08:26 (PrRR3)	07:46
23	21:57	20:59	19:40	18:20	83	17:00 (Pr11)
24	04:43	05:39	06:41	07:42	08:25 (PrRR3)	07:49
25	21:56	20:57	19:37	18:18	91	17:02 (Pr11)
26	04:45	05:41	06:43	07:44	08:26 (PrRR3)	07:51
27	21:54	20:55	19:35	18:15	94	17:04 (Pr11)
28	04:46	05:43	06:45	07:46	08:26 (PrRR3)	07:53
29	21:53	20:52	19:32	18:12	96	17:04 (Pr11)
30	04:48	05:45	06:47	07:48	08:26 (PrRR3)	07:55
31	21:52	20:50	19:29	18:10	98	17:05 (Pr11)
32	04:49	05:47	06:49	07:50	08:27 (PrRR3)	07:57
33	21:50	20:47	19:27	18:07	97	17:05 (Pr11)
34	04:51	05:49	06:51	07:52	08:27 (PrRR3)	07:59
35	21:49	20:45	19:24	18:05	98	17:05 (Pr11)
36	04:52	05:51	06:53	07:55	08:29 (PrRR3)	08:01
37	21:47	20:43	19:21	18:02	95	17:06 (Pr11)
38	04:54	05:53	06:55	07:57	08:31 (PrRR3)	08:03
39	21:46	20:40	19:18	18:15	92	17:06 (Pr11)
40	04:56	05:55	06:57	07:59	08:33 (PrRR3)	08:05
41	21:44	20:38	19:16	18:18	85	17:05 (Pr11)
42	04:57	05:57	06:59	08:01	09:13 (Pr25)	08:07
43	21:42	20:35	19:13	18:20	76	17:06 (Pr11)
44	04:59	05:59	07:01	18:02	08:03	09:13 (Pr25)
45	21:41	20:33	19:10	18:21	74	17:05 (Pr11)
46	05:01	06:01	07:03	18:00	07:05	08:13 (Pr25)
47	21:39	20:30	19:08	18:21	72	16:04 (Pr11)
48	05:03	06:03	07:05	17:59	07:07	08:14 (Pr25)
49	21:37	20:27	19:05	18:22	70	16:04 (Pr11)
50	05:05	06:05	07:07	17:59	07:10	08:14 (Pr25)
51	21:35	20:25	19:02	18:22	68	16:03 (Pr11)
52	05:06	06:07	07:09	17:58	07:12	08:14 (Pr25)
53	21:33	20:22	19:00	18:21	66	16:02 (Pr11)
54	05:08	06:09	07:11	17:58	07:14	08:15 (Pr25)
55	21:32	20:20	18:57	18:21	63	16:02 (Pr12)
56	05:10	06:11	07:13	17:58	07:16	08:16 (Pr25)
57	21:30	20:17	18:54	18:20	59	16:01 (Pr12)
58	05:12	06:13		07:18	58	08:17 (Pr25)
59	21:28	20:15		16:36	54	16:00 (Pr12)
Potential sun hours	529	469	384	324	248	217
Total, worst case			187	1991	914	835
Sun reduction			0,43	0,29	0,08	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			0,43	0,29	0,08	0,08
Total, real			81	578	69	71

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Maurini - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June
1	08:48 15:46	08:12 16:43	07:09 17:45	16:50 (AP2) 17:13 (AP2)	06:47 19:51	05:31 20:53
2	08:48 15:48	08:10 16:46	07:06 17:48	16:49 (AP2) 17:13 (AP2)	06:44 19:53	05:28 20:55
3	08:48 15:49	08:08 16:48	07:03 17:50	16:49 (AP2) 17:12 (AP2)	06:41 19:55	05:26 20:57
4	08:47 15:50	08:07 16:50	07:01 17:52	16:49 (AP2) 17:13 (AP2)	06:39 19:57	05:24 20:59
5	08:47 15:52	08:04 16:52	06:58 17:54	16:49 (AP2) 17:12 (AP2)	06:36 19:59	05:21 21:01
6	08:46 15:53	08:02 16:54	06:56 17:56	16:50 (AP2) 17:12 (AP2)	06:33 20:01	05:19 21:03
7	08:46 15:54	08:00 16:57	06:53 17:58	16:50 (AP2) 17:10 (AP2)	06:31 20:03	05:17 21:05
8	08:45 15:56	07:58 16:59	06:51 18:01	16:51 (AP2) 17:09 (AP2)	06:28 20:05	05:15 21:07
9	08:44 15:58	07:56 17:01	06:48 18:03	16:52 (AP2) 17:06 (AP2)	06:26 20:07	05:13 21:09
10	08:44 15:59	07:54 17:03	06:45 18:05	16:56 (AP2) 17:04 (AP2)	06:23 20:09	05:11 21:11
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	05:09 21:15
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	05:07 21:17
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	05:05 21:19
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:03 21:19	05:03 21:21
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	05:01 21:23
16	08:38 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:59 21:25
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:57 21:27
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:55 21:29
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:53 21:31
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:31	04:52 21:33
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:50 21:34
22	08:30 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:48 21:36
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:37	04:47 21:36	04:47 21:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:38	04:45 21:40
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:43 21:41
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:42 21:43
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:43	04:40 21:45
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:39 21:46
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:38 21:48
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:36 21:49
31	08:14 16:41		06:49 19:49		04:35 21:49	04:35 21:51
Potential sun hours	236	266	366	426	507	528
Total, worst case		80	199	604	640	81
Sun reduction		0,23	0,39	0,44	0,56	0,57
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		0,23	0,39	0,44	0,56	0,57
Total, real		18	78	267	360	46

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

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Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Maurini - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:28	05:14	20:20 (Pr25)	06:15	19:07 (Pr3a)	07:15
	22:06	21:25	26 20:46 (Pr25)	20:12	27 19:34 (Pr3a)	18:52
2	04:29	05:16	20:21 (Pr25)	06:17	19:08 (Pr3a)	07:17
	22:06	21:23	24 20:45 (Pr25)	20:09	24 19:32 (Pr3a)	18:49
3	04:30	05:18	20:22 (Pr25)	06:19	19:10 (Pr3a)	07:19
	22:05	21:21	23 20:45 (Pr25)	20:07	20 19:30 (Pr3a)	18:46
4	04:31	05:20	20:23 (Pr25)	06:21	19:12 (Pr3a)	07:21
	22:05	21:19	21 20:44 (Pr25)	20:04	16 19:28 (Pr3a)	18:44
5	04:32	05:21	20:24 (Pr25)	06:23	19:14 (Pr3a)	07:23
	22:04	21:17	19 20:43 (Pr25)	20:01	9 19:23 (Pr3a)	18:41
6	04:33	20:28 (Pr25)	05:23	20:25 (Pr25)	06:25	17:25 (AP2)
	22:03	6 20:34 (Pr25)	21:15	15 20:40 (Pr25)	19:59	18:38
7	04:34	20:27 (Pr25)	05:25	20:27 (Pr25)	06:27	17:26 (AP2)
	22:03	9 20:36 (Pr25)	21:13	11 20:38 (Pr25)	19:56	18:36
8	04:35	20:26 (Pr25)	05:27	20:32 (Pr25)	06:29	17:25 (AP2)
	22:02	11 20:37 (Pr25)	21:11	2 20:34 (Pr25)	19:53	18:33
9	04:36	20:25 (Pr25)	05:29	06:31	07:31	17:24 (AP2)
	22:01	13 20:38 (Pr25)	21:08	19:51	18:30	23 17:47 (AP2)
10	04:38	20:24 (Pr25)	05:31	06:33	07:34	17:23 (AP2)
	22:00	15 20:39 (Pr25)	21:06	19:48	18:28	24 17:47 (AP2)
11	04:39	20:24 (Pr25)	05:33	06:35	07:36	17:24 (AP2)
	21:59	17 20:41 (Pr25)	21:04	19:45	18:25	23 17:47 (AP2)
12	04:40	20:23 (Pr25)	05:35	06:37	07:38	17:23 (AP2)
	21:58	19 20:42 (Pr25)	21:02	19:43	18:23	24 17:47 (AP2)
13	04:42	20:23 (Pr25)	05:37	19:22 (Pr3a)	06:39	07:40
	21:57	19 20:42 (Pr25)	20:59	7 19:29 (Pr3a)	19:40	18:20
14	04:43	20:22 (Pr25)	05:39	19:18 (Pr3a)	06:41	07:42
	21:55	21 20:43 (Pr25)	20:57	14 19:32 (Pr3a)	19:37	18:17
15	04:44	20:22 (Pr25)	05:41	19:16 (Pr3a)	06:43	07:44
	21:54	22 20:44 (Pr25)	20:54	19 19:35 (Pr3a)	19:35	18:15
16	04:46	20:21 (Pr25)	05:43	19:14 (Pr3a)	06:45	07:46
	21:53	23 20:44 (Pr25)	20:52	22 19:36 (Pr3a)	19:32	18:12
17	04:47	20:20 (Pr25)	05:45	19:13 (Pr3a)	06:47	07:48
	21:51	24 20:44 (Pr25)	20:50	24 19:37 (Pr3a)	19:29	18:10
18	04:49	20:21 (Pr25)	05:47	19:11 (Pr3a)	06:49	07:50
	21:50	25 20:46 (Pr25)	20:47	26 19:37 (Pr3a)	19:26	18:07
19	04:51	20:20 (Pr25)	05:49	19:10 (Pr3a)	06:51	07:52
	21:49	26 20:46 (Pr25)	20:45	28 19:38 (Pr3a)	19:24	18:05
20	04:52	20:20 (Pr25)	05:51	19:09 (Pr3a)	06:53	07:54
	21:47	26 20:46 (Pr25)	20:42	30 19:39 (Pr3a)	19:21	18:02
21	04:54	20:19 (Pr25)	05:53	19:08 (Pr3a)	06:55	07:57
	21:45	27 20:46 (Pr25)	20:40	31 19:39 (Pr3a)	19:18	18:00
22	04:56	20:20 (Pr25)	05:55	19:08 (Pr3a)	06:57	07:59
	21:44	27 20:47 (Pr25)	20:37	31 19:39 (Pr3a)	19:16	17:57
23	04:57	20:19 (Pr25)	05:57	19:07 (Pr3a)	06:59	08:01
	21:42	28 20:47 (Pr25)	20:35	33 19:40 (Pr3a)	19:13	17:55
24	04:59	20:19 (Pr25)	05:59	19:07 (Pr3a)	07:01	08:03
	21:40	28 20:47 (Pr25)	20:32	33 19:40 (Pr3a)	19:10	17:53
25	05:01	20:20 (Pr25)	06:01	19:06 (Pr3a)	07:03	07:05
	21:39	28 20:48 (Pr25)	20:30	34 19:40 (Pr3a)	19:08	16:50
26	05:03	20:19 (Pr25)	06:03	19:05 (Pr3a)	07:05	07:07
	21:37	28 20:47 (Pr25)	20:27	33 19:38 (Pr3a)	19:05	16:48
27	05:04	20:19 (Pr25)	06:05	19:05 (Pr3a)	07:07	07:09
	21:35	29 20:48 (Pr25)	20:25	33 19:38 (Pr3a)	19:02	16:45
28	05:06	20:20 (Pr25)	06:07	19:05 (Pr3a)	07:09	07:12
	21:33	28 20:48 (Pr25)	20:22	32 19:37 (Pr3a)	19:00	16:43
29	05:08	20:19 (Pr25)	06:09	19:06 (Pr3a)	07:11	07:14
	21:31	28 20:47 (Pr25)	20:20	31 19:37 (Pr3a)	18:57	16:41
30	05:10	20:20 (Pr25)	06:11	19:06 (Pr3a)	07:13	07:16
	21:29	27 20:47 (Pr25)	20:17	30 19:36 (Pr3a)	18:54	16:39
31	05:12	20:21 (Pr25)	06:13	19:07 (Pr3a)	07:18	07:21
	21:27	26 20:47 (Pr25)	20:14	28 19:35 (Pr3a)	18:51	16:36
Potential sun hours	529	469	384	324	248	217
Total, worst case	580	660	96	279		
Sun reduction	0,47	0,52	0,43	0,29		
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	0,52	0,43	0,29		
Total, real	273	345	41	81		

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

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Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Mež abele - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June
1	08:48	08:12	07:09	16:47 (Pr3a)	06:47	18:05 (PrRR3)
	15:46	16:43	17:45	24	17:11 (Pr3a)	19:51
2	08:48	08:10	07:06	16:46 (Pr3a)	06:44	18:04 (PrRR3)
	15:48	16:45	17:48	25	17:11 (Pr3a)	19:53
3	08:48	08:09	07:03	16:45 (Pr3a)	06:41	18:04 (PrRR3)
	15:49	16:48	17:50	26	17:11 (Pr3a)	19:55
4	08:47	08:07	07:01	16:45 (Pr3a)	06:39	18:05 (PrRR3)
	15:50	16:50	17:52	26	17:11 (Pr3a)	19:57
5	08:47	08:04	06:58	16:45 (Pr3a)	06:36	18:05 (PrRR3)
	15:52	16:52	17:54	26	17:11 (Pr3a)	19:59
6	08:46	08:02	06:56	16:45 (Pr3a)	06:33	18:06 (PrRR3)
	15:53	16:54	17:56	26	17:11 (Pr3a)	20:01
7	08:46	08:00	06:53	16:45 (Pr3a)	06:31	18:06 (PrRR3)
	15:54	16:57	17:58	25	17:10 (Pr3a)	20:03
8	08:45	07:58	06:51	16:45 (Pr3a)	06:28	18:07 (PrRR3)
	15:56	16:59	18:01	24	17:09 (Pr3a)	20:05
9	08:44	07:56	06:48	16:46 (Pr3a)	06:25	18:09 (PrRR3)
	15:58	17:01	18:03	21	17:07 (Pr3a)	20:07
10	08:44	07:54	06:45	16:48 (Pr3a)	06:23	18:10 (PrRR3)
	15:59	17:03	18:05	18	17:06 (Pr3a)	20:09
11	08:43	07:52	06:43	16:49 (Pr3a)	06:20	18:12 (PrRR3)
	16:01	17:06	18:07	15	17:04 (Pr3a)	20:12
12	08:42	07:49	06:40	16:51 (Pr3a)	06:18	18:14 (PrRR3)
	16:03	17:08	18:09	9	17:00 (Pr3a)	20:14
13	08:41	07:47	06:37		06:15	18:19 (PrRR3)
	16:04	17:10	18:11		20:16	8 18:27 (PrRR3)
14	08:40	07:45	06:35		06:12	05:03
	16:06	17:12	18:13		20:18	21:19
15	08:39	07:43	06:32		06:10	05:01
	16:08	17:15	18:15		20:20	21:21
16	08:38	07:40	06:29		06:07	04:59
	16:10	17:17	18:17		20:22	21:23
17	08:36	07:38	06:27	17:29 (PrRR3)	06:05	04:57
	16:12	17:19	18:20	2	17:31 (PrRR3)	20:24
18	08:35	07:36	06:24	17:21 (PrRR3)	06:02	04:55
	16:14	17:21	18:22	17	17:38 (PrRR3)	20:26
19	08:34	07:33	06:21	17:19 (PrRR3)	06:00	04:53
	16:16	17:23	18:24	22	17:41 (PrRR3)	20:28
20	08:32	07:31	06:19	17:16 (PrRR3)	05:57	04:51
	16:18	17:26	18:26	27	17:43 (PrRR3)	20:30
21	08:31	07:28	06:16	17:14 (PrRR3)	05:55	04:50
	16:20	17:28	18:28	30	17:44 (PrRR3)	20:32
22	08:30	07:26	06:13	17:12 (PrRR3)	05:52	04:48
	16:22	17:30	18:30	38	18:00 (Pr25)	20:34
23	08:28	07:24	06:11	17:11 (PrRR3)	05:50	04:46
	16:24	17:32	18:32	48	18:04 (Pr25)	20:37
24	08:26	07:21	16:55 (Pr3a)	06:08	17:09 (PrRR3)	05:47
	16:26	17:35	9 17:04 (Pr3a)	18:34	55 18:06 (Pr25)	20:39
25	08:25	07:19	16:52 (Pr3a)	06:05	17:08 (PrRR3)	05:45
	16:28	17:37	14 17:06 (Pr3a)	18:36	59 18:07 (Pr25)	20:41
26	08:23	07:16	16:50 (Pr3a)	06:03	17:08 (PrRR3)	05:42
	16:30	17:39	19 17:09 (Pr3a)	18:38	60 18:08 (Pr25)	20:43
27	08:21	07:14	16:48 (Pr3a)	06:00	17:07 (PrRR3)	05:40
	16:32	17:41	21 17:09 (Pr3a)	18:40	61 18:08 (Pr25)	20:45
28	08:20	07:11	16:47 (Pr3a)	05:57	17:06 (PrRR3)	05:38
	16:35	17:43	23 17:10 (Pr3a)	18:43	62 18:08 (Pr25)	20:47
29	08:18			06:55	18:06 (PrRR3)	05:35
	16:37			19:45	63 19:09 (Pr25)	20:49
30	08:16			06:52	18:05 (PrRR3)	05:33
	16:39			19:47	63 19:08 (Pr25)	20:51
31	08:14			06:49	18:04 (PrRR3)	
	16:41			19:49	64 19:08 (Pr25)	
Potential sun hours	236	266	366	426	536	528
Total, worst case		86	936	536		
Sun reduction		0,23	0,39	0,44		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,23	0,39	0,44		
Total, real		19	366	237		

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A

Licensed user:

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 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Mež abele - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:28 22:07	05:14 21:25	06:15 20:12	18:11 (PrRR3) 23 18:34 (PrRR3)	07:15 4 17:38 (Pr3a)	07:20 16:34
2	04:29 22:06	05:16 21:23	06:17 20:09	18:09 (PrRR3) 27 18:36 (PrRR3)	07:17 13 17:42 (Pr3a)	08:23 16:32
3	04:30 22:06	05:18 21:21	06:19 20:07	18:07 (PrRR3) 30 18:37 (PrRR3)	07:19 18 17:44 (Pr3a)	08:25 16:30
4	04:31 22:05	05:19 21:19	06:21 20:04	18:05 (PrRR3) 33 18:38 (PrRR3)	07:21 21 17:45 (Pr3a)	08:27 16:27
5	04:32 22:04	05:21 21:17	06:23 20:01	18:03 (PrRR3) 42 18:53 (Pr25)	07:23 22 17:45 (Pr3a)	08:28 16:25
6	04:33 22:03	05:23 21:15	06:25 19:59	18:01 (PrRR3) 51 18:56 (Pr25)	07:25 24 17:46 (Pr3a)	08:30 16:23
7	04:34 22:03	05:25 21:13	06:27 19:56	18:00 (PrRR3) 56 18:57 (Pr25)	07:27 25 17:46 (Pr3a)	08:31 16:21
8	04:35 22:02	05:27 21:11	06:29 19:53	17:59 (PrRR3) 60 18:59 (Pr25)	07:29 26 17:46 (Pr3a)	08:33 16:19
9	04:36 22:01	05:29 21:08	06:31 19:51	17:58 (PrRR3) 61 18:59 (Pr25)	07:31 27 17:46 (Pr3a)	08:34 16:17
10	04:38 22:00	05:31 21:06	06:33 19:48	17:58 (PrRR3) 62 19:00 (Pr25)	07:34 26 17:45 (Pr3a)	08:35 16:15
11	04:39 21:59	05:33 21:04	06:35 19:45	17:57 (PrRR3) 63 19:00 (Pr25)	07:36 26 17:46 (Pr3a)	08:37 16:13
12	04:40 21:58	05:35 21:02	06:37 19:43	17:57 (PrRR3) 63 19:00 (Pr25)	07:38 25 17:45 (Pr3a)	08:38 16:11
13	04:42 21:57	05:37 20:59	06:39 19:40	17:56 (PrRR3) 64 19:00 (Pr25)	07:40 24 17:44 (Pr3a)	08:39 16:09
14	04:43 21:55	05:39 20:57	06:41 19:37	17:56 (PrRR3) 63 18:59 (Pr25)	07:42 23 17:43 (Pr3a)	08:40 16:07
15	04:44 21:54	05:41 20:54	06:43 19:34	17:56 (PrRR3) 63 18:59 (Pr25)	07:44 20 17:41 (Pr3a)	08:41 16:06
16	04:46 21:53	05:43 20:52	06:45 19:32	17:56 (PrRR3) 62 18:58 (Pr25)	07:46 17 17:40 (Pr3a)	08:42 16:04
17	04:47 21:51	05:45 20:50	06:47 19:29	17:56 (PrRR3) 61 18:57 (Pr25)	07:48 13 17:38 (Pr3a)	08:43 16:02
18	04:49 21:50	05:47 20:47	06:49 19:26	17:56 (PrRR3) 60 18:56 (Pr25)	07:50 5 17:33 (Pr3a)	08:44 16:00
19	04:51 21:49	05:49 20:45	06:51 19:24	17:56 (PrRR3) 55 18:53 (Pr25)	07:52 15:59	08:45 15:36
20	04:52 21:47	05:51 20:42	06:53 19:21	17:56 (PrRR3) 50 18:50 (Pr25)	07:54 15:57	08:45 15:37
21	04:54 21:45	05:53 20:40	06:55 19:18	17:57 (PrRR3) 42 18:47 (Pr25)	07:57 15:56	08:46 15:37
22	04:56 21:44	05:55 20:37	06:57 19:16	17:58 (PrRR3) 31 18:29 (PrRR3)	07:59 15:54	08:47 15:38
23	04:57 21:42	05:57 20:35	06:59 19:13	17:59 (PrRR3) 28 18:27 (PrRR3)	08:01 15:53	08:47 15:38
24	04:59 21:40	05:59 20:32	07:01 19:10	18:01 (PrRR3) 24 18:25 (PrRR3)	08:03 15:51	08:48 15:39
25	05:01 21:39	06:01 20:30	07:03 19:08	18:03 (PrRR3) 19 18:22 (PrRR3)	07:05 15:50	08:48 15:39
26	05:03 21:37	06:03 20:27	07:05 19:05	18:07 (PrRR3) 10 18:17 (PrRR3)	07:07 16:48	08:48 15:40
27	05:04 21:35	06:05 20:25	07:07 19:02	07:09 16:45	08:15 15:48	08:48 15:41
28	05:06 21:33	06:07 20:22	07:09 19:00	07:12 16:43	08:16 15:46	08:48 15:42
29	05:08 21:31	06:09 20:20	07:11 18:57	07:14 16:41	08:18 15:45	08:49 15:43
30	05:10 21:29	06:11 20:17	07:13 18:28 (PrRR3)	07:16 16:39	08:20 15:44	08:49 15:44
31	05:12 21:27	06:13 20:14	07:14 18:32 (PrRR3)	07:18 16:36	08:21 15:45	08:48 15:45
Potential sun hours	529	469	384	324	248	217
Total, worst case		28	1203	359		
Sun reduction		0,52	0,43	0,29		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29		
Total, real		15	519	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)









Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Mozuli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (418)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June
1	08:48	08:13	07:09	16:26 (DD3)	06:47	18:56 (O3)
	15:47	16:44	17:46	31	16:57 (DD3)	19:51
2	08:48	08:11	07:06	16:26 (DD3)	06:44	18:55 (O3)
	15:48	16:46	17:48	30	16:56 (DD3)	19:53
3	08:48	08:09	07:04	16:27 (DD3)	06:42	18:56 (O3)
	15:50	16:48	17:50	29	16:56 (DD3)	19:55
4	08:47	08:07	07:01	16:27 (DD3)	06:39	18:56 (O3)
	15:51	16:51	17:52	28	16:55 (DD3)	19:57
5	08:47	08:05	06:59	16:28 (DD3)	06:37	18:58 (O3)
	15:52	16:53	17:55	25	16:53 (DD3)	19:59
6	08:46	08:03	06:56	16:29 (DD3)	06:34	19:00 (O3)
	15:54	16:55	17:57	24	16:53 (DD3)	20:01
7	08:46	08:00	06:53	16:30 (DD3)	06:31	19:09 (O3)
	15:55	16:57	17:59	21	16:51 (DD3)	20:04
8	08:45	07:58	06:51	16:32 (DD3)	06:29	19:16 (O3)
	15:57	17:00	18:01	16	16:48 (DD3)	20:06
9	08:44	07:56	06:48	16:35 (DD3)	06:26	19:15 (O3)
	15:58	17:02	18:03	14	17:35 (DD1)	20:08
10	08:44	07:54	06:46	17:28 (DD1)	06:23	19:12 (O3)
	16:00	17:04	18:05	9	17:37 (DD1)	20:10
11	08:43	07:52	06:43	17:26 (DD1)	06:21	19:09 (O3)
	16:02	17:06	18:07	13	17:39 (DD1)	20:12
12	08:42	07:50	06:40	17:25 (DD1)	06:18	19:15 (O3)
	16:03	17:08	18:09	17	17:42 (DD1)	20:14
13	08:41	07:47	06:38	17:23 (DD1)	06:16	19:12 (O3)
	16:05	17:11	18:12	20	17:43 (DD1)	20:16
14	08:40	07:45	06:35	17:22 (DD1)	06:13	19:12 (O3)
	16:07	17:13	18:14	22	17:44 (DD1)	20:18
15	08:39	07:43	06:32	17:22 (DD1)	06:10	19:12 (O3)
	16:09	17:15	18:16	23	17:45 (DD1)	20:20
16	08:38	07:41	06:30	17:22 (DD1)	06:08	19:12 (O3)
	16:11	17:17	18:18	22	17:44 (DD1)	20:22
17	08:36	07:38	06:27	17:21 (DD1)	06:05	19:12 (O3)
	16:13	17:20	18:20	22	17:43 (DD1)	20:24
18	08:35	07:36	16:39 (DD3)	06:24	17:22 (DD1)	06:03
	16:15	17:22	7	16:46 (DD3)	18:22	21
19	08:34	07:33	16:36 (DD3)	06:22	17:43 (DD1)	20:26
	16:16	17:24	14	16:50 (DD3)	18:24	20
20	08:32	07:31	16:33 (DD3)	06:19	17:22 (DD1)	05:58
	16:18	17:26	19	16:52 (DD3)	18:26	19
21	08:31	07:29	16:32 (DD3)	06:16	17:23 (DD1)	05:55
	16:20	17:28	22	16:54 (DD3)	18:28	16
22	08:30	07:26	16:30 (DD3)	06:14	17:26 (DD1)	05:53
	16:23	17:31	25	16:55 (DD3)	18:30	11
23	08:28	07:24	16:30 (DD3)	06:11	17:37 (DD1)	20:35
	16:25	17:33	26	16:56 (DD3)	18:32	
24	08:26	07:21	16:28 (DD3)	06:08	18:04 (O3)	05:45
	16:27	17:35	28	16:56 (DD3)	18:35	
25	08:25	07:19	16:27 (DD3)	06:06	18:09 (O3)	20:41
	16:29	17:37	29	16:56 (DD3)	18:37	5
26	08:23	07:16	16:27 (DD3)	06:03	18:01 (O3)	05:43
	16:31	17:39	30	16:57 (DD3)	18:39	10
27	08:22	07:14	16:27 (DD3)	06:00	17:59 (O3)	05:41
	16:33	17:42	30	16:57 (DD3)	18:41	13
28	08:20	07:11	16:27 (DD3)	05:58	17:58 (O3)	05:38
	16:35	17:44	30	16:57 (DD3)	18:43	17
29	08:18			06:55	18:57 (O3)	05:36
	16:37			19:45	19:17 (O3)	20:49
30	08:16			06:52	18:56 (O3)	05:34
	16:40			19:47	19:17 (O3)	20:51
31	08:14			06:50	18:56 (O3)	
	16:42			19:49	19:17 (O3)	
Potential sun hours	236	266	366	426	507	528
Total, worst case		260	560	99		
Sun reduction		0,22	0,39	0,44		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,22	0,39	0,44		
Total, real		58	219	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)
	Minutes with flicker		



Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Mozuli - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (418)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	18:03 (DD1) 18:22 (DD1)	07:20 16:35
2	04:30 22:06	05:16 21:24	06:18 20:09	07:17 18:49	18:04 (DD1) 18:19 (DD1)	07:23 16:32
3	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	18:05 (DD1) 18:16 (DD1)	07:25 16:30
4	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	17:15 (DD3) 18:13 (DD1)	07:27 16:28
5	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	17:10 (DD3) 17:24 (DD3)	07:29 16:26
6	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:56 (O3) 19:05 (O3)	17:07 (DD3) 18:39	07:31 16:24
7	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:53 (O3) 19:07 (O3)	17:05 (DD3) 17:27 (DD3)	07:33 16:22
8	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:52 (O3) 19:08 (O3)	17:03 (DD3) 17:28 (DD3)	07:36 16:20
9	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:50 (O3) 19:09 (O3)	17:03 (DD3) 17:30 (DD3)	07:38 16:18
10	04:38 22:00	05:32 21:06	06:34 19:48	07:34 18:49 (O3) 19:08 (O3)	17:02 (DD3) 17:30 (DD3)	07:40 16:16
11	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:48 (O3) 19:09 (O3)	17:01 (DD3) 17:30 (DD3)	07:42 16:14
12	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:47 (O3) 19:08 (O3)	17:00 (DD3) 17:30 (DD3)	07:44 16:12
13	04:42 21:57	05:38 20:59	06:40 19:40	07:40 18:47 (O3) 19:08 (O3)	16:59 (DD3) 17:30 (DD3)	07:46 16:10
14	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:47 (O3) 19:07 (O3)	16:59 (DD3) 17:29 (DD3)	07:48 16:08
15	04:45 21:54	05:42 20:55	06:44 19:35	07:44 18:47 (O3) 19:05 (O3)	17:00 (DD3) 17:30 (DD3)	07:51 16:06
16	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:48 (O3) 19:02 (O3)	16:59 (DD3) 17:29 (DD3)	07:53 16:05
17	04:48 21:51	05:46 20:50	06:47 19:29	07:48 18:49 (O3) 19:00 (O3)	16:59 (DD3) 17:28 (DD3)	07:55 16:03
18	04:50 21:50	05:48 20:47	06:49 19:27	07:50 18:51 (O3) 18:57 (O3)	17:00 (DD3) 17:27 (DD3)	07:57 16:01
19	04:51 21:49	05:50 20:45	06:51 19:24	07:53 18:05	17:00 (DD3) 17:26 (DD3)	07:59 16:00
20	04:53 21:47	05:52 20:43	06:53 19:21	07:55 18:03	17:02 (DD3) 17:25 (DD3)	08:01 15:58
21	04:55 21:45	05:54 20:40	06:55 19:19	07:57 18:12 (DD1) 18:22 (DD1)	17:02 (DD3) 17:24 (DD3)	08:03 15:56
22	04:56 21:44	05:56 20:38	06:57 19:16	07:59 18:09 (DD1) 18:24 (DD1)	17:04 (DD3) 17:21 (DD3)	08:05 15:55
23	04:58 21:42	05:58 20:35	06:59 19:13	08:01 18:08 (DD1) 18:25 (DD1)	17:07 (DD3) 17:20 (DD3)	08:07 15:54
24	05:00 21:40	06:00 20:33	07:01 19:11	08:03 18:06 (DD1) 18:26 (DD1)	08:09 15:52	08:47 15:40
25	05:02 21:39	06:02 20:30	07:03 19:08	07:05 18:05 (DD1) 18:26 (DD1)	08:11 15:51	08:48 15:40
26	05:03 21:37	06:04 20:27	07:05 19:05	07:07 18:04 (DD1) 18:26 (DD1)	08:13 15:50	08:48 15:41
27	05:05 21:35	06:06 20:25	07:07 19:03	07:10 18:04 (DD1) 18:26 (DD1)	08:15 15:48	08:48 15:42
28	05:07 21:33	06:08 20:22	07:09 19:00	07:12 18:03 (DD1) 18:26 (DD1)	08:16 15:47	08:48 15:43
29	05:09 21:31	06:10 20:20	07:11 18:57	07:14 18:03 (DD1) 18:25 (DD1)	08:18 15:46	08:48 15:44
30	05:11 21:29	06:12 20:17	07:13 18:55	07:16 18:03 (DD1) 18:24 (DD1)	08:20 15:45	08:48 15:45
31	05:13 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	528	469	384	324	248	217
Total, worst case			402	528		
Sun reduction			0,43	0,29		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,43	0,29		
Total, real			173	153		

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Makoni š - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (587)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:25	06:16 20:12	07:15 18:52	07:20 16:34	08:22 15:44
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:26 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:58 17:54	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:23 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:02 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:01	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:01	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:28 20:06	05:15 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:04	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:32 20:01	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:04	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:01	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:37 20:01	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:38 20:59	06:39 20:01	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:37
16	08:38 16:11	07:40 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 20:01	07:46 18:13	07:53 16:04	08:42 15:37
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 20:01	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 20:01	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:48	05:50 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:52 20:42	06:53 20:01	07:55 18:03	08:01 15:58	08:45 15:37
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31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:27	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Makoni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (417)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:25	06:16 20:12	07:15 18:52	07:20 16:34	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:54	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:23 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:01	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:01	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:15 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:01	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:32 20:01	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:01	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:01	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 20:01	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:39 20:01	07:40 18:20	07:46 16:10	08:39 15:37
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19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:48	05:50 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:30	04:24 22:07	04:53 21:47	05:52 20:42	06:53 20:01	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:37	06:57 20:01	07:59 17:58	08:05 15:55	08:46 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:34	05:48 20:39	04:46 21:37	04:25 22:08	05:00 21:40	06:00 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 20:01	08:05 17:51	08:11 15:51	08:48 15:40
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29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:27 22:07	05:09 21:31	06:10 20:20	07:11 20:01	08:14 17:41	08:18 15:46	08:48 15:43
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31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:27	06:14 20:15	07:18 20:01	08:18 17:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Ozolaine - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
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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		



Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A  
Assumptions for shadow calculations

Shadow receptor: OŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (420)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	18:39 (JV1) 20:18 (O1.b)
2	08:48 15:48	08:11 16:46	07:06 17:48	06:45 19:53	05:29 20:55	19:11 (JV1) 20:45 (O1.b)
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	18:42 (JV1) 20:19 (O1.b)
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:24 20:59	19:08 (JV1) 20:45 (O1.b)
5	08:47 15:52	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	18:45 (JV1) 20:19 (O1.b)
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:02	05:20 21:03	19:06 (JV1) 20:44 (O1.b)
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:04	05:18 21:05	18:47 (JV1) 20:20 (O1.b)
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	19:03 (JV1) 20:15 (O1.b)
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	18:53 (JV1) 20:21 (O1.b)
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:12 21:11	20:27 (O1.b) 20:22 (O1.b)
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	20:34 (O1.b) 20:22 (O1.b)
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:07 21:15	20:24 (O1.b) 20:23 (O1.b)
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	20:37 (O1.b) 20:21 (O1.b)
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	20:41 (O1.b) 20:20 (O1.b)
15	08:39 16:09	07:43 17:15	06:32 18:16	06:11 20:20	05:02 21:21	20:18 (O1.b) 20:25 (O1.b)
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	05:00 21:23	20:43 (O1.b) 20:25 (O1.b)
17	08:36 16:13	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	20:16 (O1.b) 20:43 (O1.b)
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	20:17 (O1.b) 20:44 (O1.b)
19	08:34 16:17	07:34 17:24	06:22 18:24	06:00 20:28	04:54 21:29	20:44 (O1.b) 20:26 (O1.b)
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	20:16 (O1.b) 20:44 (O1.b)
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:33	04:51 21:32	20:45 (O1.b) 20:27 (O1.b)
22	08:30 16:23	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	20:16 (O1.b) 20:45 (O1.b)
23	08:28 16:25	07:24 17:33	06:11 18:33	05:50 20:37	04:47 21:36	20:45 (O1.b) 20:28 (O1.b)
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:38	20:16 (O1.b) 20:45 (O1.b)
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	20:16 (O1.b) 20:45 (O1.b)
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	20:17 (O1.b) 20:45 (O1.b)
27	08:22 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:41 21:42	20:46 (O1.b) 20:28 (O1.b)
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	20:17 (O1.b) 20:46 (O1.b)
29	08:18 16:37		05:55 19:45	05:36 20:49	04:39 21:46	20:17 (O1.b) 20:47 (O1.b)
30	08:16 16:40		05:53 19:47	05:34 20:51	04:37 21:47	20:17 (O1.b) 20:48 (O1.b)
31	08:14 16:42		05:50 19:49		04:36 21:49	20:18 (O1.b) 20:45 (O1.b)
Potential sun hours	236	266	366	426	507	528
Total, worst case				1118	708	604
Sun reduction				0,44	0,56	0,57
Oper. time red.				1,00	1,00	1,00
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,44	0,56	0,57
Total, real				494	399	343

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A Shadow receptor: OŠ i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (420)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July			August			September			October	November	December
1	04:29	20:27 (O1.b)	05:15	20:31 (O1.b)	06:16	18:36 (JV1)	07:16	07:20	08:22			
	22:06	20:47 (O1.b)	21:26	20:50 (O1.b)	20:12	19:18 (JV1)	18:52	16:35	15:44			
2	04:30	20:27 (O1.b)	05:16	20:33 (O1.b)	06:18	18:37 (JV1)	07:18	07:23	08:23			
	22:06	20:48 (O1.b)	21:24	20:49 (O1.b)	20:09	19:17 (JV1)	18:49	16:32	15:43			
3	04:31	20:27 (O1.b)	05:18	20:35 (O1.b)	06:20	18:37 (JV1)	07:20	07:25	08:25			
	22:05	20:49 (O1.b)	21:21	20:47 (O1.b)	20:07	19:16 (JV1)	18:47	16:30	15:42			
4	04:32	20:27 (O1.b)	05:20	20:39 (O1.b)	06:22	18:38 (JV1)	07:22	07:27	08:27			
	22:05	20:50 (O1.b)	21:19	20:42 (O1.b)	20:04	19:15 (JV1)	18:44	16:28	15:41			
5	04:33	20:27 (O1.b)	05:22		06:24	18:39 (JV1)	07:24	07:29	08:28			
	22:04	20:50 (O1.b)	21:17		20:02	19:13 (JV1)	18:41	16:26	15:41			
6	04:34	20:27 (O1.b)	05:24		06:26	18:41 (JV1)	07:26	07:31	08:30			
	22:03	20:51 (O1.b)	21:15		19:59	19:11 (JV1)	18:39	16:24	15:40			
7	04:35	20:27 (O1.b)	05:26	19:00 (JV1)	06:28	18:42 (JV1)	07:28	07:33	08:31			
	22:03	20:51 (O1.b)	21:13	9	19:09 (JV1)	19:56	18:36	16:22	15:39			
8	04:36	20:27 (O1.b)	05:28		18:56 (JV1)	06:30	18:45 (JV1)	07:30	08:33			
	22:02	20:51 (O1.b)	21:11	17	19:13 (JV1)	19:54	21	19:06 (JV1)	18:34	16:20	15:39	
9	04:37	20:26 (O1.b)	05:30		18:52 (JV1)	06:32	18:48 (JV1)	07:32	07:38	08:39		
	22:01	20:52 (O1.b)	21:08	23	19:15 (JV1)	19:51	14	19:02 (JV1)	18:31	16:18	15:38	
10	04:39	20:26 (O1.b)	05:32		18:50 (JV1)	06:34		07:34	07:40	08:35		
	22:00	20:52 (O1.b)	21:06	27	19:17 (JV1)	19:48		18:28	16:16	15:38		
11	04:40	20:26 (O1.b)	05:34		18:49 (JV1)	06:36		07:36	07:42	08:37		
	21:59	20:52 (O1.b)	21:04	29	19:18 (JV1)	19:46		18:26	16:14	15:38		
12	04:41	20:26 (O1.b)	05:36		18:47 (JV1)	06:38		07:38	07:44	08:38		
	21:58	20:54 (O1.b)	21:02	33	19:20 (JV1)	19:43		18:23	16:12	15:37		
13	04:43	20:26 (O1.b)	05:38		18:46 (JV1)	06:40		07:40	07:46	08:39		
	21:57	20:54 (O1.b)	20:59	35	19:21 (JV1)	19:40		18:21	16:10	15:37		
14	04:44	20:26 (O1.b)	05:40		18:45 (JV1)	06:42		07:42	07:48	08:40		
	21:55	20:54 (O1.b)	20:57	37	19:22 (JV1)	19:38		18:18	16:08	15:37		
15	04:45	20:25 (O1.b)	05:42		18:43 (JV1)	06:44		07:44	07:51	08:41		
	21:54	20:54 (O1.b)	20:55	39	19:22 (JV1)	19:35		18:15	16:06	15:37		
16	04:47	20:26 (O1.b)	05:44		18:42 (JV1)	06:46		07:46	07:53	08:42		
	21:53	20:55 (O1.b)	20:52	40	19:22 (JV1)	19:32		18:13	16:05	15:37		
17	04:48	20:25 (O1.b)	05:46		18:41 (JV1)	06:48		07:48	07:55	08:43		
	21:51	20:54 (O1.b)	20:50	42	19:23 (JV1)	19:30		18:10	16:03	15:37		
18	04:50	20:26 (O1.b)	05:48		18:40 (JV1)	06:50		07:50	07:57	08:44		
	21:50	20:55 (O1.b)	20:47	43	19:23 (JV1)	19:27		18:08	16:01	15:37		
19	04:52	20:26 (O1.b)	05:50		18:39 (JV1)	06:52		07:53	07:59	08:45		
	21:49	20:55 (O1.b)	20:45	45	19:24 (JV1)	19:24		18:05	16:00	15:37		
20	04:53	20:26 (O1.b)	05:52		18:39 (JV1)	06:54		07:55	08:01	08:45		
	21:47	20:56 (O1.b)	20:43	45	19:24 (JV1)	19:21		18:03	15:58	15:38		
21	04:55	20:26 (O1.b)	05:54		18:38 (JV1)	06:56		07:57	08:03	08:46		
	21:45	20:55 (O1.b)	20:40	46	19:24 (JV1)	19:19		18:01	15:57	15:38		
22	04:57	20:26 (O1.b)	05:56		18:38 (JV1)	06:57		07:59	08:05	08:47		
	21:44	20:56 (O1.b)	20:38	46	19:24 (JV1)	19:16		17:58	15:55	15:39		
23	04:58	20:26 (O1.b)	05:58		18:36 (JV1)	06:59		08:01	08:07	08:47		
	21:42	20:55 (O1.b)	20:35	47	19:23 (JV1)	19:13		17:56	15:54	15:39		
24	05:00	20:27 (O1.b)	06:00		18:36 (JV1)	07:01		08:03	08:09	08:47		
	21:40	20:55 (O1.b)	20:33	47	19:23 (JV1)	19:11		17:53	15:52	15:40		
25	05:02	20:26 (O1.b)	06:02		18:36 (JV1)	07:03		07:05	08:11	08:48		
	21:39	20:54 (O1.b)	20:30	47	19:23 (JV1)	19:08		16:51	15:51	15:40		
26	05:04	20:27 (O1.b)	06:04		18:36 (JV1)	07:05		07:08	08:13	08:48		
	21:37	20:54 (O1.b)	20:28	47	19:23 (JV1)	19:05		16:48	15:50	15:41		
27	05:05	20:28 (O1.b)	06:06		18:36 (JV1)	07:07		07:10	08:15	08:48		
	21:35	20:54 (O1.b)	20:25	47	19:23 (JV1)	19:03		16:46	15:48	15:42		
28	05:07	20:28 (O1.b)	06:08		18:36 (JV1)	07:09		07:12	08:16	08:48		
	21:33	20:53 (O1.b)	20:22	46	19:22 (JV1)	19:00		16:44	15:47	15:43		
29	05:09	20:29 (O1.b)	06:10		18:36 (JV1)	07:11		07:14	08:18	08:48		
	21:31	20:53 (O1.b)	20:20	46	19:22 (JV1)	18:57		16:41	15:46	15:44		
30	05:11	20:30 (O1.b)	06:12		18:36 (JV1)	07:13		07:16	08:20	08:48		
	21:29	20:52 (O1.b)	20:17	45	19:21 (JV1)	18:55		16:39	15:45	15:45		
31	05:13	20:30 (O1.b)	06:14		18:36 (JV1)			07:18		08:48		
	21:28	20:51 (O1.b)	20:15	43	19:19 (JV1)			16:37		15:46		
Potential sun hours	528		469		384		324	248	217			
Total, worst case	807		1021		284							
Sun reduction	0,47		0,52		0,43							
Oper. time red.	1,00		1,00		1,00							
Wind dir. red.	1,00		1,00		1,00							
Total reduction	0,47		0,52		0,43							
Total, real	381		533		123							

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Palmas - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:07	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:34	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:33 21:52	04:29 22:06	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:24 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:26 20:57	04:32 21:53	04:30 22:06	05:18 21:22	06:20 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:24 20:01	07:23 18:41	07:29 16:26	08:28 15:40
6	08:46 15:53	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:04	04:29 21:57	04:33 22:04	05:24 21:15	06:26 20:01	07:26 18:39	07:31 16:24	08:30 15:39
7	08:46 15:55	08:01 16:57	06:53 17:59	06:31 20:03	05:17 21:06	04:29 21:58	04:34 22:03	05:26 21:13	06:28 20:01	07:28 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:06	05:15 21:08	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:01	07:30 18:33	07:36 16:19	08:33 15:38
9	08:45 15:58	07:56 17:01	06:48 18:03	06:26 20:08	05:13 21:10	04:27 22:00	04:37 22:01	05:30 21:09	06:31 20:01	07:32 18:31	07:38 16:17	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:12	04:27 22:01	04:38 22:00	05:32 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:36 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:14	04:26 22:02	04:39 21:59	05:34 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:16	04:25 22:03	04:41 21:58	05:36 21:02	06:37 20:01	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:10	06:38 18:11	06:15 20:16	05:05 21:17	04:25 22:04	04:42 21:57	05:38 20:59	06:39 20:01	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:56	05:40 20:57	06:41 20:01	07:42 18:18	07:49 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:42 20:55	06:43 20:01	07:44 18:15	07:51 16:06	08:41 15:36
16	08:38 16:10	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:06	04:46 21:53	05:44 20:52	06:45 20:01	07:46 18:13	07:53 16:04	08:42 15:36
17	08:37 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:52	05:46 20:50	06:47 20:01	07:48 18:10	07:55 16:03	08:43 15:36
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:55 21:27	04:24 22:07	04:49 21:50	05:48 20:47	06:49 20:01	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 20:01	07:53 18:05	07:59 15:59	08:45 15:37
20	08:33 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:43	06:53 20:01	07:55 18:03	08:01 15:58	08:46 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:08	04:54 21:46	05:54 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:30	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 20:01	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:58 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:39
24	08:27 16:26	07:21 17:35	06:08 18:34	05:48 20:39	04:45 21:38	04:25 22:08	04:59 21:41	06:00 20:33	07:01 20:01	08:03 17:53	08:09 15:52	08:48 15:39
25	08:25 16:28	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 20:01	08:05 17:51	08:11 15:50	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:04 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:01	08:09 17:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:39 21:44	04:27 22:08	05:07 21:33	06:08 20:22	07:09 20:01	08:12 17:43	08:17 15:47	08:49 15:42
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:27 22:07	05:08 21:32	06:10 20:20	07:11 20:01	08:14 17:41	08:18 15:46	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:30	06:12 20:17	07:13 20:01	08:16 17:39	08:20 15:45	08:49 15:44
31	08:14 16:41		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15	07:18 20:01	08:18 17:37		08:49 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Pastari - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (422)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:01	07:26 18:41	07:31 16:26	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:01	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:04	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:32 20:01	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:04	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:04	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:03	04:41 21:58	05:36 21:02	06:38 20:04	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:40 20:04	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 20:01	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 20:01	07:44 18:15	07:51 16:06	08:41 15:37
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 20:01	07:46 18:13	07:53 16:04	08:42 15:37
17	08:36 16:12	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 20:04	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 20:01	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 20:04	07:53 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:42	06:53 20:01	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 20:04	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 20:01	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:25	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 20:04	08:01 17:55	08:07 15:53	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:40	06:00 20:33	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 20:08	08:05 17:51	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:04	08:09 17:46	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 20:01	08:12 17:44	08:16 15:47	08:48 15:43
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 17:41	08:18 15:46	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 17:39	08:20 15:45	08:48 15:44
31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Pastarini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (426)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:50	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:00	07:26 18:41	07:31 16:26	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:00	07:28 18:41	07:33 16:26	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:00	07:30 18:41	07:36 16:26	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:28 22:00	04:37 22:01	05:30 21:08	06:32 20:00	07:32 18:41	07:38 16:26	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:00	07:34 18:41	07:40 16:26	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:00	07:36 18:41	07:42 16:26	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 20:00	07:38 18:41	07:44 16:26	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:40 20:00	07:40 18:41	07:46 16:26	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 20:00	07:42 18:41	07:48 16:26	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:44 20:00	07:44 18:41	07:51 16:26	08:41 15:37
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 20:00	07:46 18:41	07:53 16:26	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 20:00	07:48 18:41	07:55 16:26	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 20:00	07:50 18:41	07:57 16:26	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 20:00	07:53 18:41	07:59 16:26	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:42	06:53 20:00	07:55 18:41	08:01 16:26	08:45 15:38
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 20:00	07:57 18:41	08:03 16:26	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 20:00	07:59 18:41	08:05 16:26	08:47 15:38
23	08:28 16:25	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 20:00	08:01 18:41	08:07 16:26	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:40	06:00 20:33	07:01 20:11	08:03 18:41	08:09 16:26	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:02 21:39	06:02 20:30	07:03 20:08	08:05 18:41	08:11 16:26	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 20:05	08:07 18:41	08:13 16:26	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:03	08:09 18:41	08:15 16:26	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 20:00	08:12 18:41	08:16 16:26	08:48 15:43
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:11 20:18	08:14 18:41	08:18 16:26	08:48 15:44
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 20:18	08:16 18:41	08:20 16:26	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:49		05:13 21:28	06:14 20:15	07:18 20:15	08:18 18:41		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Pavlani - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Priednieki - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (487)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:56	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:26	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:05	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:05	15:36
16	08:38	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:23	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:37	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Purmala - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (489)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June
1	08:48 15:46	08:12 16:43	15:58 (Pr3a) 16:09 (Pr3a)	07:09 17:45	15:54 (PrRR3) 17:14 (Pr25)	06:47 19:51
2	08:48 15:47	08:10 16:45	15:56 (Pr3a) 16:11 (Pr3a)	07:06 17:48	15:56 (PrRR3) 17:15 (Pr25)	06:44 19:53
3	08:48 15:49	08:09 16:48	15:56 (Pr3a) 16:14 (Pr3a)	07:03 17:50	16:01 (PrRR3) 17:15 (Pr25)	06:41 19:55
4	08:47 15:50	08:07 16:50	15:54 (Pr3a) 16:15 (Pr3a)	07:01 17:52	16:51 (Pr25) 17:15 (Pr25)	06:39 19:57
5	08:47 15:51	08:05 16:52	15:54 (Pr3a) 16:16 (Pr3a)	06:58 17:54	16:50 (Pr25) 17:15 (Pr25)	06:36 19:59
6	08:46 15:53	08:02 16:54	15:54 (Pr3a) 16:16 (Pr3a)	06:56 17:56	16:51 (Pr25) 17:15 (Pr25)	06:33 20:01
7	08:46 15:54	08:00 16:57	15:54 (Pr3a) 16:17 (Pr3a)	06:53 17:58	16:51 (Pr25) 17:14 (Pr25)	06:31 20:03
8	08:45 15:56	07:58 16:59	15:53 (Pr3a) 16:17 (Pr3a)	06:51 18:01	16:51 (Pr25) 17:13 (Pr25)	06:28 20:05
9	08:44 15:58	07:56 17:01	15:54 (Pr3a) 16:17 (PrRR3)	06:48 18:03	16:51 (Pr25) 17:11 (Pr25)	06:25 20:07
10	08:44 15:59	07:54 17:03	15:53 (PrRR3) 16:19 (PrRR3)	06:45 18:05	16:53 (Pr25) 17:10 (Pr25)	06:23 20:09
11	08:43 16:01	07:52 17:06	15:52 (PrRR3) 16:19 (PrRR3)	06:43 18:07	16:54 (Pr25) 17:08 (Pr25)	06:20 20:12
12	08:42 16:03	07:49 17:08	15:51 (PrRR3) 16:21 (PrRR3)	06:40 18:09	16:57 (Pr25) 17:04 (Pr25)	06:18 20:14
13	08:41 16:04	07:47 17:10	15:50 (PrRR3) 16:21 (PrRR3)	06:37 18:11	06:15 20:16	05:05 21:17
14	08:40 16:06	07:45 17:12	15:49 (PrRR3) 16:22 (PrRR3)	06:35 18:13	06:12 20:18	05:03 21:19
15	08:39 16:08	07:43 17:15	15:49 (PrRR3) 16:23 (PrRR3)	06:32 18:15	06:10 20:20	05:01 21:21
16	08:38 16:10	07:40 17:17	15:48 (PrRR3) 16:23 (PrRR3)	06:29 18:17	06:07 20:22	04:59 21:23
17	08:36 16:12	07:38 17:19	15:48 (PrRR3) 16:24 (PrRR3)	06:27 18:20	06:05 20:24	04:57 21:25
18	08:35 16:14	07:36 17:21	15:47 (PrRR3) 16:24 (PrRR3)	06:24 18:22	06:02 20:26	04:55 21:27
19	08:34 16:16	07:33 17:23	15:48 (PrRR3) 16:24 (PrRR3)	06:21 18:24	06:00 20:28	04:53 21:29
20	08:32 16:18	07:31 17:26	15:47 (PrRR3) 16:24 (PrRR3)	06:19 18:26	05:57 20:30	04:51 21:31
21	08:31 16:20	07:28 17:28	15:48 (PrRR3) 16:24 (PrRR3)	06:16 18:28	05:55 20:32	04:50 21:32
22	08:30 16:22	07:26 17:30	15:48 (PrRR3) 16:23 (PrRR3)	06:13 18:30	05:52 20:34	04:48 21:34
23	08:28 16:24	07:24 17:32	15:48 (PrRR3) 16:22 (PrRR3)	06:11 18:32	05:50 20:37	04:46 21:36
24	08:26 16:26	07:21 17:35	15:49 (PrRR3) 16:22 (PrRR3)	06:08 18:34	05:47 20:39	04:45 21:38
25	08:25 16:28	07:19 17:37	15:49 (PrRR3) 17:07 (Pr25)	06:05 18:36	05:45 20:41	04:43 21:39
26	08:23 16:30	07:16 17:39	15:50 (PrRR3) 17:10 (Pr25)	06:03 18:38	05:42 20:43	04:42 21:41
27	08:22 16:32	07:14 17:41	15:51 (PrRR3) 17:12 (Pr25)	06:00 18:40	05:40 20:45	04:40 21:43
28	08:20 16:34	07:11 17:43	15:52 (PrRR3) 17:13 (Pr25)	05:57 18:43	05:38 20:47	04:39 21:44
29	08:18 16:37			06:55 19:45	05:35 20:49	04:38 21:46
30	08:16 16:39			06:52 19:47	05:33 20:51	04:36 21:47
31	08:14 16:41	15:59 (Pr3a) 16:06 (Pr3a)		06:49 19:49		04:35 21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case	7	852	293			
Sun reduction	0,13	0,23	0,39			
Oper. time red.	1,00	1,00	1,00			
Wind dir. red.	1,00	1,00	1,00			
Total reduction	0,13	0,23	0,39			
Total, real	1	192	115			

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Purmala - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (489)  
Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October		November		December
1	04:28 22:07	05:14 21:26	06:15 20:12	07:15 18:51		07:20 16:34	25	15:23 (PrRR3) 15:48 (PrRR3)
2	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	12	17:34 (Pr25) 17:46 (Pr25)	24	15:23 (Pr3a) 15:47 (Pr3a)
3	04:30 22:06	05:18 21:21	06:19 20:07	07:19 18:46	16	17:32 (Pr25) 17:48 (Pr25)	23	15:23 (Pr3a) 15:46 (Pr3a)
4	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:44	19	17:30 (Pr25) 17:49 (Pr25)	23	15:24 (Pr3a) 15:47 (Pr3a)
5	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	21	17:28 (Pr25) 17:49 (Pr25)	22	15:24 (Pr3a) 15:46 (Pr3a)
6	04:33 22:04	05:23 21:15	06:25 19:59	07:25 18:38	23	17:27 (Pr25) 17:50 (Pr25)	21	15:25 (Pr3a) 15:46 (Pr3a)
7	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	24	17:26 (Pr25) 17:50 (Pr25)	20	15:25 (Pr3a) 15:45 (Pr3a)
8	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	25	17:25 (Pr25) 17:50 (Pr25)	17	15:26 (Pr3a) 15:43 (Pr3a)
9	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	24	17:25 (Pr25) 17:49 (Pr25)	15	15:27 (Pr3a) 15:42 (Pr3a)
10	04:37 22:00	05:31 21:06	06:33 19:48	07:34 18:28	24	17:25 (Pr25) 17:49 (Pr25)	10	15:29 (Pr3a) 15:39 (Pr3a)
11	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	38	16:32 (PrRR3) 17:49 (Pr25)	7	15:31 (Pr3a) 15:38 (Pr3a)
12	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23	42	16:29 (PrRR3) 17:48 (Pr25)		08:38 15:36
13	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	45	16:26 (PrRR3) 17:47 (Pr25)		08:39 15:36
14	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	47	16:24 (PrRR3) 17:46 (Pr25)		08:40 15:36
15	04:44 21:54	05:41 20:55	06:43 19:34	07:44 18:15	46	16:22 (PrRR3) 17:43 (Pr25)		08:41 15:36
16	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	42	16:22 (PrRR3) 17:41 (Pr25)		08:42 15:36
17	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	36	16:21 (PrRR3) 17:37 (Pr25)		08:43 15:36
18	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	34	16:20 (PrRR3) 16:54 (PrRR3)		08:44 15:36
19	04:51 21:49	05:49 20:45	06:51 19:24	07:52 18:05	35	16:19 (PrRR3) 16:54 (PrRR3)		08:45 15:36
20	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	36	16:19 (PrRR3) 16:55 (PrRR3)		08:45 15:37
21	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	36	16:18 (PrRR3) 16:54 (PrRR3)		08:46 15:37
22	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	36	16:18 (PrRR3) 16:54 (PrRR3)		08:47 15:38
23	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	37	16:17 (PrRR3) 16:54 (PrRR3)		08:47 15:38
24	04:59 21:41	05:59 20:32	07:01 19:10	08:03 17:53	36	16:18 (PrRR3) 16:54 (PrRR3)		08:48 15:39
25	05:01 21:39	06:01 20:30	07:03 19:08	07:05 16:50	35	15:18 (PrRR3) 15:53 (PrRR3)		08:48 15:39
26	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48	35	15:18 (PrRR3) 15:53 (PrRR3)		08:48 15:40
27	05:04 21:35	06:05 20:25	07:07 19:02	07:09 16:45	34	15:19 (PrRR3) 15:53 (PrRR3)		08:48 15:41
28	05:06 21:33	06:07 20:22	07:09 19:00	07:12 16:43	33	15:19 (PrRR3) 15:52 (PrRR3)		08:49 15:42
29	05:08 21:31	06:09 20:20	07:11 18:57	07:14 16:41	32	15:19 (PrRR3) 15:51 (PrRR3)		08:49 15:43
30	05:10 21:29	06:11 20:17	07:13 18:54	07:16 16:38	29	15:21 (PrRR3) 15:50 (PrRR3)		08:49 15:44
31	05:12 21:28	06:13 20:14		07:18 16:36	28	15:21 (PrRR3) 15:49 (PrRR3)		08:48 15:45
Potential sun hours	529	469	384	324		248		217
Total, worst case				960		207		
Sun reduction				0,29		0,08		
Oper. time red.				1,00		1,00		
Wind dir. red.				1,00		1,00		
Total reduction				0,29		0,08		
Total, real				279		16		

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

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0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Riteniš i - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	July	August	September	October	November	December
1	04:28 21:18 (Pr3a)	05:14 21:25	06:15 19:25 (AP2)	07:15 18:52	07:20 16:34	08:22 15:43
2	04:29 21:18 (Pr3a)	05:16 21:23	06:17 19:26 (AP2)	07:17 18:49	07:22 16:32	08:23 15:42
3	04:30 21:19 (Pr3a)	05:18 21:21	06:19 19:37 (AP2)	07:19 18:46	07:25 16:30	08:25 15:41
4	04:31 21:20 (Pr3a)	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:27	08:27 15:41
5	04:32 21:22 (Pr3a)	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	04:33 21:25 (Pr3a)	05:23 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	04:34 21:25 (Pr3a)	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	04:35 21:27	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	04:36 21:28	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:37
10	04:38 21:30	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	04:39 21:31	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	04:40 21:32	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:36
13	04:42 21:33	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	04:43 21:34	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:08	08:40 15:36
15	04:45 21:35	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	04:46 21:36	05:43 20:52	06:45 19:32	07:46 18:12	07:53 16:04	08:42 15:36
17	04:48 21:37	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	04:49 21:38	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	04:51 21:39	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	04:52 21:40	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	04:54 21:41	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	04:56 21:42	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38
23	04:57 21:43	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	04:59 21:44	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39
25	05:01 21:45	06:01 20:30	07:03 19:08	08:05 17:50	08:11 15:50	08:48 15:39
26	05:03 21:46	06:03 20:27	07:05 19:05	08:07 17:48	08:13 15:49	08:48 15:40
27	05:04 21:47	06:05 20:25	07:07 19:02	08:09 17:45	08:14 15:48	08:48 15:41
28	05:06 21:48	06:07 20:22	07:09 19:00	08:12 17:43	08:16 15:46	08:48 15:42
29	05:08 21:49	06:09 20:20	07:11 18:57	08:14 17:41	08:18 15:45	08:48 15:43
30	05:10 21:50	06:11 20:17	07:13 18:54	08:16 17:39	08:20 15:44	08:48 15:44
31	05:12 21:51	06:13 20:14	07:15 18:51	08:18 17:37	08:22 15:43	08:48 15:45
Potential sun hours	529	469	384	324	248	217
Total, worst case	31	269	38			
Sun reduction	0,47	0,52	0,43			
Oper. time red.	1,00	1,00	1,00			
Wind dir. red.	1,00	1,00	1,00			
Total reduction	0,47	0,52	0,43			
Total, real	15	140	16			

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Rozes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (428)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:29 22:06	05:14 21:26	06:16 20:12	19:28 (O2) 07:15	17:55 (DD1) 07:20	15:56 (O5) 08:22
2	04:30 22:06	05:16 21:24	06:18 20:09	19:29 (O2) 07:17	18:19 (DD1) 07:23	16:01 (O5) 08:23
3	04:31 22:05	05:18 21:21	06:20 20:07	19:39 (O2) 07:20	18:18 (DD1) 07:25	15:43 08:25
4	04:32 22:05	05:20 21:19	06:22 20:04	18:54 (O3) 07:22	17:58 (DD1) 07:27	15:42 08:27
5	04:33 22:04	05:22 21:17	06:24 20:02	19:06 (O3) 07:24	18:13 (DD1) 07:29	15:41 08:28
6	04:34 22:03	05:24 21:15	06:26 19:59	18:52 (O3) 07:26	17:59 (DD1) 07:31	15:41 08:30
7	04:35 22:03	05:26 21:13	06:28 19:56	19:09 (O3) 07:28	18:06 (DD1) 07:33	15:40 08:31
8	04:36 22:02	05:28 21:11	06:30 19:54	18:46 (O3) 07:30	17:07 (DD3) 07:36	15:39 08:33
9	04:37 22:01	05:30 21:08	06:32 19:51	18:48 (O3) 07:32	16:47 (DD3) 07:38	15:39 08:34
10	04:38 22:00	05:32 21:06	06:34 19:48	18:47 (O3) 07:34	16:46 (DD3) 07:40	15:38 08:35
11	04:40 21:59	05:34 21:04	06:36 19:46	19:09 (O3) 07:36	17:12 (DD3) 07:42	15:38 08:37
12	04:41 21:58	05:36 21:02	06:38 19:43	18:45 (O3) 07:38	16:43 (DD3) 07:44	15:37 08:38
13	04:42 21:57	05:38 20:59	06:40 19:40	19:08 (O3) 07:40	17:13 (DD3) 07:46	15:37 08:39
14	04:44 21:55	05:40 20:57	06:42 19:38	18:45 (O3) 07:42	16:39 (DD3) 07:48	15:37 08:40
15	04:45 21:54	05:42 20:55	06:44 19:35	19:07 (O3) 07:44	17:13 (DD3) 07:51	15:37 08:41
16	04:47 21:53	05:44 20:52	06:46 19:32	18:47 (O3) 07:46	16:40 (DD3) 07:53	14:39 (P19.2b) 08:41
17	04:48 21:51	05:46 20:50	06:48 19:29	19:05 (O3) 07:48	16:39 (DD3) 07:55	14:36 (P19.2b) 08:42
18	04:50 21:50	05:48 20:47	06:49 19:27	18:48 (O3) 07:50	17:14 (DD3) 07:57	14:48 (P19.2b) 08:43
19	04:51 21:49	05:50 20:45	06:51 19:24	18:51 (O3) 07:52	16:03 (DD3) 07:59	14:51 (P19.2b) 08:44
20	04:53 21:47	05:52 20:43	06:53 19:21	18:57 (O3) 07:54	17:13 (DD3) 08:01	14:52 (P19.2b) 08:45
21	04:55 21:45	05:54 20:40	06:55 19:19	18:09 (DD1) 07:56	16:39 (DD3) 08:03	14:54 (P19.2b) 08:46
22	04:56 21:44	05:56 20:38	06:57 19:16	18:17 (DD1) 07:58	17:12 (DD3) 08:05	14:54 (P19.2b) 08:47
23	04:58 21:42	05:58 20:35	06:59 19:13	18:02 (DD1) 07:59	16:39 (DD3) 08:07	14:33 (P19.2b) 08:47
24	05:00 21:41	06:00 20:33	07:01 19:11	18:00 (DD1) 08:01	17:12 (DD3) 08:09	14:55 (P19.2b) 08:47
25	05:02 21:39	06:02 20:30	07:03 19:08	18:21 (DD1) 08:03	17:11 (DD3) 08:11	14:54 (P19.2b) 08:48
26	05:03 21:37	06:04 20:27	07:05 19:05	18:19 (DD1) 08:04	16:11 (O5) 08:13	14:57 (P19.2b) 08:48
27	05:05 21:35	06:06 20:25	07:07 19:03	17:57 (DD1) 08:05	15:44 (DD3) 08:15	14:34 (P19.2b) 08:48
28	05:07 21:33	06:08 20:22	07:09 19:00	18:21 (DD1) 08:06	16:12 (O5) 08:16	14:57 (P19.2b) 08:48
29	05:09 21:31	06:10 20:20	07:11 18:57	17:56 (DD1) 08:07	15:45 (DD3) 08:17	14:34 (P19.2b) 08:48
30	05:11 21:30	06:12 20:17	07:13 18:55	18:21 (DD1) 08:08	16:11 (O5) 08:18	14:57 (P19.2b) 08:48
31	05:13 21:28	06:14 20:15	07:15 18:53	17:55 (DD1) 08:09	15:52 (O5) 08:19	14:35 (P19.2b) 08:48
Potential sun hours	528	469	384	324	248	217
Total, worst case		214	529	807	319	333
Sun reduction		0,52	0,43	0,29	0,08	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		0,52	0,43	0,29	0,08	0,08
Total, real		112	228	234	24	28

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Rudzdobes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (560)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:07	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:05	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:56	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:36	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
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	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:50	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
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	16:06	17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:17	16:07	15:36
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	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:55	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:53	08:42
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17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:46
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
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	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Salas pamatskola (kad. apz. 76740020242001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (479)  
Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:29	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:57	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:50	07:31 18:30	07:38 16:17	08:34 15:37
10	08:43 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:22	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:02 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:14	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:19	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:46 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:38	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:52	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:07	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	08:11 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:44	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:13 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Salas pamatskola (kad. apz. 76740020242004) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (597)  
Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:50	07:31 18:30	07:38 16:17	08:34 15:37
10	08:43 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:22	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
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15	08:39 16:08	07:43 17:14	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:46 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:38	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:52	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:07	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	08:11 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:44	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:13 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Sauleskalni - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (443)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:25	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:10 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:23	06:18 20:09	07:18 18:49	07:23 16:33	08:23 15:43
3	08:47 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:19 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:02 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:00 16:57	06:53 17:59	06:31 20:04	05:18 21:05	04:29 21:57	04:35 22:02	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:28 22:00	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:38
10	08:43 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:10 21:13	04:27 22:01	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:08 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:06 21:17	04:26 22:03	04:43 21:56	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:04 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:11 20:20	05:02 21:21	04:25 22:04	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:50 16:07	08:41 15:37
16	08:37 16:11	07:40 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:05	07:59 16:00	08:44 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:30	04:53 21:30	04:25 22:07	04:53 21:47	05:52 20:42	06:54 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:32	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:29 16:23	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:25 22:07	04:57 21:44	05:56 20:38	06:57 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:50 20:37	04:48 21:36	04:25 22:07	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:37	04:25 22:08	05:00 21:40	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:03 19:08	08:05 16:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:27	07:05 19:05	08:07 16:49	08:13 15:50	08:48 15:41
27	08:21 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:07	05:05 21:35	06:06 20:25	07:07 19:03	08:09 16:46	08:14 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 19:00	08:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:45	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 16:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 16:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:48		05:13 21:27	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Saulrieti - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (413)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:24	20:09	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30	15:42
4	08:47	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:21	07:27	08:27
	15:51	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:28
	15:52	16:53	17:55	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:26	15:40
6	08:46	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:01	21:03	21:57	22:03	21:15	19:59	18:39	16:24	15:40
7	08:46	08:00	06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33	08:31
	15:55	16:57	17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:58	06:51	06:29	05:15	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:44	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:09	22:00	22:01	21:09	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:35
	16:00	17:04	18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:47	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:48	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:43	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:45	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:04	15:37
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:46	06:47	07:48	07:55	08:43
	16:12	17:20	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03	15:37
18	08:35	07:36	06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01	15:37
19	08:34	07:33	06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:24	17:33	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:39
24	08:27	07:21	06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	08:15	08:48
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	16:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16	08:48
	16:35	17:44	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47	15:42
29	08:18		06:55	05:36	04:38	04:27	05:09	06:10	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:55	16:39	15:45	15:44
31	08:14		06:50		04:36		05:12	06:14		07:18		08:48
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Saulstari - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Senci - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Siladruvas (kad. apz. 76740020177001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (565)  
 Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:05	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:05	15:36
16	08:38	07:40	06:29	06:07	04:59	04:23	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:23	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Siladruvas (kad. apz. 76740020212001) - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Silares - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Sirmiši - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June
1	08:48	08:12	07:09	17:09 (PrRR3)	06:47	04:34
	15:46	16:43	17:45	8 17:17 (PrRR3)	19:51	21:50
2	08:48	08:10	07:06	17:06 (PrRR3)	06:44	04:33
	15:47	16:45	17:48	12 17:18 (PrRR3)	19:53	21:51
3	08:48	08:08	07:03	17:04 (PrRR3)	06:41	04:32
	15:49	16:48	17:50	16 17:20 (PrRR3)	19:55	21:53
4	08:47	08:06	07:01	17:04 (PrRR3)	06:39	04:31
	15:50	16:50	17:52	19 17:23 (PrRR3)	19:57	21:54
5	08:47	08:04	06:58	17:03 (PrRR3)	06:36	04:30
	15:51	16:52	17:54	21 17:24 (PrRR3)	19:59	21:55
6	08:46	08:02	06:56	17:02 (PrRR3)	06:33	04:29
	15:53	16:54	17:56	22 17:24 (PrRR3)	20:01	21:57
7	08:46	08:00	06:53	17:02 (PrRR3)	06:31	04:28
	15:54	16:57	17:58	22 17:24 (PrRR3)	20:03	21:58
8	08:45	07:58	06:50	17:02 (PrRR3)	06:28	04:27
	15:56	16:59	18:00	22 17:24 (PrRR3)	20:05	21:59
9	08:44	07:56	06:48	17:01 (PrRR3)	06:25	04:27
	15:57	17:01	18:03	22 17:23 (PrRR3)	20:07	22:00
10	08:44	07:54	06:45	17:02 (PrRR3)	06:23	04:26
	15:59	17:03	18:05	21 17:23 (PrRR3)	20:09	22:01
11	08:43	07:52	06:43	17:03 (PrRR3)	06:20	04:25
	16:01	17:06	18:07	18 17:21 (PrRR3)	20:12	22:02
12	08:42	07:49	06:40	17:03 (PrRR3)	06:18	04:25
	16:03	17:08	18:09	17 17:20 (PrRR3)	20:14	22:03
13	08:41	07:47	06:37	17:06 (PrRR3)	06:15	04:24
	16:04	17:10	18:11	12 17:18 (PrRR3)	20:16	22:03
14	08:40	07:45	06:35	17:09 (PrRR3)	06:12	04:24
	16:06	17:12	18:13	5 17:14 (PrRR3)	20:18	22:04
15	08:39	07:43	06:32		06:10	04:24
	16:08	17:15	18:15		20:20	22:05
16	08:38	07:40	06:29		06:07	04:24
	16:10	17:17	18:17		20:22	22:05
17	08:36	07:38	06:27		06:05	04:23
	16:12	17:19	18:20		20:24	22:06
18	08:35	07:36	06:24		06:02	04:23
	16:14	17:21	18:22		20:26	22:06
19	08:34	07:33	06:21		06:00	04:23
	16:16	17:23	18:24		20:28	22:07
20	08:32	07:31	06:19		05:57	04:23
	16:18	17:26	18:26		20:30	22:07
21	08:31	07:28	06:16		05:55	04:23
	16:20	17:28	18:28		20:32	22:07
22	08:29	07:26	06:13		05:52	04:24
	16:22	17:30	18:30		20:34	22:08
23	08:28	07:24	06:11		05:50	04:24
	16:24	17:32	18:32		20:36	22:08
24	08:26	07:21	06:08		05:47	04:24
	16:26	17:34	18:34		20:39	22:08
25	08:25	07:19	06:05		05:45	04:24
	16:28	17:37	18:36		20:41	22:08
26	08:23	07:16	06:03		05:42	04:25
	16:30	17:39	18:38		20:43	22:08
27	08:21	07:14	06:00		05:40	04:25
	16:32	17:41	18:40		20:45	22:08
28	08:20	07:11	17:12 (PrRR3) 05:57		05:38	04:26
	16:34	17:43	18:42		20:47	22:08
29	08:18		06:55		05:35	04:27
	16:37		19:45		20:49	22:07
30	08:16		06:52		05:33	04:27
	16:39		19:47		20:51	22:07
31	08:14		06:49			04:35
	16:41		19:49			21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case		2	237			
Sun reduction		0,23	0,39			
Oper. time red.		1,00	1,00			
Wind dir. red.		1,00	1,00			
Total reduction		0,23	0,39			
Total, real		0	93			

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

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0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Sirmiš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (502)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December	
1	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	17:43 (PrRR3) 17:58 (PrRR3)	07:20 16:34	08:22 15:43
2	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	17:42 (PrRR3) 18:00 (PrRR3)	07:22 16:32	08:23 15:42
3	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	17:41 (PrRR3) 18:00 (PrRR3)	07:25 16:30	08:25 15:41
4	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	17:40 (PrRR3) 18:01 (PrRR3)	07:27 16:27	08:27 15:40
5	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	17:39 (PrRR3) 18:01 (PrRR3)	07:29 16:25	08:28 15:40
6	04:33 22:03	05:23 21:15	06:25 19:59	07:25 18:38	17:38 (PrRR3) 18:01 (PrRR3)	07:31 16:23	08:30 15:39
7	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	17:38 (PrRR3) 18:00 (PrRR3)	07:33 16:21	08:31 15:38
8	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	17:38 (PrRR3) 17:59 (PrRR3)	07:35 16:19	08:33 15:38
9	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	17:38 (PrRR3) 17:59 (PrRR3)	07:38 16:17	08:34 15:37
10	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	17:38 (PrRR3) 17:56 (PrRR3)	07:40 16:15	08:35 15:37
11	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	17:40 (PrRR3) 17:54 (PrRR3)	07:42 16:13	08:37 15:37
12	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	17:41 (PrRR3) 17:51 (PrRR3)	07:44 16:11	08:38 15:36
13	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	17:43 (PrRR3) 17:48 (PrRR3)	07:46 16:09	08:39 15:36
14	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	17:48 (PrRR3) 17:48 (PrRR3)	07:48 16:07	08:40 15:36
15	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	17:48 (PrRR3) 17:48 (PrRR3)	07:50 16:06	08:41 15:36
16	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	17:48 (PrRR3) 17:48 (PrRR3)	07:53 16:04	08:42 15:36
17	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	17:48 (PrRR3) 17:48 (PrRR3)	07:55 16:02	08:43 15:36
18	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	17:48 (PrRR3) 17:48 (PrRR3)	07:57 16:00	08:44 15:36
19	04:51 21:49	05:49 20:45	06:51 19:24	07:52 18:05	17:48 (PrRR3) 17:48 (PrRR3)	07:59 15:59	08:45 15:36
20	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	17:48 (PrRR3) 17:48 (PrRR3)	08:01 15:57	08:45 15:37
21	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	17:48 (PrRR3) 17:48 (PrRR3)	08:03 15:56	08:46 15:37
22	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	17:48 (PrRR3) 17:48 (PrRR3)	08:05 15:54	08:47 15:38
23	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	17:48 (PrRR3) 17:48 (PrRR3)	08:07 15:53	08:47 15:38
24	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	17:48 (PrRR3) 17:48 (PrRR3)	08:09 15:51	08:47 15:39
25	05:01 21:39	06:01 20:30	07:03 19:08	07:05 16:50	17:48 (PrRR3) 17:48 (PrRR3)	08:11 15:50	08:48 15:39
26	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48	17:48 (PrRR3) 17:48 (PrRR3)	08:13 15:49	08:48 15:40
27	05:04 21:35	06:05 20:25	07:07 19:02	07:09 16:45	17:48 (PrRR3) 17:48 (PrRR3)	08:15 15:47	08:48 15:41
28	05:06 21:33	06:07 20:22	07:09 18:59	07:12 16:43	17:48 (PrRR3) 17:48 (PrRR3)	08:16 15:46	08:48 15:42
29	05:08 21:31	06:09 20:20	07:11 18:57	07:14 16:41	17:48 (PrRR3) 17:48 (PrRR3)	08:18 15:45	08:49 15:43
30	05:10 21:29	06:11 20:17	07:13 18:54	17:46 (PrRR3) 17:56 (PrRR3)	17:48 (PrRR3) 17:48 (PrRR3)	08:20 15:44	08:49 15:44
31	05:12 21:27	06:13 20:14		07:18 16:36	17:48 (PrRR3) 17:48 (PrRR3)		08:48 15:45
Potential sun hours	529	469	384	324		248	217
Total, worst case			10	229			
Sun reduction			0,43	0,29			
Oper. time red.			1,00	1,00			
Wind dir. red.			1,00	1,00			
Total reduction			0,43	0,29			
Total, real			4	66			

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

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Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Skalbes - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (419)  
Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	15:18 (DD3)	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:15	07:20
	15:47	16:44	15:34 (DD3)	17:46	19:51	20:53	21:50	22:06	21:26	20:12	18:52	16:35
2	08:48	08:11	15:19 (DD3)	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:17	07:23
	15:48	16:46	15:33 (DD3)	17:48	19:53	20:55	21:51	22:06	21:24	20:09	18:49	16:32
3	08:48	08:09	15:22 (DD3)	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25
	15:50	16:48	15:31 (DD3)	17:50	19:55	20:57	21:53	22:05	21:21	20:07	18:47	16:30
4	08:47	08:07		07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27
	15:51	16:51		17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28
5	08:47	08:05		06:59	06:36	05:22	04:31	04:33	05:22	06:24	07:24	07:29
	15:52	16:53		17:55	19:59	21:01	21:55	22:04	21:17	20:02	18:41	16:26
6	08:46	08:03		06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31
	15:54	16:55		17:57	20:01	21:03	21:57	22:03	21:15	19:59	18:39	16:24
7	08:46	08:01		06:53	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:33
	15:55	16:57		17:59	20:04	21:05	21:58	22:03	21:13	19:56	18:36	16:22
8	08:45	07:58		06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36
	15:57	16:59		18:01	20:06	21:07	21:59	22:02	21:11	19:54	18:33	16:20
9	08:44	07:56		06:48	06:26	05:13	04:28	04:37	05:30	06:32	07:32	07:38
	15:58	17:02		18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18
10	08:44	07:54		06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40
	16:00	15:16 (DD3)		18:05	20:10	21:11	22:01	22:00	21:06	19:48	18:28	16:16
11	08:43	07:52		06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42
	16:02	15:14 (DD3)		18:07	20:12	21:13	22:02	21:59	21:04	19:46	18:26	16:14
12	08:42	07:50		06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44
	16:03	15:13 (DD3)		18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:12
13	08:41	07:47		06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46
	16:05	15:12 (DD3)		18:12	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:10
14	08:40	07:45		06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:48
	16:07	15:27 (DD3)		18:14	20:18	21:19	22:04	21:55	20:57	19:38	18:18	16:08
15	08:39	07:43		06:32	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51
	16:09	15:29 (DD3)		18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06
16	08:38	07:41		06:30	06:08	04:59	04:24	04:47	05:44	06:46	07:46	07:53
	16:11	15:31 (DD3)		18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:13	16:05
17	08:36	07:38		06:27	06:05	04:58	04:24	04:48	05:46	06:47	07:48	07:55
	16:13	15:32 (DD3)		18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:03
18	08:35	07:36		06:24	06:03	04:56	04:24	04:50	05:48	06:49	07:50	07:57
	16:14	15:33 (DD3)		18:22	20:26	21:27	22:06	21:50	20:47	19:27	18:08	16:01
19	08:34	07:33		06:22	06:00	04:54	04:24	04:51	05:50	06:51	07:53	07:59
	16:16	15:34 (DD3)		18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	16:00
20	08:32	07:31		06:19	05:58	04:52	04:24	04:53	05:52	06:53	07:55	08:01
	16:18	15:34 (DD3)		18:26	20:30	21:31	22:07	21:47	20:43	19:21	18:03	15:58
21	08:31	07:29		06:16	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03
	16:20	15:35 (DD3)		18:28	20:33	21:32	22:07	21:45	20:40	19:19	18:00	15:56
22	08:30	07:26		06:14	05:53	04:49	04:25	04:56	05:56	06:57	07:59	08:05
	16:22	15:36 (DD3)		18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55
23	08:28	07:24		06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07
	16:25	15:36 (DD3)		18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:53
24	08:27	07:21		06:08	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09
	16:27	15:36 (DD3)		18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52
25	08:25	07:19		06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05	08:11
	16:29	15:36 (DD3)		18:37	20:41	21:39	22:08	21:39	20:30	19:08	16:51	15:51
26	08:23	07:16		06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:07	08:13
	16:31	15:36 (DD3)		18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49
27	08:22	07:14		06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:09	08:15
	16:33	15:36 (DD3)		18:41	20:45	21:43	22:08	21:35	20:25	19:03	16:46	15:48
28	08:20	07:11		05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:16
	16:35	15:36 (DD3)		18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:44	15:47
29	08:18	07:14		06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	08:18
	16:37	15:36 (DD3)		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:46
30	08:16	07:13		06:52	05:33	04:37	04:28	05:11	06:12	07:13	08:16	08:20
	16:40	15:35 (DD3)		19:47	20:51	21:47	22:07	21:30	20:17	18:55	16:39	15:45
31	08:14	07:13		06:50	05:36	04:36	04:28	05:13	06:14	07:15	08:18	08:22
	16:42	15:35 (DD3)		19:49	21:49	21:49	21:28	20:15	20:15	18:57	16:37	15:46
Potential sun hours	236			366	426	507	528	528	469	384	324	248
Total, worst case	422		39									453
Sun reduction	0,13		0,22									0,08
Oper. time red.	1,00		1,00									1,00
Wind dir. red.	1,00		1,00									1,00
Total reduction	0,13		0,22									0,08
Total, real	57		9									34

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Slokas - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Smelteri - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:41
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Smelteru biblioteka - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (545)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Smelteru kapseta - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Smedes - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:26	06:16 20:12	07:16 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:11 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:23	06:18 20:09	07:18 18:49	07:23 16:33	08:23 15:43
3	08:48 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:19 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:21 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:02	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:00 16:58	06:54 17:59	06:31 20:04	05:18 21:05	04:29 21:58	04:35 22:02	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:28 22:00	04:38 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:39
10	08:44 16:00	07:54 17:04	06:46 18:05	06:24 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:08	06:21 20:12	05:10 21:13	04:27 22:02	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:08 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:38
13	08:41 16:06	07:47 17:11	06:38 18:12	06:16 20:16	05:06 21:17	04:26 22:03	04:43 21:56	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:04 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:33 18:16	06:11 20:20	05:02 21:21	04:25 22:05	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:51 16:07	08:41 15:37
16	08:38 16:11	07:41 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:06 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:30	07:48 18:11	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:51 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:34 17:24	06:22 18:24	06:01 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:06	07:59 16:00	08:45 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:31	04:53 21:30	04:25 22:07	04:53 21:47	05:52 20:43	06:54 19:22	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:33	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:30 16:23	07:26 17:31	06:14 18:31	05:53 20:35	04:49 21:34	04:25 22:07	04:57 21:44	05:56 20:38	06:58 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:51 20:37	04:48 21:36	04:25 22:08	04:58 21:42	05:58 20:35	07:00 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:37	04:26 22:08	05:00 21:40	06:00 20:33	07:02 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:04 19:08	07:05 16:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:28	07:06 19:05	07:08 16:49	08:13 15:50	08:48 15:41
27	08:22 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:07	05:06 21:35	06:06 20:25	07:08 19:03	07:10 16:46	08:15 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:10 19:00	07:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:12 18:57	07:14 16:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:14 18:55	07:16 16:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:49		05:13 21:27	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Sniedzini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (569)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:50	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Sporanu majas - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (538)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	18:34 (Pr3a) 20:53	19:38 (Pr25) 21:50
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	18:33 (Pr3a) 20:55	19:38 (Pr25) 21:51
3	08:48 15:49	08:09 16:48	07:03 17:50	06:41 19:55	18:33 (Pr3a) 20:57	19:38 (Pr25) 21:53
4	08:47 15:50	08:07 16:50	07:01 17:52	06:39 19:57	18:34 (Pr3a) 20:59	19:39 (Pr25) 21:54
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	18:33 (Pr3a) 21:01	19:39 (Pr25) 21:55
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	18:34 (Pr3a) 21:03	19:40 (Pr25) 21:57
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	18:35 (Pr3a) 21:05	19:40 (Pr25) 21:58
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	18:35 (Pr3a) 21:07	19:41 (Pr25) 21:59
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	18:37 (Pr3a) 21:09	19:42 (Pr25) 22:00
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	18:38 (Pr3a) 21:11	19:43 (Pr25) 22:01
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	18:41 (Pr3a) 21:13	19:45 (Pr25) 22:02
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	18:53 (Pr3a) 21:15	19:47 (Pr25) 22:03
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	19:55 (PrRR3) 21:17	19:47 (PrRR3) 22:03
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	19:53 (PrRR3) 21:19	19:47 (PrRR3) 22:04
15	08:39 16:08	07:43 17:15	16:37 (AP2) 18:15	06:10 20:20	19:52 (PrRR3) 21:21	19:47 (PrRR3) 22:05
16	08:38 16:10	07:40 17:17	16:35 (AP2) 18:18	06:07 20:22	19:50 (PrRR3) 21:23	19:47 (PrRR3) 22:05
17	08:36 16:12	07:38 17:19	16:34 (AP2) 18:20	06:05 20:24	19:50 (PrRR3) 21:25	19:47 (PrRR3) 22:06
18	08:35 16:14	07:36 17:21	16:32 (AP2) 18:22	06:02 20:26	19:49 (PrRR3) 21:27	19:47 (PrRR3) 22:06
19	08:34 16:16	07:33 17:24	16:32 (AP2) 18:24	06:00 20:28	19:48 (PrRR3) 21:29	19:47 (PrRR3) 22:07
20	08:32 16:18	07:31 17:26	16:31 (AP2) 18:26	05:57 20:30	19:51 (Pr25) 21:31	19:48 (PrRR3) 22:07
21	08:31 16:20	07:28 17:28	16:31 (AP2) 18:28	05:55 20:32	19:47 (Pr25) 21:32	19:47 (PrRR3) 22:07
22	08:30 16:22	07:26 17:30	16:31 (AP2) 18:30	05:52 20:34	19:45 (Pr25) 21:34	19:47 (PrRR3) 22:08
23	08:28 16:24	07:24 17:32	16:31 (AP2) 18:32	05:50 20:37	19:43 (Pr25) 21:36	19:47 (PrRR3) 22:08
24	08:26 16:26	07:21 17:35	16:31 (AP2) 18:34	05:47 20:39	19:42 (Pr25) 21:38	19:46 (PrRR3) 22:08
25	08:25 16:28	07:19 17:37	16:31 (AP2) 18:36	05:45 20:41	19:41 (Pr25) 21:39	19:46 (PrRR3) 22:08
26	08:23 16:30	07:16 17:39	16:33 (AP2) 18:38	05:42 20:43	19:40 (Pr25) 21:41	19:46 (PrRR3) 22:08
27	08:21 16:32	07:14 17:41	16:34 (AP2) 18:40	05:40 20:45	19:39 (Pr25) 21:43	19:46 (PrRR3) 22:08
28	08:20 16:35	07:11 17:43	16:35 (AP2) 18:43	05:38 20:47	19:39 (Pr25) 21:44	19:45 (PrRR3) 22:08
29	08:18 16:37		06:55 19:45	05:35 20:49	19:39 (Pr25) 21:46	19:45 (PrRR3) 22:07
30	08:16 16:39		06:52 19:47	05:33 20:51	19:38 (Pr25) 21:47	19:45 (PrRR3) 22:07
31	08:14 16:41		06:49 19:49	05:31 19:05 (Pr3a)	20:06 (Pr25) 21:49	19:45 (PrRR3) 22:07
Potential sun hours	236	266	366	426	507	528
Total, worst case		244	223	526	1106	1522
Sun reduction		0,23	0,39	0,44	0,56	0,57
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		0,23	0,39	0,44	0,56	0,57
Total, real		55	87	232	622	864

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

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

Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Sporanu majas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (538)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July			August			September			October			November	December
1	04:28		19:51 (PrRR3)	05:14		19:56 (Pr25)	06:15		18:40 (Pr3a)	07:15			07:20	08:22
	22:06	51	20:42 (PrRR3)	21:25	33	20:29 (PrRR3)	20:12	12	18:52 (Pr3a)	18:51			16:34	15:43
2	04:29		19:50 (PrRR3)	05:16		19:54 (Pr25)	06:17		18:37 (Pr3a)	07:17			07:22	08:23
	22:06	51	20:41 (PrRR3)	21:23	32	20:27 (PrRR3)	20:09	17	18:54 (Pr3a)	18:49			16:32	15:42
3	04:30		19:51 (PrRR3)	05:18		19:53 (Pr25)	06:19		18:35 (Pr3a)	07:19			07:25	08:25
	22:05	50	20:41 (PrRR3)	21:21	25	20:22 (PrRR3)	20:07	21	18:56 (Pr3a)	18:46			16:30	15:41
4	04:31		19:51 (PrRR3)	05:20		19:52 (Pr25)	06:21		18:33 (Pr3a)	07:21			07:27	08:27
	22:05	51	20:42 (PrRR3)	21:19	20	20:12 (Pr25)	20:04	24	18:57 (Pr3a)	18:44			16:27	15:41
5	04:32		19:51 (PrRR3)	05:21		19:51 (Pr25)	06:23		18:31 (Pr3a)	07:23			07:29	08:28
	22:04	51	20:42 (PrRR3)	21:17	22	20:13 (Pr25)	20:01	26	18:57 (Pr3a)	18:41			16:25	15:40
6	04:33		19:51 (PrRR3)	05:23		19:49 (Pr25)	06:25		18:30 (Pr3a)	07:25			07:31	08:30
	22:03	51	20:42 (PrRR3)	21:15	24	20:13 (Pr25)	19:59	28	18:58 (Pr3a)	18:38			16:23	15:39
7	04:34		19:52 (PrRR3)	05:25		19:49 (Pr25)	06:27		18:29 (Pr3a)	07:27			07:33	08:31
	22:03	50	20:42 (PrRR3)	21:13	25	20:14 (Pr25)	19:56	29	18:58 (Pr3a)	18:36			16:21	15:38
8	04:35		19:52 (PrRR3)	05:27		19:48 (Pr25)	06:29		18:28 (Pr3a)	07:29			07:35	08:33
	22:02	50	20:42 (PrRR3)	21:11	26	20:14 (Pr25)	19:53	30	18:58 (Pr3a)	18:33			16:19	15:38
9	04:36		19:52 (PrRR3)	05:29		19:48 (Pr25)	06:31		18:27 (Pr3a)	07:31			07:38	08:34
	22:01	50	20:42 (PrRR3)	21:08	27	20:15 (Pr25)	19:51	31	18:58 (Pr3a)	18:30			16:17	15:37
10	04:38		19:52 (PrRR3)	05:31		19:48 (Pr25)	06:33		18:27 (Pr3a)	07:34			07:40	08:35
	22:00	50	20:42 (PrRR3)	21:06	27	20:15 (Pr25)	19:48	31	18:58 (Pr3a)	18:28			16:15	15:37
11	04:39		19:53 (PrRR3)	05:33		19:46 (Pr25)	06:35		18:26 (Pr3a)	07:36			07:42	08:37
	21:59	50	20:43 (PrRR3)	21:04	28	20:14 (Pr25)	19:45	32	18:58 (Pr3a)	18:25			16:13	15:37
12	04:40		19:53 (PrRR3)	05:35		19:46 (Pr25)	06:37		18:26 (Pr3a)	07:38			07:44	08:38
	21:58	50	20:43 (PrRR3)	21:02	29	20:15 (Pr25)	19:43	31	18:57 (Pr3a)	18:23			16:11	15:36
13	04:42		19:53 (PrRR3)	05:37		19:46 (Pr25)	06:39		18:26 (Pr3a)	07:40			07:46	08:39
	21:57	49	20:42 (PrRR3)	20:59	28	20:14 (Pr25)	19:40	31	18:57 (Pr3a)	18:20	7	17:11 (AP2)	16:09	15:36
14	04:43		19:53 (PrRR3)	05:39		19:46 (Pr25)	06:41		18:26 (Pr3a)	07:42		17:07 (AP2)	07:48	08:40
	21:55	49	20:42 (PrRR3)	20:57	28	20:14 (Pr25)	19:37	30	18:56 (Pr3a)	18:17	13	17:20 (AP2)	16:07	15:36
15	04:44		19:54 (PrRR3)	05:41		19:47 (Pr25)	06:43		18:26 (Pr3a)	07:44		17:05 (AP2)	07:50	08:41
	21:54	48	20:42 (PrRR3)	20:54	27	20:14 (Pr25)	19:34	29	18:55 (Pr3a)	18:15	17	17:22 (AP2)	16:06	15:36
16	04:46		19:54 (PrRR3)	05:43		19:47 (Pr25)	06:45		18:27 (Pr3a)	07:46		17:05 (AP2)	07:53	08:42
	21:53	48	20:42 (PrRR3)	20:52	27	20:14 (Pr25)	19:32	27	18:54 (Pr3a)	18:12	18	17:23 (AP2)	16:04	15:36
17	04:47		19:54 (PrRR3)	05:45		19:47 (Pr25)	06:47		18:28 (Pr3a)	07:48		17:03 (AP2)	07:55	08:43
	21:51	47	20:41 (PrRR3)	20:50	26	20:13 (Pr25)	19:29	25	18:53 (Pr3a)	18:10	21	17:24 (AP2)	16:02	15:36
18	04:49		19:55 (PrRR3)	05:47		19:47 (Pr25)	06:49		18:29 (Pr3a)	07:50		17:02 (AP2)	07:57	08:44
	21:50	47	20:42 (PrRR3)	20:47	24	20:11 (Pr25)	19:26	22	18:51 (Pr3a)	18:07	22	17:24 (AP2)	16:01	15:36
19	04:51		19:55 (PrRR3)	05:49		19:48 (Pr25)	06:51		18:29 (Pr3a)	07:52		17:02 (AP2)	07:59	08:45
	21:49	46	20:41 (PrRR3)	20:45	22	20:10 (Pr25)	19:24	19	18:48 (Pr3a)	18:05	21	17:23 (AP2)	15:59	15:36
20	04:52		19:56 (PrRR3)	05:51		19:49 (Pr25)	06:53		18:31 (Pr3a)	07:54		17:02 (AP2)	08:01	08:45
	21:47	45	20:41 (PrRR3)	20:42	20	20:09 (Pr25)	19:21	14	18:45 (Pr3a)	18:02	22	17:24 (AP2)	15:57	15:37
21	04:54		19:56 (PrRR3)	05:53		19:50 (Pr25)	06:55			07:57		17:02 (AP2)	08:03	08:46
	21:45	44	20:40 (PrRR3)	20:40	17	20:07 (Pr25)	19:18			18:00	22	17:24 (AP2)	15:56	15:37
22	04:56		19:57 (PrRR3)	05:55		19:52 (Pr25)	06:57			07:59		17:02 (AP2)	08:05	08:47
	21:44	43	20:40 (PrRR3)	20:37	13	20:05 (Pr25)	19:16			17:57	21	17:23 (AP2)	15:54	15:38
23	04:57		19:57 (PrRR3)	05:57		19:57 (Pr25)	06:59			08:01		17:02 (AP2)	08:07	08:47
	21:42	42	20:39 (PrRR3)	20:35	3	20:00 (Pr25)	19:13			17:55	20	17:22 (AP2)	15:53	15:38
24	04:59		19:58 (PrRR3)	05:59			07:01			08:03		17:03 (AP2)	08:09	08:48
	21:40	41	20:39 (PrRR3)	20:32			19:10			17:53	17	17:20 (AP2)	15:51	15:39
25	05:01		19:59 (PrRR3)	06:01			07:03			07:05		16:04 (AP2)	08:11	08:48
	21:39	40	20:39 (PrRR3)	20:30			19:08			16:50	13	16:17 (AP2)	15:50	15:39
26	05:03		20:00 (PrRR3)	06:03			07:05			07:07		16:05 (AP2)	08:13	08:48
	21:37	37	20:37 (PrRR3)	20:27			19:05			16:48	9	16:14 (AP2)	15:49	15:40
27	05:04		20:01 (PrRR3)	06:05			07:07			07:09		16:08 (AP2)	08:15	08:48
	21:35	36	20:37 (PrRR3)	20:25			19:02			16:45	5	16:13 (AP2)	15:48	15:41
28	05:06		20:02 (PrRR3)	06:07			07:09			07:12			08:16	08:48
	21:33	34	20:36 (PrRR3)	20:22			19:00			16:43			15:46	15:42
29	05:08		20:03 (PrRR3)	06:09			07:11			07:14			08:18	08:49
	21:31	31	20:34 (PrRR3)	20:20			18:57			16:41			15:45	15:43
30	05:10		20:04 (PrRR3)	06:11			07:13			07:16			08:20	08:49
	21:29	29	20:33 (PrRR3)	20:17			18:54			16:39			15:44	15:44
31	05:12		20:06 (PrRR3)	06:13						07:18			08:48	
	21:27	26	20:32 (PrRR3)	20:14						16:36			15:45	
Potential sun hours	529			469			384			324			248	217
Total, worst case		1387			553		509			248				
Sun reduction		0,47			0,52		0,43			0,29				
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			0,52		0,43			0,29				
Total, real		654			289		220			72				

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Spridiš i 3 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (575)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:34 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 20:01	07:31 18:30	07:38 16:17	08:34 15:38
10	08:44 15:59	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:02	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 20:01	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:25 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 20:01	08:14 17:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 20:01	08:16 17:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14	07:18 20:01	08:18 17:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Spulgas - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (427)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:35	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:16 21:23	06:18 20:09	07:17 18:49	07:23 16:32	08:23 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:18 21:21	06:20 20:07	07:19 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:55	06:36 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:01	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 20:01	07:28 18:36	07:33 16:22	08:31 15:39
8	08:45 15:57	07:58 16:59	06:51 18:01	06:29 20:06	05:16 21:07	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:04	07:30 18:33	07:36 16:20	08:33 15:39
9	08:44 15:58	07:56 17:02	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:32 20:01	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:11	04:27 22:01	04:38 22:00	05:32 21:06	06:34 20:04	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:13	04:26 22:02	04:40 21:59	05:34 21:04	06:36 20:01	07:36 18:26	07:42 16:14	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:26 22:03	04:41 21:58	05:36 21:02	06:38 20:01	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:38 20:59	06:40 20:01	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 20:01	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:25 22:05	04:45 21:54	05:42 20:55	06:43 20:01	07:44 18:15	07:51 16:06	08:41 15:37
16	08:38 16:11	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:47 21:53	05:44 20:52	06:45 20:01	07:46 18:13	07:53 16:04	08:42 15:37
17	08:36 16:12	07:38 17:20	06:27 18:20	06:05 20:24	04:58 21:25	04:24 22:06	04:48 21:51	05:46 20:50	06:47 20:01	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:56 21:27	04:24 22:06	04:50 21:50	05:48 20:47	06:49 20:01	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 20:01	07:53 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:42	06:53 20:01	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:07	04:55 21:45	05:54 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 20:01	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:25	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:25 22:08	04:58 21:42	05:58 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:39
24	08:26 16:27	07:21 17:35	06:08 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:40	06:00 20:33	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:29	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 20:01	08:05 17:51	08:11 15:51	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:03 21:37	06:04 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:42	06:00 18:41	05:41 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:01	08:09 17:46	08:15 15:48	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 20:01	08:12 17:44	08:16 15:47	08:48 15:43
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 17:41	08:18 15:46	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 17:39	08:20 15:45	08:48 15:44
31	08:14 16:42		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Stikani - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:15	06:17	07:17	07:22	08:23
	15:47	16:45	17:47	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Sturīši (kad. apz. 76740020069001) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (475) Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:46	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Sturīši (kad. apz. 76740020069009) - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (604) Sunshine probability S (Average daily sunshine hours) []

### Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:07	21:26	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:24
	15:47	16:45	17:48	19:53	20:55	21:52	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:09	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:21	20:06	18:46	16:29	15:41
4	08:47	08:07	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:36
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:02	19:43	18:23	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:38	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:31	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:08	21:45	20:40	19:18	18:00	15:56	15:37
22	08:30	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:34	18:34	20:39	21:38	22:08	21:41	20:32	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:15	08:48
	16:32	17:41	18:40	20:45	21:43	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:49
	16:34	17:43	18:42	20:47	21:44	22:08	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:28	20:14		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Tebeci - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January		February		March		April	May	June
1	08:49	10:19 (AP6.1)	08:13	08:44 (Pr3a)	07:09	08:05 (Pr25)	06:47	05:31	04:34
	15:46	67 15:00 (Pr12)	16:43	59 15:05 (Pr12)	17:46	56 16:48 (O6)	19:51	20:53	21:50
2	08:48	10:19 (AP6.1)	08:11	08:43 (Pr3a)	07:06	08:05 (Pr25)	06:44	05:28	04:33
	15:48	67 15:00 (Pr12)	16:46	51 14:31 (Pr11)	17:48	54 16:48 (O6)	19:53	20:55	21:52
3	08:48	10:21 (AP6.1)	08:09	08:43 (Pr3a)	07:04	08:07 (Pr25)	06:42	05:26	04:32
	15:49	68 15:02 (Pr12)	16:48	49 14:30 (Pr11)	17:50	50 16:48 (O6)	19:55	20:57	21:53
4	08:48	10:22 (AP6.1)	08:07	08:43 (Pr3a)	07:01	08:10 (Pr25)	06:39	05:24	04:31
	15:50	66 15:02 (Pr12)	16:50	47 14:29 (Pr11)	17:52	42 16:47 (O6)	19:57	20:59	21:54
5	08:47	10:23 (AP6.1)	08:05	08:43 (Pr3a)	06:58	16:14 (O6)	06:36	05:22	04:30
	15:52	66 15:03 (Pr12)	16:52	42 14:26 (Pr11)	17:54	32 16:46 (O6)	19:59	21:02	21:56
6	08:47	10:26 (AP6.1)	08:03	08:43 (Pr3a)	06:56	16:15 (O6)	06:34	05:19	04:29
	15:53	64 15:04 (Pr12)	16:55	35 14:23 (Pr11)	17:56	30 16:45 (O6)	20:01	21:04	21:57
7	08:46	13:48 (Pr11)	08:01	08:44 (Pr3a)	06:53	16:16 (O6)	06:31	05:17	04:28
	15:55	61 15:05 (Pr12)	16:57	21 09:05 (Pr3a)	17:59	28 16:44 (O6)	20:03	21:06	21:58
8	08:45	13:48 (Pr11)	07:58	08:44 (Pr3a)	06:51	16:16 (O6)	06:28	05:15	04:28
	15:56	63 15:06 (Pr12)	16:59	21 09:05 (Pr3a)	18:01	26 16:42 (O6)	20:06	21:08	21:59
9	08:45	13:48 (Pr11)	07:56	08:44 (Pr3a)	06:48	16:19 (O6)	06:26	05:13	04:27
	15:58	65 15:07 (Pr12)	17:01	20 09:04 (Pr3a)	18:03	22 16:41 (O6)	20:08	21:10	22:00
10	08:44	13:49 (Pr11)	07:54	08:45 (Pr3a)	06:45	16:21 (O6)	06:23	05:11	04:26
	15:59	65 15:08 (Pr12)	17:04	18 09:03 (Pr3a)	18:05	17 16:38 (O6)	20:10	21:12	22:01
11	08:43	13:48 (Pr11)	07:52	08:46 (Pr3a)	06:43	16:24 (O6)	06:20	05:09	04:26
	16:01	67 15:08 (Pr12)	17:06	16 09:02 (Pr3a)	18:07	9 16:33 (O6)	20:12	21:14	22:02
12	08:42	13:48 (Pr11)	07:50	08:48 (Pr3a)	06:40		06:18	05:07	04:25
	16:03	68 15:09 (Pr12)	17:08	12 09:00 (Pr3a)	18:09		20:14	21:16	22:03
13	08:41	13:49 (Pr11)	07:47	08:51 (Pr3a)	06:38		06:15	05:05	04:25
	16:05	68 15:09 (Pr12)	17:10	7 08:58 (Pr3a)	18:11		20:16	21:18	22:04
14	08:40	13:49 (Pr11)	07:45		06:35		06:13	05:03	04:24
	16:06	70 15:10 (Pr12)	17:13		18:13		20:18	21:19	22:04
15	08:39	13:49 (Pr11)	07:43	08:16 (Pr25)	06:32		06:10	05:01	04:24
	16:08	70 15:10 (Pr12)	17:15	2 08:18 (Pr25)	18:16		20:20	21:21	22:05
16	08:38	13:50 (Pr11)	07:41	08:10 (Pr25)	06:30		06:07	04:59	04:24
	16:10	69 15:11 (Pr12)	17:17	12 08:22 (Pr25)	18:18		20:22	21:23	22:06
17	08:37	13:49 (Pr11)	07:38	08:09 (Pr25)	06:27		06:05	04:57	04:24
	16:12	71 15:11 (Pr12)	17:19	28 16:38 (O6)	18:20		20:24	21:25	22:06
18	08:35	13:50 (Pr11)	07:36	08:07 (Pr25)	06:24		06:02	04:55	04:24
	16:14	71 15:12 (Pr12)	17:21	38 16:41 (O6)	18:22		20:26	21:27	22:07
19	08:34	13:50 (Pr11)	07:33	08:06 (Pr25)	06:22		06:00	04:53	04:23
	16:16	71 15:12 (Pr12)	17:24	44 16:43 (O6)	18:24		20:28	21:29	22:07
20	08:33	13:50 (Pr11)	07:31	08:04 (Pr25)	06:19		05:57	04:52	04:24
	16:18	71 15:12 (Pr12)	17:26	49 16:44 (O6)	18:26		20:30	21:31	22:07
21	08:31	13:51 (Pr11)	07:29	08:04 (Pr25)	06:16		05:55	04:50	04:24
	16:20	71 15:13 (Pr12)	17:28	53 16:46 (O6)	18:28		20:33	21:33	22:08
22	08:30	13:51 (Pr11)	07:26	08:03 (Pr25)	06:14		05:52	04:48	04:24
	16:22	71 15:13 (Pr12)	17:30	57 16:47 (O6)	18:30		20:35	21:34	22:08
23	08:28	13:52 (Pr11)	07:24	08:03 (Pr25)	06:11		05:50	04:47	04:24
	16:24	69 15:13 (Pr12)	17:33	59 16:48 (O6)	18:32		20:37	21:36	22:08
24	08:27	13:52 (Pr11)	07:21	08:03 (Pr25)	06:08		05:47	04:45	04:24
	16:26	69 15:13 (Pr12)	17:35	59 16:48 (O6)	18:34		20:39	21:38	22:08
25	08:25	13:52 (Pr11)	07:19	08:02 (Pr25)	06:06		05:45	04:43	04:25
	16:28	67 15:12 (Pr12)	17:37	61 16:48 (O6)	18:36		20:41	21:39	22:08
26	08:23	13:54 (Pr11)	07:16	08:03 (Pr25)	06:03		05:43	04:42	04:25
	16:30	66 15:13 (Pr12)	17:39	61 16:49 (O6)	18:39		20:43	21:41	22:08
27	08:22	13:55 (Pr11)	07:14	08:03 (Pr25)	06:00		05:40	04:41	04:26
	16:33	64 15:13 (Pr12)	17:41	60 16:48 (O6)	18:41		20:45	21:43	22:08
28	08:20	08:52 (Pr3a)	07:11	08:04 (Pr25)	05:58		05:38	04:39	04:26
	16:35	66 15:12 (Pr12)	17:43	59 16:49 (O6)	18:43		20:47	21:44	22:08
29	08:18	08:50 (Pr3a)			06:55		05:35	04:38	04:27
	16:37	66 15:11 (Pr12)			19:45		20:49	21:46	22:07
30	08:16	08:47 (Pr3a)			06:52		05:33	04:37	04:28
	16:39	67 15:09 (Pr12)			19:47		20:51	21:47	22:07
31	08:15	08:45 (Pr3a)			06:49			04:35	
	16:41	64 15:08 (Pr12)			19:49			21:49	
Potential sun hours	236		266		366		426	507	528
Total, worst case	2088		1040		366				
Sun reduction	0,13		0,23		0,39				
Oper. time red.	1,00		1,00		1,00				
Wind dir. red.	1,00		1,00		1,00				
Total reduction	0,13		0,23		0,39				
Total, real	280		234		143				

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Tebeci - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:28 22:07	05:14 21:26	06:15 20:12	07:15 18:52	07:20 16:34	08:15 (Pr3a) 15:43 67
2	04:29 22:06	05:16 21:24	06:17 20:09	07:17 18:49	07:23 16:32	08:14 (Pr3a) 15:42 66
3	04:30 22:06	05:18 21:22	06:19 20:07	07:19 18:46	17:00 (O6) 17:14 (O6)	08:14 (Pr3a) 15:41 65
4	04:31 22:05	05:20 21:20	06:21 20:04	07:21 18:44	16:57 (O6) 17:17 (O6)	08:13 (Pr3a) 15:41 63
5	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	16:54 (O6) 17:18 (O6)	08:13 (Pr3a) 15:40 62
6	04:33 22:04	05:24 21:15	06:25 19:59	07:25 18:38	16:52 (O6) 17:19 (O6)	08:13 (Pr3a) 15:39 63
7	04:34 22:03	05:26 21:13	06:27 19:56	07:28 18:36	16:51 (O6) 17:20 (O6)	08:13 (Pr3a) 15:39 67
8	04:35 22:02	05:27 21:11	06:29 19:53	07:30 18:33	16:49 (O6) 17:20 (O6)	08:14 (Pr3a) 15:38 66
9	04:36 22:01	05:29 21:09	06:31 19:51	07:32 18:31	08:48 (Pr25) 17:22 (O6)	08:14 (Pr3a) 15:38 68
10	04:38 22:00	05:31 21:06	06:33 19:48	07:34 18:28	08:43 (Pr25) 17:22 (O6)	08:14 (Pr3a) 15:37 68
11	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	08:40 (Pr25) 17:22 (O6)	08:17 (Pr3a) 15:37 67
12	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23	08:39 (Pr25) 17:22 (O6)	08:19 (Pr3a) 15:36 71
13	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	08:37 (Pr25) 17:21 (O6)	08:22 (Pr3a) 15:36 73
14	04:43 21:56	05:39 20:57	06:41 19:37	07:42 18:18	08:36 (Pr25) 17:21 (O6)	08:24 (Pr3a) 15:36 75
15	04:45 21:54	05:41 20:55	06:43 19:35	07:44 18:15	08:36 (Pr25) 17:21 (O6)	13:26 (Pr11) 15:36 76
16	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:13	08:35 (Pr25) 17:21 (O6)	13:27 (Pr11) 15:36 76
17	04:48 21:52	05:45 20:50	06:47 19:29	07:48 18:10	08:34 (Pr25) 17:20 (O6)	13:26 (Pr11) 15:36 75
18	04:49 21:50	05:47 20:47	06:49 19:27	07:50 18:07	08:34 (Pr25) 17:19 (O6)	13:26 (Pr11) 15:36 74
19	04:51 21:49	05:49 20:45	06:51 19:24	07:53 18:05	08:35 (Pr25) 17:19 (O6)	13:27 (Pr11) 15:37 76
20	04:52 21:47	05:51 20:43	06:53 19:21	07:55 18:03	08:35 (Pr25) 17:17 (O6)	13:26 (Pr11) 15:37 75
21	04:54 21:46	05:53 20:40	06:55 19:19	07:57 18:00	08:35 (Pr25) 17:16 (O6)	13:26 (Pr11) 15:37 75
22	04:56 21:44	05:55 20:38	06:57 19:16	07:59 17:58	08:35 (Pr25) 17:14 (O6)	13:26 (Pr11) 15:38 75
23	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:36 (Pr25) 17:13 (O6)	13:27 (Pr11) 15:38 75
24	04:59 21:41	05:59 20:33	07:01 19:10	08:03 17:53	08:37 (Pr25) 17:10 (O6)	13:27 (Pr11) 15:39 76
25	05:01 21:39	06:01 20:30	07:03 19:08	07:05 16:50	07:38 (Pr25) 16:07 (O6)	13:27 (Pr11) 15:40 76
26	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48	07:42 (Pr25) 07:52 (Pr25)	13:28 (Pr11) 15:40 75
27	05:05 21:35	06:05 20:25	07:07 19:02	07:10 16:46	08:15 15:48	13:28 (Pr11) 15:41 76
28	05:06 21:34	06:07 20:22	07:09 19:00	07:12 16:43	08:17 15:46	13:28 (Pr11) 15:42 75
29	05:08 21:32	06:09 20:20	07:11 18:57	07:14 16:41	08:20 (Pr3a) 08:28 (Pr3a)	13:29 (Pr11) 15:43 75
30	05:10 21:30	06:11 20:17	07:13 18:54	07:16 16:39	08:17 (Pr3a) 08:30 (Pr3a)	13:29 (Pr11) 15:44 76
31	05:12 21:28	06:13 20:15	07:18 18:54	07:18 16:36	08:15 (Pr3a) 08:31 (Pr3a)	14:50 (Pr12) 15:45 72
Potential sun hours	529	469	384	324	248	217
Total, worst case				1058	1746	2219
Sun reduction				0,29	0,08	0,08
Oper. time red.				1,00	1,00	1,00
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,29	0,08	0,08
Total, real				307	131	187

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 10 - Shadow Receptor:  $1,0 \times 1,0$  Azimuth:  $3,1^\circ$  Slope:  $90,0^\circ$  (544)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

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0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 11 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (528)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 12 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (599)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:29	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:57	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:50	07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:22	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:02 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:14	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:19	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:55 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:37
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:52	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:24 22:08	05:01 21:39	06:01 20:30	07:03 19:07	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	08:12 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:44	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 2 - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
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10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
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12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:22	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
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17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
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20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
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31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 3 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (598)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 3A - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 4 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (521)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:06 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:22	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:04 21:17	04:24 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:02 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:14	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:52	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:07	07:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	07:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	07:12 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:44	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	07:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	07:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 5 - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 6 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (517)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 7 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (529)  
 Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 8 - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (546)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Torna iela 9 - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Tumš upe (kad. apz. 76820020140001) - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:25	06:16 20:12	07:16 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:10 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:23	06:18 20:09	07:18 18:49	07:23 16:33	08:23 15:43
3	08:47 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:19 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:02 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:00	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:00 16:57	06:53 17:59	06:31 20:04	05:18 21:05	04:29 21:57	04:35 22:02	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:58	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:28 22:00	04:38 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:39
10	08:43 16:00	07:54 17:04	06:46 18:05	06:24 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:10 21:13	04:27 22:01	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:08 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:38
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:06 21:17	04:26 22:03	04:43 21:56	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:04 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:11 20:20	05:02 21:21	04:25 22:04	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:50 16:07	08:41 15:37
16	08:37 16:11	07:40 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:06 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:06	07:59 16:00	08:44 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:30	04:53 21:30	04:25 22:07	04:53 21:47	05:52 20:42	06:54 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:32	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:29 16:23	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:25 22:07	04:57 21:44	05:56 20:38	06:58 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:51 20:37	04:48 21:36	04:25 22:07	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:37	04:25 22:08	05:00 21:40	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:03 19:08	08:05 16:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:27	07:05 19:05	08:07 16:49	08:13 15:50	08:48 15:41
27	08:21 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:07	05:05 21:35	06:06 20:25	07:07 19:03	08:09 16:46	08:14 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 19:00	08:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:45	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 16:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 16:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:48		05:13 21:27	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Tumš upe (kad. apz. 76820020140006) - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:25	06:16 20:12	07:16 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:10 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:23	06:18 20:09	07:18 18:49	07:23 16:33	08:23 15:43
3	08:47 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:19 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:02 16:55	06:56 17:57	06:34 20:01	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 20:00	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:00 16:57	06:53 17:59	06:31 20:04	05:18 21:05	04:29 21:57	04:35 22:02	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:58	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:28 22:00	04:38 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:39
10	08:43 16:00	07:54 17:04	06:46 18:05	06:24 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:07	06:21 20:12	05:10 21:13	04:27 22:01	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:08 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:38
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:06 21:17	04:26 22:03	04:43 21:56	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:04 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:32 18:16	06:11 20:20	05:02 21:21	04:25 22:04	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:50 16:07	08:41 15:37
16	08:37 16:11	07:40 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:06 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:29	07:48 18:10	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:06	07:59 16:00	08:44 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:30	04:53 21:30	04:25 22:07	04:53 21:47	05:52 20:42	06:54 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:32	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:29 16:23	07:26 17:31	06:14 18:30	05:53 20:35	04:49 21:34	04:25 22:07	04:57 21:44	05:56 20:38	06:58 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:51 20:37	04:48 21:36	04:25 22:07	04:58 21:42	05:58 20:35	06:59 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:37	04:25 22:08	05:00 21:40	06:00 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:03 19:08	08:05 17:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:27	07:05 19:05	08:07 17:49	08:13 15:50	08:48 15:41
27	08:21 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:07	05:05 21:35	06:06 20:25	07:07 19:03	08:09 17:46	08:14 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:09 19:00	08:12 17:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:45	04:28 22:07	05:09 21:31	06:10 20:20	07:11 18:57	08:14 17:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:13 18:55	08:16 17:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:48		05:13 21:27	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	527	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vecie Cerini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (570)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:10	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:38
10	08:43 15:59	07:54 17:04	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:56	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:21 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:30	04:24 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:07	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:54	08:46 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:36	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:07	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vecas Zemesbites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (503)  
 Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June
1	08:48	08:12	07:09	06:47	05:31	04:34
	15:46	16:43	17:45	19:51	20:53	21:50
2	08:48	08:10	07:06	06:44	05:28	04:33
	15:48	16:45	17:48	19:53	20:55	21:51
3	08:48	08:08	07:03	06:41	19:25 (Pr25)	05:26
	15:49	16:48	17:50	19:55	19:26 (Pr25)	20:57
4	08:47	08:06	07:01	06:39	19:22 (Pr25)	05:24
	15:50	16:50	17:52	19:57	19:29 (Pr25)	20:59
5	08:47	08:04	06:58	06:36	19:19 (Pr25)	05:21
	15:51	16:52	17:54	19:59	19:30 (Pr25)	21:01
6	08:46	08:02	06:56	06:33	19:16 (PrRR3)	05:19
	15:53	16:54	17:56	20:01	19:33 (Pr25)	21:03
7	08:46	08:00	06:53	06:31	19:12 (PrRR3)	05:17
	15:54	16:57	17:58	20:03	19:34 (Pr25)	21:05
8	08:45	07:58	06:50	06:28	19:09 (PrRR3)	05:15
	15:56	16:59	18:01	20:05	19:36 (Pr25)	21:07
9	08:44	07:56	06:48	06:25	19:08 (PrRR3)	05:13
	15:58	17:01	18:03	20:07	19:37 (Pr25)	21:09
10	08:44	07:54	06:45	06:23	19:06 (PrRR3)	05:11
	15:59	17:03	18:05	20:09	19:36 (Pr25)	21:11
11	08:43	07:52	06:43	06:20	19:05 (PrRR3)	05:09
	16:01	17:06	18:07	20:12	19:36 (Pr25)	21:13
12	08:42	07:49	06:40	17:36 (Pr3a)	19:04 (PrRR3)	05:07
	16:03	17:08	18:09	17:40 (Pr3a)	19:35 (Pr25)	21:15
13	08:41	07:47	06:37	17:33 (Pr3a)	19:04 (PrRR3)	05:05
	16:04	17:10	18:11	17:43 (Pr3a)	19:35 (PrRR3)	21:17
14	08:40	07:45	06:35	17:31 (Pr3a)	19:02 (PrRR3)	05:03
	16:06	17:12	18:13	17:45 (Pr3a)	19:35 (PrRR3)	21:19
15	08:39	07:43	06:32	17:29 (Pr3a)	19:02 (PrRR3)	05:01
	16:08	17:15	18:15	17:47 (Pr3a)	19:35 (PrRR3)	21:21
16	08:38	07:40	06:29	17:29 (Pr3a)	19:02 (PrRR3)	04:59
	16:10	17:17	18:17	17:50 (Pr3a)	19:35 (PrRR3)	21:23
17	08:36	07:38	06:27	17:27 (Pr3a)	19:02 (PrRR3)	04:57
	16:12	17:19	18:20	17:50 (Pr3a)	19:35 (PrRR3)	21:25
18	08:35	07:36	06:24	17:26 (Pr3a)	19:01 (PrRR3)	04:55
	16:14	17:21	18:22	17:49 (Pr3a)	19:34 (PrRR3)	21:27
19	08:34	07:33	06:21	17:27 (Pr3a)	19:02 (PrRR3)	04:53
	16:16	17:23	18:24	17:50 (Pr3a)	19:34 (PrRR3)	21:29
20	08:32	07:31	06:19	17:26 (Pr3a)	19:01 (PrRR3)	04:51
	16:18	17:26	18:26	17:49 (Pr3a)	19:33 (PrRR3)	21:30
21	08:31	07:28	06:16	17:26 (Pr3a)	19:02 (PrRR3)	04:50
	16:20	17:28	18:28	17:48 (Pr3a)	19:33 (PrRR3)	21:32
22	08:29	07:26	06:13	17:26 (Pr3a)	19:03 (PrRR3)	04:48
	16:22	17:30	18:30	17:47 (Pr3a)	19:32 (PrRR3)	21:34
23	08:28	07:24	06:11	17:27 (Pr3a)	19:03 (PrRR3)	04:46
	16:24	17:32	18:32	17:47 (Pr3a)	19:31 (PrRR3)	21:36
24	08:26	07:21	06:08	17:28 (Pr3a)	19:04 (PrRR3)	04:45
	16:26	17:35	18:34	17:45 (Pr3a)	19:30 (PrRR3)	21:38
25	08:25	07:19	06:05	17:29 (Pr3a)	19:05 (PrRR3)	04:43
	16:28	17:37	18:36	17:43 (Pr3a)	19:29 (PrRR3)	21:39
26	08:23	07:16	06:03	17:32 (Pr3a)	19:06 (PrRR3)	04:42
	16:30	17:39	18:38	17:40 (Pr3a)	19:26 (PrRR3)	21:41
27	08:21	07:14	06:00	05:40	19:08 (PrRR3)	04:40
	16:32	17:41	18:40	20:45	19:25 (PrRR3)	21:43
28	08:20	07:11	05:57	05:38	19:11 (PrRR3)	04:39
	16:34	17:43	18:42	20:47	19:22 (PrRR3)	21:44
29	08:18		06:55	05:35		04:38
	16:37		19:45	20:49		21:46
30	08:16		06:52	05:33		04:36
	16:39		19:47	20:51		21:47
31	08:14		06:49			04:35
	16:41		19:49			21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case			261	652		
Sun reduction			0,39	0,44		
Oper. time red.			1,00	1,00		
Wind dir. red.			1,00	1,00		
Total reduction			0,39	0,44		
Total, real			102	288		

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vecas Zemesbites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (503)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	July	August	September	October	November	December
1	04:28 22:06	05:14 21:25	06:15 20:12	19:04 (PrRR3) 19:35 (Pr25)	07:15 18:15 (Pr3a)	08:22 16:34
2	04:29 22:06	05:16 21:23	06:17 20:09	19:05 (PrRR3) 19:35 (Pr25)	07:17 18:49	08:23 16:32
3	04:30 22:05	05:18 21:21	06:19 20:06	19:06 (PrRR3) 19:35 (Pr25)	07:19 18:46	08:25 16:30
4	04:31 22:05	05:19 21:19	06:21 20:04	19:07 (PrRR3) 19:34 (Pr25)	07:21 18:43	08:27 16:27
5	04:32 22:04	05:21 21:17	06:23 20:01	19:08 (PrRR3) 19:31 (Pr25)	07:23 18:41	08:28 16:25
6	04:33 22:03	05:23 21:15	06:25 19:59	19:11 (PrRR3) 19:28 (Pr25)	07:25 18:38	08:30 16:23
7	04:34 22:03	05:25 21:13	06:27 19:56	19:14 (Pr25) 19:25 (Pr25)	07:27 18:36	08:31 16:21
8	04:35 22:02	05:27 21:11	06:29 19:53	19:16 (Pr25) 19:23 (Pr25)	07:29 18:33	08:33 16:19
9	04:36 22:01	05:29 21:08	06:31 19:51	19:19 (Pr25) 19:20 (Pr25)	07:31 18:30	08:34 16:17
10	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:33 18:28	08:35 16:15
11	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:36 18:25	08:37 16:13
12	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23	07:38 18:23	08:38 16:11
13	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:40 18:20	08:39 16:09
14	04:43 21:55	05:39 20:57	19:22 (PrRR3) 19:25 (PrRR3)	06:41 19:37	07:42 18:17	08:40 16:07
15	04:44 21:54	05:41 20:54	19:17 (PrRR3) 19:30 (PrRR3)	06:43 19:34	07:44 18:15	08:41 16:06
16	04:46 21:53	05:43 20:52	19:15 (PrRR3) 19:33 (PrRR3)	06:45 19:32	07:46 18:12	08:42 16:04
17	04:47 21:51	05:45 20:50	19:13 (PrRR3) 19:34 (PrRR3)	06:47 19:29	18:22 (Pr3a) 18:27 (Pr3a)	07:48 18:10
18	04:49 21:50	05:47 20:47	19:10 (PrRR3) 19:35 (PrRR3)	06:49 19:26	18:17 (Pr3a) 18:30 (Pr3a)	07:50 18:07
19	04:51 21:49	05:49 20:45	19:09 (PrRR3) 19:36 (PrRR3)	06:51 19:24	18:15 (Pr3a) 18:31 (Pr3a)	07:52 18:05
20	04:52 21:47	05:51 20:42	19:08 (PrRR3) 19:36 (PrRR3)	06:53 19:21	18:13 (Pr3a) 18:32 (Pr3a)	07:54 18:02
21	04:54 21:45	05:53 20:40	19:07 (PrRR3) 19:37 (PrRR3)	06:55 19:18	18:12 (Pr3a) 18:33 (Pr3a)	07:57 18:00
22	04:56 21:44	05:55 20:37	19:06 (PrRR3) 19:37 (PrRR3)	06:57 19:16	18:11 (Pr3a) 18:33 (Pr3a)	07:59 17:57
23	04:57 21:42	05:57 20:35	19:06 (PrRR3) 19:38 (PrRR3)	06:59 19:13	18:10 (Pr3a) 18:33 (Pr3a)	08:01 17:55
24	04:59 21:40	05:59 20:32	19:05 (PrRR3) 19:38 (PrRR3)	07:01 19:10	18:10 (Pr3a) 18:33 (Pr3a)	08:03 17:53
25	05:01 21:39	06:01 20:30	19:05 (PrRR3) 19:38 (PrRR3)	07:03 19:08	18:09 (Pr3a) 18:32 (Pr3a)	07:05 16:50
26	05:03 21:37	06:03 20:27	19:04 (PrRR3) 19:37 (PrRR3)	07:05 19:05	18:09 (Pr3a) 18:32 (Pr3a)	07:07 16:48
27	05:04 21:35	06:05 20:25	19:03 (PrRR3) 19:37 (PrRR3)	07:07 19:02	18:09 (Pr3a) 18:31 (Pr3a)	07:09 16:45
28	05:06 21:33	06:07 20:22	19:03 (PrRR3) 19:36 (PrRR3)	07:09 18:59	18:10 (Pr3a) 18:29 (Pr3a)	07:12 16:43
29	05:08 21:31	06:09 20:20	19:03 (PrRR3) 19:36 (PrRR3)	07:11 18:57	18:10 (Pr3a) 18:26 (Pr3a)	07:14 16:41
30	05:10 21:29	06:11 20:17	19:04 (PrRR3) 19:35 (PrRR3)	07:13 18:54	18:12 (Pr3a) 18:23 (Pr3a)	07:16 16:38
31	05:12 21:27	06:13 20:14	19:04 (PrRR3) 19:35 (Pr25)	07:18 16:36	07:18 16:36	08:48 15:45
Potential sun hours	529	469	384	324	248	217
Total, worst case		489	432	6		
Sun reduction		0,52	0,43	0,29		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29		
Total, real		255	186	2		

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

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Veikals - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (561)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Veldres - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		05:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Viesani - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:06	21:25	20:12	18:52	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:48	16:46	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:28	15:41
5	08:47	08:04	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:28
	15:52	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30
	15:53	16:55	17:56	20:01	21:03	21:56	22:03	21:15	19:59	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:55	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:45	07:58	06:51	06:28	05:15	04:28	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:01	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:51	18:30	16:17	15:38
10	08:43	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:43	18:23	16:11	15:37
13	08:41	07:47	06:37	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39
	16:05	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:50	08:41
	16:08	17:15	18:15	20:20	21:21	22:05	21:54	20:54	19:35	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:18	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:01	15:36
19	08:34	07:33	06:21	06:00	04:53	04:24	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:24	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:37
20	08:32	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:35	18:34	20:39	21:37	22:08	21:40	20:32	19:10	17:53	15:52	15:39
25	08:25	07:19	06:05	05:45	04:44	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	16:50	15:50	15:40
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:16	08:48
	16:35	17:43	18:43	20:47	21:44	22:07	21:33	20:22	19:00	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:45	20:49	21:46	22:07	21:31	20:20	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:37	04:28	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Viktorovka - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (468)  
Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January		February		March	April	May	June	July	August	September	October	November	December	
1	08:49		14:48 (06)	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:21	08:22	14:30 (06)
	15:46	16	15:04 (06)	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43	24 14:54 (06)
2	08:48		14:48 (06)	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24	14:31 (06)
	15:48	17	15:05 (06)	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42	23 14:54 (06)
3	08:48		14:48 (06)	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25	14:32 (06)
	15:49	19	15:07 (06)	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41	22 14:54 (06)
4	08:48		14:48 (06)	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27	14:33 (06)
	15:50	19	15:07 (06)	16:50	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:41	22 14:55 (06)
5	08:47		14:48 (06)	08:05	06:58	06:36	05:22	04:30	04:32	05:22	06:23	07:23	07:29	08:29	14:34 (06)
	15:52	20	15:08 (06)	16:52	17:54	19:59	21:02	21:56	22:05	21:17	20:01	18:41	16:25	15:40	21 14:55 (06)
6	08:47		14:49 (06)	08:03	06:56	06:34	05:19	04:29	04:33	05:24	06:25	07:25	07:31	08:30	14:35 (06)
	15:53	20	15:09 (06)	16:55	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39	20 14:55 (06)
7	08:46		14:49 (06)	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:28	07:34	08:32	14:35 (06)
	15:55	21	15:10 (06)	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:39	20 14:55 (06)
8	08:45		14:49 (06)	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33	14:36 (06)
	15:56	21	15:10 (06)	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38	19 14:55 (06)
9	08:45		14:49 (06)	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34	14:36 (06)
	15:58	22	15:11 (06)	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17	15:37	19 14:55 (06)
10	08:44		14:49 (06)	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36	14:38 (06)
	15:59	23	15:12 (06)	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37	17 14:55 (06)
11	08:43		14:49 (06)	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37	14:38 (06)
	16:01	24	15:13 (06)	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37	16 14:54 (06)
12	08:42		14:49 (06)	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38	14:39 (06)
	16:03	23	15:12 (06)	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36	14 14:53 (06)
13	08:41		14:49 (06)	07:47	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:46	08:39	14:40 (06)
	16:04	24	15:13 (06)	17:10	18:11	20:16	21:18	22:04	21:57	20:59	19:40	18:20	16:09	15:36	14 14:54 (06)
14	08:40		14:50 (06)	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40	14:41 (06)
	16:06	24	15:14 (06)	17:12	18:13	20:18	21:20	22:04	21:56	20:57	19:37	18:18	16:08	8 14:42 (06)	15:36 12 14:53 (06)
15	08:39		14:49 (06)	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:42	14:42 (06)
	16:08	25	15:14 (06)	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	12 14:44 (06)	15:36 11 14:53 (06)
16	08:38		14:50 (06)	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42	14:42 (06)
	16:10	25	15:15 (06)	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:04	16 14:47 (06)	15:36 11 14:53 (06)
17	08:37		14:50 (06)	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:43	14:43 (06)
	16:12	25	15:15 (06)	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	18 14:48 (06)	15:36 10 14:53 (06)
18	08:35		14:51 (06)	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44	14:43 (06)
	16:14	24	15:15 (06)	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	19 14:48 (06)	15:36 9 14:52 (06)
19	08:34		14:51 (06)	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45	14:44 (06)
	16:16	24	15:15 (06)	17:24	18:24	20:28	21:29	22:07	21:49	20:45	19:24	18:05	15:59	21 14:50 (06)	15:37 9 14:53 (06)
20	08:33		14:51 (06)	07:31	06:19	05:57	04:52	04:23	04:52	05:51	06:53	07:55	08:01	08:46	14:45 (06)
	16:18	24	15:15 (06)	17:26	18:26	20:30	21:31	22:08	21:47	20:43	19:21	18:02	15:57	22 14:50 (06)	15:37 8 14:53 (06)
21	08:31		14:53 (06)	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:46	14:45 (06)
	16:20	23	15:16 (06)	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	23 14:51 (06)	15:37 8 14:53 (06)
22	08:30		14:53 (06)	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47	14:46 (06)
	16:22	22	15:15 (06)	17:30	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:54	24 14:52 (06)	15:38 8 14:54 (06)
23	08:28		14:54 (06)	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:47	14:46 (06)
	16:24	21	15:15 (06)	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	24 14:52 (06)	15:38 8 14:54 (06)
24	08:27		14:55 (06)	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48	14:47 (06)
	16:26	19	15:14 (06)	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	25 14:53 (06)	15:39 9 14:56 (06)
25	08:25		14:56 (06)	07:19	06:06	05:45	04:43	04:25	05:01	06:01	07:03	07:05	08:11	08:48	14:47 (06)
	16:28	18	15:14 (06)	17:37	18:36	20:41	21:40	22:08	21:39	20:30	19:08	16:50	15:50	25 14:53 (06)	15:39 9 14:56 (06)
26	08:23		14:58 (06)	07:16	06:03	05:43	04:42	04:25	05:03	06:03	07:05	07:07	08:13	08:48	14:47 (06)
	16:30	16	15:14 (06)	17:39	18:39	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	25 14:53 (06)	15:40 10 14:57 (06)
27	08:22		15:00 (06)	07:14	06:00	05:40	04:41	04:26	05:05	06:05	07:07	07:10	08:15	08:49	14:47 (06)
	16:32	12	15:12 (06)	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	16:46	15:48	24 14:53 (06)	15:41 11 14:58 (06)
28	08:20		15:02 (06)	07:11	05:58	05:38	04:39	04:26	05:06	06:07	07:09	07:12	08:17	08:49	14:47 (06)
	16:35	8	15:10 (06)	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	16:43	15:46	24 14:53 (06)	15:42 12 14:59 (06)
29	08:18				06:55	05:35	04:38	04:27	05:08	06:09	07:11	07:14	08:19	08:49	14:48 (06)
	16:37				19:45	20:49	21:46	22:08	21:32	20:20	18:57	16:41	15:45	24 14:54 (06)	15:43 12 15:00 (06)
30	08:16				06:52	05:33	04:36	04:28	05:10	06:11	07:13	07:16	08:20	08:49	14:48 (06)
	16:39				19:47	20:51	21:47	22:07	21:30	20:17	18:54	16:39	15:44	24 14:55 (06)	15:44 13 15:01 (06)
31	08:15				06:49		04:35		05:12	06:13		07:18		08:49	14:47 (06)
	16:41				19:49		21:49		21:28	20:15		16:36		15:45	15 15:02 (06)
Potential sun hours	235			266	366	426	508	528	529	469	384	324	248	216	
Total, worst case		579											358		436
Sun reduction		0,13											0,08		0,08
Oper. time red.		1,00											1,00		1,00
Wind dir. red.		1,00											1,00		1,00
Total reduction		0,13											0,08		0,08
Total, real		78											27		37

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)	Minutes with flicker	Last time (hh:mm) with flicker
			(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vilcani - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vilniš i (kad. apz. 76740020245001) - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:30 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:58	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:23	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:07	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:25 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	08:12 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vilniš i (kad. apz. 76740020245004) - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46	08:12 16:43	07:08 17:45	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	07:20 16:34	08:22 15:43
2	08:48 15:47	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:41
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	07:27 16:27	08:27 15:40
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:23 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:38
8	08:45 15:56	07:58 16:59	06:50 18:00	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:11	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:35 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:01	06:37 19:42	07:38 18:23	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	07:48 16:07	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	07:50 16:06	08:41 15:36
16	08:37 16:10	07:40 17:17	06:29 18:17	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:06	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	07:57 16:00	08:44 15:36
19	08:34 16:16	07:33 17:23	06:21 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:48	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:36
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:51 21:30	04:23 22:07	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:23 22:07	04:54 21:45	05:53 20:40	06:55 19:18	07:56 18:00	08:03 15:56	08:46 15:37
22	08:29 16:22	07:26 17:30	06:13 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57	08:05 15:54	08:47 15:38
23	08:28 16:24	07:23 17:32	06:11 18:32	05:50 20:36	04:46 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:34	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:51	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:43 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:07	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:38	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:32	07:14 17:41	06:00 18:40	05:40 20:45	04:40 21:42	04:26 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:45	08:14 15:47	08:48 15:41
28	08:20 16:34	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 18:59	08:12 16:43	08:16 15:46	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:19	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:38	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vindeks - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (543)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vinci - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:24	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:30	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
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	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:10	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:58	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:02	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:25	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:56	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:03	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
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18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
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23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
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	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
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27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
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	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Virsaiš i - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (454)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:07	05:14 21:26	06:16 20:12	07:15 18:52	07:20 16:34	08:22 15:44
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:33 21:52	04:29 22:06	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:24 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:26 20:57	04:32 21:53	04:30 22:06	05:18 21:22	06:20 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:22 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:53	06:59 17:54	06:36 19:59	05:22 21:02	04:30 21:56	04:32 22:04	05:22 21:17	06:24 20:01	07:24 18:41	07:29 16:26	08:28 15:40
6	08:47 15:53	08:03 16:55	06:56 17:57	06:34 20:01	05:20 21:04	04:29 21:57	04:33 22:04	05:24 21:15	06:26 20:01	07:26 18:39	07:31 16:24	08:30 15:39
7	08:46 15:55	08:01 16:57	06:53 17:59	06:31 20:04	05:17 21:06	04:29 21:58	04:34 22:03	05:26 21:13	06:28 20:01	07:28 18:36	07:34 16:21	08:32 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:06	05:15 21:08	04:28 21:59	04:36 22:02	05:28 21:11	06:30 20:01	07:30 18:33	07:36 16:19	08:33 15:38
9	08:45 15:58	07:56 17:01	06:48 18:03	06:26 20:08	05:13 21:10	04:27 22:00	04:37 22:01	05:30 21:09	06:32 20:01	07:32 18:31	07:38 16:17	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:12	04:27 22:01	04:38 22:00	05:32 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:36 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:14	04:26 22:02	04:39 21:59	05:34 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:16	04:25 22:03	04:41 21:58	05:36 21:02	06:37 20:01	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:10	06:38 18:11	06:15 20:16	05:05 21:17	04:25 22:04	04:42 21:57	05:38 20:59	06:39 20:01	07:40 18:20	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:56	05:40 20:57	06:41 20:01	07:42 18:18	07:49 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:42 20:55	06:43 20:01	07:44 18:15	07:51 16:06	08:41 15:36
16	08:38 16:10	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:06	04:46 21:53	05:44 20:52	06:45 20:01	07:46 18:13	07:53 16:04	08:42 15:36
17	08:37 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:52	05:46 20:50	06:47 20:01	07:48 18:10	07:55 16:03	08:43 15:36
18	08:35 16:14	07:36 17:22	06:24 18:22	06:03 20:26	04:55 21:27	04:24 22:07	04:49 21:50	05:48 20:47	06:49 20:01	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:50 20:45	06:51 20:01	07:53 18:05	07:59 15:59	08:45 15:37
20	08:33 16:18	07:31 17:26	06:19 18:26	05:58 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:52 20:43	06:53 20:01	07:55 18:03	08:01 15:58	08:46 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:32	04:24 22:08	04:54 21:46	05:54 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:38
22	08:30 16:22	07:26 17:30	06:14 18:30	05:53 20:35	04:48 21:34	04:24 22:08	04:56 21:44	05:56 20:38	06:57 20:01	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:58 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:39
24	08:27 16:26	07:21 17:35	06:08 18:34	05:48 20:39	04:45 21:38	04:25 22:08	04:59 21:41	06:00 20:33	07:01 20:01	08:03 17:53	08:09 15:52	08:48 15:39
25	08:25 16:28	07:19 17:37	06:06 18:37	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:02 20:30	07:03 20:01	08:05 17:51	08:11 15:50	08:48 15:40
26	08:23 16:31	07:16 17:39	06:03 18:39	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:04 20:27	07:05 20:01	08:08 17:48	08:13 15:49	08:48 15:41
27	08:22 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:06 20:25	07:07 20:01	08:10 17:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:39 21:44	04:27 22:08	05:07 21:33	06:08 20:22	07:09 20:01	08:12 17:43	08:17 15:47	08:49 15:42
29	08:18 16:37		06:55 19:45	05:36 20:49	04:38 21:46	04:27 22:07	05:08 21:32	06:10 20:20	07:11 20:01	08:14 17:41	08:18 15:46	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:30	06:12 20:17	07:13 20:01	08:16 17:39	08:20 15:45	08:49 15:44
31	08:14 16:41		06:50 19:49		04:36 21:49		05:12 21:28	06:14 20:15	07:18 20:01	08:18 17:37		08:49 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Valodzites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (582)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
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11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
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29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vejotnes - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:43	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Verdini - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:13 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:35 21:50	04:29 22:06	05:15 21:26	06:16 20:12	07:16 18:52	07:20 16:35	08:22 15:44
2	08:48 15:49	08:11 16:46	07:06 17:48	06:45 19:53	05:29 20:55	04:34 21:51	04:30 22:06	05:17 21:24	06:18 20:09	07:18 18:49	07:23 16:33	08:23 15:43
3	08:48 15:50	08:09 16:49	07:04 17:50	06:42 19:55	05:27 20:57	04:33 21:53	04:31 22:05	05:19 21:21	06:20 20:07	07:20 18:47	07:25 16:30	08:25 15:42
4	08:47 15:51	08:07 16:51	07:01 17:53	06:39 19:57	05:25 20:59	04:32 21:54	04:32 22:05	05:20 21:19	06:22 20:04	07:22 18:44	07:27 16:28	08:27 15:42
5	08:47 15:53	08:05 16:53	06:59 17:55	06:37 19:59	05:22 21:01	04:31 21:55	04:33 22:04	05:22 21:17	06:24 20:02	07:24 18:41	07:29 16:26	08:28 15:41
6	08:46 15:54	08:03 16:55	06:56 17:57	06:34 20:02	05:20 21:03	04:30 21:56	04:34 22:03	05:24 21:15	06:26 19:59	07:26 18:39	07:31 16:24	08:30 15:40
7	08:46 15:56	08:01 16:57	06:54 17:59	06:31 20:04	05:18 21:05	04:29 21:58	04:35 22:03	05:26 21:13	06:28 19:56	07:28 18:36	07:33 16:22	08:31 15:40
8	08:45 15:57	07:58 17:00	06:51 18:01	06:29 20:06	05:16 21:07	04:29 21:59	04:36 22:02	05:28 21:11	06:30 19:54	07:30 18:34	07:36 16:20	08:33 15:39
9	08:44 15:59	07:56 17:02	06:48 18:03	06:26 20:08	05:14 21:09	04:28 22:00	04:37 22:01	05:30 21:08	06:32 19:51	07:32 18:31	07:38 16:18	08:34 15:38
10	08:44 16:00	07:54 17:04	06:46 18:05	06:24 20:10	05:12 21:11	04:27 22:01	04:39 22:00	05:32 21:06	06:34 19:48	07:34 18:28	07:40 16:16	08:35 15:38
11	08:43 16:02	07:52 17:06	06:43 18:08	06:21 20:12	05:10 21:13	04:27 22:02	04:40 21:59	05:34 21:04	06:36 19:46	07:36 18:26	07:42 16:14	08:37 15:38
12	08:42 16:04	07:50 17:09	06:40 18:10	06:18 20:14	05:08 21:15	04:26 22:02	04:41 21:58	05:36 21:02	06:38 19:43	07:38 18:23	07:44 16:12	08:38 15:37
13	08:41 16:05	07:47 17:11	06:38 18:12	06:16 20:16	05:06 21:17	04:26 22:03	04:43 21:57	05:38 20:59	06:40 19:40	07:40 18:21	07:46 16:10	08:39 15:37
14	08:40 16:07	07:45 17:13	06:35 18:14	06:13 20:18	05:04 21:19	04:25 22:04	04:44 21:55	05:40 20:57	06:42 19:38	07:42 18:18	07:48 16:08	08:40 15:37
15	08:39 16:09	07:43 17:15	06:33 18:16	06:11 20:20	05:02 21:21	04:25 22:05	04:46 21:54	05:42 20:55	06:44 19:35	07:44 18:16	07:51 16:07	08:41 15:37
16	08:38 16:11	07:41 17:18	06:30 18:18	06:08 20:22	05:00 21:23	04:25 22:05	04:47 21:53	05:44 20:52	06:46 19:32	07:46 18:13	07:53 16:05	08:42 15:37
17	08:36 16:13	07:38 17:20	06:27 18:20	06:06 20:24	04:58 21:25	04:25 22:06	04:49 21:51	05:46 20:50	06:48 19:30	07:48 18:11	07:55 16:03	08:43 15:37
18	08:35 16:15	07:36 17:22	06:25 18:22	06:03 20:26	04:56 21:27	04:25 22:06	04:50 21:50	05:48 20:47	06:50 19:27	07:51 18:08	07:57 16:01	08:44 15:37
19	08:34 16:17	07:34 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:25 22:07	04:52 21:48	05:50 20:45	06:52 19:24	07:53 18:06	07:59 16:00	08:45 15:38
20	08:32 16:19	07:31 17:26	06:19 18:26	05:58 20:31	04:53 21:30	04:25 22:07	04:53 21:47	05:52 20:43	06:54 19:21	07:55 18:03	08:01 15:58	08:45 15:38
21	08:31 16:21	07:29 17:29	06:17 18:28	05:55 20:33	04:51 21:32	04:25 22:07	04:55 21:45	05:54 20:40	06:56 19:19	07:57 18:01	08:03 15:57	08:46 15:38
22	08:30 16:23	07:26 17:31	06:14 18:31	05:53 20:35	04:49 21:34	04:25 22:08	04:57 21:44	05:56 20:38	06:58 19:16	07:59 17:58	08:05 15:55	08:46 15:39
23	08:28 16:25	07:24 17:33	06:11 18:33	05:51 20:37	04:48 21:36	04:25 22:08	04:58 21:42	05:58 20:35	07:00 19:13	08:01 17:56	08:07 15:54	08:47 15:39
24	08:26 16:27	07:21 17:35	06:09 18:35	05:48 20:39	04:46 21:38	04:25 22:08	05:00 21:40	06:00 20:33	07:02 19:11	08:03 17:53	08:09 15:52	08:47 15:40
25	08:25 16:29	07:19 17:37	06:06 18:37	05:46 20:41	04:44 21:39	04:26 22:08	05:02 21:39	06:02 20:30	07:04 19:08	07:05 16:51	08:11 15:51	08:48 15:41
26	08:23 16:31	07:16 17:40	06:03 18:39	05:43 20:43	04:43 21:41	04:26 22:08	05:04 21:37	06:04 20:28	07:06 19:05	07:08 16:49	08:13 15:50	08:48 15:41
27	08:22 16:33	07:14 17:42	06:01 18:41	05:41 20:45	04:42 21:42	04:27 22:08	05:05 21:35	06:06 20:25	07:08 19:03	07:10 16:46	08:15 15:49	08:48 15:42
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:40 21:44	04:27 22:07	05:07 21:33	06:08 20:22	07:10 19:00	07:12 16:44	08:16 15:47	08:48 15:43
29	08:18 16:38		06:55 19:45	05:36 20:49	04:39 21:46	04:28 22:07	05:09 21:31	06:10 20:20	07:12 18:57	07:14 16:42	08:18 15:46	08:48 15:44
30	08:16 16:40		06:53 19:47	05:34 20:51	04:38 21:47	04:29 22:07	05:11 21:29	06:12 20:17	07:14 18:55	07:16 16:39	08:20 15:45	08:48 15:45
31	08:14 16:42		06:50 19:49		04:36 21:49		05:13 21:28	06:14 20:15		07:18 16:37		08:48 15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Veris - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Vetras - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December						
1	08:48 15:46	08:12 16:43	07:09 17:45	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	14	19:27 (PrRR3) 19:41 (PrRR3)	07:15 18:51	07:20 16:34	08:22 15:43				
2	08:48 15:48	08:10 16:45	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	7	19:30 (PrRR3) 19:37 (PrRR3)	07:17 18:49	07:22 16:32	08:23 15:42				
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06			07:19 18:46	07:25 16:30	08:25 15:41				
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:19 21:19	06:21 20:04			07:21 18:43	07:27 16:27	08:27 15:40				
5	08:47 15:51	08:04 16:52	06:58 17:54	06:36 19:59	05:21 21:01	04:30 21:55	04:32 22:04	05:21 21:17	06:23 20:01			07:23 18:41	07:29 16:25	08:28 15:40				
6	08:46 15:53	08:02 16:54	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:57	04:33 22:03	05:23 21:15	06:25 19:59			07:25 18:38	07:31 16:23	08:30 15:39				
7	08:46 15:54	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56			07:27 18:36	07:33 16:21	08:31 15:38				
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	05:15 21:07	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53			07:29 18:33	07:35 16:19	08:33 15:38				
9	08:44 15:58	07:56 17:01	06:48 18:03	06:25 20:07	05:13 21:09	04:27 22:00	04:36 22:01	05:29 21:08	06:31 19:51			07:31 18:30	07:38 16:17	08:34 15:37				
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:09	19:31 (PrRR3) 19:38 (PrRR3)	05:11 21:11	04:26 22:01	04:38 21:06	05:31 19:48			07:33 18:28	07:40 16:15	08:35 15:37				
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	19:28 (PrRR3) 19:42 (PrRR3)	05:09 21:13	04:25 22:02	04:39 21:59	05:33 21:04			06:35 19:45	07:36 18:25	08:37 16:13				
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	19:25 (PrRR3) 19:43 (PrRR3)	05:07 21:15	04:25 22:03	04:40 21:58	05:35 19:43			06:37 19:43	07:38 18:23	08:38 16:11				
13	08:41 16:04	07:47 17:10	06:37 18:11	06:15 20:16	19:24 (PrRR3) 21:45 (PrRR3)	05:05 21:17	04:25 22:03	05:37 21:57	06:42 20:59	5	19:41 (PrRR3) 19:32 (PrRR3)	06:40 06:41	8	18:38 (Pr3a) 18:35 (Pr3a)	18:20 17:42	16:09 16:08	15:36 15:36	
14	08:40 16:06	07:45 17:12	06:35 18:13	06:12 20:18	19:22 (PrRR3) 19:45 (PrRR3)	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	13	19:45 (PrRR3) 19:30 (PrRR3)	06:41 06:43	14	18:49 (Pr3a) 18:33 (Pr3a)	18:17 17:44	16:07 16:04	15:36 15:36	
15	08:39 16:08	07:43 17:15	06:32 18:15	06:10 20:20	19:21 (PrRR3) 19:46 (PrRR3)	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:54	17	19:47 (PrRR3) 19:30 (PrRR3)	06:43 06:43	17	18:50 (Pr3a) 18:33 (Pr3a)	18:15 17:44	16:06 16:04	15:36 15:36	
16	08:38 16:10	07:40 17:17	06:29 18:19	06:07 20:22	19:20 (PrRR3) 19:46 (PrRR3)	04:59 21:23	04:46 22:05	05:43 21:53	06:45 20:52	19	19:29 (PrRR3) 19:48 (PrRR3)	06:45 19:32	18	18:32 (Pr3a) 18:50 (Pr3a)	07:46 18:12	07:53 16:04	08:42 15:36	
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	19:20 (PrRR3) 19:47 (PrRR3)	04:57 21:25	04:23 22:06	04:47 21:51	05:45 20:50	22	19:26 (PrRR3) 19:48 (PrRR3)	06:47 19:29	20	18:31 (Pr3a) 18:51 (Pr3a)	07:48 18:10	07:55 16:02	08:43 15:36	
18	08:35 16:14	07:36 17:21	06:24 18:22	17:50 (Pr3a) 20:26	06:02 27	19:19 (PrRR3) 19:46 (PrRR3)	04:55 21:27	04:23 22:06	04:49 21:50	24	19:25 (PrRR3) 19:45 (PrRR3)	06:49 19:26	21	18:29 (Pr3a) 18:50 (Pr3a)	07:50 18:07	07:57 16:00	08:44 15:36	
19	08:34 16:16	07:33 17:24	06:21 18:24	17:53 (Pr3a) 20:28	06:00 28	19:19 (PrRR3) 19:47 (PrRR3)	04:53 21:29	04:23 22:07	04:51 21:45	26	19:24 (PrRR3) 19:45 (PrRR3)	06:51 19:24	21	18:29 (Pr3a) 18:50 (Pr3a)	07:52 18:05	07:59 15:59	08:45 15:36	
20	08:32 16:18	07:31 17:26	06:19 18:26	17:46 (Pr3a) 20:30	05:57 28	19:18 (PrRR3) 19:46 (PrRR3)	04:51 21:30	04:23 22:07	05:51 21:47	26	19:24 (PrRR3) 19:45 (PrRR3)	06:53 19:21	21	18:28 (Pr3a) 18:49 (Pr3a)	07:54 18:02	08:01 15:57	08:45 15:37	
21	08:31 16:20	07:28 17:28	06:16 18:28	17:44 (Pr3a) 20:32	05:55 28	19:18 (PrRR3) 19:46 (PrRR3)	04:50 21:32	04:23 22:07	05:53 21:45	28	19:23 (PrRR3) 19:45 (PrRR3)	06:55 19:18	20	18:28 (Pr3a) 18:49 (Pr3a)	07:57 18:00	08:03 15:56	08:46 15:37	
22	08:29 16:22	07:26 17:30	06:13 18:30	17:43 (Pr3a) 20:34	05:52 27	19:19 (PrRR3) 19:46 (PrRR3)	04:48 21:34	04:24 22:08	05:55 21:44	28	19:23 (PrRR3) 19:45 (PrRR3)	06:57 19:16	16	18:29 (Pr3a) 18:45 (Pr3a)	07:59 17:57	08:05 15:54	08:47 15:38	
23	08:28 16:24	07:24 17:32	06:11 18:32	17:43 (Pr3a) 20:36	05:50 27	19:18 (PrRR3) 19:45 (PrRR3)	04:46 21:36	04:24 22:08	05:57 21:42	29	19:22 (PrRR3) 19:45 (PrRR3)	06:59 19:13	13	18:29 (Pr3a) 18:42 (Pr3a)	08:01 17:55	08:07 15:53	08:47 15:38	
24	08:26 16:26	07:21 17:35	06:08 18:34	17:42 (Pr3a) 20:39	05:47 25	19:19 (PrRR3) 19:44 (PrRR3)	04:45 21:38	04:24 22:08	05:59 21:40	29	19:22 (PrRR3) 19:45 (PrRR3)	07:01 19:10	10	18:30 (Pr3a) 18:40 (Pr3a)	08:03 17:53	08:09 15:51	08:47 15:39	
25	08:25 16:28	07:19 17:37	06:05 18:36	17:43 (Pr3a) 20:41	05:45 23	19:20 (PrRR3) 19:43 (PrRR3)	04:43 21:39	04:25 22:08	06:01 21:39	28	19:22 (PrRR3) 19:45 (PrRR3)	07:03 19:08	5	18:32 (Pr3a) 18:49 (Pr3a)	07:05 16:50	08:11 15:50	08:48 15:39	
26	08:23 16:30	07:16 17:39	06:03 18:38	17:42 (Pr3a) 20:43	05:42 22	19:20 (PrRR3) 19:42 (PrRR3)	04:42 21:41	04:25 22:08	06:03 21:37	28	19:21 (PrRR3) 19:49 (PrRR3)	07:05 19:05	8	18:37 (Pr3a) 18:49 (Pr3a)	07:07 16:48	08:13 15:49	08:48 15:40	
27	08:21 16:32	07:14 17:41	06:00 18:40	17:42 (Pr3a) 20:45	05:40 19	19:21 (PrRR3) 19:40 (PrRR3)	04:40 21:42	04:26 22:08	06:05 21:35	26	19:22 (PrRR3) 19:48 (PrRR3)	07:07 19:02			07:09 16:45	08:15 15:47	08:48 15:41	
28	08:20 16:34	07:11 17:43	05:57 18:42	17:43 (Pr3a) 20:47	05:38 16	19:23 (PrRR3) 19:39 (PrRR3)	04:39 21:44	04:26 22:07	06:07 21:33	25	19:22 (PrRR3) 19:47 (PrRR3)	07:09 18:59			07:12 16:43	08:16 15:46	08:48 15:42	
29	08:18 16:37		06:55 19:45	18:44 (Pr3a) 20:49	05:35 11	19:26 (PrRR3) 19:37 (PrRR3)	04:38 21:46	04:27 22:07	05:08 21:31	23	19:23 (PrRR3) 19:46 (PrRR3)	07:11 18:57			07:14 16:41	08:18 15:45	08:48 15:43	
30	08:16 16:39		06:52 19:47	18:46 (Pr3a) 20:51	05:33 10		04:36 21:47	04:27 22:07	05:10 21:29	21	19:24 (PrRR3) 19:45 (PrRR3)	07:13 18:54			07:16 16:38	08:20 15:44	08:48 15:44	
31	08:14 16:41		06:49 19:49				04:35 21:49	05:12 21:27	06:13 20:14	18	19:25 (PrRR3) 19:43 (PrRR3)				07:18 16:36		08:48 15:45	
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217						
Total, worst case			198	442				434	225									
Sun reduction			0,39	0,44				0,52	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			0,39	0,44				0,52	0,43									
Total, real			78	195				227	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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Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Veveru majas - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:34	15:43
2	08:48	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:09	18:49	16:32	15:42
3	08:48	08:09	07:04	06:41	05:26	04:32	04:30	05:18	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:44	16:27	15:41
5	08:47	08:05	06:58	06:36	05:22	04:30	04:32	05:21	06:23	07:23	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:04	21:17	20:01	18:41	16:25	15:40
6	08:47	08:03	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:04	21:57	22:04	21:15	19:59	18:38	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:34	08:32
	15:54	16:57	17:59	20:03	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:51	06:28	05:15	04:27	04:35	05:27	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:05	21:08	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:29	06:31	07:32	07:38	08:34
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:03	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:36
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14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:56	20:57	19:37	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:51	08:41
	16:08	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:42
	16:10	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:12	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:20	20:24	21:25	22:06	21:52	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:07	21:50	20:47	19:27	18:07	16:01	15:36
19	08:34	07:33	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
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23	08:28	07:24	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:37	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:34	20:39	21:38	22:08	21:41	20:33	19:10	17:53	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:08	17:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:40	04:26	05:04	06:05	07:07	08:09	08:15	08:49
	16:32	17:41	18:41	20:45	21:43	22:08	21:35	20:25	19:02	17:46	15:48	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:12	08:17	08:49
	16:35	17:43	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:49
	16:39		19:47	20:51	21:47	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Zarini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (457)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49 15:46	08:13 16:43	07:09 17:46	06:47 19:51	05:31 20:54	04:34 21:51	04:28 22:07	05:14 21:26	06:16 20:12	07:15 18:52	07:21 16:34	08:22 15:43
2	08:49 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:28 20:56	04:33 21:52	04:29 22:07	05:16 21:24	06:18 20:09	07:17 18:49	07:23 16:32	08:24 15:42
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:26 20:58	04:32 21:53	04:30 22:06	05:18 21:22	06:20 20:07	07:19 18:46	07:25 16:30	08:26 15:41
4	08:48 15:50	08:07 16:50	07:01 17:52	06:39 19:57	05:24 21:00	04:31 21:55	04:31 22:05	05:20 21:20	06:21 20:04	07:22 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:52	06:59 17:54	06:36 19:59	05:22 21:02	04:30 21:56	04:32 22:05	05:22 21:18	06:23 20:02	07:24 18:41	07:29 16:25	08:29 15:40
6	08:47 15:53	08:03 16:55	06:56 17:57	06:34 20:02	05:19 21:04	04:29 21:57	04:33 22:04	05:24 21:15	06:25 19:59	07:26 18:39	07:32 16:23	08:30 15:39
7	08:46 15:55	08:01 16:57	06:53 17:59	06:31 20:04	05:17 21:06	04:28 21:58	04:34 22:03	05:26 21:13	06:27 19:56	07:28 18:36	07:34 16:21	08:32 15:39
8	08:46 15:56	07:59 16:59	06:51 18:01	06:28 20:06	05:15 21:08	04:28 21:59	04:35 22:02	05:28 21:11	06:29 19:54	07:30 18:33	07:36 16:19	08:33 15:38
9	08:45 15:58	07:56 17:01	06:48 18:03	06:26 20:08	05:13 21:10	04:27 22:00	04:36 22:01	05:29 21:09	06:31 19:51	07:32 18:31	07:38 16:17	08:35 15:38
10	08:44 15:59	07:54 17:04	06:46 18:05	06:23 20:10	05:11 21:12	04:26 22:01	04:38 22:00	05:31 21:07	06:33 19:48	07:34 18:28	07:40 16:15	08:36 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:21 20:12	05:09 21:14	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:46	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:16	04:25 22:03	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23	07:45 16:11	08:38 15:36
13	08:41 16:05	07:48 17:10	06:38 18:11	06:15 20:16	05:05 21:18	04:25 22:04	04:42 21:57	05:37 21:00	06:39 19:40	07:40 18:20	07:47 16:09	08:40 15:36
14	08:40 16:06	07:45 17:13	06:35 18:14	06:13 20:18	05:03 21:20	04:24 22:05	04:43 21:56	05:39 20:57	06:41 19:38	07:42 18:18	07:49 16:08	08:41 15:36
15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:22	04:24 22:05	04:45 21:55	05:41 20:55	06:43 19:35	07:44 18:15	07:51 16:06	08:42 15:36
16	08:38 16:10	07:41 17:17	06:30 18:18	06:08 20:22	04:59 21:24	04:24 22:06	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:13	07:53 16:04	08:43 15:36
17	08:37 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:52	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:44 15:36
18	08:36 16:14	07:36 17:22	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:07	04:49 21:50	05:47 20:48	06:49 19:27	07:51 18:08	07:57 16:01	08:44 15:36
19	08:34 16:16	07:34 17:24	06:22 18:24	06:00 20:29	04:53 21:29	04:23 22:07	04:51 21:49	05:49 20:45	06:51 19:24	07:53 18:05	07:59 15:59	08:45 15:37
20	08:33 16:18	07:31 17:26	06:19 18:26	05:57 20:31	04:52 21:31	04:23 22:08	04:52 21:47	05:51 20:43	06:53 19:21	07:55 18:03	08:01 15:57	08:46 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:33	04:24 22:08	04:54 21:46	05:53 20:40	06:55 19:19	07:57 18:00	08:03 15:56	08:47 15:37
22	08:30 16:22	07:26 17:30	06:14 18:30	05:52 20:35	04:48 21:35	04:24 22:08	04:56 21:44	05:55 20:38	06:57 19:16	07:59 17:58	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:57 21:43	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:48 15:38
24	08:27 16:26	07:21 17:35	06:08 18:35	05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:41	05:59 20:33	07:01 19:11	08:03 17:53	08:09 15:52	08:48 15:39
25	08:25 16:28	07:19 17:37	06:06 18:37	05:45 20:41	04:43 21:40	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	07:05 16:50	08:11 15:50	08:48 15:40
26	08:24 16:30	07:16 17:39	06:03 18:39	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:28	07:05 19:05	07:08 16:48	08:13 15:49	08:49 15:40
27	08:22 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:36	06:05 20:25	07:07 19:02	07:10 16:46	08:15 15:48	08:49 15:41
28	08:20 16:35	07:11 17:44	05:58 18:43	05:38 20:47	04:39 21:45	04:26 22:08	05:06 21:34	06:07 20:23	07:09 19:00	07:12 16:43	08:17 15:46	08:49 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:08	05:08 21:32	06:09 20:20	07:11 18:57	07:14 16:41	08:19 15:45	08:49 15:43
30	08:17 16:39		06:52 19:47	05:33 20:51	04:37 21:48	04:28 22:07	05:10 21:30	06:12 20:17	07:13 18:54	07:16 16:39	08:20 15:44	08:49 15:44
31	08:15 16:41		06:50 19:49		04:35 21:49		05:12 21:28	06:14 20:15		07:18 16:36		08:49 15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Zelmeni - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:08 16:48	07:03 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:06	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:06 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:04 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:33 20:01	05:19 21:03	04:29 21:56	04:33 22:03	05:24 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:58	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:02	05:25 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:50 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	07:35 16:19	08:33 15:38
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10	08:43 15:59	07:54 17:03	06:45 18:05	06:23 20:09	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:33 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:49 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:02	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
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16	08:37 16:10	07:40 17:17	06:29 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:52 16:04	08:42 15:36
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24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:37	04:24 22:08	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:47 15:39
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26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:40	05:40 20:45	04:41 21:42	04:26 22:08	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:14 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:42	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:45	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:45	08:48 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:48 15:44
31	08:14 16:41		06:49 19:49		04:35 21:48		05:12 21:27	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Zelta Dibens - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (579)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:10 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:51	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	07:22 16:32	08:23 15:42
3	08:48 15:49	08:09 16:48	07:04 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:05	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:28 15:40
6	08:46 15:53	08:02 16:55	06:56 17:56	06:34 20:01	05:19 21:03	04:29 21:57	04:33 22:03	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:28 21:58	04:34 22:03	05:26 21:13	06:27 20:01	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 20:01	07:29 18:33	07:36 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:07	05:13 21:09	04:27 22:00	04:37 22:01	05:29 21:08	06:31 20:01	07:32 18:30	07:38 16:17	08:34 15:38
10	08:44 15:59	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:26 22:01	04:38 22:00	05:31 21:06	06:33 20:01	07:34 18:28	07:40 16:15	08:35 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:33 21:04	06:35 20:01	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:35 21:02	06:37 20:01	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:37 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 20:01	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:24 22:04	04:43 21:55	05:39 20:57	06:41 20:01	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:55	06:43 20:01	07:44 18:15	07:50 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:30 18:18	06:07 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 20:01	07:46 18:12	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 20:01	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 20:01	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:53 21:29	04:24 22:07	04:51 21:49	05:49 20:45	06:51 20:01	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:31	04:24 22:07	04:52 21:47	05:51 20:42	06:53 20:01	07:55 18:02	08:01 15:57	08:45 15:37
21	08:31 16:20	07:28 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:07	04:54 21:45	05:53 20:40	06:55 20:01	07:57 18:00	08:03 15:56	08:46 15:37
22	08:30 16:22	07:26 17:30	06:14 18:30	05:52 20:34	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 20:01	07:59 17:58	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 20:01	08:01 17:55	08:07 15:53	08:47 15:38
24	08:26 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:40	05:59 20:32	07:01 20:01	08:03 17:53	08:09 15:52	08:47 15:39
25	08:25 16:28	07:19 17:37	06:05 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 20:01	08:05 17:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:38	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 20:01	08:07 17:48	08:13 15:49	08:48 15:40
27	08:21 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:05 20:25	07:07 20:01	08:09 17:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:07	05:06 21:33	06:07 20:22	07:09 20:01	08:12 17:43	08:16 15:47	08:48 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 20:01	08:14 17:41	08:18 15:45	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:29	06:11 20:17	07:13 20:01	08:16 17:39	08:20 15:44	08:49 15:44
31	08:14 16:41		06:49 19:49		04:35 21:49		05:12 21:27	06:13 20:14	07:18 20:01	08:18 17:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Zemesbites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (505)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March		April		May	June	
1	08:48 15:46	08:12 16:43	07:09 17:45		06:47 19:51	22	18:57 (PrRR3) 19:19 (PrRR3)	05:31 20:53	04:34 21:50
2	08:48 15:47	08:10 16:45	07:06 17:48		06:44 19:53	24	18:56 (PrRR3) 19:20 (PrRR3)	05:28 20:55	04:33 21:51
3	08:48 15:49	08:08 16:48	07:03 17:50		06:41 19:55	26	18:54 (PrRR3) 19:20 (PrRR3)	05:26 20:57	04:32 21:53
4	08:47 15:50	08:06 16:50	07:01 17:52		06:39 19:57	28	18:53 (PrRR3) 19:21 (PrRR3)	05:24 20:59	04:31 21:54
5	08:47 15:51	08:04 16:52	06:58 17:54		06:36 19:59	29	18:52 (PrRR3) 19:21 (PrRR3)	05:21 21:01	04:30 21:55
6	08:46 15:53	08:02 16:54	06:56 17:56		06:33 20:01	30	18:52 (PrRR3) 19:22 (PrRR3)	05:19 21:03	04:29 21:57
7	08:46 15:54	08:00 16:57	06:53 17:58		06:31 20:03	31	18:51 (PrRR3) 19:22 (PrRR3)	05:17 21:05	04:28 21:58
8	08:45 15:56	07:58 16:59	06:50 18:01		06:28 20:05	31	18:50 (PrRR3) 19:21 (PrRR3)	05:15 21:07	04:27 21:59
9	08:44 15:58	07:56 17:01	06:48 18:03	7	17:27 (Pr3a) 17:34 (Pr3a)	06:25 20:07	18:51 (PrRR3) 19:21 (PrRR3)	05:13 21:09	04:27 22:00
10	08:44 15:59	07:54 17:03	06:45 18:05	11	17:26 (Pr3a) 17:37 (Pr3a)	06:23 20:09	18:50 (PrRR3) 19:20 (PrRR3)	05:11 21:11	04:26 22:01
11	08:43 16:01	07:52 17:06	06:43 18:07	15	17:24 (Pr3a) 17:39 (Pr3a)	06:20 20:12	18:51 (PrRR3) 19:20 (PrRR3)	05:09 21:13	04:25 22:02
12	08:42 16:03	07:49 17:08	06:40 18:09	18	17:22 (Pr3a) 17:40 (Pr3a)	06:18 20:14	18:51 (PrRR3) 19:19 (PrRR3)	05:07 21:15	04:25 22:03
13	08:41 16:04	07:47 17:10	06:37 18:11	21	17:22 (Pr3a) 17:43 (Pr3a)	06:15 20:16	18:52 (PrRR3) 19:18 (PrRR3)	05:05 21:17	04:25 22:03
14	08:40 16:06	07:45 17:12	06:35 18:13	22	17:21 (Pr3a) 17:43 (Pr3a)	06:12 20:18	18:52 (PrRR3) 19:17 (PrRR3)	05:03 21:19	04:24 22:04
15	08:39 16:08	07:43 17:15	06:32 18:15	21	17:21 (Pr3a) 17:42 (Pr3a)	06:10 20:20	18:54 (PrRR3) 19:16 (PrRR3)	05:01 21:21	04:24 22:05
16	08:38 16:10	07:40 17:17	06:29 18:17	22	17:21 (Pr3a) 17:43 (Pr3a)	06:07 20:22	18:54 (PrRR3) 19:13 (PrRR3)	04:59 21:23	04:24 22:05
17	08:36 16:12	07:38 17:19	06:27 18:20	21	17:21 (Pr3a) 17:42 (Pr3a)	06:05 20:24	18:57 (PrRR3) 19:11 (PrRR3)	04:57 21:25	04:23 22:06
18	08:35 16:14	07:36 17:21	06:24 18:22	19	17:21 (Pr3a) 17:40 (Pr3a)	06:02 20:26	19:00 (PrRR3) 19:07 (PrRR3)	04:55 21:27	04:23 22:06
19	08:34 16:16	07:33 17:23	06:21 18:24	17	17:23 (Pr3a) 17:40 (Pr3a)	06:00 20:28		04:53 21:29	04:23 22:07
20	08:32 16:18	07:31 17:26	06:19 18:26	15	17:23 (Pr3a) 17:38 (Pr3a)	05:57 20:30		04:51 21:30	04:23 22:07
21	08:31 16:20	07:28 17:28	06:16 18:28	10	17:25 (Pr3a) 17:35 (Pr3a)	05:55 20:32		04:50 21:32	04:23 22:07
22	08:29 16:22	07:26 17:30	06:13 18:30			05:52 20:34		04:48 21:34	04:24 22:08
23	08:28 16:24	07:24 17:32	06:11 18:32			05:50 20:36		04:46 21:36	04:24 22:08
24	08:26 16:26	07:21 17:35	06:08 18:34			05:47 20:39		04:45 21:38	04:24 22:08
25	08:25 16:28	07:19 17:37	06:05 18:36			05:45 20:41		04:43 21:39	04:25 22:08
26	08:23 16:30	07:16 17:39	06:03 18:38			05:42 20:43		04:42 21:41	04:25 22:08
27	08:21 16:32	07:14 17:41	06:00 18:40			05:40 20:45		04:40 21:43	04:26 22:08
28	08:20 16:34	07:11 17:43	05:57 18:42			05:38 20:47		04:39 21:44	04:26 22:07
29	08:18 16:37		06:55 19:45	1	19:09 (PrRR3) 19:10 (PrRR3)	05:35 20:49		04:38 21:46	04:27 22:07
30	08:16 16:39		06:52 19:47	13	19:02 (PrRR3) 19:15 (PrRR3)	05:33 20:51		04:36 21:47	04:27 22:07
31	08:14 16:41		06:49 19:49	18	18:59 (PrRR3) 19:17 (PrRR3)			04:35 21:49	
Potential sun hours	236	266	366		426			507	528
Total, worst case			251		451				
Sun reduction			0,39		0,44				
Oper. time red.			1,00		1,00				
Wind dir. red.			1,00		1,00				
Total reduction			0,39		0,44				
Total, real			98		199				

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Zemesbites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (505)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December
1	04:28 22:06	05:14 21:25	06:15 20:12	18:50 (PrRR3) 19:19 (PrRR3)	07:15 18:02 (Pr3a)	07:20 16:34
2	04:29 22:06	05:16 21:23	06:17 20:09	18:49 (PrRR3) 19:19 (PrRR3)	18:03 (Pr3a) 18:19 (Pr3a)	16:34 16:32
3	04:30 22:05	05:18 21:21	06:19 20:06	18:49 (PrRR3) 19:19 (PrRR3)	18:03 (Pr3a) 18:16 (Pr3a)	16:32 16:30
4	04:31 22:05	05:19 21:19	06:21 20:04	18:48 (PrRR3) 19:19 (PrRR3)	18:05 (Pr3a) 18:13 (Pr3a)	16:30 16:27
5	04:32 22:04	05:21 21:17	06:23 20:01	18:47 (PrRR3) 19:18 (PrRR3)	18:07 (Pr3a) 18:10 (Pr3a)	16:27 16:25
6	04:33 22:03	05:23 21:15	06:25 19:59	18:47 (PrRR3) 19:17 (PrRR3)	07:25 18:38	16:25 16:23
7	04:34 22:03	05:25 21:13	06:27 19:56	18:47 (PrRR3) 19:17 (PrRR3)	07:27 18:36	16:23 16:21
8	04:35 22:02	05:27 21:11	06:29 19:53	18:47 (PrRR3) 19:16 (PrRR3)	07:29 18:33	16:21 16:19
9	04:36 22:01	05:29 21:08	06:31 19:51	18:48 (PrRR3) 19:15 (PrRR3)	07:31 18:30	16:19 16:17
10	04:38 22:00	05:31 21:06	06:33 19:48	18:49 (PrRR3) 19:13 (PrRR3)	07:33 18:28	16:17 16:15
11	04:39 21:59	05:33 21:04	06:35 19:45	18:50 (PrRR3) 19:12 (PrRR3)	07:36 18:25	16:15 16:13
12	04:40 21:58	05:35 21:02	06:37 19:43	18:51 (PrRR3) 19:10 (PrRR3)	07:38 18:23	16:13 16:11
13	04:42 21:57	05:37 20:59	06:39 19:40	18:53 (PrRR3) 19:07 (PrRR3)	07:40 18:20	16:11 16:09
14	04:43 21:55	05:39 20:57	06:41 19:37	18:57 (PrRR3) 19:03 (PrRR3)	07:42 18:17	16:09 16:07
15	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15	18:15 18:05	16:07 16:06
16	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	18:12 18:07	16:06 16:04
17	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10	18:10 18:05	16:04 16:02
18	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07	18:07 18:02	16:02 16:00
19	04:51 21:49	05:49 20:45	06:51 19:24	07:52 18:05	18:05 18:00	16:00 15:58
20	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02	18:02 18:00	15:58 15:56
21	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00	18:00 18:00	15:56 15:54
22	04:56 21:44	05:55 20:37	06:57 19:16	18:11 (Pr3a) 18:19 (Pr3a)	07:59 17:57	15:54 15:52
23	04:57 21:42	05:57 20:35	06:59 19:13	18:08 (Pr3a) 18:21 (Pr3a)	08:01 17:55	15:52 15:50
24	04:59 21:40	05:59 20:32	07:01 19:10	18:06 (Pr3a) 18:22 (Pr3a)	08:03 17:53	15:50 15:48
25	05:01 21:39	06:01 20:30	07:03 19:08	18:04 (Pr3a) 18:23 (Pr3a)	07:05 16:50	15:48 15:46
26	05:03 21:37	06:03 20:27	07:05 19:05	18:03 (Pr3a) 18:23 (Pr3a)	07:07 16:48	15:46 15:44
27	05:04 21:35	06:05 20:25	07:07 19:02	18:02 (Pr3a) 18:23 (Pr3a)	07:09 16:45	15:44 15:42
28	05:06 21:33	06:07 20:22	07:09 19:00	18:02 (Pr3a) 18:23 (Pr3a)	07:12 16:43	15:42 15:40
29	05:08 21:31	06:09 20:20	07:11 19:17	18:01 (Pr3a) 18:23 (Pr3a)	07:14 16:41	15:40 15:38
30	05:10 21:29	06:11 20:17	07:13 19:18	18:01 (Pr3a) 18:22 (Pr3a)	07:16 16:38	15:38 15:36
31	05:12 21:27	06:13 20:14	07:15 19:19	18:01 (Pr3a) 18:22 (Pr3a)	07:18 16:36	15:36 15:34
Potential sun hours	529	469	384	324	248	217
Total, worst case						
Sun reduction		0,52	0,43	0,29		
Oper. time red.		1,00	1,00	1,00		
Wind dir. red.		1,00	1,00	1,00		
Total reduction		0,52	0,43	0,29		
Total, real		74	221	17		

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Zemnieka seta - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (453)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:47	08:12 16:44	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:29 22:07	05:14 21:26	06:15 20:12	07:15 18:52	07:20 16:34	08:22 15:43
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:29 20:55	04:33 21:52	04:29 22:06	05:16 21:24	06:17 20:09	07:17 18:49	07:23 16:32	08:24 15:43
3	08:48 15:49	08:09 16:48	07:04 17:50	06:42 19:55	05:26 20:57	04:32 21:53	04:30 22:06	05:18 21:21	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:42
4	08:47 15:50	08:07 16:50	07:01 17:52	06:39 19:57	05:24 20:59	04:31 21:54	04:31 22:05	05:20 21:19	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:52	06:58 17:54	06:36 19:59	05:22 21:01	04:30 21:55	04:32 22:04	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:26	08:28 15:40
6	08:46 15:53	08:03 16:55	06:56 17:56	06:34 20:01	05:20 21:03	04:29 21:57	04:33 22:04	05:24 21:15	06:25 20:01	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:55	08:00 16:57	06:53 17:59	06:31 20:03	05:17 21:05	04:29 21:58	04:34 22:03	05:26 21:13	06:27 19:56	07:27 18:36	07:33 16:21	08:31 15:39
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:05	05:15 21:07	04:28 21:59	04:35 22:02	05:28 21:11	06:29 19:53	07:30 18:33	07:36 16:19	08:33 15:38
9	08:44 15:58	07:56 17:01	06:48 18:03	06:26 20:08	05:13 21:09	04:27 22:00	04:37 22:01	05:30 21:08	06:31 19:51	07:32 18:31	07:38 16:17	08:34 15:38
10	08:44 16:00	07:54 17:04	06:45 18:05	06:23 20:10	05:11 21:11	04:26 22:01	04:38 22:00	05:32 21:06	06:33 19:48	07:34 18:28	07:40 16:15	08:36 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:13	04:26 22:02	04:39 21:59	05:34 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:15	04:25 22:03	04:40 21:58	05:36 21:02	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:37
13	08:41 16:05	07:47 17:10	06:38 18:11	06:15 20:16	05:05 21:17	04:25 22:03	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:10	08:39 15:36
14	08:40 16:07	07:45 17:13	06:35 18:13	06:13 20:18	05:03 21:19	04:25 22:04	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:18	07:48 16:08	08:40 15:36
15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:24 22:05	04:45 21:54	05:41 20:55	06:43 19:35	07:44 18:15	07:51 16:06	08:41 15:36
16	08:38 16:10	07:40 17:17	06:30 18:18	06:08 20:22	04:59 21:23	04:24 22:05	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:13	07:53 16:04	08:42 15:36
17	08:36 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:24 22:06	04:48 21:51	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:22	06:24 18:22	06:02 20:26	04:55 21:27	04:24 22:06	04:49 21:50	05:47 20:47	06:49 19:27	07:50 18:08	07:57 16:01	08:44 15:37
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:54 21:29	04:24 22:07	04:51 21:49	05:49 20:45	06:51 19:24	07:52 18:05	07:59 15:59	08:45 15:37
20	08:32 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:31	04:24 22:07	04:53 21:47	05:51 20:42	06:53 19:21	07:55 18:03	08:01 15:58	08:45 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:32	04:50 21:32	04:24 22:08	04:54 21:46	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:30 16:22	07:26 17:30	06:14 18:30	05:52 20:35	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:58	08:05 15:55	08:47 15:38
23	08:28 16:24	07:24 17:33	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:58 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:27 16:26	07:21 17:35	06:08 18:34	05:48 20:39	04:45 21:38	04:25 22:08	04:59 21:41	05:59 20:32	07:01 19:10	08:03 17:53	08:09 15:52	08:48 15:39
25	08:25 16:28	07:19 17:37	06:06 18:36	05:45 20:41	04:44 21:39	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:40
26	08:23 16:30	07:16 17:39	06:03 18:39	05:43 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:22 16:33	07:14 17:41	06:00 18:41	05:40 20:45	04:41 21:43	04:26 22:08	05:05 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:15 15:48	08:48 15:41
28	08:20 16:35	07:11 17:43	05:58 18:43	05:38 20:47	04:39 21:44	04:26 22:08	05:07 21:33	06:07 20:22	07:09 19:00	08:12 16:43	08:16 15:47	08:49 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:07	05:08 21:31	06:09 20:20	07:11 18:57	08:14 16:41	08:18 15:46	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:37 21:47	04:28 22:07	05:10 21:30	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:49 15:44
31	08:14 16:41		06:50 19:49		04:36 21:49		05:12 21:28	06:13 20:14		07:18 16:36		08:48 15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

SIA Estonian, Latvian & Lithuanian environment  
Vilandes 3-6  
LV-1010 Riga  
0037167242411  
Laura Kurzemniece / laura.kurzemniece@environment.lv  
Calculated:  
15.07.2025 12:56/4.1.254

Calculation: Flickering\_Vestas\_V172-Prikuli\_A Shadow receptor: Zirneklis - Shadow Receptor: 1,0 x 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.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

January		February		March		April		May		June		July		August		September		October		November		December	
08:48	08:12			07:09		16:30 (PRR3)	06:47	05:31	04:34	04:28	05:14	06:15			07:15		17:15 (PRR3)	07:20	08:22				
15:46	16:43			17:45	31	17:01 (PRR3)	19:51	20:53	21:50	22:07	21:25	20:12			18:51	37	18:14 (Pr25)	16:34	15:43				
08:48	08:10			07:06		16:29 (PRR3)	06:44	05:28	04:33	04:29	05:16	06:17			07:17		17:12 (PRR3)	07:22	08:23				
15:47	16:45			17:48	32	17:01 (PRR3)	19:53	20:55	21:52	22:06	21:23	20:09			18:49	42	18:14 (Pr25)	16:32	15:42				
08:48	08:09			07:03		16:28 (PRR3)	06:41	05:26	04:32	04:30	05:18	06:19			07:19		17:10 (PRR3)	07:25	08:25				
15:49	16:48			17:50	33	17:01 (PRR3)	19:55	20:57	21:53	22:06	21:21	20:07			18:46	45	18:13 (Pr25)	16:30	15:41				
08:47	08:07			07:01		16:29 (PRR3)	06:39	05:24	04:31	04:31	05:19	06:21			07:21		17:08 (PRR3)	07:27	08:27				
15:50	16:50			17:52	32	17:01 (PRR3)	19:57	20:59	21:54	22:05	21:19	20:04			18:43	47	18:13 (Pr25)	16:27	15:40				
08:47	08:04			06:58		16:28 (PRR3)	06:36	05:21	04:30	04:32	05:21	06:23			07:23		17:07 (PRR3)	07:29	08:28				
15:51	16:52			17:54	34	17:25 (Pr25)	19:59	21:01	21:55	22:04	21:17	20:01			18:41	46	18:10 (Pr25)	16:25	15:40				
08:46	08:02			06:56		16:29 (PRR3)	06:33	05:19	04:29	04:33	05:23	06:25			07:25		17:06 (PRR3)	07:31	08:30				
15:53	16:54			17:56	40	17:28 (Pr25)	20:01	21:03	21:57	22:04	21:15	19:59			18:38	43	18:07 (Pr25)	16:23	15:39				
08:46	08:00			06:53		16:29 (PRR3)	06:31	05:17	04:28	04:34	05:25	06:27			07:27		17:05 (PRR3)	07:33	08:31				
15:54	16:57			17:58	43	17:30 (Pr25)	20:03	21:05	21:58	22:03	21:13	19:56			18:36	41	18:05 (Pr25)	16:21	15:38				
08:45	07:58			06:50		16:29 (PRR3)	06:28	05:15	04:27	04:35	05:27	06:29			07:29		17:04 (PRR3)	07:35	08:33				
15:56	16:59			18:01	46	17:32 (Pr25)	20:05	21:07	21:59	22:02	21:11	19:53			18:33	37	18:02 (Pr25)	16:19	15:38				
08:44	07:56			06:48		16:30 (PRR3)	06:25	05:13	04:27	04:36	05:29	06:31			07:31		17:03 (PRR3)	07:38	08:34				
15:58	17:01			18:03	47	17:34 (Pr25)	20:07	21:09	22:00	22:01	21:08	19:51			18:30	32	17:35 (PRR3)	16:17	15:37				
08:44	07:54			06:45		16:31 (PRR3)	06:23	05:11	04:26	04:37	05:31	06:33			07:33		17:02 (PRR3)	07:40	08:35				
15:59	17:03			18:05	46	17:35 (Pr25)	20:09	21:11	22:01	22:00	21:06	19:48			18:28	33	17:35 (PRR3)	16:15	15:37				
08:43	07:52		16:27 (Pr3a)	06:43		16:32 (PRR3)	06:20	05:09	04:25	04:39	05:33	06:35			17:36		17:03 (PRR3)</						

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
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 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Zvaigznites - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (459)  
 Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49	08:13	07:09	06:47	05:31	04:34	04:28	05:14	06:16	07:15	07:21	08:22
	15:46	16:43	17:46	19:51	20:54	21:51	22:07	21:26	20:12	18:52	16:34	15:43
2	08:49	08:11	07:06	06:44	05:28	04:33	04:29	05:16	06:18	07:17	07:23	08:24
	15:48	16:46	17:48	19:53	20:56	21:52	22:07	21:24	20:10	18:49	16:32	15:42
3	08:48	08:09	07:04	06:42	05:26	04:32	04:30	05:18	06:20	07:20	07:25	08:26
	15:49	16:48	17:50	19:55	20:58	21:53	22:06	21:22	20:07	18:46	16:30	15:41
4	08:48	08:07	07:01	06:39	05:24	04:31	04:31	05:20	06:22	07:22	07:27	08:27
	15:50	16:50	17:52	19:57	21:00	21:55	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:36	05:22	04:30	04:32	05:22	06:24	07:24	07:29	08:29
	15:52	16:52	17:54	19:59	21:02	21:56	22:05	21:18	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:19	04:29	04:33	05:24	06:26	07:26	07:32	08:30
	15:53	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:23	15:39
7	08:46	08:01	06:53	06:31	05:17	04:28	04:34	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:21	15:39
8	08:46	07:59	06:51	06:28	05:15	04:28	04:35	05:28	06:29	07:30	07:36	08:33
	15:56	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:19	15:38
9	08:45	07:56	06:48	06:26	05:13	04:27	04:36	05:30	06:31	07:32	07:38	08:35
	15:58	17:01	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:17	15:38
10	08:44	07:54	06:46	06:23	05:11	04:26	04:38	05:31	06:33	07:34	07:40	08:36
	15:59	17:04	18:05	20:10	21:12	22:01	22:00	21:07	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:21	05:09	04:26	04:39	05:33	06:35	07:36	07:42	08:37
	16:01	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:25	16:13	15:37
12	08:42	07:50	06:40	06:18	05:07	04:25	04:40	05:35	06:37	07:38	07:45	08:38
	16:03	17:08	18:09	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:11	15:37
13	08:41	07:48	06:38	06:15	05:05	04:25	04:42	05:37	06:39	07:40	07:47	08:40
	16:05	17:10	18:11	20:16	21:18	22:04	21:57	21:00	19:40	18:20	16:10	15:36
14	08:40	07:45	06:35	06:13	05:03	04:24	04:43	05:39	06:41	07:42	07:49	08:41
	16:06	17:13	18:14	20:18	21:20	22:05	21:56	20:57	19:38	18:18	16:08	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:45	05:41	06:43	07:44	07:51	08:42
	16:08	17:15	18:16	20:20	21:22	22:05	21:55	20:55	19:35	18:15	16:06	15:36
16	08:38	07:41	06:30	06:08	04:59	04:24	04:46	05:43	06:45	07:46	07:53	08:43
	16:10	17:17	18:18	20:22	21:24	22:06	21:53	20:53	19:32	18:13	16:04	15:36
17	08:37	07:38	06:27	06:05	04:57	04:24	04:48	05:45	06:47	07:48	07:55	08:44
	16:12	17:19	18:20	20:24	21:25	22:07	21:52	20:50	19:29	18:10	16:02	15:36
18	08:36	07:36	06:24	06:02	04:55	04:24	04:49	05:47	06:49	07:51	07:57	08:44
	16:14	17:22	18:22	20:27	21:27	22:07	21:51	20:48	19:27	18:08	16:01	15:36
19	08:34	07:34	06:22	06:00	04:53	04:23	04:51	05:49	06:51	07:53	07:59	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:05	15:59	15:37
20	08:33	07:31	06:19	05:57	04:52	04:24	04:52	05:51	06:53	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:08	21:48	20:43	19:21	18:03	15:57	15:37
21	08:31	07:29	06:16	05:55	04:50	04:24	04:54	05:53	06:55	07:57	08:03	08:47
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:37
22	08:30	07:26	06:14	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:35	21:35	22:08	21:44	20:38	19:16	17:58	15:54	15:38
23	08:28	07:24	06:11	05:50	04:47	04:24	04:57	05:57	06:59	08:01	08:07	08:48
	16:24	17:33	18:32	20:37	21:36	22:08	21:43	20:35	19:13	17:55	15:53	15:38
24	08:27	07:21	06:08	05:48	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:48
	16:26	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:01	06:02	07:03	08:06	08:11	08:48
	16:28	17:37	18:37	20:41	21:40	22:08	21:39	20:30	19:08	17:50	15:50	15:40
26	08:24	07:16	06:03	05:43	04:42	04:25	05:03	06:04	07:05	08:08	08:13	08:49
	16:30	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:48	15:49	15:40
27	08:22	07:14	06:00	05:40	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:49
	16:33	17:41	18:41	20:45	21:43	22:08	21:36	20:25	19:03	17:46	15:48	15:41
28	08:20	07:11	05:58	05:38	04:39	04:26	05:06	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:45	22:08	21:34	20:23	19:00	17:43	15:47	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:10	07:11	08:14	08:19	08:49
	16:37		19:45	20:49	21:46	22:08	21:32	20:20	18:57	17:41	15:45	15:43
30	08:17		06:52	05:33	04:37	04:28	05:10	06:12	07:13	08:16	08:21	08:49
	16:39		19:47	20:51	21:48	22:07	21:30	20:17	18:54	17:39	15:44	15:44
31	08:15		06:50		04:35		05:12	06:14		07:19		08:49
	16:41		19:49		21:49		21:28	20:15		16:36		15:45
Potential sun hours	235	266	366	426	508	528	529	469	385	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Zagiš i - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Abolini - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Ciekuri - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (433)  
 Assumptions for shadow calculations Sunshine probability S (Average daily sunshine hours) []

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:13	07:09	06:47	05:31	04:35	04:29	05:14	06:16	07:16	07:21	08:22
	15:47	16:44	17:46	19:51	20:53	21:50	22:07	21:26	20:12	18:52	16:35	15:44
2	08:48	08:11	07:06	06:44	05:29	04:34	04:30	05:16	06:18	07:18	07:23	08:24
	15:48	16:46	17:48	19:53	20:55	21:52	22:06	21:24	20:10	18:49	16:32	15:43
3	08:48	08:09	07:04	06:42	05:27	04:33	04:31	05:18	06:20	07:20	07:25	08:25
	15:50	16:48	17:50	19:55	20:57	21:53	22:06	21:22	20:07	18:47	16:30	15:42
4	08:48	08:07	07:01	06:39	05:24	04:32	04:32	05:20	06:22	07:22	07:27	08:27
	15:51	16:51	17:52	19:57	21:00	21:54	22:05	21:20	20:04	18:44	16:28	15:41
5	08:47	08:05	06:59	06:37	05:22	04:31	04:33	05:22	06:24	07:24	07:29	08:29
	15:52	16:53	17:55	19:59	21:02	21:56	22:04	21:17	20:02	18:41	16:26	15:40
6	08:47	08:03	06:56	06:34	05:20	04:30	04:34	05:24	06:26	07:26	07:31	08:30
	15:54	16:55	17:57	20:02	21:04	21:57	22:04	21:15	19:59	18:39	16:24	15:40
7	08:46	08:01	06:54	06:31	05:18	04:29	04:35	05:26	06:28	07:28	07:34	08:32
	15:55	16:57	17:59	20:04	21:06	21:58	22:03	21:13	19:56	18:36	16:22	15:39
8	08:45	07:59	06:51	06:29	05:16	04:28	04:36	05:28	06:30	07:30	07:36	08:33
	15:57	16:59	18:01	20:06	21:08	21:59	22:02	21:11	19:54	18:33	16:20	15:39
9	08:45	07:56	06:48	06:26	05:13	04:27	04:37	05:30	06:32	07:32	07:38	08:34
	15:58	17:02	18:03	20:08	21:10	22:00	22:01	21:09	19:51	18:31	16:18	15:38
10	08:44	07:54	06:46	06:23	05:11	04:27	04:38	05:32	06:34	07:34	07:40	08:36
	16:00	17:04	18:05	20:10	21:12	22:01	22:00	21:06	19:48	18:28	16:16	15:38
11	08:43	07:52	06:43	06:21	05:09	04:26	04:40	05:34	06:36	07:36	07:42	08:37
	16:02	17:06	18:07	20:12	21:14	22:02	21:59	21:04	19:46	18:26	16:14	15:37
12	08:42	07:50	06:40	06:18	05:07	04:26	04:41	05:36	06:38	07:38	07:44	08:38
	16:03	17:08	18:10	20:14	21:16	22:03	21:58	21:02	19:43	18:23	16:12	15:37
13	08:41	07:48	06:38	06:16	05:05	04:25	04:42	05:38	06:40	07:40	07:46	08:39
	16:05	17:11	18:12	20:16	21:18	22:04	21:57	20:59	19:40	18:21	16:10	15:37
14	08:40	07:45	06:35	06:13	05:03	04:25	04:44	05:40	06:42	07:42	07:49	08:40
	16:07	17:13	18:14	20:18	21:19	22:04	21:56	20:57	19:38	18:18	16:08	15:37
15	08:39	07:43	06:32	06:10	05:01	04:25	04:45	05:42	06:44	07:44	07:51	08:41
	16:09	17:15	18:16	20:20	21:21	22:05	21:54	20:55	19:35	18:15	16:06	15:37
16	08:38	07:41	06:30	06:08	04:59	04:24	04:47	05:44	06:46	07:46	07:53	08:42
	16:11	17:17	18:18	20:22	21:23	22:06	21:53	20:52	19:32	18:13	16:05	15:37
17	08:37	07:38	06:27	06:05	04:58	04:24	04:48	05:46	06:48	07:48	07:55	08:43
	16:13	17:20	18:20	20:24	21:25	22:06	21:52	20:50	19:30	18:10	16:03	15:37
18	08:35	07:36	06:25	06:03	04:56	04:24	04:50	05:48	06:50	07:51	07:57	08:44
	16:14	17:22	18:22	20:26	21:27	22:07	21:50	20:48	19:27	18:08	16:01	15:37
19	08:34	07:34	06:22	06:00	04:54	04:24	04:51	05:50	06:52	07:53	07:59	08:45
	16:16	17:24	18:24	20:29	21:29	22:07	21:49	20:45	19:24	18:05	16:00	15:37
20	08:33	07:31	06:19	05:58	04:52	04:24	04:53	05:52	06:54	07:55	08:01	08:46
	16:18	17:26	18:26	20:31	21:31	22:07	21:47	20:43	19:21	18:03	15:58	15:37
21	08:31	07:29	06:17	05:55	04:50	04:24	04:55	05:54	06:55	07:57	08:03	08:46
	16:20	17:28	18:28	20:33	21:33	22:08	21:46	20:40	19:19	18:00	15:56	15:38
22	08:30	07:26	06:14	05:53	04:49	04:24	04:56	05:56	06:57	07:59	08:05	08:47
	16:22	17:31	18:30	20:35	21:34	22:08	21:44	20:38	19:16	17:58	15:55	15:38
23	08:28	07:24	06:11	05:50	04:47	04:25	04:58	05:58	06:59	08:01	08:07	08:47
	16:25	17:33	18:33	20:37	21:36	22:08	21:42	20:35	19:13	17:56	15:53	15:39
24	08:27	07:21	06:09	05:48	04:46	04:25	05:00	06:00	07:01	08:03	08:09	08:48
	16:27	17:35	18:35	20:39	21:38	22:08	21:41	20:33	19:11	17:53	15:52	15:39
25	08:25	07:19	06:06	05:45	04:44	04:25	05:02	06:02	07:03	08:05	08:11	08:48
	16:29	17:37	18:37	20:41	21:39	22:08	21:39	20:30	19:08	17:51	15:51	15:40
26	08:23	07:16	06:03	05:43	04:43	04:26	05:03	06:04	07:05	08:08	08:13	08:48
	16:31	17:39	18:39	20:43	21:41	22:08	21:37	20:28	19:05	17:48	15:49	15:41
27	08:22	07:14	06:00	05:41	04:41	04:26	05:05	06:06	07:07	08:10	08:15	08:49
	16:33	17:42	18:41	20:45	21:43	22:08	21:35	20:25	19:03	17:46	15:48	15:42
28	08:20	07:11	05:58	05:38	04:40	04:27	05:07	06:08	07:09	08:12	08:17	08:49
	16:35	17:44	18:43	20:47	21:44	22:08	21:34	20:22	19:00	17:44	15:47	15:43
29	08:18		06:55	05:36	04:38	04:28	05:09	06:10	07:11	08:14	08:18	08:49
	16:37		19:45	20:49	21:46	22:07	21:32	20:20	18:57	17:41	15:46	15:43
30	08:16		06:52	05:33	04:37	04:28	05:11	06:12	07:14	08:16	08:20	08:49
	16:40		19:47	20:51	21:47	22:07	21:30	20:17	18:55	17:39	15:45	15:44
31	08:15		06:50		04:36		05:13	06:14		07:18		08:49
	16:42		19:49		21:49		21:28	20:15		16:37		15:46
Potential sun hours	236	266	366	426	507	528	528	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Cinguli - 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
1,02	2,14	4,62	6,27	9,21	10,00	8,04	7,90	5,53	3,03	0,62	0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48 15:46 17	10:21 (PrRR3) 16:43 17:46	08:13 17:09 19:51	06:47 20:53 21:50	05:31 21:50 22:07	04:34 21:50 22:07	04:28 21:26 20:12	05:14 20:12 18:52	06:15 20:12 16:34	07:15 20:12 15:43	07:20 20:12 15:43	08:22 20:12 15:43
2	08:48 15:48 16	10:21 (PrRR3) 16:46 17:48	08:11 17:06 19:53	06:44 20:55 21:52	05:28 20:55 22:06	04:33 21:52 22:06	04:29 21:24 20:09	05:16 21:24 18:49	06:17 21:24 16:32	07:17 21:24 15:42	07:23 21:24 15:42	08:24 21:24 15:42
3	08:48 15:49 16	10:22 (PrRR3) 16:48 17:50	08:09 17:04 19:55	06:41 20:56 21:53	05:26 20:57 22:06	04:32 21:53 22:06	04:30 21:22 20:07	05:18 21:22 18:46	06:19 21:22 16:30	07:19 21:22 15:41	07:25 21:22 15:41	08:25 21:22 15:41
4	08:48 15:50 14	10:23 (PrRR3) 16:50 17:52	08:07 17:01 19:57	06:39 20:59 21:54	05:24 20:59 22:05	04:31 21:54 22:05	04:31 21:19 20:04	05:20 21:19 18:44	06:21 21:19 16:27	07:21 21:19 15:41	07:27 21:19 15:41	08:27 21:19 15:41
5	08:47 15:52 13	10:24 (PrRR3) 16:52 17:54	08:05 17:03 19:59	06:58 20:59 21:01	05:22 20:59 21:56	04:30 21:56 22:04	04:32 21:17 20:01	05:21 21:17 18:41	06:23 21:17 16:25	07:23 21:17 15:40	07:29 21:17 15:40	08:29 21:17 15:40
6	08:47 15:53 11	10:26 (PrRR3) 16:54 17:56	08:03 17:01 19:59	06:56 20:59 21:04	05:19 21:04 21:57	04:29 21:57 22:04	04:33 21:15 20:01	05:23 21:15 18:38	06:25 21:15 16:23	07:25 21:15 15:39	07:31 21:15 15:39	08:31 21:15 15:39
7	08:46 15:54 8	10:28 (PrRR3) 16:57 17:58	08:00 17:03 19:58	06:53 21:06 21:06	05:17 21:06 21:58	04:28 21:58 22:03	04:34 21:13 20:01	05:25 21:13 19:56	06:27 21:13 18:36	07:27 21:13 16:21	07:33 21:13 15:38	08:32 21:13 15:38
8	08:45 15:56 5	10:30 (PrRR3) 16:59 18:01	07:58 18:01 20:05	06:51 21:05 21:08	05:15 21:08 21:59	04:27 21:59 22:02	04:35 21:11 20:01	05:27 21:11 19:53	06:29 21:11 18:33	07:30 21:11 16:19	07:36 21:11 15:38	08:33 21:11 15:38
9	08:45 15:58 10	10:35 (PrRR3) 17:01 18:03	07:56 18:03 20:08	06:48 21:08 21:10	05:13 21:10 22:00	04:27 22:00 22:01	04:36 22:01 21:09	05:29 22:01 19:51	06:31 22:01 18:30	07:32 22:01 16:17	07:38 22:01 15:37	08:34 22:01 15:37
10	08:44 15:59 11	10:37 (PrRR3) 17:03 18:05	07:54 18:05 20:10	06:45 21:10 21:12	05:11 21:12 22:01	04:26 22:01 22:00	04:38 21:06 21:06	05:31 21:06 19:48	06:33 21:06 18:28	07:34 21:06 16:15	07:40 21:06 15:37	08:36 21:06 15:37
11	08:43 16:01 12	10:37 (PrRR3) 17:06 18:07	07:52 18:07 20:12	06:43 21:12 21:14	05:09 21:14 22:02	04:25 22:02 21:59	04:39 21:04 21:04	05:33 21:04 19:45	06:35 21:04 18:25	07:36 21:04 16:13	07:42 21:04 15:37	08:37 21:04 15:37
12	08:42 16:03 13	10:38 (PrRR3) 17:08 18:09	07:50 18:09 20:14	06:40 21:14 21:16	05:07 21:16 22:03	04:25 22:03 21:58	04:40 21:02 21:02	05:35 21:02 19:43	06:37 21:02 18:23	07:38 21:02 16:11	07:44 21:02 15:36	08:38 21:02 15:36
13	08:41 16:04 14	10:39 (PrRR3) 17:10 18:11	07:47 18:11 20:16	06:37 21:16 21:17	05:05 21:17 22:04	04:25 22:04 21:57	04:42 21:01 21:01	05:37 21:01 19:40	06:39 21:01 18:20	07:40 21:01 16:09	07:46 21:01 15:36	08:39 21:01 15:36
14	08:40 16:06 15	10:40 (PrRR3) 17:12 18:13	07:45 18:13 20:18	06:35 21:18 21:19	05:03 21:19 22:04	04:24 21:56 21:56	04:43 21:01 21:01	05:39 21:01 19:37	06:41 21:01 18:18	07:42 21:01 16:07	07:49 21:01 15:36	08:40 21:01 15:36
15	08:39 16:08 16	10:41 (PrRR3) 17:13 18:14	07:43 18:14 20:19	06:32 21:19 21:20	05:01 21:20 22:05	04:24 21:54 21:54	04:44 21:01 21:01	05:41 21:01 19:35	06:43 21:01 18:15	07:44 21:01 16:06	07:51 21:01 15:36	08:41 21:01 15:36
16	08:38 16:10 17	10:42 (PrRR3) 17:14 18:15	07:40 18:15 20:20	06:27 21:20 21:21	04:59 21:21 22:05	04:24 21:54 21:54	04:46 21:01 21:01	05:43 21:01 19:35	06:45 21:01 18:15	07:46 21:01 16:06	07:53 21:01 15:36	08:42 21:01 15:36
17	08:37 16:12 18	10:43 (PrRR3) 17:15 18:16	07:38 18:16 20:22	06:25 21:21 21:23	04:57 21:23 22:06	04:23 21:53 21:53	04:47 21:01 21:01	05:45 21:01 19:32	06:47 21:01 18:12	07:48 21:01 16:04	07:55 21:01 15:36	08:43 21:01 15:36
18	08:35 16:14 19	10:44 (PrRR3) 17:16 18:17	07:36 18:17 20:23	06:24 21:22 21:24	04:55 21:24 22:06	04:23 21:52 21:52	04:49 21:01 21:01	05:47 21:01 19:29	06:49 21:01 18:10	07:50 21:01 16:02	07:57 21:01 15:36	08:44 21:01 15:36
19	08:34 16:16 20	10:45 (PrRR3) 17:17 18:18	07:34 18:18 20:24	06:22 21:23 21:26	04:53 21:26 22:07	04:23 21:51 21:51	04:51 21:01 21:01	05:49 21:01 19:27	06:51 21:01 18:07	07:52 21:01 16:01	07:59 21:01 15:36	08:45 21:01 15:36
20	08:33 16:18 21	10:46 (PrRR3) 17:18 18:19	07:33 18:19 20:25	06:20 21:24 21:27	04:51 21:27 22:07	04:23 21:49 21:49	04:52 21:01 21:01	05:51 21:01 19:24	06:53 21:01 18:05	07:55 21:01 15:59	08:01 21:01 15:36	08:46 21:01 15:36
21	08:31 16:20 22	10:47 (PrRR3) 17:19 18:20	07:31 18:20 20:26	06:19 21:25 21:29	04:50 21:29 22:07	04:23 21:47 21:47	04:53 21:01 21:01	05:53 21:01 19:21	06:55 21:01 18:02	07:57 21:01 15:57	08:03 21:01 15:37	08:46 21:01 15:37
22	08:30 16:22 23	10:48 (PrRR3) 17:20 18:21	07:29 18:21 20:27	06:16 21:26 21:30	04:50 21:30 22:07	04:23 21:45 21:45	04:54 21:01 21:01	05:55 21:01 19:18	06:57 21:01 18:00	07:59 21:01 15:56	08:05 21:01 15:37	08:47 21:01 15:37
23	08:28 16:24 24	10:49 (PrRR3) 17:21 18:22	07:26 18:22 20:28	06:13 21:27 21:31	04:48 21:31 22:08	04:24 21:44 21:44	04:56 21:01 21:01	05:55 21:01 19:16	06:57 21:01 17:57	07:59 21:01 15:54	08:05 21:01 15:38	08:47 21:01 15:38
24	08:27 16:26 25	10:50 (PrRR3) 17:22 18:23	07:24 18:23 20:29	06:11 21:28 21:32	04:46 21:32 22:08	04:24 21:42 21:42	04:57 21:01 21:01	05:57 21:01 19:13	06:59 21:01 17:55	08:01 21:01 15:53	08:07 21:01 15:38	08:47 21:01 15:38
25	08:25 16:28 26	10:51 (PrRR3) 17:23 18:24	07:22 18:24 20:30	06:09 21:29 21:33	04:45 21:33 22:08	04:24 21:40 21:40	04:59 21:01 21:01	05:59 21:01 19:10	07:01 21:01 17:53	08:03 21:01 15:51	08:09 21:01 15:39	08:48 21:01 15:39
26	08:23 16:30 27	10:52 (PrRR3) 17:24 18:25	07:20 18:25 20:31	06:07 21:30 21:34	04:43 21:34 22:09	04:25 21:39 21:39	05:01 21:01 21:01	06:01 21:01 19:08	07:03 21:01 17:50	08:05 21:01 15:50	08:11 21:01 15:39	08:48 21:01 15:39
27	08:22 16:32 28	10:53 (PrRR3) 17:25 18:26	07:18 18:26 20:32	06:05 21:31 21:35	04:42 21:35 22:10	04:25 21:37 21:37	05:03 21:01 21:01	06:03 21:01 19:05	07:05 21:01 17:48	08:07 21:01 15:49	08:13 21:01 15:40	08:48 21:01 15:40
28	08:20 16:35 29	10:54 (PrRR3) 17:26 18:27	07:16 18:27 20:33	06:03 21:32 21:36	04:42 21:36 22:11	04:25 21:39 21:39	05:03 21:01 21:01	06:03 21:01 19:05	07:05 21:01 17:48	08:07 21:01 15:49	08:13 21:01 15:40	08:48 21:01 15:40
29	08:18 16:37 30	10:55 (PrRR3) 17:27 18:28	07:14 18:28 20:34	06:01 21:33 21:37	04:40 21:37 22:12	04:26 21:40 21:40	05:04 21:01 21:01	06:05 21:01 19:05	07:07 21:01 17:48	08:09 21:01 15:49	08:15 21:01 15:40	08:49 21:01 15:40
30	08:16 16:39 31	10:56 (PrRR3) 17:28 18:29	07:12 18:29 20:35	06:00 21:34 21:38	04:40 21:38 22:13	04:26 21:41 21:41	05:04 21:01 21:01	06:05 21:01 19:05	07:07 21:01 17:48	08:09 21:01 15:49	08:15 21:01 15:40	08:49 21:01 15:40
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case	100											494
Sun reduction	0,13											0,08
Oper. time red.	1,00											1,00
Wind dir. red.	1,00											1,00
Total reduction	0,13											0,08
Total, real	13											42

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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Eveles - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:36	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
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11	08:43	07:52	06:43	06:20	05:09	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:06	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:37
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:03	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:01	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:51	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:56	05:55	06:57	07:59	08:05	08:46
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:38
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:19	06:05	05:45	04:43	04:25	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:03	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:14	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:38	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Irisi - 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  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:49 15:46	08:13 16:43	07:09 17:46	06:47 19:51	05:31 20:53	04:34 21:50	04:28 22:07	05:14 21:26	06:15 20:12	07:15 18:52	07:21 16:34	08:22 15:43
2	08:48 15:48	08:11 16:46	07:06 17:48	06:44 19:53	05:28 20:55	04:33 21:52	04:29 22:06	05:16 21:24	06:17 20:09	07:17 18:49	07:23 16:32	08:24 15:42
3	08:48 15:49	08:09 16:48	07:04 17:50	06:41 19:55	05:26 20:57	04:32 21:53	04:30 22:06	05:18 21:22	06:19 20:07	07:19 18:46	07:25 16:30	08:25 15:41
4	08:48 15:50	08:07 16:50	07:01 17:52	06:39 19:57	05:24 21:00	04:31 21:54	04:31 22:05	05:20 21:20	06:21 20:04	07:21 18:44	07:27 16:28	08:27 15:41
5	08:47 15:52	08:05 16:52	06:58 17:54	06:36 19:59	05:22 21:02	04:30 21:56	04:32 22:05	05:22 21:17	06:23 20:01	07:23 18:41	07:29 16:25	08:29 15:40
6	08:47 15:53	08:03 16:54	06:56 17:56	06:34 20:01	05:19 21:04	04:29 21:57	04:33 22:04	05:23 21:15	06:25 19:59	07:25 18:38	07:31 16:23	08:30 15:39
7	08:46 15:54	08:01 16:57	06:53 17:59	06:31 20:03	05:17 21:06	04:28 21:58	04:34 22:03	05:25 21:13	06:27 19:56	07:28 18:36	07:34 16:21	08:32 15:38
8	08:45 15:56	07:58 16:59	06:51 18:01	06:28 20:06	05:15 21:08	04:27 21:59	04:35 22:02	05:27 21:11	06:29 19:53	07:30 18:33	07:36 16:19	08:33 15:38
9	08:45 15:58	07:56 17:01	06:48 18:03	06:26 20:08	05:13 21:10	04:27 22:00	04:36 22:01	05:29 21:09	06:31 19:51	07:32 18:31	07:38 16:17	08:34 15:37
10	08:44 15:59	07:54 17:03	06:45 18:05	06:23 20:10	05:11 21:12	04:26 22:01	04:38 22:00	05:31 21:06	06:33 19:48	07:34 18:28	07:40 16:15	08:36 15:37
11	08:43 16:01	07:52 17:06	06:43 18:07	06:20 20:12	05:09 21:14	04:26 22:02	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	07:42 16:13	08:37 15:37
12	08:42 16:03	07:50 17:08	06:40 18:09	06:18 20:14	05:07 21:16	04:25 22:03	04:40 21:58	05:35 21:02	06:37 19:43	07:38 18:23	07:44 16:11	08:38 15:36
13	08:41 16:04	07:47 17:10	06:38 18:11	06:15 20:16	05:05 21:18	04:25 22:04	04:42 21:57	05:37 20:59	06:39 19:40	07:40 18:20	07:46 16:09	08:39 15:36
14	08:40 16:06	07:45 17:12	06:35 18:13	06:13 20:18	05:03 21:20	04:24 22:04	04:43 21:56	05:39 20:57	06:41 19:37	07:42 18:18	07:49 16:08	08:41 15:36
15	08:39 16:08	07:43 17:15	06:32 18:16	06:10 20:20	05:01 21:21	04:24 22:05	04:44 21:54	05:41 20:55	06:43 19:35	07:44 18:15	07:51 16:06	08:42 15:36
16	08:38 16:10	07:41 17:17	06:30 18:18	06:07 20:22	04:59 21:23	04:24 22:06	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12	07:53 16:04	08:43 15:36
17	08:37 16:12	07:38 17:19	06:27 18:20	06:05 20:24	04:57 21:25	04:23 22:06	04:47 21:52	05:45 20:50	06:47 19:29	07:48 18:10	07:55 16:02	08:43 15:36
18	08:35 16:14	07:36 17:21	06:24 18:22	06:02 20:26	04:55 21:27	04:23 22:07	04:49 21:50	05:47 20:47	06:49 19:27	07:50 18:07	07:57 16:01	08:44 15:36
19	08:34 16:16	07:33 17:24	06:22 18:24	06:00 20:28	04:53 21:29	04:23 22:07	04:51 21:49	05:49 20:45	06:51 19:24	07:53 18:05	07:59 15:59	08:45 15:36
20	08:33 16:18	07:31 17:26	06:19 18:26	05:57 20:30	04:52 21:31	04:23 22:08	04:52 21:47	05:51 20:43	06:53 19:21	07:55 18:02	08:01 15:57	08:46 15:37
21	08:31 16:20	07:29 17:28	06:16 18:28	05:55 20:33	04:50 21:33	04:24 22:08	04:54 21:46	05:53 20:40	06:55 19:18	07:57 18:00	08:03 15:56	08:46 15:37
22	08:30 16:22	07:26 17:30	06:14 18:30	05:52 20:35	04:48 21:34	04:24 22:08	04:56 21:44	05:55 20:38	06:57 19:16	07:59 17:58	08:05 15:54	08:47 15:38
23	08:28 16:24	07:24 17:32	06:11 18:32	05:50 20:37	04:47 21:36	04:24 22:08	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55	08:07 15:53	08:47 15:38
24	08:27 16:26	07:21 17:35	06:08 18:34	05:47 20:39	04:45 21:38	04:24 22:08	04:59 21:41	05:59 20:33	07:01 19:10	08:03 17:53	08:09 15:51	08:48 15:39
25	08:25 16:28	07:19 17:37	06:06 18:36	05:45 20:41	04:43 21:40	04:25 22:08	05:01 21:39	06:01 20:30	07:03 19:08	08:05 16:50	08:11 15:50	08:48 15:39
26	08:23 16:30	07:16 17:39	06:03 18:39	05:42 20:43	04:42 21:41	04:25 22:08	05:03 21:37	06:03 20:27	07:05 19:05	08:07 16:48	08:13 15:49	08:48 15:40
27	08:22 16:32	07:14 17:41	06:00 18:41	05:40 20:45	04:40 21:43	04:26 22:08	05:04 21:35	06:05 20:25	07:07 19:02	08:09 16:46	08:15 15:48	08:49 15:41
28	08:20 16:35	07:11 17:43	05:57 18:43	05:38 20:47	04:39 21:44	04:26 22:08	05:06 21:34	06:07 20:22	07:09 19:00	08:12 16:43	08:17 15:46	08:49 15:42
29	08:18 16:37		06:55 19:45	05:35 20:49	04:38 21:46	04:27 22:08	05:08 21:32	06:09 20:20	07:11 18:57	08:14 16:41	08:19 15:45	08:49 15:43
30	08:16 16:39		06:52 19:47	05:33 20:51	04:36 21:47	04:27 22:07	05:10 21:30	06:11 20:17	07:13 18:54	08:16 16:39	08:20 15:44	08:49 15:44
31	08:15 16:41		06:49 19:49		04:35 21:49		05:12 21:28	06:13 20:15	07:18 16:36			08:49 15:45
Potential sun hours	235	266	366	426	508	528	529	469	384	324	248	216
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Uzuli - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:48	08:12	07:08	06:47	05:30	04:34	04:28	05:14	06:15	07:15	07:20	08:22
	15:46	16:43	17:45	19:51	20:53	21:50	22:06	21:25	20:12	18:51	16:34	15:43
2	08:48	08:10	07:06	06:44	05:28	04:33	04:29	05:16	06:17	07:17	07:22	08:23
	15:47	16:45	17:48	19:53	20:55	21:51	22:06	21:23	20:09	18:49	16:32	15:42
3	08:48	08:08	07:03	06:41	05:26	04:32	04:30	05:17	06:19	07:19	07:25	08:25
	15:49	16:48	17:50	19:55	20:57	21:53	22:05	21:21	20:06	18:46	16:29	15:41
4	08:47	08:06	07:01	06:39	05:24	04:31	04:31	05:19	06:21	07:21	07:27	08:27
	15:50	16:50	17:52	19:57	20:59	21:54	22:05	21:19	20:04	18:43	16:27	15:40
5	08:47	08:04	06:58	06:36	05:21	04:30	04:32	05:21	06:23	07:23	07:29	08:28
	15:51	16:52	17:54	19:59	21:01	21:55	22:04	21:17	20:01	18:41	16:25	15:40
6	08:46	08:02	06:56	06:33	05:19	04:29	04:33	05:23	06:25	07:25	07:31	08:30
	15:53	16:54	17:56	20:01	21:03	21:56	22:03	21:15	19:58	18:38	16:23	15:39
7	08:46	08:00	06:53	06:31	05:17	04:28	04:34	05:25	06:27	07:27	07:33	08:31
	15:54	16:57	17:58	20:03	21:05	21:58	22:03	21:13	19:56	18:35	16:21	15:38
8	08:45	07:58	06:50	06:28	05:15	04:27	04:35	05:27	06:29	07:29	07:35	08:33
	15:56	16:59	18:00	20:05	21:07	21:59	22:02	21:11	19:53	18:33	16:19	15:38
9	08:44	07:56	06:48	06:25	05:13	04:27	04:36	05:29	06:31	07:31	07:38	08:34
	15:57	17:01	18:03	20:07	21:09	22:00	22:01	21:08	19:50	18:30	16:17	15:37
10	08:44	07:54	06:45	06:23	05:11	04:26	04:37	05:31	06:33	07:33	07:40	08:35
	15:59	17:03	18:05	20:09	21:11	22:01	22:00	21:06	19:48	18:28	16:15	15:37
11	08:43	07:52	06:43	06:20	05:08	04:25	04:39	05:33	06:35	07:35	07:42	08:37
	16:01	17:05	18:07	20:11	21:13	22:02	21:59	21:04	19:45	18:25	16:13	15:36
12	08:42	07:49	06:40	06:18	05:06	04:25	04:40	05:35	06:37	07:38	07:44	08:38
	16:02	17:08	18:09	20:14	21:15	22:03	21:58	21:01	19:42	18:22	16:11	15:36
13	08:41	07:47	06:37	06:15	05:04	04:24	04:41	05:37	06:39	07:40	07:46	08:39
	16:04	17:10	18:11	20:16	21:17	22:03	21:57	20:59	19:40	18:20	16:09	15:36
14	08:40	07:45	06:35	06:12	05:02	04:24	04:43	05:39	06:41	07:42	07:48	08:40
	16:06	17:12	18:13	20:18	21:19	22:04	21:55	20:57	19:37	18:17	16:07	15:36
15	08:39	07:43	06:32	06:10	05:00	04:24	04:44	05:41	06:43	07:44	07:50	08:41
	16:08	17:14	18:15	20:20	21:21	22:05	21:54	20:54	19:34	18:15	16:06	15:36
16	08:37	07:40	06:29	06:07	04:59	04:24	04:46	05:43	06:45	07:46	07:52	08:42
	16:10	17:17	18:17	20:22	21:23	22:05	21:53	20:52	19:32	18:12	16:04	15:36
17	08:36	07:38	06:27	06:05	04:57	04:23	04:47	05:45	06:47	07:48	07:55	08:43
	16:12	17:19	18:19	20:24	21:25	22:06	21:51	20:50	19:29	18:10	16:02	15:36
18	08:35	07:36	06:24	06:02	04:55	04:23	04:49	05:47	06:49	07:50	07:57	08:44
	16:14	17:21	18:22	20:26	21:27	22:06	21:50	20:47	19:26	18:07	16:00	15:36
19	08:34	07:33	06:21	06:00	04:53	04:23	04:50	05:49	06:51	07:52	07:59	08:45
	16:16	17:23	18:24	20:28	21:29	22:07	21:48	20:45	19:24	18:05	15:59	15:36
20	08:32	07:31	06:19	05:57	04:51	04:23	04:52	05:51	06:53	07:54	08:01	08:45
	16:18	17:26	18:26	20:30	21:30	22:07	21:47	20:42	19:21	18:02	15:57	15:37
21	08:31	07:28	06:16	05:55	04:50	04:23	04:54	05:53	06:55	07:56	08:03	08:46
	16:20	17:28	18:28	20:32	21:32	22:07	21:45	20:40	19:18	18:00	15:56	15:37
22	08:29	07:26	06:13	05:52	04:48	04:24	04:55	05:55	06:57	07:59	08:05	08:47
	16:22	17:30	18:30	20:34	21:34	22:08	21:44	20:37	19:16	17:57	15:54	15:37
23	08:28	07:23	06:11	05:50	04:46	04:24	04:57	05:57	06:59	08:01	08:07	08:47
	16:24	17:32	18:32	20:36	21:36	22:08	21:42	20:35	19:13	17:55	15:53	15:38
24	08:26	07:21	06:08	05:47	04:45	04:24	04:59	05:59	07:01	08:03	08:09	08:47
	16:26	17:34	18:34	20:38	21:37	22:08	21:40	20:32	19:10	17:52	15:51	15:39
25	08:25	07:18	06:05	05:45	04:43	04:24	05:01	06:01	07:03	08:05	08:11	08:48
	16:28	17:37	18:36	20:41	21:39	22:08	21:39	20:30	19:07	16:50	15:50	15:39
26	08:23	07:16	06:03	05:42	04:42	04:25	05:02	06:03	07:05	08:07	08:13	08:48
	16:30	17:39	18:38	20:43	21:41	22:08	21:37	20:27	19:05	16:48	15:49	15:40
27	08:21	07:13	06:00	05:40	04:40	04:25	05:04	06:05	07:07	08:09	08:14	08:48
	16:32	17:41	18:40	20:45	21:42	22:08	21:35	20:25	19:02	16:45	15:47	15:41
28	08:20	07:11	05:57	05:37	04:39	04:26	05:06	06:07	07:09	08:11	08:16	08:48
	16:34	17:43	18:42	20:47	21:44	22:07	21:33	20:22	18:59	16:43	15:46	15:42
29	08:18		06:55	05:35	04:38	04:27	05:08	06:09	07:11	08:14	08:18	08:48
	16:37		19:44	20:49	21:46	22:07	21:31	20:19	18:57	16:41	15:45	15:43
30	08:16		06:52	05:33	04:36	04:27	05:10	06:11	07:13	08:16	08:20	08:48
	16:39		19:47	20:51	21:47	22:07	21:29	20:17	18:54	16:38	15:44	15:44
31	08:14		06:49		04:35		05:12	06:13		07:18		08:48
	16:41		19:49		21:49		21:27	20:14		16:36		15:45
Potential sun hours	236	266	366	426	507	528	529	469	384	324	248	217
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. 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\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian & Lithuanian environment  
 Vilandes 3-6  
 LV-1010 Riga  
 0037167242411  
 Laura Kurzemniece / laura.kurzemniece@environment.lv  
 Calculated:  
 15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Uzulini - 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  
 1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	January	February	March	April	May	June
1	08:48	08:12	07:09	17:06 (PrRR3)	06:47	05:30
	15:46	16:43	17:45	11 17:17 (PrRR3)	19:51	20:53
2	08:48	08:10	07:06	17:04 (PrRR3)	06:44	05:28
	15:47	16:45	17:48	14 17:18 (PrRR3)	19:53	20:55
3	08:48	08:08	07:03	17:02 (PrRR3)	06:41	05:26
	15:49	16:48	17:50	18 17:20 (PrRR3)	19:55	20:57
4	08:47	08:06	07:01	17:02 (PrRR3)	06:39	05:24
	15:50	16:50	17:52	21 17:23 (PrRR3)	19:57	20:59
5	08:47	08:04	06:58	17:01 (PrRR3)	06:36	05:21
	15:51	16:52	17:54	22 17:23 (PrRR3)	19:59	21:01
6	08:46	08:02	06:56	17:00 (PrRR3)	06:33	05:19
	15:53	16:54	17:56	22 17:22 (PrRR3)	20:01	21:03
7	08:46	08:00	06:53	17:00 (PrRR3)	06:31	05:17
	15:54	16:57	17:58	23 17:23 (PrRR3)	20:03	21:05
8	08:45	07:58	06:50	17:00 (PrRR3)	06:28	05:15
	15:56	16:59	18:00	22 17:22 (PrRR3)	20:05	21:07
9	08:44	07:56	06:48	17:00 (PrRR3)	06:25	05:13
	15:57	17:01	18:03	21 17:21 (PrRR3)	20:07	21:09
10	08:44	07:54	06:45	17:01 (PrRR3)	06:23	05:11
	15:59	17:03	18:05	20 17:21 (PrRR3)	20:09	21:11
11	08:43	07:52	06:43	17:02 (PrRR3)	06:20	05:09
	16:01	17:06	18:07	17 17:19 (PrRR3)	20:12	21:13
12	08:42	07:49	06:40	17:03 (PrRR3)	06:18	05:06
	16:03	17:08	18:09	14 17:17 (PrRR3)	20:14	21:15
13	08:41	07:47	06:37	17:05 (PrRR3)	06:15	05:04
	16:04	17:10	18:11	11 17:16 (PrRR3)	20:16	21:17
14	08:40	07:45	06:35		06:12	05:02
	16:06	17:12	18:13		20:18	21:19
15	08:39	07:43	06:32		06:10	05:01
	16:08	17:15	18:15		20:20	21:21
16	08:38	07:40	06:29		06:07	04:59
	16:10	17:17	18:17		20:22	21:23
17	08:36	07:38	06:27		06:05	04:57
	16:12	17:19	18:20		20:24	21:25
18	08:35	07:36	06:24		06:02	04:55
	16:14	17:21	18:22		20:26	21:27
19	08:34	07:33	06:21		06:00	04:53
	16:16	17:23	18:24		20:28	21:29
20	08:32	07:31	06:19		05:57	04:51
	16:18	17:26	18:26		20:30	21:30
21	08:31	07:28	06:16		05:55	04:50
	16:20	17:28	18:28		20:32	21:32
22	08:29	07:26	06:13		05:52	04:48
	16:22	17:30	18:30		20:34	21:34
23	08:28	07:24	06:11		05:50	04:46
	16:24	17:32	18:32		20:36	21:36
24	08:26	07:21	06:08		05:47	04:45
	16:26	17:34	18:34		20:39	21:38
25	08:25	07:19	06:05		05:45	04:43
	16:28	17:37	18:36		20:41	21:39
26	08:23	07:16	06:03		05:42	04:42
	16:30	17:39	18:38		20:43	21:41
27	08:21	07:14	06:00		05:40	04:40
	16:32	17:41	18:40		20:45	21:43
28	08:20	07:11	17:08 (PrRR3) 05:57		05:38	04:39
	16:34	17:43	17:14 (PrRR3) 18:42		20:47	21:44
29	08:18		06:55		05:35	04:38
	16:37		19:45		20:49	21:46
30	08:16		06:52		05:33	04:36
	16:39		19:47		20:51	21:47
31	08:14		06:49			04:35
	16:41		19:49			21:49
Potential sun hours	236	266	366	426	507	528
Total, worst case		6	236			
Sun reduction		0,23	0,39			
Oper. time red.		1,00	1,00			
Wind dir. red.		1,00	1,00			
Total reduction		0,23	0,39			
Total, real		1	92			

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)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

Flickering\_Vestas\_V172\_Prikuli\_A

Licensed user:

SIA Estonian, Latvian &amp; Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Laura Kurzemniece / laura.kurzemniece@environment.lv

Calculated:

15.07.2025 12:56/4.1.254

## SHADOW - Calendar

Calculation: Flickering\_Vestas\_V172\_Prikuli\_A Shadow receptor: Uzulini - Shadow Receptor: 1,0 × 1,0 Azimuth: 3,1° Slope: 90,0° (603)  
Sunshine probability S (Average daily sunshine hours) []

Assumptions for shadow calculations

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1,02 2,14 4,62 6,27 9,21 10,00 8,04 7,90 5,53 3,03 0,62 0,59

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

	July	August	September	October	November	December	
1	04:28 22:06	05:14 21:25	06:15 20:12	07:15 18:51	17:43 (PrRR3) 17:57 (PrRR3)	07:20 16:34	08:22 15:43
2	04:29 22:06	05:16 21:23	06:17 20:09	07:17 18:49	17:41 (PrRR3) 17:58 (PrRR3)	07:22 16:32	08:23 15:42
3	04:30 22:05	05:17 21:21	06:19 20:06	07:19 18:46	17:40 (PrRR3) 17:59 (PrRR3)	07:25 16:30	08:25 15:41
4	04:31 22:05	05:19 21:19	06:21 20:04	07:21 18:43	17:38 (PrRR3) 17:59 (PrRR3)	07:27 16:27	08:27 15:40
5	04:32 22:04	05:21 21:17	06:23 20:01	07:23 18:41	17:37 (PrRR3) 17:59 (PrRR3)	07:29 16:25	08:28 15:40
6	04:33 22:03	05:23 21:15	06:25 19:59	07:25 18:38	17:37 (PrRR3) 17:59 (PrRR3)	07:31 16:23	08:30 15:39
7	04:34 22:03	05:25 21:13	06:27 19:56	07:27 18:36	17:36 (PrRR3) 17:59 (PrRR3)	07:33 16:21	08:31 15:38
8	04:35 22:02	05:27 21:11	06:29 19:53	07:29 18:33	17:36 (PrRR3) 17:58 (PrRR3)	07:35 16:19	08:33 15:38
9	04:36 22:01	05:29 21:08	06:31 19:51	07:31 18:30	17:36 (PrRR3) 17:57 (PrRR3)	07:38 16:17	08:34 15:37
10	04:37 22:00	05:31 21:06	06:33 19:48	07:33 18:28	17:36 (PrRR3) 17:56 (PrRR3)	07:40 16:15	08:35 15:37
11	04:39 21:59	05:33 21:04	06:35 19:45	07:36 18:25	17:38 (PrRR3) 17:54 (PrRR3)	07:42 16:13	08:37 15:37
12	04:40 21:58	05:35 21:01	06:37 19:43	07:38 18:23	17:38 (PrRR3) 17:51 (PrRR3)	07:44 16:11	08:38 15:36
13	04:41 21:57	05:37 20:59	06:39 19:40	07:40 18:20	17:40 (PrRR3) 17:48 (PrRR3)	07:46 16:09	08:39 15:36
14	04:43 21:55	05:39 20:57	06:41 19:37	07:42 18:17	17:43 (PrRR3) 17:46 (PrRR3)	07:48 16:07	08:40 15:36
15	04:44 21:54	05:41 20:54	06:43 19:34	07:44 18:15		07:50 16:06	08:41 15:36
16	04:46 21:53	05:43 20:52	06:45 19:32	07:46 18:12		07:53 16:04	08:42 15:36
17	04:47 21:51	05:45 20:50	06:47 19:29	07:48 18:10		07:55 16:02	08:43 15:36
18	04:49 21:50	05:47 20:47	06:49 19:26	07:50 18:07		07:57 16:00	08:44 15:36
19	04:51 21:49	05:49 20:45	06:51 19:24	07:52 18:05		07:59 15:59	08:45 15:36
20	04:52 21:47	05:51 20:42	06:53 19:21	07:54 18:02		08:01 15:57	08:45 15:37
21	04:54 21:45	05:53 20:40	06:55 19:18	07:57 18:00		08:03 15:56	08:46 15:37
22	04:56 21:44	05:55 20:37	06:57 19:16	07:59 17:57		08:05 15:54	08:47 15:38
23	04:57 21:42	05:57 20:35	06:59 19:13	08:01 17:55		08:07 15:53	08:47 15:38
24	04:59 21:40	05:59 20:32	07:01 19:10	08:03 17:53		08:09 15:51	08:47 15:39
25	05:01 21:39	06:01 20:30	07:03 19:08	07:05 16:50		08:11 15:50	08:48 15:39
26	05:03 21:37	06:03 20:27	07:05 19:05	07:07 16:48		08:13 15:49	08:48 15:40
27	05:04 21:35	06:05 20:25	07:07 19:02	07:09 16:45		08:15 15:47	08:48 15:41
28	05:06 21:33	06:07 20:22	07:09 18:59	07:12 16:43		08:16 15:46	08:48 15:42
29	05:08 21:31	06:09 20:20	07:11 18:57	07:14 16:41		08:18 15:45	08:49 15:43
30	05:10 21:29	06:11 20:17	07:13 18:54	17:46 (PrRR3) 17:53 (PrRR3)	07:16 16:38	08:20 15:44	08:49 15:44
31	05:12 21:27	06:13 20:14		07:18 16:36			08:48 15:45
Potential sun hours	529	469	384	324		248	217
Total, worst case			7	241			
Sun reduction			0,43	0,29			
Oper. time red.			1,00	1,00			
Wind dir. red.			1,00	1,00			
Total reduction			0,43	0,29			
Total, real			3	70			

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)