

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E1 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m) (109)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:50 15:48	08:14 15:32-15:51/19 16:45	07:10 16:18-16:47/29 17:47	06:48 19:53	05:32 20:55	04:35 21:52
2	08:50 15:49	08:12 15:33-15:51/18 16:47	07:08 16:18-16:46/28 17:49	06:46 19:55	05:30 20:57	04:34 21:54
3	08:50 15:50	08:11 15:34-15:50/16 16:49	07:05 16:19-16:44/25 17:51	06:43 19:57	05:27 20:59	04:33 21:55
4	08:50 15:51	08:09 15:36-15:49/13 16:51	07:03 16:20-16:43/23 17:54	06:40 19:59	05:25 21:01	04:32 21:56
5	08:49 15:53	08:06 15:38-15:47/9 16:54	07:00 16:22-16:41/19 17:56	06:38 20:01	05:23 21:03	04:31 21:58
6	08:49 15:54	08:04 16:56	06:58 16:24-16:38/14 17:58	06:35 20:03	05:21 21:05	04:30 21:59
7	08:48 15:56	08:02 16:58	06:55 16:28-16:35/7 18:00	06:32 20:05	05:19 21:07	04:29 22:00
8	08:47 15:57	08:00 17:00	06:52 17:07-17:34/27 18:02	06:30 20:07	05:16 21:09	04:29 22:01
9	08:47 15:59	07:58 17:03	06:50 17:06-17:36/30 18:04	06:27 20:09	05:14 21:11	04:28 22:02
10	08:46 16:01	07:56 17:05	06:47 17:06-17:37/31 18:07	06:25 20:11	05:12 21:13	04:27 22:03
11	08:45 16:02	07:54 17:07	06:44 17:06-17:38/32 18:09	06:22 20:13	05:10 21:15	04:27 22:04
12	08:44 16:04	07:51 17:09	06:42 17:05-17:38/33 18:11	06:19 20:16	05:08 21:17	04:26 22:05
13	08:43 16:06	07:49 17:12	06:39 17:05-17:37/32 18:13	06:17 20:18	05:06 21:19	04:26 22:06
14	08:42 16:08	07:47 17:14	06:37 17:06-17:38/32 18:15	06:14 20:20	05:04 21:21	04:25 22:06
15	08:41 16:09	07:45 16:29-16:38/9 17:16	06:34 17:06-17:37/31 18:17	06:12 20:22	05:02 21:23	04:25 22:07
16	08:40 16:11	07:42 16:45-16:47/2 17:18	06:31 17:07-17:36/29 18:19	06:09 20:24	05:00 21:25	04:25 22:08
17	08:38 16:13	07:40 16:24-16:50/26 17:21	06:29 17:09-17:36/27 18:21	06:06 20:26	04:58 21:27	04:25 22:08
18	08:37 15:35-15:37/2 16:15	07:38 16:22-16:52/30 17:23	06:26 17:11-17:35/24 18:23	06:04 20:28	04:56 21:29	04:25 22:09
19	08:36 15:33-15:38/5 16:17	07:35 16:21-16:54/33 17:25	06:23 17:15-17:33/18 18:26	06:01 20:30	04:55 21:31	04:25 22:09
20	08:35 15:31-15:40/9 16:19	07:33 16:20-16:57/37 17:27	06:21 17:17-17:32/15 18:28	05:59 20:32	04:53 21:33	04:25 22:09
21	08:33 15:32-15:43/11 16:21	07:30 16:18-16:58/40 17:30	06:18 17:19-17:29/10 18:30	05:56 20:34	04:51 21:34	04:25 22:10
22	08:32 15:31-15:46/15 16:23	07:28 16:18-16:58/40 17:32	06:15 18:32	05:54 20:36	04:49 21:36	04:25 22:10
23	08:30 15:30-15:48/18 16:25	07:25 16:17-16:58/41 17:34	06:12 18:34	05:51 20:38	04:48 21:38	04:25 22:10
24	08:29 15:30-15:49/19 16:27	07:23 16:18-16:57/39 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:10
25	08:27 15:30-15:50/20 16:30	07:20 16:17-16:56/39 17:38	06:07 18:38	05:46 20:43	04:45 21:41	04:26 22:10
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27	08:24 15:30-15:51/21 16:34	07:15 16:17-16:51/34 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10
28	08:22 15:30-15:51/21 16:36	07:13 16:17-16:47/30 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10
29	08:20 15:30-15:51/21 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09
30	08:18 15:31-15:51/20 16:40		06:54 19:48	05:34 20:53	04:38 21:49	04:29 22:09
31	08:16 15:31-15:51/20 16:43		06:51 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Sum of minutes with flicker	222	528	585	0	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

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1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:29 22:09	05:15 21:28	06:17 20:14	07:17 18:53	17:44-18:17/33 16:36	07:22 15:45
2	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:51	17:44-18:16/32 16:33	07:24 15:44
3	04:31 22:08	05:19 21:23	06:21 20:08	07:21 18:48	17:43-18:15/32 16:31	07:27 15:43
4	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	17:44-18:14/30 16:29	07:29 15:42
5	04:33 22:06	05:23 21:19	06:25 20:03	07:25 18:43	17:44-18:12/28 16:27	07:31 15:41
6	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	17:44-18:09/25 16:25	07:33 15:40
7	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	17:01-17:13/12 17:45-18:05/20	07:35 16:23
8	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	16:58-17:15/17 17:46-18:03/17	07:37 16:21
9	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	16:56-17:17/21 17:47-18:01/14	07:40 16:19
10	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	16:54-17:18/24 17:50-17:58/8	07:42 16:17
11	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	16:52-17:18/26 16:15	07:44 15:38
12	04:42 22:00	05:37 21:04	06:39 19:44	07:39 18:24	16:52-17:20/28 16:13	07:46 15:38
13	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	16:51-17:20/29 16:11	07:48 15:38
14	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	16:50-17:20/30 16:09	07:50 15:37
15	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	16:49-17:25/36 16:07	07:53 15:37
16	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	16:48-17:27/39 16:05	07:55 15:37
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	16:49-17:28/39 16:04	07:57 15:37
18	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	16:49-17:29/40 16:02	07:59 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:06	16:49-17:29/40 16:00	08:01 15:38
20	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	16:49-17:29/40 15:59	08:03 15:38
21	04:55 21:48	05:55 20:42	06:57 19:20	07:58 18:01	16:50-17:29/39 15:57	08:05 15:38
22	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	16:50-17:26/36 15:56	08:07 15:39
23	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	16:51-17:23/32 15:54	08:09 15:39
24	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	16:52-17:22/30 15:53	08:11 15:40
25	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	16:13-16:19/6 15:54-16:12/18	08:13 15:51
26	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	16:15-16:16/1 15:55-16:10/15	08:15 15:50
27	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	16:00-16:06/6 15:49	08:17 15:42
28	05:08 21:35	06:09 20:24	07:11 19:01	07:14 16:45	17:48-18:18/30 15:48	08:19 15:43
29	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:42	17:46-18:18/32 15:47	08:20 15:44
30	05:11 21:32	06:13 20:19	07:15 18:56	07:18 16:40	17:45-18:17/32 15:46	08:22 15:45
31	05:13 21:30	06:15 20:16		07:20 16:38		08:51 15:46
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	0	0	212	843	301	0

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

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Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:50 15:48	08:14 16:45	07:11 07:37-08:33/56 17:47	06:49 19:53	05:32 20:55	04:36 05:48-06:19/31 21:52
2	08:50 15:49	08:13 16:47	07:08 07:36-08:34/58 17:49	06:46 19:55	05:30 20:57	04:35 05:49-06:19/30 21:54
3	08:50 15:50	08:11 16:49	07:05 07:37-08:35/58 17:52	06:43 19:57	05:28 20:59	04:33 05:49-06:19/30 21:55
4	08:49 15:52	08:09 16:52	07:03 07:37-08:35/58 17:54	06:41 19:59	05:25 21:01	04:32 05:49-06:18/29 21:56
5	08:49 15:53	08:07 16:54	07:00 07:37-08:34/57 17:56	06:38 20:01	05:23 21:03	04:32 05:51-06:19/28 21:58
6	08:49 15:55	08:04 08:34-08:41/7 16:56	06:58 07:39-08:35/56 17:58	06:35 20:03	05:21 05:57-06:09/12 21:05	04:31 05:51-06:19/28 21:59
7	08:48 15:56	08:02 08:32-08:44/12 16:58	06:55 07:40-08:35/55 18:00	06:33 20:05	05:19 05:55-06:12/17 21:07	04:30 05:51-06:18/27 22:00
8	08:47 15:58	08:00 08:30-08:46/16 17:01	06:52 07:42-08:34/52 18:02	06:30 20:07	05:17 05:53-06:13/20 21:09	04:29 05:52-06:18/26 22:01
9	08:47 15:59	07:58 08:27-08:46/19 17:03	06:50 07:42-08:34/52 18:05	06:27 06:53-06:57/4 20:09	05:15 05:52-06:15/23 21:11	04:28 05:52-06:18/26 22:02
10	08:46 16:01	07:56 08:27-08:47/20 17:05	06:47 07:41-08:33/52 18:07	06:25 06:50-06:58/8 20:11	05:12 05:50-06:16/26 21:13	04:28 05:53-06:18/25 22:03
11	08:45 16:03	07:54 08:26-08:47/21 17:07	06:45 07:40-08:32/52 18:09	06:22 06:48-07:00/12 20:14	05:10 05:49-06:16/27 21:15	04:27 05:53-06:17/24 22:04
12	08:44 16:04	07:52 08:26-08:48/22 17:10	06:42 07:40-08:31/51 18:11	06:19 06:45-07:00/15 20:16	05:08 05:48-06:17/29 21:17	04:27 05:54-06:18/24 22:05
13	08:43 16:06	07:49 08:26-08:49/23 17:12	06:39 07:40-08:31/51 18:13	06:17 06:43-07:00/17 20:18	05:06 05:47-06:17/30 21:19	04:26 05:54-06:18/24 22:06
14	08:42 16:08	07:47 08:25-08:48/23 17:14	06:37 07:40-08:29/49 18:15	06:14 06:41-07:00/19 20:20	05:04 05:48-06:18/30 21:21	04:26 05:54-06:17/23 22:06
15	08:41 16:10	07:45 08:26-08:49/23 17:16	06:34 07:40-08:27/47 18:17	06:12 06:41-07:00/19 20:22	05:02 05:47-06:19/32 21:23	04:26 05:55-06:17/22 22:07
16	08:40 16:12	07:42 08:26-08:48/22 17:19	06:31 07:41-08:26/45 18:19	06:09 06:41-06:59/18 20:24	05:00 05:46-06:19/33 21:25	04:25 05:55-06:17/22 22:08
17	08:38 16:14	07:40 08:27-08:48/21 17:21	06:29 07:41-08:24/43 18:22	06:07 06:41-06:59/18 20:26	04:59 05:47-06:20/33 21:27	04:25 05:56-06:18/22 22:08
18	08:37 16:15	07:38 08:27-08:47/20 17:23	06:26 07:41-08:21/40 18:24	06:04 06:41-06:58/17 20:28	04:57 05:46-06:19/33 21:29	04:25 05:56-06:18/22 22:09
19	08:36 16:17	07:35 08:29-08:46/17 17:25	06:23 07:43-08:18/35 18:26	06:02 06:42-06:57/15 20:30	04:55 05:45-06:19/34 21:31	04:25 05:56-06:18/22 22:09
20	08:35 16:19	07:33 08:30-08:44/14 17:28	06:21 07:43-08:12/29 18:28	05:59 06:43-06:55/12 20:32	04:53 05:46-06:20/34 21:33	04:25 05:56-06:18/22 22:09
21	08:33 16:21	07:30 08:32-08:42/10 17:30	06:18 07:45-08:09/24 18:30	05:56 06:45-06:52/7 20:34	04:51 05:45-06:20/35 21:34	04:25 05:57-06:19/22 22:10
22	08:32 16:24	07:28 08:13-08:19/6 17:32	06:15 07:46-08:06/20 18:32	05:54 20:36	04:50 05:46-06:20/34 21:36	04:25 05:57-06:19/22 22:10
23	08:30 16:26	07:26 07:53-07:59/6 17:34 08:08-08:24/16	06:13 07:50-08:03/13 18:34	05:52 20:39	04:48 05:45-06:19/34 21:38	04:26 05:57-06:19/22 22:10
24	08:29 16:28	07:23 07:50-08:00/10 17:36 08:05-08:27/22	06:10 18:36	05:49 20:41	04:47 05:46-06:20/34 21:40	04:26 05:57-06:19/22 22:10
25	08:27 16:30	07:21 07:47-08:01/14 17:39 08:03-08:29/26	06:07 18:38	05:47 20:43	04:45 05:46-06:20/34 21:41	04:26 05:58-06:20/22 22:10
26	08:25 16:32	07:18 07:45-08:31/46 17:41	06:05 18:40	05:44 20:45	04:44 05:47-06:20/33 21:43	04:27 05:57-06:19/22 22:10
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Sum of minutes with flicker	0	538	1053	181	780	731

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1	04:30	05:57-06:22/25	05:15	05:59-06:27/28	06:17	06:47-06:58/11	07:17	08:20-09:11/51	07:22	07:57-08:17/20	08:24	
	22:09		21:28		20:14		18:53		16:36		15:45	
2	04:31	05:57-06:22/25	05:17	06:00-06:26/26	06:19	06:49-06:57/8	07:19	08:19-09:11/52	07:24	07:57-08:16/19	08:26	
	22:08		21:26		20:11		18:51		16:34		15:44	
3	04:32	05:57-06:23/26	05:19	06:01-06:26/25	06:21	06:51-06:55/4	07:21	08:19-09:11/52	07:27	08:00-08:15/15	08:27	
	22:08		21:23		20:08		18:48		16:31		15:43	
4	04:32	05:57-06:24/27	05:21	06:02-06:25/23	06:23		07:23	08:19-09:11/52	07:29	08:02-08:13/11	08:29	
	22:07		21:21		20:06		18:45		16:29		15:42	
5	04:33	05:57-06:24/27	05:23	06:03-06:22/19	06:25		07:25	08:19-09:11/52	07:31	08:04-08:10/6	08:30	
	22:06		21:19		20:03		18:43		16:27		15:41	
6	04:35	05:57-06:25/28	05:25	06:05-06:20/15	06:27		07:27	08:18-09:11/53	07:33		08:32	
	22:06		21:17		20:01		18:40		16:25		15:41	
7	04:36	05:57-06:25/28	05:27	06:08-06:18/10	06:29		07:29	08:15-09:10/55	07:35		08:34	
	22:05		21:15		19:58		18:37		16:23		15:40	
8	04:37	05:57-06:26/29	05:29		06:31		07:31	08:13-09:10/57	07:38		08:35	
	22:04		21:13		19:55		18:35		16:21		15:40	
9	04:38	05:57-06:26/29	05:31		06:33		07:33	08:11-09:09/58	07:40		08:36	
	22:03		21:10		19:53		18:32		16:19		15:39	
10	04:39	05:56-06:26/30	05:33		06:35		07:35	08:11-09:09/58	07:42		08:38	
	22:02		21:08		19:50		18:30		16:17		15:39	
11	04:40	05:56-06:27/31	05:35		06:37		07:38	08:11-09:08/57	07:44		08:39	
	22:01		21:06		19:47		18:27		16:15		15:38	
12	04:42	05:57-06:28/31	05:37		06:39		07:40	08:10-09:07/57	07:46		08:40	
	22:00		21:04		19:45		18:24		16:13		15:38	
13	04:43	05:56-06:28/32	05:39		06:41		07:42	08:11-09:06/55	07:48		08:41	
	21:59		21:01		19:42		18:22		16:11		15:38	
14	04:45	05:56-06:28/32	05:41		06:43		07:44	08:13-09:05/52	07:50		08:42	
	21:58		20:59		19:39		18:19		16:09		15:38	
15	04:46	05:55-06:28/33	05:43		06:45		07:46	08:16-09:03/47	07:53		08:43	
	21:56		20:57		19:36		18:17		16:07		15:38	
16	04:48	05:56-06:29/33	05:45		06:47		07:48	08:18-09:02/44	07:55		08:44	
	21:55		20:54		19:34		18:14		16:06		15:38	
17	04:49	05:56-06:29/33	05:47		06:49		07:50	08:20-08:33/13	07:57		08:45	
	21:54		20:52		19:31		18:12	08:36-09:00/24	16:04		15:38	
18	04:51	05:56-06:30/34	05:49		06:51		07:52	08:22-08:31/9	07:59		08:46	
	21:52		20:49		19:28		18:09	08:37-08:57/20	16:02		15:38	
19	04:52	05:56-06:30/34	05:51		06:53		07:54	08:24-08:29/5	08:01		08:47	
	21:51		20:47		19:26		18:07	08:40-08:54/14	16:01		15:38	
20	04:54	05:56-06:30/34	05:53		06:55	08:37-08:47/10	07:56	09:06-09:09/3	08:03		08:48	
	21:49		20:44		19:23		18:04		15:59		15:38	
21	04:56	05:56-06:30/34	05:55		06:57	08:33-08:51/18	07:59	09:02-09:13/11	08:05		08:48	
	21:48		20:42		19:20		18:02		15:57		15:39	
22	04:57	05:56-06:30/34	05:57	06:50-06:57/7	06:59	08:30-08:53/23	08:01	08:59-09:15/16	08:07		08:49	
	21:46		20:39		19:18		17:59		15:56		15:39	
23	04:59	05:56-06:30/34	05:59	06:47-06:59/12	07:01	08:28-08:55/27	08:03	08:58-09:17/19	08:09		08:49	
	21:44		20:37		19:15		17:57		15:55		15:40	
24	05:01	05:56-06:30/34	06:01	06:46-07:01/15	07:03	08:26-08:59/33	08:05	08:57-09:17/20	08:11		08:50	
	21:43		20:34		19:12		17:54		15:53		15:40	
25	05:03	05:56-06:29/33	06:03	06:45-07:01/16	07:05	08:24-09:03/39	07:07	07:56-08:17/21	08:13		08:50	
	21:41		20:32		19:09		16:52		15:52		15:41	
26	05:04	05:56-06:30/34	06:05	06:43-07:01/18	07:07	08:23-09:05/42	07:09	07:56-08:18/22	08:15		08:50	
	21:39		20:29		19:07		16:50		15:50		15:42	
27	05:06	05:57-06:30/33	06:07	06:42-07:01/19	07:09	08:22-09:07/45	07:11	07:55-08:18/23	08:17		08:51	
	21:37		20:27		19:04		16:47		15:49		15:43	
28	05:08	05:57-06:29/32	06:09	06:42-07:01/19	07:11	08:21-09:08/47	07:14	07:55-08:18/23	08:19		08:51	
	21:35		20:24		19:01		16:45		15:48		15:43	
29	05:10	05:57-06:29/32	06:11	06:42-07:01/19	07:13	08:20-09:09/49	07:16	07:56-08:18/22	08:20		08:51	
	21:33		20:22		18:59		16:43		15:47		15:44	
30	05:12	05:58-06:29/31	06:13	06:43-07:00/17	07:15	08:20-09:10/50	07:18	07:55-08:18/23	08:22		08:51	
	21:32		20:19		18:56		16:40		15:46		15:45	
31	05:14	05:59-06:28/29	06:15	06:45-07:00/15			07:20	07:55-08:17/22			08:51	
	21:30		20:16				16:38				15:47	
Potential sun hours	529		469		385		324		247		216	
Sum of minutes with flicker	961		303		406		1162		71		0	

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E11 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:50 15:48	08:14 09:10-09:52/42 16:45	07:11 17:47	06:49 07:31-08:06/35 19:53	05:32 20:55	04:36 21:52
2	08:50 15:49	08:13 09:11-09:52/41 16:47	07:08 17:50	06:46 07:30-08:06/36 19:55	05:30 20:57	04:35 21:54
3	08:50 15:51	08:11 08:41-08:45/4 16:50 09:11-09:52/41	07:05 17:52	06:43 07:29-08:06/37 19:57	05:28 20:59	04:34 21:55
4	08:49 15:52	08:09 08:39-08:46/7 16:52 09:11-09:52/41	07:03 17:54	06:41 07:29-08:06/37 19:59	05:25 21:01	04:33 21:56
5	08:49 15:53	08:07 08:36-08:47/11 16:54 09:11-09:51/40	07:00 17:56	06:38 07:28-08:05/37 20:01	05:23 21:03	04:32 21:58
6	08:48 15:55	08:04 08:34-08:48/14 16:56 09:12-09:50/38	06:58 17:58	06:35 07:29-08:05/36 20:03	05:21 21:05	04:31 21:59
7	08:48 15:56	08:02 08:32-08:48/16 16:58 09:13-09:49/36	06:55 18:00	06:33 07:28-08:04/36 20:05	05:19 21:07	04:30 22:00
8	08:47 15:58	08:00 08:30-08:49/19 17:01 09:14-09:48/34	06:52 18:02	06:30 07:28-08:03/35 20:07	05:17 21:09	04:29 22:01
9	08:47 15:59	07:58 08:27-08:48/21 17:03 09:14-09:45/31	06:50 18:05	06:27 07:29-08:03/34 20:09	05:15 21:11	04:28 22:02
10	08:46 16:01	07:56 08:25-08:48/23 17:05 09:15-09:42/27	06:47 18:07	06:25 07:29-08:01/32 20:11	05:12 21:13	04:28 22:03
11	08:45 16:03	07:54 08:23-08:47/24 17:07 09:16-09:37/21	06:45 18:09	06:22 07:30-08:01/31 20:14	05:10 21:15	04:27 22:04
12	08:44 09:20-09:22/2 16:04 09:28-09:34/6	07:51 08:23-08:47/24 17:10 09:18-09:35/17	06:42 18:11	06:20 07:30-07:59/29 20:16	05:08 21:17	04:27 22:05
13	08:43 09:19-09:24/5 16:06 09:27-09:38/11	07:49 08:24-08:46/22 17:12 09:22-09:33/11	06:39 18:13	06:17 07:32-07:57/25 20:18	05:06 21:19	04:26 22:06
14	08:42 09:18-09:40/22 16:08	07:47 08:24-08:44/20 17:14	06:37 18:15	06:14 07:33-07:55/22 20:20	05:04 21:21	04:26 22:06
15	08:41 09:16-09:41/25 16:10	07:45 08:25-08:37/12 17:16	06:34 18:17	06:12 07:35-07:52/17 20:22	05:02 21:23	04:26 22:07
16	08:40 09:15-09:43/28 16:12	07:42 08:26-08:35/9 17:19	06:31 18:19	06:09 07:39-07:47/8 20:24	05:00 21:25	04:25 22:08
17	08:38 09:13-09:44/31 16:14	07:40 17:21	06:29 06:54-06:56/2 18:22	06:07 20:26	04:59 21:27	04:25 22:08
18	08:37 09:12-09:46/34 16:16	07:38 17:23	06:26 06:51-06:58/7 18:24	06:04 20:28	04:57 21:29	04:25 22:09
19	08:36 09:11-09:46/35 16:17	07:35 17:25	06:23 06:49-07:00/11 18:26	06:02 20:30	04:55 21:31	04:25 22:09
20	08:34 09:11-09:47/36 16:19	07:33 17:28	06:21 06:46-07:01/15 18:28	05:59 20:32	04:53 21:33	04:25 22:09
21	08:33 09:11-09:49/38 16:22	07:30 17:30	06:18 06:43-07:01/18 18:30	05:57 20:34	04:51 21:34	04:25 22:10
22	08:32 09:11-09:49/38 16:24	07:28 17:32	06:15 06:42-07:01/19 18:32	05:54 20:36	04:50 21:36	04:25 22:10
23	08:30 09:11-09:50/39 16:26	07:26 17:34	06:13 06:42-07:01/19 18:34	05:52 20:39	04:48 21:38	04:26 22:10
24	08:29 09:11-09:50/39 16:28	07:23 17:36	06:10 06:41-07:00/19 18:36	05:49 20:41	04:47 21:40	04:26 22:10
25	08:27 09:11-09:51/40 16:30	07:21 17:39	06:07 06:41-06:59/18 18:38	05:47 20:43	04:45 21:41	04:26 22:10
26	08:25 09:12-09:52/40 16:32	07:18 17:41	06:05 06:40-07:02/22 18:40	05:44 20:45	04:44 21:43	04:27 22:10
27	08:24 09:11-09:52/41 16:34	07:16 17:43	06:02 06:37-07:03/26 18:42	05:42 20:47	04:42 21:45	04:27 22:10
28	08:22 09:11-09:53/42 16:36	07:13 17:45	05:59 06:35-07:04/29 18:44	05:39 20:49	04:41 21:46	04:28 22:10
29	08:20 09:11-09:53/42 16:38		06:57 07:34-08:05/31 19:47	05:37 20:51	04:39 21:48	04:28 22:09
30	08:18 09:10-09:52/42 16:41		06:54 07:33-08:06/33 19:49	05:35 20:53	04:38 21:49	04:29 22:09
31	08:16 09:10-09:52/42 16:43		06:51 07:31-08:06/35 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	528
Sum of minutes with flicker	678	646	304	487	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E11 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:15 21:28	06:17 07:29-08:00/31 20:14	07:17 18:53	07:22 07:55-08:18/23 16:36 08:45-09:12/27	08:24 15:45
2	04:31 22:08	05:17 21:26	06:19 07:28-08:00/32 20:11	07:19 18:51	07:24 07:57-08:18/21 16:34 08:43-09:15/32	08:26 15:44
3	04:32 22:08	05:19 21:23	06:21 07:27-08:01/34 20:08	07:21 18:48	07:27 08:00-08:19/19 16:31 08:42-09:17/35	08:27 15:43
4	04:33 22:07	05:21 21:21	06:23 07:25-08:00/35 20:06	07:23 18:45	07:29 08:02-08:18/16 16:29 08:42-09:19/37	08:29 15:42
5	04:33 22:06	05:23 21:19	06:25 07:24-08:00/36 20:03	07:25 18:43	07:31 08:04-08:17/13 16:27 08:41-09:20/39	08:30 15:41
6	04:35 22:06	05:25 21:17	06:27 07:24-08:01/37 20:01	07:27 18:40	07:33 08:07-08:17/10 16:25 08:42-09:21/39	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 07:24-08:00/36 19:58	07:29 18:37	07:35 08:09-08:16/7 16:23 08:41-09:22/41	08:33 15:40
8	04:37 22:04	05:29 21:13	06:31 07:23-08:00/37 19:55	07:31 18:35	07:38 08:12-08:16/4 16:21 08:41-09:22/41	08:35 15:40
9	04:38 22:03	05:31 21:10	06:33 07:23-08:00/37 19:53	07:33 18:32	07:40 08:41-09:23/42 16:19	08:36 15:39
10	04:39 22:02	05:33 21:08	06:35 07:23-07:59/36 19:50	07:35 18:30	07:42 08:41-09:23/42 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 07:23-07:59/36 19:47	07:38 18:27	07:44 08:42-09:24/42 16:15	08:39 15:38
12	04:42 22:00	05:37 21:04	06:39 07:23-07:58/35 19:45	07:40 18:24	07:46 08:42-09:24/42 16:13	08:40 15:38
13	04:43 21:59	05:39 21:01	06:41 07:24-07:57/33 19:42	07:42 18:22	07:48 08:43-09:25/42 16:11	08:41 15:38
14	04:45 21:58	05:41 20:59	06:43 07:24-07:56/32 19:39	07:44 18:19	07:50 08:43-09:25/42 16:09	08:42 15:38
15	04:46 21:56	05:43 20:57	06:45 07:25-07:54/29 19:36	07:46 18:17	07:53 08:43-09:24/41 16:07	08:43 15:38
16	04:48 21:55	05:45 20:54	06:47 07:26-07:53/27 19:34	07:48 18:14	07:55 08:45-09:25/40 16:06	08:44 15:38
17	04:49 21:54	05:47 20:52	06:49 07:28-07:51/23 19:31	07:50 18:12	07:57 08:45-09:25/40 16:04	08:45 15:38
18	04:51 21:52	05:49 20:49	06:51 07:30-07:48/18 19:28	07:52 18:09	07:59 08:45-09:24/39 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:53 07:29-07:48/19 19:26	07:54 18:07	08:01 08:46-09:25/39 16:01	08:47 15:38
20	04:54 21:49	05:53 20:44	06:55 07:27-07:47/20 19:23	07:56 18:04	08:03 08:46-09:24/38 15:59	08:48 15:38
21	04:56 21:48	05:55 20:42	06:57 07:27-07:46/19 19:20	07:59 18:02	08:05 08:46-09:24/38 15:57	08:48 15:39
22	04:57 21:46	05:57 20:39	06:59 07:27-07:46/19 19:18	08:01 17:59	08:07 08:47-09:23/36 15:56	08:49 15:39
23	04:59 21:44	05:59 20:37	07:01 07:29-07:45/16 19:15	08:03 17:57	08:09 08:48-09:23/35 15:55	08:49 15:40
24	05:01 21:43	06:01 20:34	07:03 07:31-07:43/12 19:12	08:05 17:54	08:11 08:49-09:23/34 15:53	08:50 15:40
25	05:03 21:41	06:03 20:32	07:05 07:33-07:42/9 19:09	07:07 07:58-08:03/5 16:52	08:13 08:51-09:22/31 15:52	08:50 15:41
26	05:04 21:39	06:05 20:29	07:07 07:35-07:39/4 19:07	07:09 07:56-08:06/10 16:50	08:15 08:53-09:21/28 15:50	08:50 15:42
27	05:06 21:37	06:07 07:40-07:50/10 20:27	07:09 19:04	07:11 07:54-08:07/13 16:47	08:17 08:55-09:20/25 15:49	08:50 15:43
28	05:08 21:35	06:09 07:36-07:54/18 20:24	07:11 19:01	07:14 07:53-08:14/21 16:45 08:55-08:57/2	08:19 08:58-09:19/21 15:48	08:51 15:44
29	05:10 21:33	06:11 07:34-07:56/22 20:22	07:13 18:59	07:16 07:53-08:16/23 16:43 08:50-09:03/13	08:20 09:00-09:05/5 15:47 09:08-09:19/11	08:51 15:44
30	05:12 21:32	06:13 07:32-07:57/25 20:19	07:15 18:56	07:18 07:52-08:17/25 16:40 08:48-09:05/17	08:22 09:02-09:05/3 15:46 09:10-09:17/7	08:51 15:45
31	05:14 21:30	06:15 07:30-07:59/29 20:16		07:20 07:52-08:17/25 16:38 08:45-09:07/22		08:51 15:47
Potential sun hours		529	469	385	324	216
Sum of minutes with flicker		0	104	702	176	1167
						0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E12 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:50 15:48	08:14 09:07-09:33/26 16:45	07:10 17:47	06:49 19:53	05:32 20:55	04:36 20:52-21:10/18 21:52 05:36-05:52/16
2	08:50 15:49	08:12 09:08-09:32/24 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 20:52-21:10/18 21:54 05:37-05:52/15
3	08:50 15:51	08:11 09:09-09:30/21 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:34 20:52-21:10/18 21:55 05:37-05:51/14
4	08:49 15:52	08:09 09:10-09:26/16 16:52	07:03 17:54	06:41 19:59	05:25 20:26-20:29/3 21:01	04:33 20:52-21:10/18 21:56 05:38-05:50/12
5	08:49 15:53	08:06 09:11-09:23/12 16:54	07:00 07:28-07:35/7 17:56	06:38 20:01	05:23 20:25-20:31/6 21:03	04:32 20:54-21:10/16 21:57 05:40-05:50/10
6	08:48 15:55	08:04 09:14-09:21/7 16:56	06:58 07:25-07:39/14 17:58	06:35 20:03	05:21 20:24-20:33/9 21:05	04:31 20:54-21:10/16 21:59 05:41-05:49/8
7	08:48 15:56	08:02 16:58	06:55 07:21-07:41/20 18:00	06:33 20:05	05:19 20:23-20:35/12 21:07	04:30 20:54-21:10/16 22:00 05:42-05:48/6
8	08:47 15:58	08:00 17:01	06:52 07:18-07:41/23 18:02	06:30 20:07	05:17 20:22-20:36/14 21:09	04:29 20:55-21:10/15 22:01
9	08:46 15:59	07:58 17:03	06:50 07:16-07:43/27 18:05	06:27 20:09	05:15 20:22-20:38/16 21:11	04:28 20:55-21:10/15 22:02
10	08:46 16:01	07:56 17:05	06:47 07:13-07:43/30 18:07	06:25 20:11	05:12 20:22-20:40/18 21:13 05:42-05:47/5	04:28 20:56-21:10/14 22:03 05:04-05:05/1
11	08:45 16:03	07:54 17:07	06:45 07:10-07:43/33 18:09	06:22 20:14	05:10 20:22-20:40/18 21:15 05:40-05:49/9	04:27 20:55-21:09/14 22:04 05:03-05:06/3
12	08:44 09:20-09:22/2 16:04	07:51 17:10	06:42 07:09-07:43/34 18:11	06:19 20:16	05:08 20:22-20:39/17 21:17 05:38-05:50/12	04:27 20:56-21:10/14 22:05 05:03-05:07/4
13	08:43 09:19-09:25/6 16:06	07:49 17:12	06:39 07:09-07:43/34 18:13	06:17 20:18	05:06 20:22-20:39/17 21:19 05:36-05:51/15	04:26 20:57-21:10/13 22:06 05:03-05:07/4
14	08:42 09:18-09:27/9 16:08	07:47 17:14	06:37 07:09-07:42/33 18:15	06:14 20:20	05:04 20:22-20:38/16 21:21 05:35-05:53/18	04:26 20:57-21:09/12 22:06 05:03-05:08/5
15	08:41 09:16-09:28/12 16:10	07:45 17:16	06:34 07:10-07:41/31 18:17	06:12 20:22	05:02 20:23-20:39/16 21:23 05:33-05:53/20	04:26 20:57-21:09/12 22:07 05:02-05:08/6
16	08:40 09:15-09:29/14 16:12	07:42 17:19	06:31 07:13-07:41/28 18:19	06:09 20:24	05:00 20:23-20:38/15 21:25 05:32-05:53/21	04:25 20:58-21:09/11 22:08 05:02-05:08/6
17	08:38 09:13-09:30/17 16:14	07:40 17:21	06:29 07:16-07:40/24 18:21	06:07 20:26	04:59 20:24-20:36/12 21:27 05:32-05:54/22	04:25 20:58-21:09/11 22:08 05:02-05:09/7
18	08:37 09:12-09:31/19 16:16	07:38 17:23	06:26 07:17-07:38/21 18:24	06:04 20:28	04:57 20:26-20:36/10 21:29 05:32-05:54/22	04:25 20:59-21:09/10 22:09 05:02-05:09/7
19	08:36 09:10-09:32/22 16:17	07:35 17:25	06:23 07:19-07:37/18 18:26	06:02 20:30	04:55 20:27-20:34/7 21:31 05:31-05:54/23	04:25 20:59-21:10/11 22:09 05:02-05:09/7
20	08:34 09:08-09:32/24 16:19	07:33 17:28	06:21 07:20-07:34/14 18:28	05:59 20:32	04:53 20:55-20:57/2 21:33 05:32-05:55/23	04:25 20:59-21:10/11 22:09 05:02-05:10/8
21	08:33 09:07-09:34/27 16:22	07:30 17:30	06:18 07:23-07:29/6 18:30	05:56 20:34	04:51 20:53-20:58/5 21:34 05:31-05:54/23	04:25 20:59-21:10/11 22:10 05:03-05:11/8
22	08:32 09:05-09:34/29 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 20:53-21:00/7 21:36 05:32-05:55/23	04:25 21:00-21:11/11 22:10 05:03-05:11/8
23	08:30 09:05-09:34/29 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 20:52-21:01/9 21:38 05:32-05:55/23	04:26 21:00-21:11/11 22:10 05:03-05:10/7
24	08:28 09:05-09:35/30 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 20:52-21:03/11 21:40 05:32-05:54/22	04:26 21:00-21:11/11 22:10 05:04-05:11/7
25	08:27 09:04-09:35/31 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 20:52-21:05/13 21:41 05:32-05:55/23	04:26 21:01-21:11/10 22:10 05:04-05:11/7
26	08:25 09:05-09:36/31 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 20:51-21:05/14 21:43 05:33-05:55/22	04:27 21:00-21:11/11 22:10 05:04-05:11/7
27	08:24 09:05-09:36/31 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 20:51-21:07/16 21:45 05:33-05:54/21	04:27 21:01-21:12/11 22:10 05:05-05:11/6
28	08:22 09:05-09:36/31 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 20:51-21:09/18 21:46 05:33-05:54/21	04:28 21:00-21:12/12 22:10 05:05-05:10/5
29	08:20 09:06-09:35/29 16:38		06:57 19:47	05:37 20:51	04:39 20:51-21:10/19 21:48 05:34-05:53/19	04:28 21:00-21:13/13 22:09 05:06-05:11/5
30	08:18 09:05-09:34/29 16:41		06:54 19:49	05:35 20:53	04:38 20:52-21:10/18 21:49 05:35-05:53/18	04:29 21:01-21:14/13 22:09 05:07-05:11/4
31	08:16 09:06-09:34/28 16:43		06:51 19:51		04:37 20:52-21:10/18 21:51 05:35-05:53/18	
Potential sun hours	235	266	366	426	508	528
Sum of minutes with flicker	450	106	397	0	779	600

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E12 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 21:00-21:13/13 22:09 05:07-05:10/3	05:15 20:32-20:50/18 21:28 05:49-06:00/11	06:17 20:14	07:17 07:48-08:23/35 18:53	07:22 16:36	08:24 15:45
2	04:31 21:00-21:14/14 22:08 05:08-05:10/2	05:17 20:32-20:50/18 21:25 05:51-05:59/8	06:19 20:11	07:19 07:48-08:22/34 18:51	07:24 16:34	08:26 15:44
3	04:32 21:00-21:15/15 22:08	05:19 20:32-20:49/17 21:23 05:53-05:56/3	06:21 20:08	07:21 07:50-08:21/31 18:48	07:27 16:31	08:27 15:43
4	04:33 21:00-21:15/15 22:07	05:21 20:31-20:47/16 21:21	06:23 20:06	07:23 07:52-08:20/28 18:45	07:29 16:29	08:29 15:42
5	04:33 21:00-21:16/16 22:06 05:49-05:53/4	05:23 20:32-20:45/13 21:19	06:25 20:03	07:25 07:54-08:19/25 18:43	07:31 08:43-08:51/8 16:27	08:30 15:41
6	04:35 21:00-21:16/16 22:06 05:48-05:55/7	05:25 20:33-20:43/10 21:17	06:27 20:01	07:27 07:56-08:17/21 18:40	07:33 08:42-08:54/12 16:25	08:32 15:41
7	04:36 21:00-21:17/17 22:05 05:47-05:56/9	05:27 20:33-20:41/8 21:15	06:29 19:58	07:29 07:59-08:15/16 18:37	07:35 08:40-08:56/16 16:23	08:33 15:40
8	04:37 21:00-21:17/17 22:04 05:46-05:57/11	05:29 20:35-20:40/5 21:13	06:31 19:55	07:31 08:01-08:13/12 18:35	07:37 08:38-09:00/22 16:21	08:35 15:40
9	04:38 21:00-21:17/17 22:03 05:45-05:58/13	05:31 20:35-20:37/2 21:10	06:33 19:53	07:33 18:32	07:40 08:38-09:03/25 16:19	08:36 15:39
10	04:39 21:00-21:17/17 22:02 05:44-05:59/15	05:33 21:00-21:17/17 21:08	06:35 19:50	07:35 18:30	07:42 08:37-09:04/27 16:17	08:38 15:39
11	04:41 20:59-21:17/18 22:01 05:44-05:59/15	05:35 20:59-21:17/18 21:06	06:37 19:47	07:38 18:27	07:44 08:38-09:06/28 16:15	08:39 15:38
12	04:42 20:59-21:18/19 22:00 05:44-06:01/17	05:37 21:04	06:39 19:44	07:40 18:24	07:46 08:37-09:06/29 16:13	08:40 15:38
13	04:43 21:00-21:18/18 21:59 05:43-06:01/18	05:39 21:01	06:41 19:42	07:42 18:22	07:48 08:38-09:07/29 16:11	08:41 15:38
14	04:45 21:00-21:18/18 21:57 05:43-06:02/19	05:41 20:59	06:43 19:39	07:44 18:19	07:50 08:37-09:08/31 16:09	08:42 15:38
15	04:46 21:00-21:18/18 21:56 05:42-06:02/20	05:43 20:56	06:45 19:36	07:46 18:17	07:52 08:37-09:08/31 16:07	08:43 15:38
16	04:48 21:01-21:17/16 21:55 05:43-06:03/20	05:45 20:54	06:47 19:34	07:48 18:14	07:55 08:38-09:09/31 16:06	08:44 15:38
17	04:49 21:00-21:16/16 21:54 05:42-06:03/21	05:47 20:52	06:49 19:31	07:50 18:12	07:57 08:38-09:09/31 16:04	08:45 15:38
18	04:51 21:00-21:14/14 21:52 05:42-06:04/22	05:49 20:49	06:51 19:28	07:52 18:09	07:59 08:39-09:08/29 16:02	08:46 15:38
19	04:52 21:01-21:13/12 21:51 05:42-06:04/22	05:51 20:47	06:53 19:26	07:54 18:07	08:01 08:40-09:09/29 16:01	08:47 15:38
20	04:54 21:01-21:11/10 21:49 05:42-06:05/23	05:53 20:44	06:55 19:23	07:56 18:04	08:03 08:40-09:09/29 15:59	08:47 15:38
21	04:56 21:02-21:11/9 21:48 05:42-06:04/22	05:55 20:42	06:57 19:20	07:59 18:02	08:05 08:42-09:09/27 15:57	08:48 15:39
22	04:57 21:03-21:10/7 21:46 05:42-06:05/23	05:57 20:39	06:59 19:18	08:01 17:59	08:07 08:44-09:08/24 15:56	08:49 15:39
23	04:59 21:04-21:08/4 21:44 05:41-06:05/24	05:59 20:37	07:01 08:05-08:17/12 19:15	08:03 17:57	08:09 08:47-09:09/22 15:55	08:49 15:40
24	05:01 20:40-20:42/2 05:42-06:05/23 21:43 21:05-21:07/2	06:01 20:34	07:03 08:02-08:19/17 19:12	08:05 17:54	08:11 08:49-09:08/19 15:53	08:50 15:40
25	05:03 20:37-20:45/8 21:41 05:42-06:04/22	06:03 20:32	07:05 08:00-08:20/20 19:09	07:07 16:52	08:13 08:51-09:08/17 15:52	08:50 15:41
26	05:04 20:36-20:47/11 21:39 05:42-06:04/22	06:05 20:29	07:07 07:59-08:21/22 19:07	07:09 16:50	08:15 08:53-09:07/14 15:50	08:50 15:42
27	05:06 20:35-20:48/13 21:37 05:43-06:04/21	06:07 20:27	07:09 07:57-08:22/25 19:04	07:11 16:47	08:17 08:55-09:07/12 15:49	08:50 15:43
28	05:08 20:33-20:48/15 21:35 05:43-06:03/20	06:09 20:24	07:11 07:52-08:22/30 19:01	07:14 16:45	08:18 08:57-09:06/9 15:48	08:51 15:44
29	05:10 20:33-20:49/16 21:33 05:44-06:03/19	06:11 20:22	07:13 07:50-08:22/32 18:59	07:16 16:43	08:20 09:00-09:06/6 15:47	08:51 15:44
30	05:12 20:33-20:50/17 21:31 05:46-06:03/17	06:13 20:19	07:15 07:49-08:23/34 18:56	07:18 16:40	08:22 09:02-09:04/2 15:46	08:51 15:45
31	05:14 20:32-20:49/17 21:30 05:48-06:02/14	06:15 20:16	 16:38	07:20 16:38	 15:47	08:51 15:47
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	925	129	192	202	559	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Mezares_AB211223

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Anna / anna@environment.lv
Calculated:
25/06/2024 23:53/4.0.540

Assumptions for shadow calculations

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

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

windPRO 4.0.540 by EMD International A/S. Tel. +45 69 16 48 50. www.emd-international.com. support@emd.dk

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Anna / anna@environment.lv
Calculated:
25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E13 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 05:08-05:41/33 22:09 20:31-21:07/36	05:16 05:50-06:11/21 21:28 20:19-20:27/8	06:17 06:47-07:44/57 20:14 20:19-20:27/8	07:17 07:46-08:19/33 18:54 18:54	07:23 07:55-08:19/24 14:01-14:05/4 16:36 09:52-10:00/8 08:26-09:22/56	08:24 09:25-11:03/98 15:45 13:30-14:33/63
2	04:31 05:08-05:40/32 22:08 20:32-21:08/36	05:18 05:51-06:12/21 06:19-06:25/6 21:26 20:17-20:29/12	06:19 06:49-07:44/55 20:11 20:11	07:19 07:48-08:18/30 18:51 18:51	07:25 07:57-08:18/21 13:55-14:17/22 16:34 09:47-10:04/7 08:26-09:21/55	08:26 09:25-11:04/99 15:44 13:30-14:33/63
3	04:32 05:10-05:41/31 22:08 20:32-21:08/36	05:19 05:53-06:13/20 06:16-06:27/11 21:24 20:16-20:31/15	06:21 06:51-07:43/52 20:09 20:09	07:21 07:50-08:16/26 18:48 18:48	07:27 08:00-08:18/18 13:53-14:21/28 16:32 09:44-10:09/25 08:27-09:22/55	08:27 09:26-11:05/99 15:43 13:30-14:32/62
4	04:33 05:10-05:41/31 22:07 20:32-21:08/36	05:21 05:55-06:14/19 06:15-06:29/14 21:22 20:15-20:32/17	06:23 06:53-07:43/50 20:06 20:06	07:23 07:52-08:20/28 16:53-17:01/8 18:46 17:05-17:18/13	07:29 08:02-08:18/16 13:50-14:22/32 16:29 09:41-10:12/31 08:27-09:22/55	08:29 09:26-11:06/100 15:42 13:31-14:32/61
5	04:34 05:11-05:42/31 22:07 20:33-21:08/35	05:23 05:57-06:30/23 21:24 20:16-20:31/15	06:25 06:55-07:42/47 20:03 20:03	07:25 07:54-08:21/27 18:48 18:48	07:31 08:05-08:18/13 13:48-14:24/36 16:27 09:39-10:14/35 08:27-09:21/54	08:31 09:27-11:07/100 15:42 13:32-14:32/60
6	04:35 05:12-05:42/30 22:06 20:33-21:08/35	05:25 05:58-06:30/32 21:22 20:15-20:32/19	06:27 06:57-07:40/43 20:01 20:01	07:27 07:56-08:23/27 18:40 16:45-17:22/37	07:33 08:07-08:18/11 13:42-13:47/5 08:29-09:22/53 16:25 09:38-10:17/39 13:48-14:26/38	08:32 09:27-11:08/101 15:41 13:33-14:33/60
7	04:36 05:13-05:42/29 22:05 20:34-21:08/34	05:27 06:00-06:31/31 21:15 20:12-20:33/21	06:29 06:58-07:39/41 19:58 19:58	07:29 07:58-08:25/27 18:38 16:43-17:22/39	07:36 13:37-14:26/49 08:29-09:21/52 16:23 09:36-10:18/42 08:09-08:17/8	08:34 09:27-11:08/101 15:40 13:32-14:32/60
8	04:37 05:14-05:42/28 22:04 20:34-21:08/34	05:29 06:02-06:32/30 21:13 20:12-20:33/21	06:31 07:00-07:38/38 19:55 19:55	07:32 08:01-08:27/26 18:35 16:41-17:23/42	07:38 13:35-14:28/53 08:28-09:21/53 16:21 09:36-10:20/44 08:12-08:16/4	08:35 09:29-11:09/100 15:40 13:34-14:32/58
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Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	1359	1710	1472	2507	4963	5052

Potential sun hours

Sum of minutes with flicker

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Anna / anna@environment.lv
Calculated:
25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E14 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 14:18-14:49/31 15:48 09:30-10:34/64 2 08:50 14:19-14:50/31 15:49 09:30-10:35/65 3 08:50 14:19-14:50/31 15:51 09:29-10:35/66 4 08:50 14:20-14:50/30 15:52 09:28-10:35/67 5 08:49 14:21-14:51/30 15:53 09:28-10:37/69 6 08:49 14:22-14:51/29 15:55 09:27-10:37/70 7 08:48 14:23-14:51/28 15:56 09:26-10:37/71 8 08:47 14:25-14:51/26 15:58 09:25-10:37/72 9 08:47 14:27-14:51/24 16:00 09:24-10:38/74 10 08:46 14:32-14:51/19 16:01 09:23-10:38/75 11 08:45 09:22-10:39/77 16:03 14:33-14:51/18 12 08:44 09:21-10:39/78 16:05 14:34-14:50/16 13 08:43 09:19-10:39/80 16:06 14:36-14:50/14 14 08:42 09:18-10:39/81 16:08 14:38-14:49/11 15 08:41 09:17-10:39/82 16:10 14:44-14:46/2 16 08:40 09:15-10:39/84 16:12 17 08:39 09:14-10:40/86 16:14 18 08:37 09:12-10:39/87 16:16 15:35-15:37/2 19 08:36 09:10-10:38/88 16:18 15:33-15:39/6 20 08:35 09:09-10:39/90 16:20 15:33-15:42/9 21 08:33 09:07-10:38/91 16:22 15:32-15:44/12 22 08:32 09:05-10:37/92 16:24 15:32-15:46/14 23 08:30 09:03-10:36/93 16:26 15:31-15:48/17 24 08:29 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05:18-05:41/23 21:42 05:47-06:24/37 04:44 05:17-05:41/24 21:43 05:47-06:25/38 04:42 05:16-05:41/25 21:45 05:48-06:25/37 04:41 05:14-05:39/25 21:46 05:47-06:24/37 04:40 05:14-05:38/24 21:48 05:48-06:24/36 04:38 05:14-05:36/22 21:50 05:48-06:24/36 04:37 05:14-05:35/21 21:51 05:48-06:24/36	04:36 05:14-05:35/21 21:52 05:49-06:24/35 04:35 05:14-05:36/22 21:54 05:49-06:24/35 04:34 05:15-05:37/22 21:55 05:49-06:24/35 04:33 05:14-05:37/23 21:56 05:50-06:24/34 04:32 05:14-05:37/23 05:07-05:09/2 21:58 05:50-06:24/34 04:31 05:14-05:36/22 05:06-05:09/3 21:59 05:51-06:24/33 04:30 05:15-05:37/22 05:06-05:11/5 22:00 05:52-06:24/32 04:29 05:15-05:37/22 05:05-05:11/6 22:01 05:52-06:24/32 04:28 05:14-05:38/22 05:05-05:12/7 22:02 05:52-06:23/31 04:28 05:15-05:37/22 05:04-05:12/8 22:03 05:52-06:24/32 04:27 05:16-05:38/22 05:04-05:13/9 22:04 05:53-06:24/31 04:27 05:16-05:37/21 05:03-05:13/10 22:05 05:53-06:23/30 04:26 05:16-05:38/22 05:03-05:14/11 22:06 05:54-06:24/30 04:25 05:17-05:38/21 05:03-05:14/11 22:07 05:54-06:24/30 04:26 05:17-05:38/21 05:03-05:15/12 22:07 05:55-06:24/29 04:26 05:18-05:39/21 05:03-05:15/12 22:08 05:54-06:23/29 04:25 05:17-05:38/21 05:02-05:15/13 22:08 05:55-06:23/28 04:25 05:17-05:38/21 05:02-05:15/13 22:09 05:55-06:24/29 04:25 05:18-05:39/20 05:03-05:16/13 22:09 05:55-06:24/29 04:25 05:19-05:39/20 05:03-05:16/13 22:10 05:56-06:25/29 04:25 05:19-05:39/20 05:03-05:16/13 22:10 05:56-06:25/29 04:26 05:18-05:39/21 05:03-05:16/13 22:10 05:56-06:25/29 04:26 05:19-05:40/21 05:04-05:17/13 22:10 05:57-06:26/29 04:26 05:19-05:40/21 05:04-05:17/13 22:10 05:57-06:26/29 04:27 05:20-05:41/21 05:05-05:18/13 22:10 05:57-06:26/29 04:27 05:20-05:41/21 05:05-05:18/13 22:10 05:57-06:26/29 04:29 05:20-05:41/21 05:06-05:17/11 22:10 05:57-06:27/30 04:29 05:20-05:41/21 05:07-05:17/10 22:09 05:57-06:27/30

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Anna / anna@environment.lv
Calculated:
25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E14 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 05:20-05:42/22 05:08-05:18/10 22:09 05:58-06:28/30	05:16 06:33-07:09/36 20:33-20:45/12 21:28 05:56-06:31/35	06:17 06:47-07:24/37 20:14	07:17 07:46-08:37/51 18:54 18:03-18:22/19	07:23 07:55-08:24/29 16:36 08:59-09:40/41	08:24 09:04-10:21/77 15:45 14:16-14:33/17
2	04:31 05:20-05:41/21 05:09-05:18/9 22:08 05:57-06:28/31	05:18 06:31-07:10/39 20:32-20:46/14 21:26 05:55-06:30/35	06:19 06:49-07:24/35 20:11	07:19 07:48-08:37/49 18:51 18:04-18:20/16	07:25 08:58-09:51/53 16:34 07:57-08:25/28	08:26 14:15-14:34/19 15:44 09:06-10:21/75
3	04:32 05:20-05:42/22 05:09-05:17/8 22:08 05:57-06:28/31	05:20 06:30-07:11/41 20:32-20:47/15 21:24 05:55-06:29/34	06:21 06:51-07:24/33 20:09	07:21 07:50-08:37/47 18:48 18:06-18:17/11	07:27 08:58-09:55/57 16:32 08:00-08:27/27	08:27 14:10-14:34/24 15:43 09:08-10:21/73
4	04:33 05:20-05:42/22 05:10-05:17/7 22:07 05:57-06:29/32	05:21 06:29-07:14/45 20:32-20:47/15 21:22 05:56-06:28/32	06:23 06:53-07:24/31 20:06	07:23 07:52-08:38/46 18:46	07:29 08:57-09:57/60 15:22-15:26/4 16:29 08:02-08:27/25	08:29 14:09-14:35/26 15:42 09:09-10:22/73
5	04:34 05:21-05:43/22 05:11-05:16/5 22:07 05:57-06:29/32	05:23 06:29-07:16/47 20:31-20:45/14 21:19 05:57-06:26/29	06:25 06:55-07:24/29 20:03	07:25 07:54-08:39/45 18:43	07:31 08:56-09:58/62 15:18-15:29/11 16:27 08:05-08:28/23	08:31 14:09-14:36/27 15:42 09:11-10:22/71
6	04:35 05:21-05:43/22 05:12-05:16/4 22:06 05:57-06:30/33	05:25 06:27-07:16/49 20:31-20:43/12 21:17 05:58-06:24/26	06:27 06:57-07:24/27 20:01	07:27 07:56-08:40/44 18:40	07:33 08:57-10:00/63 08:07-08:28/21 16:25 08:37-08:45/8 15:17-15:31/14	08:32 14:08-14:37/29 15:41 09:13-10:23/70
7	04:36 05:21-05:43/22 05:13-05:15/2 22:05 05:57-06:30/33	05:27 06:27-07:17/50 20:31-20:41/10 21:15 06:00-06:25/25	06:29 06:58-07:22/24 19:58	07:30 07:58-08:41/43 18:38 08:42-08:49/7	07:36 08:56-10:01/65 08:09-08:28/19 16:23 08:34-08:47/13 15:09-15:31/22	08:34 14:08-14:37/29 15:40 09:14-10:23/69
8	04:37 05:21-05:43/22 22:04 05:57-06:31/34	05:29 06:02-07:18/76 21:13 20:32-20:40/8	06:31 07:00-07:22/22 19:55	07:32 08:00-08:52/52 18:35	07:38 08:57-10:03/66 08:12-08:29/17 16:21 08:33-08:49/16 15:08-15:33/25	08:35 14:08-14:38/30 15:40 09:16-10:23/67
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10	04:39 05:21-05:43/22 22:02 05:56-06:31/35	05:33 06:06-07:20/74 21:08 20:32-20:35/3	06:35 07:04-07:19/15 19:50	07:36 08:05-08:56/51 18:30	07:42 08:56-10:03/67 08:17-08:29/12 16:17 08:32-08:51/19 15:05-15:33/28	08:38 14:08-14:39/31 15:39 09:19-10:24/65
11	04:41 05:22-05:44/22 22:01 05:57-06:32/35	05:35 06:08-07:21/73 21:06	06:37 07:06-07:17/11 19:47	07:38 08:07-08:57/50 18:27	07:44 08:57-10:05/68 08:19-08:29/10 16:15 08:31-08:51/20 15:05-15:34/29	08:39 14:08-14:40/32 15:39 09:20-10:24/64
12	04:42 05:22-05:44/22 22:00 05:57-06:33/36	05:37 06:09-07:20/71 21:04	06:39 07:08-07:15/7 19:45	07:40 08:09-08:57/48 18:25	07:46 08:57-10:05/68 08:21-08:28/7 08:54-08:56/2 16:13 08:31-08:52/21 15:04-15:34/30	08:40 14:09-14:41/32 15:38 09:22-10:25/63
13	04:43 05:22-05:44/22 21:59 05:57-06:33/36	05:39 06:11-07:21/70 21:01	06:41 07:54-08:01/7 19:42	07:42 08:11-08:58/47 18:22	07:49 08:31-10:06/95 15:04-15:34/30 16:11 08:24-08:28/4	08:41 14:09-14:41/32 09:23-09:25/2 15:38 09:26-10:26/60
14	04:45 05:22-05:44/24 21:58 05:56-06:33/37	05:41 06:13-07:21/68 20:59	06:43 07:50-08:13/23 19:39	07:44 08:13-08:58/45 18:20	07:51 08:31-10:06/95 16:09 15:04-15:33/29	08:43 14:09-14:41/32 09:24-09:25/1 15:38 09:26-10:26/60
15	04:46 05:23-05:48/25 21:56 05:57-06:34/37	05:43 06:15-07:22/67 20:57	06:45 07:47-08:15/28 19:37 18:46-18:52/6	07:46 08:16-08:58/42 18:17	07:53 08:32-10:06/94 16:08 15:04-15:30/26	08:44 14:09-14:42/33 15:38 09:27-10:26/59
16	04:48 05:24-05:49/25 21:55 05:57-06:34/37	05:45 06:17-07:22/65 20:54	06:47 07:45-08:17/32 19:34 18:43-18:54/11	07:48 08:18-08:58/40 18:14	07:55 08:32-10:07/95 16:06 15:05-15:29/24	08:45 14:10-14:42/32 15:38 09:28-10:26/58
17	04:49 05:26-05:50/24 21:54 05:56-06:33/37	05:47 06:19-07:22/63 20:52	06:49 07:44-08:18/34 19:31 18:42-18:55/13	07:50 08:20-08:58/38 18:12	07:57 08:33-10:07/94 16:04 15:05-15:27/22	08:45 14:10-14:43/33 15:38 09:29-10:27/58
18	04:51 05:27-05:51/24 21:52 05:57-06:34/37	05:49 06:21-07:22/61 20:49	06:51 07:43-08:19/36 18:14-18:21/7 19:29 18:40-18:55/15	07:52 08:22-08:57/35 18:09	07:59 08:36-10:09/93 16:02 15:05-15:24/19	08:46 14:11-14:43/32 15:38 09:29-10:28/59
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21	04:56 05:31-05:52/21 06:44-06:58/14 21:48 05:57-06:34/37	05:55 06:26-07:20/54 20:42	06:57 07:40-08:21/41 18:05-18:25/20 19:20 18:38-18:50/12	07:59 08:29-08:55/26 18:02	08:05 08:43-10:13/90 15:58 15:07-15:19/12	08:48 14:12-14:45/33 15:39 09:31-10:29/58
22	04:58 05:33-05:53/20 06:42-07:00/18 21:46 05:57-06:34/37	05:57 06:28-07:19/51 20:40	06:59 07:40-08:21/41 18:04-18:26/22 19:18 18:38-18:47/9	08:01 08:31-08:55/24 17:59	08:07 08:45-10:15/90 15:56 15:09-15:18/9	08:49 14:12-14:45/33 15:40 09:31-10:29/58
23	04:59 05:35-05:53/18 06:40-07:01/21 21:45 05:57-06:34/37	05:59 06:34-07:18/44 20:37 06:30-06:33/3	07:01 07:39-08:21/42 18:03-18:26/23 19:15 18:38-18:44/6	08:03 08:34-08:58/24 17:57	08:09 08:47-10:15/88 15:55 15:10-15:16/6	08:49 14:13-14:46/33 15:40 09:32-10:30/58
24	05:01 05:36-05:53/17 06:40-07:03/23 21:43 05:57-06:34/37	06:01 06:43-07:17/34 20:35	07:03 07:39-08:28/49 18:02-18:26/24 19:12 18:39-18:42/3	08:05 08:36-09:01/25 17:55	08:11 08:49-10:16/87 15:53 15:12-15:14/2	08:50 14:13-14:46/33 15:41 09:32-10:30/58
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26	05:05 05:58-06:34/36 06:37-07:05/28 21:39 05:39-05:52/13	06:05 06:43-07:15/32 20:29	07:07 07:39-08:33/54 19:07 18:01-18:26/25	07:10 07:41-08:09/28 16:50 09:08-09:27/19	08:15 08:54-10:17/83 15:51	08:50 14:14-14:47/33 15:42 09:33-10:31/58
27	05:06 05:58-06:34/36 06:37-07:07/30 21:37 05:41-05:52/11	06:07 06:43-07:14/31 20:27	07:09 07:40-08:34/54 19:04 18:01-18:25/24	07:12 07:43-08:13/30 16:48 09:05-09:29/24	08:17 08:56-10:19/83 15:49 14:24-14:26/2	08:51 14:14-14:47/33 15:43 09:33-10:31/58
28	05:08 05:58-06:34/36 06:36-07:08/32 21:36 05:43-05:52/9	06:09 06:42-07:16/34 20:24	07:11 07:40-08:35/55 19:02 18:01-18:25/24	07:14 07:45-08:15/30 16:45 09:03-09:30/27	08:19 08:58-10:19/81 15:48 14:19-14:29/10	08:51 14:15-14:48/33 15:44 09:33-10:32/59
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31	05:14 06:34-07:10/36 05:48-05:50/2 21:30 05:56-06:32/36 20:35-20:45/10	06:15 06:45-07:23/38 20:17	07:16 07:45-08:37/53 18:56 18:02-18:24/22	07:20 07:53-08:22/29 16:38 08:59-09:37/38	08:23 09:03-10:21/79 15:47	08:51 14:17-14:49/32 15:47 09:31-10:34/63
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	2046	1938	1395	1424	3128	2903

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Anna / anna@environment.lv
Calculated:
25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E15 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 14:05-14:16/11 10:17-10:19/2 15:48 14:34-14:52/18 08:50 14:06-14:16/10 15:49 14:34-14:52/18	08:15 08:45-09:20/35 16:06-16:10/4 16:45 09:21-09:24/3 15:38-15:52/14 08:13 08:43-09:16/33 15:36-15:55/19 16:47 16:05-16:13/8	07:11 07:37-07:58/21 17:48 15:43-15:49/6 07:08 07:34-07:55/21 17:50 19:55	06:49 07:14-07:49/35 19:53 06:46 07:11-07:47/36 19:55	05:33 06:00-06:11/11 20:55 05:30 05:58-06:11/13 20:57	04:36 05:22-05:50/28 21:52 04:35 05:21-05:51/30 21:54
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Potential sun hours	235	266	366	426	508	528
Sum of minutes with flicker	665	1697	850	473	725	1269

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment
Vilandes 3-6
LV-1010 Riga
0037167242411
Anna / anna@environment.lv
Calculated:
25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E15 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 05:25-06:00/35 22:09 21:21-21:28/7	05:16 20:29-20:51/22 21:28	06:17 07:03-07:22/19 20:14	07:17 07:56-08:14/18 18:54 17:46-18:07/21	07:22 08:09-08:41/32 14:57-15:35/38 16:36 15:36-15:51/15	08:24 14:27-14:34/7 15:45
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29	05:10 20:28-20:52/24 21:34	06:11 07:10-07:16/6 20:22	07:13 17:48-18:05/17 18:59 08:03-08:04/1	07:16 08:11-08:29/18 14:56-15:36/40 16:43 15:42-15:45/3	08:20 09:00-09:04/4 15:47	08:51 14:02-14:16/14 10:12-10:21/9 15:45 14:32-14:51/19
30	05:12 20:29-20:52/23 21:32	06:13 07:07-07:19/12 20:19	07:15 07:58-08:08/10 18:56 17:48-18:07/19	07:18 08:10-08:33/23 14:56-15:36/40 16:41 15:38-15:48/10	08:22 09:02-09:03/1 15:46 14:28-14:32/4	08:51 14:03-14:17/14 10:13-10:21/8 15:46 14:33-14:52/19
31	05:14 20:29-20:52/23 21:30	06:15 07:05-07:21/16 20:17		07:20 08:09-08:35/26 14:56-15:35/39 16:38 15:36-15:49/13		08:51 14:03-14:16/13 10:15-10:21/6 15:47 14:33-14:51/18
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	924	381	671	1452	1243	1100

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E16 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January		February		March		April		May		June	
1	08:51	14:50-15:05/15	08:15	08:45-09:01/16	07:11		06:49		05:33	19:54-20:06/12	04:36	19:55-20:29/34
	15:48	12:40-13:22/42	16:45		17:47		19:53		20:55		21:52	
2	08:50	14:50-15:06/16	08:13	08:43-09:01/18	07:08		06:46		05:30	19:56-20:04/8	04:35	19:55-20:29/34
	15:49	12:40-13:22/42	16:47	16:00-16:08/8	17:50		19:55		20:57		21:54	
3	08:50	14:51-15:08/17	08:11	08:41-09:01/20	07:06		06:43		05:28	05:56-05:58/2	04:34	19:56-20:29/33
	15:51	12:41-13:23/42	16:50	15:58-16:12/14	17:52		19:57		20:59	20:11-20:12/1	21:55	
4	08:50	14:51-15:09/18	08:09	08:39-09:01/22	07:03		06:41		05:26	05:54-06:00/6	04:33	19:56-20:28/32
	15:52	12:41-13:23/42	16:52	15:56-16:14/18	17:54		19:59		21:01	20:05-20:18/13	21:56	
5	08:49	14:51-15:11/20	08:07	08:37-09:01/24	07:00		06:38		05:23	05:52-06:01/9	04:32	19:57-20:29/32
	15:53	12:42-13:23/41	16:54	15:54-16:15/21	17:56		20:01		21:03	20:02-20:20/18	21:58	
6	08:49	14:52-15:12/20	08:05	08:34-08:59/25	06:58		06:35		05:21	05:50-06:01/11	04:31	19:57-20:28/31
	15:55	12:43-13:24/41	16:56	15:53-16:17/24	17:58		20:03		21:06	20:00-20:22/22	21:59	
7	08:48	14:52-15:12/20	08:02	08:34-08:58/24	06:55		06:33		05:19	05:48-06:02/14	04:30	19:58-20:28/30
	15:56	12:43-13:24/41	16:59	15:53-16:18/25	18:00		20:05		21:08	19:59-20:24/25	22:00	
8	08:47	14:53-15:13/20	08:00	08:35-08:55/20	06:53		06:30	06:56-07:06/10	05:17	05:46-06:02/16	04:29	19:59-20:28/29
	15:58	12:44-13:25/41	17:01	15:51-16:18/27	18:03		20:07		21:10	19:57-20:25/28	22:01	
9	08:47	14:53-15:13/20	07:58	08:35-08:51/16	06:50	07:16-07:18/2	06:27	06:53-07:08/15	05:15	05:44-06:02/18	04:29	19:59-20:28/29
	15:59	12:45-13:25/40	17:03	15:51-16:19/28	18:05		20:10		21:12	19:56-20:26/30	22:02	
10	08:46	14:53-15:14/21	07:56	08:36-08:49/13	06:47	07:13-07:19/6	06:25	06:50-07:10/20	05:13	05:44-06:02/18	04:28	20:00-20:28/28
	16:01	12:45-13:25/40	17:05	15:51-16:20/29	18:07		20:12		21:14	19:55-20:26/31	22:03	
11	08:45	14:54-15:14/20	07:54	08:38-08:47/9	06:45	07:10-07:19/9	06:22	06:49-07:11/22	05:11	05:44-06:01/17	04:27	20:00-20:27/27
	16:03	12:46-13:25/39	17:08	15:50-16:20/30	18:09		20:14		21:16	19:54-20:27/33	22:04	
12	08:44	14:54-15:14/20	07:52	08:41-08:43/2	06:42	07:08-07:20/12	06:20	06:48-07:11/23	05:08	05:44-06:01/17	04:27	20:00-20:28/28
	16:05	12:46-13:25/39	17:10	15:51-16:20/29	18:11		20:16		21:18	19:54-20:27/33	22:05	
13	08:43	14:55-15:14/19	07:49	15:51-16:21/30	06:39	07:05-07:20/15	06:17	06:47-07:12/25	05:06	05:45-06:01/16	04:26	20:01-20:28/27
	16:06	12:47-13:25/38	17:12		18:13		20:18		21:19	19:53-20:28/35	22:06	
14	08:42	14:55-15:15/20	07:47	15:51-16:20/29	06:37	07:02-07:19/17	06:14	06:46-07:12/26	05:05	05:45-06:00/15	04:26	20:02-20:28/26
	16:08	12:48-13:25/37	17:14		18:15		20:20		21:21	19:53-20:29/36	22:06	
15	08:41	14:56-15:14/18	07:45	15:51-16:20/29	06:34	07:00-07:19/19	06:12	06:46-07:13/27	05:03	05:46-05:59/13	04:26	20:02-20:27/25
	16:10	12:48-13:25/37	17:17		18:17		20:22		21:23	19:53-20:29/36	22:07	
16	08:40	14:57-15:15/18	07:42	15:51-16:20/29	06:31	06:59-07:17/18	06:09	06:45-07:12/27	05:01	05:47-05:58/11	04:26	20:02-20:28/26
	16:12	12:50-13:25/35	17:19		18:20		20:24		21:25	19:52-20:29/37	22:08	
17	08:39	14:57-15:14/17	07:40	15:52-16:19/27	06:29	07:00-07:15/15	06:07	06:45-07:12/27	04:59	05:49-05:57/8	04:25	20:02-20:28/26
	16:14	12:50-13:24/34	17:21		18:22		20:26		21:27	19:52-20:30/38	22:08	
18	08:37	14:59-15:14/15	07:38	15:53-16:18/25	06:26	06:51-06:55/4	06:04	06:44-07:11/27	04:57	05:51-05:54/3	04:25	20:03-20:28/25
	16:16	12:52-13:25/33	17:23		18:24	07:00-07:13/13	20:28		21:29	19:52-20:29/37	22:09	
19	08:36	14:59-15:13/14	07:35	15:54-16:18/24	06:23	06:49-06:57/8	06:02	06:45-07:11/26	04:55	19:51-20:29/38	04:25	20:03-20:28/25
	16:18	12:52-13:24/32	17:25		18:26	07:02-07:11/9	20:30		21:31		22:09	
20	08:35	15:01-15:12/11	07:33	15:55-16:16/21	06:21	06:46-06:57/11	05:59	19:56-20:02/6	04:53	19:52-20:30/38	04:25	20:03-20:28/25
	16:20	12:53-13:23/30	17:28		18:28		20:32	06:45-07:11/26	21:33		22:09	
21	08:33	15:04-15:11/7	07:31	15:57-16:14/17	06:18	06:43-06:57/14	05:57	19:55-20:04/9	04:52	19:52-20:29/37	04:25	20:04-20:29/25
	16:22	12:55-13:23/28	17:30		18:30		20:34	06:45-07:09/24	21:35		22:10	
22	08:32	12:57-13:22/25	07:28	15:59-16:11/12	06:15	06:41-06:57/16	05:54	19:54-20:06/12	04:50	19:52-20:30/38	04:26	20:04-20:29/25
	16:24		17:32		18:32		20:37	06:46-07:09/23	21:36		22:10	
23	08:30	12:58-13:20/22	07:26		06:13	06:40-06:56/16	05:52	19:53-20:08/15	04:48	19:53-20:30/37	04:26	20:04-20:29/25
	16:26		17:34		18:34		20:39	06:46-07:07/21	21:38		22:10	
24	08:29	13:00-13:19/19	07:23		06:10	06:40-06:55/15	05:49	19:52-20:10/18	04:47	19:52-20:30/38	04:26	20:04-20:29/25
	16:28		17:37		18:36		20:41	06:48-07:05/17	21:40		22:10	
25	08:27	13:03-13:16/13	07:21		06:07	06:42-06:54/12	05:47	19:52-20:11/19	04:45	19:53-20:30/37	04:26	20:05-20:30/25
	16:30		17:39		18:38		20:43	06:50-07:04/14	21:41		22:10	
26	08:25		07:18		06:05	06:43-06:52/9	05:44	19:51-20:10/19	04:44	19:53-20:30/37	04:27	20:04-20:30/26
	16:32		17:41		18:40		20:45	06:52-07:00/8	21:43		22:10	
27	08:24	08:56-08:58/2	07:16		06:02		05:42	19:52-20:10/18	04:42	19:53-20:29/36	04:27	20:05-20:30/25
	16:34		17:43		18:43		20:47		21:45		22:10	
28	08:22	08:54-08:59/5	07:13		05:59		05:40	19:52-20:10/18	04:41	19:53-20:29/36	04:28	20:04-20:30/26
	16:36		17:45		18:45		20:49		21:46		22:10	
29	08:20	08:52-09:00/8			06:57		05:37	19:52-20:08/16	04:40	19:54-20:29/35	04:29	20:05-20:31/26
	16:39				19:47		20:51		21:48		22:09	
30	08:18	08:50-09:01/11			06:54		05:35	19:53-20:07/14	04:38	19:54-20:29/35	04:29	20:05-20:32/27
	16:41				19:49		20:53		21:49		22:09	
31	08:16	08:48-09:01/13			06:51				04:37	19:55-20:29/34		
	16:43				19:51				21:51			
Potential sun hours	235		266		366		426		508		528	
Sum of minutes with flicker	1278		705		240		572		1143		827	

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E16 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July		August		September		October		November		December	
1	04:30	20:04-20:32/28	05:16	05:55-06:12/17	06:17	06:48-07:10/22	07:17	07:46-07:59/13	07:22	08:05-08:18/13	08:24	14:35-14:55/20
	22:09		21:28	20:04-20:37/33	20:14		18:54		16:36	15:21-15:50/29	15:45	12:28-13:08/40
2	04:31	20:04-20:32/28	05:18	05:54-06:12/18	06:19	06:49-07:09/20	07:19	07:48-07:59/11	07:25	08:04-08:21/17	08:26	14:36-14:56/20
	22:08		21:26	20:05-20:37/32	20:11		18:51		16:34	15:21-15:49/28	15:44	12:27-13:07/40
3	04:32	20:04-20:33/29	05:20	05:54-06:12/18	06:21	06:51-07:07/16	07:21	07:50-07:58/8	07:27	08:04-08:26/22	08:27	14:36-14:56/20
	22:08		21:24	20:06-20:36/30	20:09		18:48		16:32	15:21-15:48/27	15:43	12:28-13:08/40
4	04:33	20:04-20:34/30	05:21	05:55-06:12/17	06:23	06:53-07:04/11	07:23	07:52-07:56/4	07:29	08:03-08:28/25	08:29	14:37-14:57/20
	22:07		21:21	20:07-20:36/29	20:06		18:46		16:29	15:23-15:48/25	15:42	12:28-13:09/41
5	04:34	20:04-20:34/30	05:23	05:57-06:12/15	06:25		07:25		07:31	08:04-08:29/25	08:31	14:37-14:58/21
	22:06		21:19	20:07-20:34/27	20:03		18:43		16:27	15:23-15:46/23	15:42	12:29-13:09/40
6	04:35	20:04-20:35/31	05:25	05:58-06:11/13	06:27		07:27		07:33	08:07-08:31/24	08:32	14:38-14:58/20
	22:06		21:17	20:08-20:33/25	20:01		18:40		16:25	15:25-15:46/21	15:41	12:29-13:10/41
7	04:36	20:04-20:35/31	05:27	06:00-06:10/10	06:29		07:29		07:35	08:09-08:31/22	08:34	14:38-14:58/20
	22:05		21:15	20:10-20:31/21	19:58		18:38		16:23	15:26-15:44/18	15:40	12:29-13:10/41
8	04:37	20:04-20:35/31	05:29	06:02-06:10/8	06:31		07:31		07:38	08:12-08:32/20	08:35	14:39-14:58/19
	22:04		21:13	20:12-20:29/17	19:55		18:35		16:21	15:28-15:41/13	15:40	12:30-13:11/41
9	04:38	20:03-20:36/33	05:31	06:04-06:09/5	06:33		07:34		07:40	08:14-08:32/18	08:36	14:39-14:56/17
	22:03		21:11	20:15-20:26/11	19:53		18:32		16:19	15:31-15:38/7	15:39	12:29-13:11/42
10	04:39	20:03-20:36/33	05:33	20:07-20:10/3	06:35		07:36		07:42	08:16-08:31/15	08:38	14:40-14:56/16
	22:02		21:08	06:06-06:07/1	19:50		18:30		16:17		15:39	12:30-13:12/42
11	04:41	20:03-20:36/33	05:35	20:04-20:13/9	06:37		07:38		07:44	08:19-08:32/13	08:39	14:40-14:56/16
	22:01		21:06		19:47		18:27		16:15		15:39	12:30-13:12/42
12	04:42	20:03-20:38/35	05:37	20:02-20:15/13	06:39		07:40		07:46	08:21-08:31/10	08:40	14:41-14:55/14
	22:00		21:04		19:45		18:25		16:13		15:38	12:30-13:12/42
13	04:43	20:03-20:38/35	05:39	20:01-20:16/15	06:41		07:42		07:48	08:24-08:32/8	08:41	14:42-14:55/13
	21:59		21:01		19:42		18:22		16:11		15:38	12:32-13:14/42
14	04:45	20:02-20:38/36	05:41	20:00-20:17/17	06:43		07:44		07:51	08:26-08:31/5	08:42	14:43-14:55/12
	21:58		20:59		19:39		18:19		16:09		15:38	12:32-13:14/42
15	04:46	20:02-20:38/36	05:43	19:59-20:17/18	06:45		07:46		07:53	08:28-08:30/2	08:43	14:43-14:55/12
	21:56		20:57		19:37		18:17		16:08		15:38	12:32-13:14/42
16	04:48	20:03-20:39/36	05:45	19:59-20:18/19	06:47		07:48		07:55		08:44	14:44-14:54/10
	21:55		20:54		19:34		18:14		16:06		15:38	12:33-13:15/42
17	04:49	20:02-20:39/37	05:47	19:58-20:17/19	06:49	07:32-07:40/8	07:50		07:57	12:37-12:50/13	08:45	14:44-14:55/11
	21:54		20:52	06:59-07:08/9	19:31		18:12		16:04		15:38	12:33-13:15/42
18	04:51	20:02-20:40/38	05:49	19:58-20:17/19	06:51	07:29-07:42/13	07:52		07:59	12:34-12:53/19	08:46	14:45-14:55/10
	21:52		20:49	06:55-07:10/15	19:28		18:09		16:02		15:38	12:34-13:16/42
19	04:53	20:02-20:39/37	05:51	19:58-20:15/17	06:53	07:28-07:43/15	07:54	16:34-16:38/4	08:01	12:33-12:55/22	08:47	14:45-14:54/9
	21:51		20:47	06:53-07:11/18	19:26		18:07		16:01		15:38	12:34-13:16/42
20	04:54	20:02-20:40/38	05:53	19:58-20:13/15	06:55	07:27-07:43/16	07:57	16:30-16:43/13	08:03	12:32-12:57/25	08:48	14:46-14:55/9
	21:49		20:44	06:52-07:13/21	19:23		18:04		15:59		15:39	12:34-13:17/43
21	04:56	20:02-20:40/38	05:55	19:59-20:11/12	06:57	07:26-07:43/17	07:59	16:27-16:45/18	08:05	14:39-14:46/7	08:48	14:46-14:55/9
	21:48		20:42	06:51-07:14/23	19:20		18:02		15:58	12:30-12:58/28	15:39	12:34-13:16/42
22	04:58	20:02-20:40/38	05:57	20:00-20:08/8	06:59	07:28-07:43/15	08:01	16:25-16:46/21	08:07	14:37-14:48/11	08:49	14:47-14:56/9
	21:46		20:40	06:50-07:14/24	19:18		17:59		15:56	12:30-13:00/30	15:39	12:35-13:17/42
23	04:59	20:02-20:40/38	05:59	20:01-20:06/5	07:01	07:30-07:42/12	08:03	16:24-16:48/24	08:09	14:37-14:50/13	08:49	14:47-14:56/9
	21:44		20:37	06:49-07:15/26	19:15		17:57		15:55	12:29-13:01/32	15:40	12:35-13:17/42
24	05:01	20:02-20:40/38	06:01	06:48-07:15/27	07:03	07:32-07:41/9	08:05	16:23-16:49/26	08:11	14:36-14:51/15	08:50	14:48-14:57/9
	21:43		20:34		19:12	07:47-07:54/7	17:55		15:53	12:29-13:02/33	15:41	12:37-13:19/42
25	05:03	20:02-20:39/37	06:03	06:48-07:15/27	07:05	07:34-07:40/6	07:07	15:21-15:49/28	08:13	14:35-14:52/17	08:50	14:48-14:58/10
	21:41		20:32		19:10	07:44-07:56/12	16:52		15:52	12:28-13:02/34	15:41	12:37-13:19/42
26	05:05	06:00-06:06/6	06:05	06:48-07:15/27	07:07	07:36-07:38/2	07:09	15:21-15:49/28	08:15	14:35-14:53/18	08:50	14:48-14:58/10
	21:39	20:02-20:39/35	20:29		19:07	07:43-07:57/14	16:50		15:51	12:28-13:03/35	15:42	12:37-13:19/42
27	05:06	05:58-06:08/10	06:07	06:47-07:14/27	07:09	07:41-07:58/17	07:12	15:21-15:50/29	08:17	14:35-14:53/18	08:51	14:49-14:59/10
	21:37	20:03-20:40/37	20:27		19:04		16:47		15:49	12:27-13:04/37	15:43	12:38-13:20/42
28	05:08	05:57-06:10/13	06:09	06:47-07:13/26	07:11	07:41-07:59/18	07:14	15:20-15:50/30	08:19	14:35-14:54/19	08:51	14:49-15:00/11
	21:35	20:02-20:39/37	20:24		19:02		16:45		15:48	12:28-13:06/38	15:44	12:38-13:20/42
29	05:10	05:56-06:10/14	06:11	06:47-07:13/26	07:13	07:42-08:00/18	07:16	15:21-15:50/29	08:20	14:36-14:55/19	08:51	14:49-15:01/12
	21:34	20:03-20:39/36	20:22		18:59		16:43		15:47	12:28-13:06/38	15:45	12:39-13:21/42
30	05:12	05:55-06:11/16	06:13	06:47-07:12/25	07:15	07:44-08:00/16	07:18	08:09-08:14/5	08:22	14:36-14:56/20	08:51	14:50-15:03/13
	21:32	20:04-20:39/35	20:19		18:56		16:40	15:20-15:50/30	15:46	12:28-13:07/39	15:46	12:39-13:21/42
31	05:14	05:55-06:12/17	06:15	06:48-07:11/23			07:20	08:06-08:16/10			08:51	14:50-15:03/13
	21:30	20:04-20:39/35	20:16				16:38	15:20-15:49/29			15:47	12:39-13:21/42
Potential sun hours	529		469		385		324		248		216	
Sum of minutes with flicker	1148		880		284		360		1010		1715	

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E2 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	04:35 21:52	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:51	07:24 16:33	08:26 15:44
3	08:50 15:50	08:11 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:33 21:55	04:31 22:08	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	08:50 15:52	08:09 16:52	07:03 17:54	06:40 19:59	05:25 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 21:58	04:33 22:06	05:23 21:19	06:25 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	08:49 15:54	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	07:33 16:25	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:32 20:05	05:19 21:07	04:30 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 16:23	08:34 15:40
8	08:47 15:57	08:00 17:01	06:52 18:02	06:30 20:07	05:16 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:39
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	07:40 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:30	07:42 16:17	08:38 15:38
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:15	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	07:44 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:16	05:08 21:17	04:26 22:05	04:42 22:00	05:37 21:04	06:39 19:44	07:40 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	04:26 22:06	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	07:50 16:09	08:42 15:37
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:25 22:07	04:46 21:56	05:43 20:57	06:45 19:36	07:46 18:17	07:53 16:07	08:43 15:37
16	08:40 16:11	07:42 17:18	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:05	08:44 15:37
17	08:38 16:13	07:40 17:21	06:29 18:21	06:06 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	08:37 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00	08:47 15:38
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:48 15:39
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56	08:49 15:39
23	08:30 16:25	07:25 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:40
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	08:27 16:30	07:21 17:38	06:07 18:38	05:46 20:43	04:45 21:41	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:49	08:15 15:50	08:50 15:42
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:42
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	08:20 16:38	08:20 19:46	06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:22	07:13 18:59	07:16 16:42	08:20 15:47	08:51 15:44
30	08:18 16:40	08:18 19:49	06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	08:16 16:43	08:16 19:51	06:51 19:51	05:35 20:53	04:37 21:51	05:13 21:30	06:15 20:16	07:20 16:38	07:20 16:38	07:20 16:38	07:20 16:38	08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E3 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	05:32 20:55	06:00-06:20/20 20:55	04:36 21:52	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:36
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	06:00-06:20/20 20:57	04:34 21:54	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:51	07:24 16:33
3	08:50 15:50	08:11 16:49	07:05 17:52	06:43 19:57	05:28 20:59	06:00-06:20/20 20:59	04:33 21:55	04:31 22:08	05:19 21:23	06:21 20:08	07:21 18:48	07:27 16:31
4	08:49 15:52	08:09 16:52	07:03 17:54	06:40 19:59	05:25 21:01	06:00-06:20/20 21:01	04:32 21:56	04:32 22:07	05:21 21:21	06:15-06:22/7 20:06	07:23 18:45	07:29 16:29
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	06:00-06:19/19 21:03	04:31 21:58	04:33 22:06	05:23 21:19	06:12-06:24/12 20:06	07:25 18:43	07:31 16:27
6	08:49 15:54	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	06:01-06:18/17 21:05	04:30 21:59	04:34 22:06	05:25 21:17	06:11-06:26/15 20:00	07:27 18:40	07:33 16:25
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	06:02-06:16/14 21:07	04:30 22:00	04:35 22:05	05:27 21:15	06:10-06:28/18 19:58	07:29 18:37	07:35 16:23
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	06:03-06:14/11 21:09	04:29 22:01	04:37 22:04	05:29 21:13	06:10-06:28/18 19:55	07:31 18:35	07:38 16:21
9	08:47 15:59	07:58 17:03	06:50 18:04	06:27 20:09	05:14 21:11	06:05-06:11/6 21:11	04:28 22:02	04:38 22:03	05:31 21:10	06:09-06:29/20 19:52	07:33 18:32	07:40 16:19
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:13	06:05-06:11/6 21:13	04:28 22:03	04:39 22:02	05:33 21:08	06:08-06:29/21 19:50	07:35 18:30	07:42 16:17
11	08:45 16:02	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:15	06:05-06:11/6 21:15	04:27 22:04	04:40 22:01	05:35 21:06	06:08-06:29/21 19:47	07:37 18:27	07:44 16:15
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:16	05:08 21:17	06:05-06:11/6 21:17	04:26 22:05	04:42 22:00	05:37 21:04	06:09-06:29/20 19:44	07:40 18:24	07:46 16:13
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	05:06 21:19	06:05-06:11/6 21:19	04:26 22:06	04:43 21:59	05:39 21:01	06:11-06:29/18 19:42	07:42 18:22	07:48 16:11
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	05:04 21:21	06:05-06:11/6 21:21	04:26 22:06	04:44 21:58	05:41 20:59	06:13-06:28/15 19:39	07:44 18:19	07:50 16:09
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	06:05-06:11/6 21:23	04:25 22:07	04:46 21:56	05:43 20:56	06:15-06:28/13 19:36	07:46 18:17	07:53 16:07
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	06:05-06:11/6 21:25	04:25 22:08	04:47 21:55	05:45 20:54	06:17-06:27/10 19:34	07:48 18:14	07:55 16:06
17	08:38 16:13	07:40 17:21	06:29 18:21	06:06 20:26	04:58 21:27	06:05-06:11/6 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:18-06:25/7 19:31	07:50 18:12	07:57 16:04
18	08:37 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	06:05-06:11/6 21:29	04:25 22:09	04:51 21:52	05:49 20:49	06:20-06:23/3 19:28	07:52 18:09	07:59 16:02
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	06:05-06:11/6 21:31	04:25 22:09	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:00
20	08:35 16:19	07:33 17:27	06:21 18:28	05:59 20:32	04:53 21:33	06:05-06:11/6 21:33	04:25 22:09	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 15:59
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:34	06:05-06:11/6 21:34	04:25 22:10	04:55 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	06:05-06:11/6 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	08:07 15:56
23	08:30 16:25	07:25 17:34	06:13 18:34	05:51 20:39	04:48 21:38	06:05-06:11/6 21:38	04:25 22:10	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:54
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:46 21:40	06:05-06:11/6 21:40	04:26 22:10	05:01 21:43	06:01 20:34	07:03 19:12	08:05 17:54	08:11 15:53
25	08:27 16:30	07:21 17:38	06:07 18:38	05:47 20:43	04:45 21:41	06:05-06:11/6 21:41	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:07 16:52	08:13 15:52
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	04:43 21:43	06:05-06:11/6 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 21:45	06:05-06:11/6 21:45	04:27 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49
28	08:22 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	06:05-06:11/6 21:46	04:28 22:10	05:08 21:35	06:09 20:24	07:11 19:01	07:14 16:45	08:19 15:48
29	08:20 16:38	07:11 17:46	06:56 18:46	05:37 20:51	04:39 21:48	06:05-06:11/6 21:48	04:28 22:09	05:10 21:33	06:11 20:22	07:13 18:59	07:16 16:42	08:20 15:47
30	08:18 16:41	07:04 17:54	06:54 18:54	05:35 20:53	04:38 21:49	06:05-06:11/6 21:49	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 16:40	08:22 15:46
31	08:16 16:43	07:01 17:51	06:51 18:51	05:31 20:51	04:37 21:51	06:05-06:11/6 21:51	04:29 22:10	05:13 21:30	06:15 20:16	07:20 18:56	07:20 16:38	08:51 15:46
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Sum of minutes with flicker	0	0	0	70	147	0	0	218	0	0	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E4 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December		
1	08:50 15:48	08:14 16:45	07:10 17:47	06:48 19:53	07:14-07:33/19 20:55	05:32 20:55	06:00-06:10/10 21:52	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 16:36	08:24 15:45	
2	08:50 15:49	08:12 16:47	07:08 17:49	06:46 19:55	07:11-07:32/21 20:57	05:30 20:57	05:58-06:10/12 21:54	04:34 22:08	04:31 21:25	05:17 20:11	06:19 18:51	07:24 16:33	08:26 15:44	
3	08:50 15:50	08:11 16:49	07:05 17:52	06:43 19:57	07:09-07:31/22 20:59	05:28 20:59	05:56-06:10/14 21:55	04:33 22:08	04:31 21:23	05:19 20:08	06:21 20:08	07:13-07:16/3 18:48	07:27 16:31	08:27 15:43
4	08:49 15:52	08:09 16:52	07:03 17:54	06:40 19:59	07:09-07:31/22 21:01	05:25 21:01	05:54-06:10/16 21:56	04:32 22:07	04:32 21:21	05:21 20:06	06:08-06:16/8 20:06	07:08-07:19/11 18:45	07:23 16:29	08:29 15:42
5	08:49 15:53	08:06 16:54	07:00 17:56	06:38 20:01	07:09-07:29/20 21:03	05:23 21:03	05:55-06:10/15 21:58	04:31 22:06	04:33 21:19	05:23 20:03	06:06-06:17/11 20:03	07:06-07:21/15 18:43	07:25 16:27	08:30 15:41
6	08:48 15:55	08:04 16:56	06:58 17:58	06:38 20:03	07:10-07:28/18 21:05	05:33 21:05	05:55-06:09/14 21:59	04:31 22:06	04:34 21:17	05:25 20:00	06:05-06:18/13 20:00	06:27 16:25	07:23 15:41	08:32 15:41
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	07:10-07:25/15 21:07	05:19 21:07	05:56-06:08/12 22:00	04:30 22:05	04:35 21:15	05:27 20:06	06:04-06:19/15 19:58	06:29 18:37	07:24 16:23	08:33 15:40
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	07:11-07:22/11 21:09	05:17 21:09	05:57-06:07/10 22:01	04:29 22:04	04:37 21:13	05:29 20:06	06:04-06:19/15 19:55	07:04-07:25/21 18:35	07:31 16:21	08:35 15:39
9	08:46 15:59	07:58 17:03	06:50 18:04	06:27 20:09	07:15-07:18/3 21:11	05:14 21:11	05:59-06:05/6 22:02	04:28 22:03	04:38 21:10	05:31 19:52	06:04-06:20/16 19:52	07:03-07:25/22 18:32	07:33 16:19	08:36 15:39
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	06:25 21:13	05:12 21:13	06:25 22:03	04:28 22:02	04:39 21:08	05:33 19:50	06:05-06:19/14 19:50	07:04-07:25/21 18:30	07:35 16:17	08:38 15:39
11	08:45 16:03	07:54 17:07	06:45 18:09	06:22 20:13	06:22 21:15	05:10 21:15	06:22 22:04	04:27 22:01	04:40 21:06	05:35 19:47	06:07-06:19/12 19:47	07:06-07:25/19 18:27	07:37 16:15	08:39 15:38
12	08:44 16:04	07:51 17:10	06:42 18:11	06:19 20:16	07:07-07:10/1 21:17	05:08 21:17	06:19 22:05	04:27 22:00	04:42 21:04	05:37 19:44	06:09-06:18/9 19:44	07:08-07:24/16 18:24	07:46 16:13	08:40 15:38
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	07:07-07:10/1 21:19	05:06 21:19	06:17 22:06	04:26 21:59	04:43 21:01	05:39 19:42	06:11-06:18/7 19:42	07:10-07:24/14 18:22	07:48 16:11	08:41 15:38
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	06:04 21:21	05:04 21:21	06:04 22:06	04:26 21:58	04:45 20:59	05:41 19:39	06:13-06:17/4 19:39	07:12-07:22/10 18:19	07:50 16:09	08:42 15:38
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	06:12 21:23	05:02 21:23	06:12 22:07	04:25 21:56	04:46 20:56	05:43 19:36	06:14-07-17/21/7 19:36	07:14-07-21/7 18:17	07:46 16:07	08:43 15:38
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	06:09 21:25	05:00 21:25	06:09 22:08	04:47 21:55	05:45 20:54	06:47 19:34	07:16-07-18/2 19:34	07:48 16:06	07:55 15:38	08:44 15:38
17	08:38 16:13	07:40 17:21	06:29 18:21	06:07 20:26	06:07 21:27	04:58 21:27	06:07 22:08	04:49 21:54	05:47 20:52	06:49 19:31	06:49 18:12	07:57 16:04	08:45 15:38	
18	08:37 16:15	07:38 17:23	06:26 18:24	06:06 20:28	06:06 21:29	04:57 21:29	06:06 22:09	04:51 21:52	05:49 20:49	06:51 19:28	06:51 18:09	07:52 16:02	08:46 15:38	
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	06:01 21:31	04:55 21:31	06:01 22:09	04:52 21:51	05:51 20:47	06:53 19:26	06:53 18:07	08:01 16:00	08:47 15:38	
20	08:34 16:19	07:33 17:27	06:21 18:28	05:59 20:32	05:59 21:33	04:53 21:33	05:59 22:09	04:54 21:49	05:53 20:44	06:55 19:23	06:55 18:04	08:03 15:59	08:48 15:38	
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	05:56 21:34	04:51 21:34	05:56 22:10	04:55 21:48	05:55 20:42	06:57 19:20	06:57 18:02	08:05 15:57	08:48 15:39	
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	05:54 21:36	04:50 21:36	05:54 22:10	04:57 21:46	05:57 20:39	06:59 19:17	06:59 17:59	08:07 15:56	08:49 15:39	
23	08:30 16:26	07:25 17:34	06:13 18:34	05:51 20:38	05:51 21:38	04:48 21:38	05:51 22:10	04:59 21:44	05:59 20:37	07:01 19:15	07:01 17:57	08:09 15:54	08:49 15:40	
24	08:28 16:28	07:23 17:36	06:10 18:36	05:49 20:41	05:49 21:40	04:46 21:40	05:49 22:10	05:01 21:43	06:01 20:34	07:03 19:12	07:03 17:54	08:11 15:53	08:50 15:40	
25	08:27 16:30	07:21 17:38	06:07 18:38	05:47 20:43	05:47 21:41	04:45 21:41	05:47 22:10	05:02 21:41	06:03 20:32	07:05 19:09	07:05 16:52	08:13 15:52	08:50 15:41	
26	08:25 16:32	07:18 17:41	06:04 18:40	05:44 20:45	05:44 21:43	04:43 21:43	05:44 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:07 16:50	08:15 15:50	08:50 15:42	
27	08:24 16:34	07:16 17:43	06:02 18:42	06:02 20:47	06:02 21:45	04:42 21:45	06:02 22:10	05:06 21:37	06:07 20:27	07:09 19:04	07:09 16:47	08:17 15:49	08:50 15:42	
28	08:22 16:36	07:13 17:45	05:59 18:44	05:59 20:49	05:59 21:46	04:41 21:46	05:59 22:10	05:08 21:35	06:09 20:24	07:11 19:01	07:11 16:45	08:18 15:48	08:51 15:43	
29	08:20 16:38	07:11 17:46	05:56 18:46	05:56 20:51	05:56 21:48	04:48 21:48	05:56 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:13 16:43	08:20 15:47	08:51 15:44	
30	08:18 16:41	07:06 17:49	05:54 18:49	05:53 20:53	05:53 21:49	04:38 21:49	05:53 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:15 16:40	08:22 15:46	08:51 15:45	
31	08:16 16:43	07:04 17:51	05:51 18:51	05:53 20:51	05:53 21:51	04:38 21:51	05:53 22:10	05:13 21:30	06:15 20:16	07:15 18:56	07:15 16:38	08:22 15:46	08:51 15:46	
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216	0	
Sum of minutes with flicker	0	0	46	164	109	0	0	124	199	0	0	0	0	

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E5 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January		February		March		April		May		June	
1	08:51	14:08-14:16/8	08:15	07:11	06:49	07:14-07:30/16	05:32	07:24-08:44/80	04:36	07:38-08:24/46		
	15:48	10:51-11:32/41	16:45	17:47	19:53		20:55	06:31-07:12/41	21:53	05:10-05:28/18		
2	08:50	14:10-14:15/5	08:13	07:08	06:46	07:11-07:30/19	05:30	07:24-08:43/79	04:34	07:38-08:24/46		
	15:49	10:52-11:33/41	16:47	17:50	19:55		20:57	06:31-07:12/41	21:54	05:09-05:28/19		
3	08:50	10:52-11:33/41	08:11	07:06	06:43	08:03-08:19/16	05:28	07:24-08:43/79	04:33	07:39-08:23/44		
	15:50		16:49	17:52	19:57	07:11-07:29/18	20:59	06:31-07:11/40	21:55	05:08-05:28/20		
4	08:50	10:52-11:33/41	08:09	07:03	06:41	07:58-08:25/27	05:25	07:24-08:43/79	04:32	07:40-08:22/42		
	15:52		16:52	17:54	19:59	07:06-07:07/1	21:02	06:32-07:11/39	21:57	05:07-05:29/22		
5	08:49	10:53-11:34/41	08:07	07:00	06:38	07:54-08:28/34	05:23	07:25-08:42/77	04:31	07:41-08:22/41		
	15:53		16:54	17:56	20:01	07:03-07:08/5	21:04	06:32-07:10/38	21:58	05:07-05:30/23		
6	08:49	10:53-11:34/41	08:05	06:58	06:35	07:51-08:31/40	05:21	07:25-08:42/77	04:31	07:42-08:21/39		
	15:55		16:56	17:58	20:03	07:01-07:09/8	21:06	06:32-07:10/38	21:59	05:06-05:29/23		
7	08:48	10:54-11:34/40	08:03	06:55	06:33	07:48-08:33/45	05:19	07:25-08:42/77	04:30	07:42-08:20/38		
	15:56		16:58	18:00	20:05	06:58-07:10/12	21:08	06:33-07:09/36	22:00	05:05-05:29/24		
8	08:47	10:54-11:35/41	08:00	06:53	06:30	07:45-08:34/49	05:17	07:25-08:41/76	04:29	07:44-08:20/36		
	15:58		17:01	18:02	20:07	06:55-07:09/14	21:10	06:33-07:09/36	22:01	05:05-05:30/25		
9	08:47	10:55-11:35/40	07:58	06:50	06:27	07:44-08:36/52	05:14	07:25-08:40/75	04:28	07:44-08:19/35		
	15:59		17:03	18:05	20:10	06:53-07:10/17	21:12	06:34-07:08/34	22:02	05:04-05:30/26		
10	08:46	10:55-11:35/40	07:56	06:47	06:25	07:41-08:37/56	05:12	07:25-08:40/75	04:28	07:46-08:19/33		
	16:01		17:05	18:07	20:12	06:52-07:09/17	21:14	06:34-07:07/33	22:03	05:04-05:31/27		
11	08:45	10:56-11:36/40	07:54	06:45	06:22	07:40-08:39/59	05:10	07:25-08:39/74	04:27	07:46-08:18/32		
	16:02		17:07	18:09	20:14	06:53-07:09/16	21:16	06:35-07:06/31	22:04	05:03-05:30/27		
12	08:44	10:57-11:36/39	07:52	06:42	06:19	07:38-08:40/62	05:08	07:25-08:38/73	04:26	07:47-08:18/31		
	16:04		17:10	18:11	20:16	06:53-07:07/14	21:18	06:36-07:04/28	22:05	05:03-05:31/28		
13	08:43	10:57-11:36/39	07:49	06:39	06:17	07:37-08:41/64	05:06	07:26-08:38/72	04:26	07:48-08:17/29		
	16:06		17:12	18:13	20:18	06:54-07:06/12	21:20	06:37-07:03/26	22:06	05:03-05:31/28		
14	08:42	10:58-11:36/38	07:47	06:37	06:14	07:35-08:41/66	05:04	07:26-08:37/71	04:26	07:48-08:16/28		
	16:08		17:14	18:15	20:20	06:55-07:03/8	21:22	06:39-07:02/23	22:07	05:02-05:30/28		
15	08:41	10:59-11:37/38	07:45	06:34	06:12	07:34-08:43/69	05:02	07:27-08:37/70	04:25	07:49-08:16/27		
	16:10		17:16	18:17	20:22	06:38-06:59/21	21:24	06:40-07:00/20	22:07	05:02-05:31/29		
16	08:40	10:59-11:36/37	07:42	06:31	06:09	07:33-08:43/70	05:00	07:27-08:36/69	04:25	07:49-08:16/27		
	16:12		17:19	18:19	20:24	06:35-07:03/28	21:25	06:42-06:58/16	22:08	05:02-05:31/29		
17	08:39	11:00-11:36/36	07:40	06:29	06:07	07:32-08:44/72	04:58	07:27-08:35/68	04:25	07:50-08:16/26		
	16:13		17:21	18:22	20:26	06:33-07:06/33	21:27	06:44-06:55/11	22:08	05:02-05:31/29		
18	08:37	11:00-11:36/36	07:38	06:26	06:04	07:31-08:43/72	04:57	07:28-08:35/67	04:25	07:51-08:16/25		
	16:15		17:23	18:24	20:28	06:30-07:07/37	21:29		22:09	05:02-05:32/30		
19	08:36	11:01-11:35/34	07:35	06:23	06:02	07:30-08:44/74	04:55	07:28-08:34/66	04:25	07:51-08:16/25		
	16:17		17:25	18:26	20:30	06:28-07:09/41	21:31		22:09	05:02-05:32/30		
20	08:35	11:03-11:35/32	07:33	06:21	05:59	07:29-08:44/75	04:53	07:29-08:33/64	04:25	07:51-08:16/25		
	16:19		17:28	18:28	20:32	06:25-07:09/44	21:33		22:10	05:02-05:32/30		
21	08:33	11:03-11:35/32	07:31	06:18	05:56	07:29-08:45/76	04:51	07:29-08:32/63	04:25	07:51-08:16/25		
	16:21		17:30	18:30	20:35	06:24-07:10/46	21:35		22:10	05:02-05:32/30		
22	08:32	11:04-11:34/30	07:28	06:15	05:54	07:27-08:44/77	04:50	07:31-08:32/61	04:25	07:52-08:17/25		
	16:23		17:32	18:32	20:37	06:25-07:11/46	21:36		22:10	05:03-05:33/30		
23	08:30	11:05-11:33/28	07:26	06:13	05:51	07:27-08:44/77	04:48	07:31-08:31/60	04:25	07:52-08:17/25		
	16:26		17:34	18:34	20:39	06:24-07:11/47	21:38		22:10	05:03-05:33/30		
24	08:29	11:08-11:33/25	07:23	06:10	05:49	07:27-08:45/78	04:46	07:32-08:30/58	04:26	07:52-08:17/25		
	16:28		17:36	18:36	20:41	06:25-07:12/47	21:40	05:19-05:21/2	22:10	05:03-05:33/30		
25	08:27	11:10-11:31/21	07:21	06:07	05:47	07:26-08:44/78	04:45	07:33-08:30/57	04:26	07:52-08:18/26		
	16:30		17:39	18:38	20:43	06:27-07:13/46	21:42	05:18-05:23/5	22:10	05:04-05:33/29		
26	08:25	11:12-11:29/17	07:18	06:05	05:44	07:25-08:44/79	04:43	07:33-08:28/55	04:27	07:52-08:18/26		
	16:32		17:41	18:40	20:45	06:28-07:12/44	21:43	05:17-05:25/8	22:10	05:04-05:33/29		
27	08:24	11:15-11:26/11	07:16	06:02	05:42	07:25-08:45/80	04:42	07:33-08:28/55	04:27	07:52-08:19/27		
	16:34		17:43	18:42	20:47	06:32-07:12/40	21:45	05:15-05:25/10	22:10	05:05-05:34/29		
28	08:22		07:13	05:59	05:39	07:25-08:45/80	04:41	07:34-08:27/53	04:28	07:51-08:19/28		
	16:36		17:45	18:45	20:49	06:32-07:13/41	21:47	05:14-05:26/12	22:10	05:05-05:34/29		
29	08:20			06:57	05:37	07:24-08:44/80	04:39	07:35-08:27/52	04:28	07:51-08:20/29		
	16:38			19:47	20:51	06:31-07:12/41	21:48	05:13-05:27/14	22:10	05:06-05:34/28		
30	08:18			06:54	05:35	07:24-08:44/80	04:38	07:36-08:26/50	04:29	07:50-08:21/31		
	16:41			19:49	20:53	06:31-07:12/41	21:50	05:12-05:27/15	22:09	05:07-05:35/28		
31	08:17			06:51			04:37	07:37-08:25/48				
	16:43			19:51			21:51	05:11-05:28/17				
Potential sun hours	235		266	366	426		508		529			
Sum of minutes with flicker	953	0	401	2696	2694	1749						

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E5 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 07:50-08:22/32 22:09 05:07-05:34/27	05:15 07:36-08:49/73 21:28 06:46-07:15/29	06:17 07:39-08:38/59 20:14 06:52-07:08/16	07:17 08:03-08:30/27 18:53	07:22 16:36	08:24 10:38-11:18/40 15:45
2	04:31 07:50-08:23/33 22:08 05:08-05:35/27	05:17 07:35-08:50/75 21:26 06:45-07:16/31	06:19 07:40-08:36/56 20:11 06:51-07:08/17	07:19 08:02-08:30/28 18:51	07:25 16:34	08:26 10:38-11:19/41 15:44
3	04:31 07:50-08:24/34 22:08 05:09-05:35/26	05:19 07:35-08:50/75 21:24 06:44-07:17/33	06:21 07:42-08:35/53 20:09 06:51-07:08/17	07:21 08:02-08:29/27 18:48	07:27 16:31	08:28 10:39-11:19/40 15:43
4	04:32 07:49-08:25/36 22:07 05:10-05:35/25	05:21 07:34-08:50/76 21:22 06:44-07:18/34	06:23 07:42-08:31/49 07:13-07:20/7 20:06 06:53-07:07/14	07:23 08:02-08:29/27 18:45	07:29 16:29	08:29 10:38-11:19/41 15:42
5	04:33 07:49-08:26/37 22:07 05:11-05:36/25	05:23 07:34-08:51/77 21:19 06:42-07:18/36	06:25 07:44-08:29/45 07:09-07:21/12 20:03 06:55-07:07/12	07:25 08:02-08:28/26 18:43	07:31 16:27	08:31 10:39-11:20/41 15:41
6	04:34 07:49-08:27/38 22:06 05:12-05:36/24	05:25 07:34-08:51/77 21:17 06:42-07:19/37	06:27 07:46-08:26/40 07:08-07:22/14 20:01 06:56-07:05/9	07:27 08:02-08:27/25 18:40	07:33 16:25	08:32 10:39-11:20/41 15:41
7	04:35 07:48-08:28/40 22:05 05:13-05:36/23	05:27 07:34-08:52/78 21:15 06:41-07:19/38	06:29 07:49-08:23/34 07:06-07:23/17 19:58 06:58-07:03/5	07:29 08:02-08:26/24 18:38	07:36 16:23	08:34 10:39-11:20/41 15:40
8	04:37 07:48-08:29/41 22:04 05:14-05:36/22	05:29 07:34-08:52/78 21:13 06:41-07:20/39	06:31 07:52-08:19/27 07:05-07:23/18 19:55 07:00-07:01/1	07:31 08:03-08:24/21 18:35	07:38 16:21	08:35 10:40-11:21/41 15:39
9	04:38 07:47-08:30/43 22:03 05:15-05:36/21	05:31 07:34-08:52/78 21:11 06:41-07:20/39	06:33 07:57-08:14/17 19:53 07:05-07:23/18	07:33 08:05-08:24/19 18:32	07:40 16:19	08:37 10:41-11:22/41 15:39
10	04:39 07:46-08:31/45 22:02 05:16-05:36/20	05:33 07:33-08:52/79 21:08 06:40-07:20/40	06:35 07:04-07:23/19 19:50	07:36 08:06-08:21/15 18:30	07:42 16:17	08:38 13:59-14:04/5 15:39 10:41-11:22/41
11	04:40 07:46-08:31/45 22:01 05:17-05:36/19	05:35 07:33-08:52/79 21:06 06:39-07:20/41	06:37 07:06-07:23/17 19:47	07:38 08:09-08:18/9 18:27	07:44 16:15	08:39 13:58-14:06/8 15:38 10:41-11:22/41
12	04:42 07:45-08:32/47 22:00 05:19-05:36/17	05:37 07:33-08:52/79 21:04 06:39-07:20/41	06:39 07:08-07:22/14 19:45	07:40 18:24	07:46 16:13	08:40 13:58-14:08/10 15:38 10:42-11:23/41
13	04:43 07:45-08:34/49 21:59 05:20-05:36/16	05:39 07:33-08:52/79 21:01 06:39-07:20/41	06:41 07:10-07:21/11 19:42	07:42 18:22	07:48 16:11	08:42 13:58-14:08/10 15:38 10:42-11:23/41
14	04:45 07:44-08:35/51 21:58 05:21-05:35/14	05:41 07:33-08:52/79 20:59 06:39-07:20/41	06:43 07:12-07:19/7 19:39	07:44 18:19	07:51 16:09	08:43 13:58-14:09/11 15:38 10:42-11:24/42
15	04:46 07:43-08:35/52 21:57 05:22-05:35/13	05:43 07:33-08:52/79 20:57 06:39-07:20/41	06:45 07:14-07:17/3 19:37	07:46 18:17	07:53 10:47-10:59/12 16:07	08:44 13:58-14:10/12 15:38 10:43-11:24/41
16	04:47 07:43-08:37/54 21:55 05:24-05:35/11	05:45 07:32-08:51/79 20:54 06:39-07:20/41	06:47 19:34	07:48 18:14	07:55 10:45-11:02/17 16:06	08:45 13:58-14:11/13 15:38 10:43-11:24/41
17	04:49 07:43-08:37/54 21:54 05:25-05:34/9	05:47 07:32-08:51/79 20:52 06:34-07:18/44	06:49 19:31	07:50 18:12	07:57 10:42-11:04/22 16:04	08:46 13:58-14:11/13 15:38 10:44-11:25/41
18	04:51 07:42-08:38/56 21:52 05:27-05:34/7	05:49 07:32-08:51/79 20:49 06:32-07:18/46	06:51 19:28	07:52 18:09	07:59 10:42-11:07/25 16:02	08:46 13:59-14:12/13 15:38 10:45-11:26/41
19	04:52 07:42-08:39/57 21:51 05:28-05:32/4	05:51 07:32-08:50/78 20:47 06:31-07:17/46	06:53 19:26	07:54 18:07	08:01 10:40-11:08/28 16:01	08:47 13:59-14:13/14 15:38 10:45-11:26/41
20	04:54 07:41-08:40/59 21:49 05:30-05:31/1	05:53 07:33-08:50/77 20:45 06:30-07:17/47	06:55 19:23	07:57 18:04	08:03 10:39-11:09/30 15:59	08:48 13:59-14:13/14 15:38 10:45-11:26/41
21	04:55 07:41-08:41/60 21:48	05:55 07:33-08:50/77 20:42 06:29-07:16/47	06:57 19:20	07:59 18:02	08:05 10:38-11:10/32 15:57	08:48 14:00-14:14/14 15:39 10:46-11:27/41
22	04:57 07:41-08:43/62 21:46	05:57 07:33-08:49/76 20:40 06:29-07:15/46	06:59 19:18	08:01 17:59	08:07 10:39-11:11/32 15:56	08:49 14:00-14:14/14 15:39 10:46-11:27/41
23	04:59 07:39-08:43/64 21:45	05:59 07:34-08:49/75 20:37 06:30-07:14/44	07:01 19:15	08:03 17:57	08:09 10:38-11:12/34 15:54	08:50 14:01-14:15/14 15:40 10:47-11:28/41
24	05:01 07:39-08:44/65 21:43	06:01 07:34-08:48/74 20:35 06:32-07:12/40	07:03 08:16-08:20/4 19:12	08:05 17:54	08:11 10:38-11:13/35 15:53	08:50 14:01-14:15/14 15:40 10:47-11:28/41
25	05:02 07:38-08:44/66 21:41	06:03 07:34-08:46/72 20:32 06:34-07:10/36	07:05 08:11-08:24/13 19:10	07:07 16:52	08:13 10:37-11:13/36 15:52	08:50 14:01-14:15/14 15:41 10:47-11:28/41
26	05:04 07:38-08:45/67 21:39 06:58-07:03/5	06:05 07:34-08:45/71 20:29 06:35-07:07/32	07:07 08:08-08:26/18 19:07	07:09 16:50	08:15 10:38-11:15/37 15:50	08:51 14:02-14:15/13 15:42 10:48-11:29/41
27	05:06 07:38-08:46/68 21:37 06:54-07:07/13	06:07 07:35-08:44/69 20:27 06:37-07:05/28	07:09 08:07-08:28/21 19:04	07:12 16:47	08:17 10:38-11:16/38 15:49	08:51 14:03-14:16/13 15:42 10:48-11:29/41
28	05:08 07:37-08:46/69 21:36 06:51-07:09/18	06:09 07:35-08:43/68 20:24 06:39-07:00/21	07:11 08:06-08:29/23 19:01	07:14 16:45	08:19 10:38-11:16/38 15:48	08:51 14:03-14:16/13 15:43 10:49-11:30/41
29	05:10 07:37-08:47/70 21:34 06:50-07:11/21	06:11 07:36-08:42/66 06:41-06:52/11 20:22 06:56-07:04/8	07:13 08:05-08:30/25 18:59	07:16 16:43	08:21 10:38-11:17/39 15:47	08:51 14:04-14:16/12 15:44 10:49-11:30/41
30	05:12 07:37-08:48/71 21:32 06:49-07:13/24	06:13 07:37-08:41/64 06:43-06:50/7 20:19 06:54-07:06/12	07:15 08:04-08:30/26 18:56	07:18 16:40	08:22 10:38-11:17/39 15:46	08:51 14:05-14:16/11 15:45 10:50-11:31/41
31	05:13 07:36-08:48/72 21:30 06:47-07:14/27	06:15 07:38-08:40/62 06:45-06:47/2 20:16 06:52-07:07/15	 16:38	 16:38	 16:38	08:51 14:07-14:16/9 15:46 10:51-11:32/41
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	2096	3461	758	248	494	1534

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E6 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 15:48	08:15 09:12-09:40/28 16:45 08:45-08:54/9	07:11 17:47	06:49 07:14-07:21/7 19:53	05:32 06:00-06:08/8 20:55	04:36 05:10-05:14/4 21:52
2	08:50 15:49	08:13 09:13-09:40/27 16:47 08:43-08:55/12	07:08 17:49	06:46 07:11-07:22/11 19:55	05:30 05:58-06:09/11 20:57	04:34 05:09-05:15/6 21:54
3	08:50 15:50	08:11 09:14-09:39/25 16:49 08:41-08:56/15	07:05 17:52	06:43 07:08-07:22/14 19:57	05:28 05:56-06:09/13 20:59	04:33 05:08-05:16/8 21:55
4	08:50 15:52	08:09 09:14-09:39/25 16:52 08:39-08:56/17	07:03 17:54	06:41 07:06-07:23/17 19:59	05:25 05:54-06:10/16 21:01	04:32 05:07-05:16/9 21:56
5	08:49 15:53	08:07 09:16-09:39/23 16:54 08:40-08:56/16	07:00 07:26-07:29/3 17:56	06:38 07:03-07:22/19 20:01	05:23 05:52-06:10/18 21:03	04:31 05:07-05:17/10 21:58
6	08:49 15:55	08:05 09:16-09:37/21 16:56 08:39-08:55/16	06:58 07:24-07:31/7 17:58	06:35 07:01-07:23/22 20:03	05:21 05:50-06:10/20 21:06	04:31 05:06-05:18/12 21:59
7	08:48 15:56	08:02 09:18-09:36/18 16:58 08:40-08:55/15	06:55 07:21-07:31/10 18:00	06:33 06:58-07:22/24 20:05	05:19 05:48-06:10/22 21:08	04:30 05:05-05:18/13 22:00
8	08:47 15:58	08:00 09:20-09:35/15 17:01 08:42-08:55/13	06:53 07:18-07:30/12 18:02	06:30 06:55-07:20/25 20:07	05:17 05:46-06:09/23 21:10	04:29 05:05-05:19/14 22:01
9	08:47 15:59	07:58 09:22-09:31/9 17:03 08:42-08:53/11	06:50 07:16-07:31/15 18:05	06:27 06:53-07:19/26 20:09	05:14 05:44-06:09/25 21:12	04:28 05:04-05:19/15 22:02
10	08:46 16:01	07:56 08:45-08:51/6 17:05	06:47 07:15-07:30/15 18:07	06:25 06:50-07:17/27 20:12	05:12 05:43-06:08/25 21:14	04:28 05:04-05:20/16 22:03
11	08:45 16:03	07:54 17:07	06:45 07:15-07:29/14 18:09	06:22 06:48-07:14/26 20:14	05:10 05:43-06:07/24 21:16	04:27 05:03-05:19/16 22:04
12	08:44 16:04	07:52 08:20-08:26/6 17:10	06:42 07:17-07:28/11 18:11	06:19 06:45-07:10/25 20:16	05:08 05:43-06:06/23 21:18	04:27 05:03-05:20/17 22:05
13	08:43 16:06	07:49 08:18-08:29/11 17:12	06:39 07:19-07:25/6 18:13	06:17 06:46-07:09/23 20:18	05:06 05:43-06:04/21 21:20	04:26 05:03-05:21/18 22:06
14	08:42 16:08	07:47 08:15-08:30/15 17:14	06:37 18:15	06:14 06:45-07:07/22 20:20	05:04 05:44-06:03/19 21:21	04:26 05:02-05:20/18 22:07
15	08:41 09:21-09:24/3 16:10	07:45 08:13-08:31/18 17:16	06:34 18:17	06:12 06:46-07:06/20 20:22	05:02 05:45-06:00/15 21:23	04:25 05:02-05:21/19 22:07
16	08:40 09:17-09:27/10 16:12	07:42 08:10-08:31/21 17:19	06:31 18:19	06:09 06:46-07:00/14 20:24	05:00 05:45-05:59/14 21:25	04:25 05:02-05:21/19 22:08
17	08:39 09:16-09:30/14 16:13	07:40 08:10-08:32/22 17:21	06:29 18:22	06:07 06:48-06:59/11 20:26	04:58 05:47-05:59/12 21:27	04:25 05:02-05:21/19 22:08
18	08:37 09:15-09:31/16 16:15	07:38 08:09-08:32/23 17:23	06:26 18:24	06:04 06:49-06:56/7 20:28	04:57 05:48-05:57/9 21:29	04:25 05:02-05:22/20 22:09
19	08:36 09:13-09:32/19 16:17	07:35 08:09-08:33/24 17:25	06:23 18:26	06:01 20:30	04:55 05:50-05:54/4 21:31	04:25 05:02-05:22/20 22:09
20	08:35 09:13-09:34/21 16:19	07:33 08:09-08:32/23 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 05:02-05:22/20 22:10
21	08:33 09:13-09:35/22 16:21	07:31 08:09-08:33/24 17:30	06:18 18:30	05:56 20:34	04:51 21:35	04:25 05:03-05:23/20 22:10
22	08:32 09:12-09:35/23 16:23	07:28 08:09-08:32/23 17:32	06:15 18:32	05:54 20:37	04:50 21:36	04:25 05:03-05:23/20 22:10
23	08:30 09:12-09:36/24 16:26	07:26 08:10-08:32/22 17:34	06:13 18:34	05:51 20:39	04:48 21:38	04:25 05:03-05:23/20 22:10
24	08:29 09:12-09:38/26 16:28	07:23 08:11-08:30/19 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 05:03-05:23/20 22:10
25	08:27 09:12-09:38/26 16:30	07:21 08:11-08:28/17 17:39	06:07 18:38	05:47 20:43	04:45 21:42	04:26 05:04-05:23/19 22:10
26	08:25 09:12-09:39/27 16:32	07:18 08:14-08:27/13 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:27 05:04-05:23/19 22:10
27	08:24 09:12-09:39/27 16:34	07:16 08:16-08:23/7 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 05:05-05:24/19 22:10
28	08:22 09:12-09:40/28 16:36	07:13 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 05:05-05:23/18 22:10
29	08:20 09:12-09:40/28 16:38		06:57 19:47	05:37 06:05-06:06/1 20:51	04:39 21:48	04:28 05:06-05:24/18 22:10
30	08:18 09:12-09:40/28 16:41		06:54 19:49	05:35 06:02-06:06/4 20:53	04:38 21:50	04:29 05:07-05:24/17 22:09
31	08:16 09:13-09:40/27 16:43		06:51 07:16-07:19/3 19:51		04:37 05:11-05:13/2 21:51	
Potential sun hours	235	266	366	426	508	529
Sum of minutes with flicker	379	609	96	345	324	483

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E6 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

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Operational time

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441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July		August		September		October		November		December	
1	04:30	05:07-05:24/17	05:15	05:53-06:17/24	06:17	06:47-07:13/26	07:17	07:57-08:06/9	07:22	08:14-08:21/7	08:24	
	22:09		21:28		20:14		18:53		16:36		15:45	
2	04:31	05:08-05:24/16	05:17	05:53-06:18/25	06:19	06:49-07:16/27	07:19	07:55-08:07/12	07:25	08:51-09:02/11	08:26	
	22:08		21:26		20:11		18:51		16:34	08:12-08:23/11	15:44	
3	04:31	05:09-05:24/15	05:19	05:53-06:19/26	06:21	06:51-07:17/26	07:21	07:53-08:08/15	07:27	08:49-09:05/16	08:27	
	22:08		21:24		20:09		18:48		16:31	08:11-08:25/14	15:43	
4	04:32	05:10-05:24/14	05:21	05:55-06:19/24	06:23	06:53-07:18/25	07:23	07:52-08:08/16	07:29	08:47-09:06/19	08:29	
	22:07		21:21		20:06		18:45		16:29	08:10-08:25/15	15:42	
5	04:33	05:11-05:24/13	05:23	05:56-06:19/23	06:25	06:54-07:18/24	07:25	07:54-08:08/14	07:31	08:45-09:07/22	08:31	
	22:07		21:19		20:03		18:43		16:27	08:10-08:26/16	15:41	
6	04:34	05:12-05:24/12	05:25	05:58-06:19/21	06:27	06:56-07:18/22	07:27	07:56-08:07/11	07:33	08:45-09:09/24	08:32	
	22:06		21:17		20:01		18:40		16:25	08:09-08:26/17	15:41	
7	04:35	05:13-05:24/11	05:27	06:00-06:19/19	06:29	06:58-07:17/19	07:29	07:58-08:06/8	07:35	08:44-09:09/25	08:34	
	22:05		21:15		19:58		18:37		16:23	08:09-08:26/17	15:40	
8	04:37	05:14-05:24/10	05:29	06:02-06:19/17	06:31	07:00-07:17/17	07:31	08:00-08:05/5	07:38	08:44-09:10/26	08:35	
	22:04		21:13		19:55		18:35		16:21	08:12-08:27/15	15:39	
9	04:38	05:15-05:23/8	05:31	06:04-06:19/15	06:33	07:02-07:16/14	07:33	08:03-08:04/1	07:40	08:43-09:10/27	08:36	
	22:03		21:11		19:53		18:32		16:19	08:14-08:26/12	15:39	
10	04:39	05:16-05:23/7	05:33	06:05-06:17/12	06:35	07:04-07:15/11	07:36		07:42	08:43-09:10/27	08:38	
	22:02		21:08		19:50		18:30		16:17	08:17-08:26/9	15:39	
11	04:40	05:17-05:22/5	05:35	06:07-06:17/10	06:37	07:06-07:14/8	07:38		07:44	08:43-09:11/28	08:39	
	22:01		21:06		19:47		18:27		16:15	08:19-08:25/6	15:38	
12	04:42	05:19-05:22/3	05:37	06:09-06:16/7	06:39	07:08-07:12/4	07:40		07:46	08:43-09:11/28	08:40	
	22:00		21:04		19:45		18:24		16:13	08:21-08:24/3	15:38	
13	04:43		05:39	06:11-06:15/4	06:41		07:42		07:48	08:44-09:12/28	08:41	
	21:59		21:01		19:42		18:22		16:11		15:38	
14	04:45		05:41		06:43		07:44		07:51	08:44-09:12/28	08:43	
	21:58		20:59		19:39		18:19		16:09		15:38	
15	04:46		05:43		06:45		07:46	08:48-08:58/10	07:53	08:44-09:11/27	08:44	
	21:56		20:57		19:36		18:17		16:07		15:38	
16	04:47		05:45		06:47		07:48	08:45-09:00/15	07:55	08:45-09:12/27	08:45	
	21:55		20:54		19:34		18:14		16:06		15:38	
17	04:49		05:47		06:49		07:50	08:43-09:01/18	07:57	08:45-09:11/26	08:45	
	21:54		20:52		19:31		18:12		16:04		15:38	
18	04:51		05:49		06:51		07:52	08:42-09:02/20	07:59	08:46-09:12/26	08:46	
	21:52		20:49		19:28		18:09		16:02		15:38	
19	04:52		05:51		06:53		07:54	08:41-09:03/22	08:01	08:47-09:11/24	08:47	
	21:51		20:47		19:26		18:07		16:01		15:38	
20	04:54		05:53		06:55		07:57	08:40-09:03/23	08:03	08:47-09:10/23	08:48	
	21:49		20:44		19:23		18:04		15:59		15:38	
21	04:56		05:55		06:57		07:59	08:40-09:03/23	08:05	08:48-09:10/22	08:48	
	21:48		20:42		19:20		18:02		15:57		15:39	
22	04:57		05:57		06:59		08:01	08:39-09:03/24	08:07	08:50-09:10/20	08:49	
	21:46		20:39		19:18		17:59		15:56		15:39	
23	04:59		05:59		07:01		08:03	08:40-09:03/23	08:09	08:50-09:09/19	08:49	
	21:44		20:37		19:15		17:57		15:54		15:40	
24	05:01		06:01		07:03		08:05	08:39-09:02/23	08:11	08:52-09:08/16	08:50	
	21:43		20:34		19:12		17:54		15:53		15:40	
25	05:02	05:59-06:06/7	06:03	06:53-07:00/7	07:05		07:07	07:39-08:02/23	08:13	08:53-09:07/14	08:50	
	21:41		20:32		19:10		16:52		15:52		15:41	
26	05:04	05:57-06:08/11	06:05	06:49-07:01/12	07:07		07:09	07:41-08:02/21	08:15	08:55-09:05/10	08:50	
	21:39		20:29		19:07		16:50		15:50		15:42	
27	05:06	05:57-06:09/12	06:07	06:48-07:02/14	07:09		07:12	07:43-08:00/17	08:17	08:59-09:03/4	08:51	
	21:37		20:27		19:04		16:47		15:49		15:42	
28	05:08	05:55-06:10/15	06:09	06:47-07:07/20	07:11		07:14	07:45-07:59/14	08:19		08:51	
	21:36		20:24		19:01		16:45		15:48		15:43	
29	05:10	05:55-06:11/16	06:11	06:46-07:08/22	07:13		07:16	07:48-07:58/10	08:21		08:51	
	21:34		20:22		18:59		16:43		15:47		15:44	
30	05:12	05:55-06:14/19	06:13	06:46-07:09/23	07:15		07:18	07:50-07:55/5	08:22		08:51	
	21:32		20:19		18:56		16:40		15:46		15:45	
31	05:13	05:54-06:16/22	06:15	06:45-07:10/25			07:20				08:51	
	21:30		20:16				16:38				15:46	
Potential sun hours	529		469		385		324		247		216	
Sum of minutes with flicker	233		350		223		382		709		0	

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E7 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 12:35-13:07/32 15:48 10:16-11:17/61	08:15 16:45	07:11 08:06-08:13/7 08:14-08:30/16 17:47 07:37-07:54/17	06:49 19:53	05:32 06:00-06:06/6 20:55 06:19-07:18/59	04:36 21:52
2	08:50 12:37-13:08/31 15:49 10:17-11:18/61	08:13 16:47	07:08 07:34-07:54/20 17:50 08:16-08:27/11	06:46 19:55	05:30 05:58-06:07/9 20:57 06:21-07:17/56	04:35 21:54
3	08:50 12:37-13:07/30 15:50 10:17-11:18/61	08:11 08:41-08:46/5 16:50	07:06 07:34-07:56/22 17:52	06:43 19:57	05:28 05:56-06:08/12 20:59 06:22-07:16/54	04:33 21:55
4	08:50 12:37-13:07/30 15:52 10:18-11:18/60	08:09 08:39-08:48/9 16:52	07:03 07:33-07:55/22 17:54	06:41 07:19-07:34/15 19:59	05:25 05:54-06:09/15 21:02 06:25-07:16/51	04:32 21:57
5	08:49 12:39-13:08/29 15:53 10:19-11:19/60	08:07 08:37-08:50/13 16:54	07:00 07:32-07:55/23 17:56	06:38 07:14-07:36/22 20:01	05:23 05:52-06:10/18 21:04 06:25-07:15/50	04:32 21:58
6	08:49 12:39-13:08/29 15:55 10:20-11:19/59	08:05 08:34-08:50/16 16:56	06:58 07:32-07:56/24 17:58	06:35 07:12-07:38/26 20:03	05:21 05:50-06:10/20 21:06 06:26-07:14/48	04:31 21:59
7	08:48 12:40-13:08/28 10:37-11:20/43 15:56 10:21-10:35/14	08:03 08:32-08:51/19 16:58	06:55 07:32-07:55/23 18:00	06:33 07:10-07:39/29 20:05	05:19 05:48-06:10/22 21:08 06:26-07:13/47	04:30 22:00
8	08:47 12:41-13:07/26 10:37-11:20/43 15:58 10:23-10:34/11	08:00 08:31-08:52/21 17:01	06:53 07:32-07:54/22 18:03	06:30 07:08-07:40/32 20:07	05:17 05:46-06:10/24 21:10 06:26-07:12/46	04:29 22:01
9	08:47 12:42-13:07/25 10:38-11:20/42 15:59 10:24-10:34/10	07:58 08:30-08:52/22 17:03	06:50 07:33-07:54/21 18:05	06:27 07:07-07:41/34 20:10	05:15 05:44-06:10/26 21:12 06:27-07:10/43	04:28 22:02
10	08:46 12:43-13:07/24 10:38-11:21/43 16:01 10:27-10:32/5	07:56 08:30-08:53/23 17:05	06:47 07:33-07:52/19 18:07	06:25 07:05-07:41/36 20:12	05:12 05:42-06:10/28 21:14 06:27-07:08/41	04:28 22:03
11	08:45 12:45-13:07/22 16:03 10:39-11:21/42	07:54 08:31-08:53/22 17:07	06:45 07:34-07:50/16 18:09	06:22 07:05-07:42/37 20:14	05:10 05:41-06:09/28 21:16 06:28-07:06/38	04:27 22:04
12	08:44 12:47-13:06/19 16:04 10:40-11:22/42	07:52 08:22-08:25/3 17:10 08:30-08:52/22	06:42 07:36-07:49/13 18:11	06:20 07:03-07:42/39 20:16	05:08 05:41-06:09/28 21:18 06:28-07:03/35	04:27 22:05
13	08:43 12:48-13:05/17 16:06 10:39-11:21/42	07:49 08:18-08:30/12 17:12 08:31-08:52/21	06:39 07:40-07:44/4 18:13	06:17 06:58-07:43/45 20:18 06:43-06:44/1	05:06 05:41-06:08/27 21:20 06:29-06:56/27	04:26 22:06
14	08:42 12:50-13:04/14 16:08 10:40-11:22/42	07:47 08:15-08:51/36 17:14	06:37 07:40-07:44/4 18:15	06:14 06:53-07:42/49 20:20 06:40-06:45/5	05:04 05:42-06:08/26 21:22 06:31-06:55/24	04:26 22:07
15	08:41 12:53-13:02/9 16:10 10:41-11:22/41	07:45 08:14-08:51/37 17:16	06:34 07:40-07:44/4 18:17	06:12 06:51-07:43/52 20:22 06:38-06:47/9	05:02 05:42-06:07/25 21:23 06:32-06:54/22	04:25 22:07
16	08:40 10:41-11:22/41 16:12	07:42 08:10-08:49/39 17:19	06:31 07:40-07:44/4 18:19	06:09 06:35-07:42/67 20:24	05:00 05:42-06:06/24 21:25 06:33-06:52/19	04:25 22:08
17	08:39 10:42-11:22/40 16:14	07:40 08:08-08:48/40 17:21	06:29 07:40-07:44/4 18:22	06:07 06:33-07:42/69 20:26	04:59 05:43-06:06/23 21:27 06:35-06:51/16	04:25 22:08
18	08:37 10:43-11:22/39 16:15	07:38 08:05-08:36/31 17:23 08:37-08:45/8	06:26 07:40-07:44/4 18:24	06:04 06:30-07:41/71 20:28	04:57 05:43-06:04/21 21:29 06:37-06:48/11	04:25 22:09
19	08:36 10:43-11:21/38 16:17	07:35 08:03-08:37/34 17:25	06:23 07:40-07:44/4 18:26	06:02 06:28-07:41/73 20:30	04:55 05:44-06:02/18 21:31	04:25 22:09
20	08:35 10:45-11:22/37 16:19	07:33 08:00-08:37/37 17:28	06:21 07:40-07:44/4 18:28	05:59 06:25-07:39/74 20:32	04:53 05:45-05:58/13 21:33	04:25 22:10
21	08:33 10:45-11:21/36 16:22	07:31 08:00-08:37/37 17:30	06:18 07:40-07:44/4 18:30	05:57 06:23-07:39/76 20:35	04:51 05:46-05:56/10 21:35	04:25 22:10
22	08:32 10:46-11:21/35 16:24	07:28 07:59-08:37/38 17:32	06:15 07:40-07:44/4 18:32	05:54 06:21-07:39/78 20:37	04:50 05:49-05:54/5 21:36	04:25 22:10
23	08:30 10:47-11:20/33 16:26	07:26 08:00-08:37/37 17:34	06:13 07:40-07:44/4 18:34	05:52 06:18-07:37/79 20:39	04:48 05:48-06:04/21 21:38	04:26 22:10
24	08:29 10:49-11:20/31 16:28	07:23 08:00-08:36/36 17:36	06:10 07:40-07:44/4 18:36	05:49 06:18-07:36/78 20:41	04:47 05:48-06:04/21 21:40	04:26 22:10
25	08:27 10:50-11:19/29 16:30	07:21 08:01-08:35/34 17:39	06:07 07:40-07:44/4 18:38	05:47 06:19-07:35/76 20:43	04:45 05:49-06:04/21 21:42	04:26 22:10
26	08:25 10:51-11:18/27 16:32	07:18 08:01-08:35/34 17:41	06:05 07:40-07:44/4 18:40	05:44 06:18-07:33/75 20:45	04:44 05:49-06:04/21 21:43	04:27 22:10
27	08:24 10:53-11:17/24 16:34	07:16 08:01-08:33/32 17:43 07:42-07:50/8	06:02 07:40-07:44/4 18:42	05:42 06:18-07:31/73 20:47	04:42 05:49-06:04/21 21:45	04:27 22:10
28	08:22 10:55-11:15/20 16:36	07:13 08:03-08:33/30 17:45 07:40-07:53/13	05:59 07:40-07:44/4 18:45	05:39 06:18-07:29/71 20:49	04:41 05:49-06:04/21 21:46	04:28 22:10
29	08:20 10:58-11:13/15 16:38	07:11 08:03-08:33/30 17:47	05:57 07:40-07:44/4 19:47	05:37 06:19-07:26/67 20:51	04:39 05:49-06:04/21 21:48	04:28 22:10
30	08:18 11:03-11:08/5 16:41	07:09 08:03-08:33/30 17:49	05:54 07:40-07:44/4 19:49	05:35 06:19-07:18/59 20:53 06:02-06:03/1	04:38 05:49-06:04/21 21:50	04:29 22:09
31	08:17 16:43	07:07 08:03-08:33/30 17:51	05:51 07:40-07:44/4 19:51	05:33 06:19-07:18/59 20:55 06:02-06:03/1	04:37 05:49-06:04/21 21:51	04:29 22:09
Potential sun hours	235	266	366	426	508	529
Sum of minutes with flicker	1597	769	280	1518	1115	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E7 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:15 05:51-06:19/28 21:28 06:38-07:15/37	06:17 07:04-07:41/37 20:14	07:17 08:16-08:27/11 18:53	07:22 08:00-08:22/22 16:36	08:24 12:27-12:49/22 15:45 10:21-11:03/42
2	04:31 22:08	05:17 05:52-06:20/28 21:26 06:38-07:17/39	06:19 07:04-07:40/36 20:11	07:19 08:14-08:29/15 18:51	07:25 08:00-08:22/22 16:34	08:26 12:27-12:50/23 10:21-11:04/43 15:44 10:10-10:15/5
3	04:31 22:08	05:19 05:53-06:20/27 21:24 06:37-07:19/42	06:21 07:05-07:39/34 20:09	07:21 08:12-08:30/18 18:48	07:27 08:01-08:22/21 16:31	08:27 12:25-12:50/25 10:22-11:04/42 15:43 10:09-10:18/9
4	04:32 22:07	05:21 05:55-06:20/25 21:22 06:37-07:21/44	06:23 07:06-07:38/32 20:06	07:23 08:10-08:31/21 18:45	07:29 08:02-08:21/19 16:29	08:29 12:25-12:51/26 10:21-11:04/43 15:42 10:07-10:19/12
5	04:33 22:07	05:23 05:56-06:20/24 21:19 06:35-07:21/46	06:25 07:06-07:35/29 20:03	07:25 08:09-08:31/22 18:43	07:31 08:05-08:21/16 16:27	08:31 12:25-12:53/28 10:22-11:05/43 15:41 10:07-10:20/13
6	04:34 22:06	05:25 05:58-06:20/22 21:17 06:35-07:23/48	06:27 07:07-07:34/27 20:01	07:27 08:08-08:31/23 18:40	07:33 08:07-08:19/12 16:25	08:32 12:26-12:54/28 10:23-11:05/42 15:41 10:06-10:22/16
7	04:36 22:05	05:27 06:00-06:19/19 21:15 06:35-07:24/49	06:29 07:09-07:31/22 19:58	07:29 08:07-08:31/24 18:38	07:36 08:09-08:18/9 16:23	08:34 12:25-12:54/29 15:40 10:06-11:05/59
8	04:37 22:04	05:29 06:02-06:19/17 21:13 06:35-07:25/50	06:31 07:13-07:28/15 19:55	07:31 08:07-08:30/23 18:35	07:38 08:12-08:16/4 16:21	08:35 12:25-12:55/30 15:40 10:06-11:06/60
9	04:38 22:03	05:31 06:04-06:18/14 21:11 06:34-07:25/51	06:33 19:53	07:34 08:08-08:31/23 18:32	07:40 16:19	08:37 12:25-12:55/30 15:39 10:06-11:07/61
10	04:39 22:02	05:33 06:06-06:18/12 21:08 06:31-07:25/54	06:35 19:50	07:36 08:08-08:30/22 18:30	07:42 16:17	08:38 12:26-12:57/31 15:39 10:06-11:07/61
11	04:40 22:01	05:35 06:07-06:15/8 21:06 06:29-07:26/57	06:37 19:47	07:38 08:08-08:29/21 18:27 08:53-08:59/6	07:44 16:15	08:39 12:25-12:57/32 15:38 10:06-11:07/61
12	04:42 22:00	05:37 06:28-07:26/58 21:04 06:09-06:14/5	06:39 19:45	07:40 08:09-08:28/19 18:25 08:49-09:02/13	07:46 10:33-10:40/7 16:13	08:40 12:26-12:58/32 15:38 10:07-11:08/61
13	04:43 21:59	05:39 06:27-07:29/62 21:01	06:41 19:42	07:42 08:37-09:04/27 18:22 08:11-08:26/15	07:48 10:29-10:45/16 16:11	08:41 12:26-12:59/33 15:38 10:07-11:08/61
14	04:45 21:58	05:41 06:26-07:34/68 20:59	06:43 19:39	07:44 08:35-09:05/30 18:19 08:13-08:24/11	07:51 10:27-10:47/20 16:09	08:43 12:27-12:59/32 15:38 10:07-11:08/61
15	04:46 21:57	05:43 06:26-07:37/71 20:57	06:45 19:37	07:46 08:34-09:07/33 18:17 08:16-08:22/6	07:53 10:25-10:49/24 16:07	08:44 12:27-13:00/33 15:38 10:07-11:09/62
16	04:48 21:55	05:45 06:25-07:39/74 20:54	06:47 19:34	07:48 08:32-09:07/35 18:14	07:55 10:24-10:51/27 16:06	08:45 12:27-13:00/33 15:38 10:07-11:09/62
17	04:49 21:54	05:47 06:25-07:40/75 20:52	06:49 19:31	07:50 08:31-09:08/37 18:12	07:57 10:23-10:52/29 16:04	08:45 12:28-13:01/33 15:38 10:08-11:10/62
18	04:51 21:52	05:49 06:24-07:41/77 20:49	06:51 19:28	07:52 08:31-09:08/37 18:09	07:59 10:23-10:54/31 16:02	08:46 12:28-13:01/33 15:38 10:08-11:10/62
19	04:52 21:51	05:51 06:24-07:42/78 20:47	06:53 19:26	07:54 08:31-09:08/37 18:07	08:01 10:22-10:55/33 16:01	08:47 12:29-13:02/33 15:38 10:09-11:11/62
20	04:54 21:49	05:53 06:24-07:43/79 20:45	06:55 19:23	07:57 08:31-09:08/37 18:04	08:03 10:21-10:56/35 15:59	08:48 12:29-13:02/33 15:38 10:09-11:11/62
21	04:56 21:48	05:55 06:26-07:43/77 20:42	06:57 19:20	07:59 08:30-09:08/38 18:02	08:05 10:20-10:56/36 15:57	08:48 12:30-13:03/33 15:39 10:10-11:12/62
22	04:57 05:58-06:06/8 21:46	05:57 06:28-07:44/76 20:40	06:59 19:18	08:01 08:31-09:07/36 17:59	08:07 10:21-10:58/37 15:56	08:49 12:30-13:03/33 15:39 10:10-11:12/62
23	04:59 05:56-06:07/11 21:45	05:59 06:30-07:44/74 20:37	07:01 19:15	08:03 08:34-09:07/33 17:57	08:09 10:20-10:58/38 15:55	08:49 12:31-13:04/33 15:40 10:11-11:13/62
24	05:01 05:55-06:11/16 21:43	06:01 06:32-07:45/73 20:35	07:03 19:12	08:05 08:36-09:16/40 17:54	08:11 10:20-10:59/39 15:53	08:50 12:31-13:04/33 15:40 10:11-11:13/62
25	05:03 05:54-06:14/20 21:41	06:03 06:34-07:45/71 20:32	07:05 19:10	07:07 07:38-08:18/40 16:52	08:13 10:20-10:59/39 15:52	08:50 12:31-13:04/33 15:41 10:11-11:13/62
26	05:04 05:53-06:15/22 21:39	06:05 06:36-07:44/68 20:29	07:07 19:07	07:09 07:41-08:20/39 16:50	08:15 10:20-11:01/41 15:50	08:51 12:31-13:05/34 15:42 10:12-11:13/61
27	05:06 05:53-06:17/24 21:37	06:07 06:37-07:44/67 20:27	07:09 19:04	07:12 07:44-08:21/37 16:47	08:17 12:33-12:41/8 15:49 10:20-11:01/41	08:51 12:32-13:05/33 15:43 10:12-11:14/62
28	05:08 05:52-06:17/25 21:36	06:09 06:52-07:43/51 20:24	07:11 19:02	07:14 07:45-08:21/36 16:45	08:19 12:30-12:44/14 15:48 10:20-11:02/42	08:51 12:33-13:05/32 15:43 10:13-11:14/61
29	05:10 05:52-06:18/26 21:34	06:11 06:54-07:43/49 20:22	07:13 18:59	07:16 07:48-07:59/11 16:43 08:00-08:22/22	08:21 12:29-12:46/17 15:47 10:21-11:02/41	08:51 12:33-13:06/33 15:44 10:13-11:15/62
30	05:12 05:52-06:19/27 21:32	06:13 06:58-07:43/45 20:19	07:15 18:56	07:18 08:00-08:22/22 16:40	08:22 12:28-12:47/19 15:46 10:21-11:03/42	08:51 12:34-13:06/32 15:45 10:14-11:16/62
31	05:14 05:52-06:19/27 21:30	06:15 07:03-07:42/39 20:16		07:20 08:00-08:23/23 16:38		08:51 12:35-13:07/32 15:46 10:15-11:17/62
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	346	2092	232	943	801	2807

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E8 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:51 09:30-09:43/13 15:48	08:15 16:45	07:11 17:47	06:49 07:24-07:33/9 19:53	05:32 20:55	04:36 05:30-06:06/36 21:52
2	08:50 09:30-09:44/14 15:49	08:13 16:47	07:08 17:50	06:46 19:55	05:30 20:57	04:35 05:30-06:05/35 21:54
3	08:50 09:29-09:45/16 15:50	08:11 16:49	07:05 17:52	06:43 19:57	05:28 20:59	04:33 05:30-06:05/35 21:55
4	08:50 09:28-09:45/17 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:25 21:01	04:32 05:30-06:04/34 21:56
5	08:49 09:28-09:46/18 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:31 05:31-06:06/35 21:58
6	08:49 09:27-09:47/20 15:55	08:05 16:56	06:58 07:24-07:31/7 17:58	06:35 20:03	05:21 21:06	04:31 05:31-06:06/35 21:59
7	08:48 09:26-09:47/21 15:56	08:02 16:58	06:55 07:21-07:33/12 18:00	06:33 06:58-07:02/4 20:05	05:19 21:08	04:30 05:30-06:06/36 22:00
8	08:47 09:27-09:48/21 15:58	08:00 17:01	06:53 07:18-07:34/16 18:02	06:30 06:55-07:05/10 20:07	05:17 05:49-05:58/9 21:10	04:29 05:30-06:08/38 22:01
9	08:47 09:27-09:49/22 15:59	07:58 08:27-08:30/3 17:03	06:50 07:16-07:35/19 18:05	06:27 06:53-07:08/15 20:09	05:15 05:46-06:00/14 21:12	04:28 05:29-06:08/39 22:02
10	08:46 09:27-09:49/22 16:01	07:56 08:25-08:31/6 17:05	06:47 07:13-07:35/22 18:07	06:25 06:50-07:08/18 20:12	05:12 05:44-06:01/17 21:14	04:28 05:30-06:09/39 22:03
11	08:45 09:28-09:50/22 16:03	07:54 08:23-08:32/9 17:07	06:45 07:10-07:35/25 18:09	06:22 06:48-07:09/21 20:14	05:10 05:43-06:03/20 21:16	04:27 05:29-06:09/40 22:04
12	08:44 09:28-09:51/23 16:04	07:52 08:20-08:32/12 17:10	06:42 07:08-07:35/27 18:11	06:20 06:45-07:09/24 20:16	05:08 05:42-06:03/21 21:18	04:27 05:29-06:09/40 22:05
13	08:43 09:28-09:50/22 16:06	07:49 08:18-08:33/15 17:12	06:39 07:05-07:34/29 18:13	06:17 06:43-07:10/27 20:18	05:06 05:41-06:04/23 21:20	04:26 05:29-06:10/41 22:06
14	08:42 09:28-09:51/23 16:08	07:47 08:15-08:32/17 17:14	06:37 07:02-07:33/31 18:15	06:14 06:40-07:09/29 20:20	05:04 05:41-06:05/24 21:21	04:26 05:29-06:10/41 22:06
15	08:41 09:29-09:52/23 16:10	07:45 08:16-08:32/16 17:16	06:34 06:59-07:32/33 18:17	06:12 06:38-07:10/32 20:22	05:02 05:39-06:06/27 21:23	04:25 05:29-06:10/41 22:07
16	08:40 09:29-09:52/23 16:12	07:42 08:16-08:31/15 17:19	06:31 06:57-07:31/34 18:19	06:09 06:35-07:09/34 20:24	05:00 05:36-06:06/30 21:25	04:25 05:29-06:11/42 22:08
17	08:39 09:30-09:52/22 16:14	07:40 08:18-08:31/13 17:21	06:29 06:54-07:29/35 18:22	06:07 06:35-07:08/33 20:26	04:59 05:36-06:07/31 21:27	04:25 05:29-06:11/42 22:08
18	08:37 09:30-09:52/22 16:15	07:38 08:19-08:28/9 17:23	06:26 06:51-07:25/34 18:24	06:04 06:34-07:07/33 20:28	04:57 05:34-06:07/33 21:29	04:25 05:29-06:11/42 22:09
19	08:36 09:31-09:52/21 16:17	07:35 08:23-08:25/2 17:25	06:23 06:49-07:22/33 18:26	06:02 06:34-07:06/32 20:30	04:55 05:33-06:06/33 21:31	04:25 05:29-06:12/43 22:09
20	08:35 09:32-09:52/20 16:19	07:33 17:28	06:21 06:48-07:21/33 18:28	05:59 06:33-07:05/32 20:32	04:53 05:32-06:07/35 21:33	04:25 05:29-06:12/43 22:10
21	08:33 09:32-09:52/20 16:21	07:31 17:30	06:18 06:48-07:19/31 18:30	05:57 06:33-07:03/30 20:34	04:51 05:31-06:07/36 21:35	04:25 05:29-06:12/43 22:10
22	08:32 09:33-09:51/18 16:24	07:28 17:32	06:15 06:48-07:17/29 18:32	05:54 06:34-07:01/27 20:37	04:50 05:31-06:07/36 21:36	04:25 05:30-06:13/43 22:10
23	08:30 09:34-09:50/16 16:26	07:26 17:34	06:13 06:48-07:10/22 18:34	05:52 06:34-06:56/22 20:39	04:48 05:30-06:06/36 21:38	04:25 05:30-06:13/43 22:10
24	08:29 09:37-09:50/13 16:28	07:23 17:36	06:10 06:49-07:09/20 18:36	05:49 06:34-06:56/22 20:41	04:47 05:30-06:07/37 21:40	04:26 05:30-06:12/42 22:10
25	08:27 09:38-09:48/10 16:30	07:21 17:39	06:07 06:49-07:06/17 18:38	05:47 06:36-06:55/19 20:43	04:45 05:30-06:07/37 21:42	04:26 05:31-06:13/42 22:10
26	08:25 09:42-09:45/3 16:32	07:18 17:41	06:05 06:52-07:04/12 18:40	05:44 06:36-06:52/16 20:45	04:44 05:31-06:07/36 21:43	04:27 05:31-06:13/42 22:10
27	08:24 16:34	07:16 17:43	06:02 06:27-06:37/10 18:42	05:42 06:38-06:50/12 20:47	04:42 05:30-06:06/36 21:45	04:27 05:32-06:13/41 22:10
28	08:22 16:36	07:13 17:45	05:59 06:24-06:37/13 18:45	05:39 20:49	04:41 05:30-06:06/36 21:46	04:28 05:32-06:13/41 22:10
29	08:20 16:38		06:57 07:22-07:37/15 19:47	05:37 20:51	04:39 05:30-06:06/36 21:48	04:28 05:32-06:13/41 22:10
30	08:18 16:41		06:54 07:22-07:36/14 19:49	05:35 20:53	04:38 05:30-06:06/36 21:49	04:29 05:33-06:14/41 22:09
31	08:16 16:43		06:51 07:22-07:34/12 19:51		04:37 05:30-06:06/36 21:51	
Potential sun hours	235	266	366	426	508	529
Sum of minutes with flicker	485	117	596	501	715	1196

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E8 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 05:33-06:13/40 22:09	05:15 05:52-06:13/21 21:28	06:17 06:47-07:08/21 20:14	07:17 07:46-08:14/28 18:53	07:22 07:55-08:01/6 16:36	08:24 09:10-09:32/22 15:45
2	04:31 05:34-06:13/39 22:08	05:17 05:54-06:12/18 21:26	06:19 06:49-07:07/18 20:11	07:19 07:48-08:14/26 18:51	07:25 07:57-07:59/2 16:34	08:26 09:10-09:32/22 15:44
3	04:31 05:35-06:13/38 22:08	05:19 05:55-06:11/16 21:24	06:21 06:51-07:06/15 20:09	07:21 07:50-08:13/23 18:48	07:27 16:31	08:27 09:11-09:33/22 15:43
4	04:32 05:35-06:13/38 22:07	05:21 05:57-06:10/13 21:21	06:23 06:53-07:03/10 20:06	07:23 07:52-08:12/20 18:45	07:29 16:29	08:29 09:11-09:32/21 15:42
5	04:33 05:36-06:13/37 22:07	05:23 06:00-06:05/5 21:19	06:25 06:54-06:59/5 20:03	07:25 07:54-08:11/17 18:43	07:31 16:27	08:31 09:12-09:33/21 15:41
6	04:34 05:37-06:13/36 22:06	05:25 21:17	06:27 20:01	07:27 07:56-08:10/14 18:40	07:33 16:25	08:32 09:13-09:33/20 15:41
7	04:36 05:37-06:12/35 22:05	05:27 21:15	06:29 19:58	07:29 07:58-08:08/10 18:38	07:35 16:23	08:34 09:14-09:32/18 15:40
8	04:37 05:38-06:12/34 22:04	05:29 21:13	06:31 19:55	07:31 08:00-08:04/4 18:35	07:38 16:21	08:35 09:16-09:33/17 15:40
9	04:38 05:38-06:12/34 22:03	05:31 21:11	06:33 19:53	07:33 18:32	07:40 16:19	08:36 09:18-09:34/16 15:39
10	04:39 05:38-06:12/34 22:02	05:33 21:08	06:35 19:50	07:36 18:30	07:42 16:17	08:38 09:19-09:33/14 15:39
11	04:40 05:38-06:13/35 22:01	05:35 21:06	06:37 07:17-07:25/8 19:47	07:38 18:27	07:44 16:15	08:39 09:20-09:33/13 15:38
12	04:42 05:39-06:14/35 22:00	05:37 21:04	06:39 07:15-07:26/11 19:45	07:40 18:24	07:46 16:13	08:40 09:22-09:34/12 15:38
13	04:43 05:38-06:14/36 21:59	05:39 21:01	06:41 07:13-07:27/14 19:42	07:42 18:22	07:48 16:11	08:41 09:23-09:34/11 15:38
14	04:45 05:38-06:15/37 21:58	05:41 20:59	06:43 07:12-07:27/15 19:39	07:44 18:19	07:51 16:09	08:43 09:24-09:34/10 15:38
15	04:46 05:38-06:15/37 21:56	05:43 06:49-06:52/3 20:57	06:45 07:14-07:27/13 19:36	07:46 18:17	07:53 16:07	08:44 10:34-10:38/4 15:38
16	04:48 05:39-06:16/37 21:55	05:45 06:45-06:58/13 20:54	06:47 07:16-07:27/11 19:34	07:48 18:14	07:55 09:15-09:18/3 16:06	08:45 10:33-10:39/6 15:38
17	04:49 05:39-06:16/37 21:54	05:47 06:42-06:59/17 20:52	06:49 07:41-07:52/11 19:31	07:50 18:12	07:57 09:11-09:21/10 16:04	08:45 10:33-10:40/7 15:38
18	04:51 05:40-06:17/37 21:52	05:49 06:41-07:00/19 20:49	06:51 07:38-07:55/17 19:28	07:52 18:09	07:59 09:10-09:24/14 16:02	08:46 10:33-10:41/8 15:38
19	04:52 05:40-06:16/36 21:51	05:51 06:40-07:01/21 20:47	06:53 07:36-07:56/20 19:26	07:54 18:07	08:01 09:09-09:25/16 16:01	08:47 10:34-10:42/8 15:38
20	04:54 05:41-06:17/36 21:49	05:53 06:39-07:02/23 20:44	06:55 07:35-07:57/22 19:23	07:57 18:04	08:03 09:08-09:26/18 15:59	08:48 10:33-10:42/9 15:38
21	04:56 05:41-06:17/36 21:48	05:55 06:38-07:06/28 20:42	06:57 07:34-08:02/28 19:20	07:59 18:02	08:05 09:08-09:27/19 15:57	08:48 10:34-10:43/9 15:39
22	04:57 05:42-06:17/35 21:46	05:57 06:38-07:08/30 20:39	06:59 07:33-08:03/30 19:18	08:01 17:59	08:07 09:08-09:28/20 15:56	08:49 10:34-10:43/9 15:39
23	04:59 05:42-06:17/35 21:44	05:59 06:38-07:09/31 20:37	07:01 07:32-08:04/32 19:15	08:03 08:51-08:57/6 17:57	08:09 09:08-09:29/21 15:54	08:49 10:35-10:44/9 15:40
24	05:01 05:43-06:17/34 21:43	06:01 06:38-07:10/32 20:34	07:03 07:32-08:05/33 19:12	08:05 08:49-08:59/10 17:54	08:11 09:07-09:29/22 15:53	08:50 10:36-10:44/8 15:40
25	05:02 05:43-06:17/34 21:41	06:03 06:38-07:11/33 20:32	07:05 07:33-08:06/33 19:10	07:07 07:47-08:00/13 16:52	08:13 09:07-09:29/22 15:52	08:50 10:36-10:44/8 15:41
26	05:04 05:45-06:17/32 21:39	06:05 06:37-07:10/33 20:29	07:07 07:36-08:11/35 19:07	07:09 07:46-08:02/16 16:50	08:15 09:08-09:31/23 15:50	08:50 10:37-10:44/7 15:42
27	05:06 05:46-06:17/31 21:37	06:07 06:37-07:10/33 20:27	07:09 07:38-08:12/34 19:04	07:12 07:46-08:02/16 16:47	08:17 09:08-09:31/23 15:49	08:51 10:38-10:44/6 15:43
28	05:08 05:47-06:16/29 21:36	06:09 06:39-07:10/31 20:24	07:11 07:40-08:13/33 19:01	07:14 07:45-08:02/17 16:45	08:19 09:08-09:31/23 15:48	08:51 10:39-10:44/5 15:43
29	05:10 05:50-06:16/26 21:34	06:11 06:41-07:10/29 20:22	07:13 07:42-08:14/32 18:59	07:16 07:48-08:02/14 16:43	08:20 09:09-09:31/22 15:47	08:51 10:42-10:43/1 15:44
30	05:12 05:51-06:15/24 21:32	06:13 06:43-07:10/27 20:19	07:15 07:44-08:14/30 18:56	07:18 07:50-08:02/12 16:40	08:22 09:09-09:32/23 15:46	08:51 09:31-09:42/11 15:45
31	05:14 05:52-06:15/23 21:30	06:15 06:45-07:09/24 20:16		07:20 07:53-08:02/9 16:38		08:51 09:31-09:43/12 15:46
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	1067	500	545	255	287	477

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E9 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	January			February			March			April			May			June		
1	08:50	08:14	07:11							06:49			05:32	06:24-07:14/50		04:36		
	15:48	16:45	17:47							19:53			20:55			21:52		
2	08:50	08:13	07:08							06:46			05:30	06:24-07:14/50		04:35		
	15:49	16:47	17:49							19:55			20:57			21:54		
3	08:50	08:11	07:05							06:43			05:28	06:24-07:14/50		04:33		
	15:50	16:49	17:52							19:57			20:59	05:56-05:59/3		21:55		
4	08:50	08:09	07:03							06:41			05:25	06:24-07:14/50		04:32		
	15:52	16:52	17:54							19:59			21:01	05:54-06:01/7		21:56		
5	08:49	08:07	07:00							06:38			05:23	06:23-07:14/51		04:31		
	15:53	16:54	17:56							20:01			21:03	05:52-06:01/9		21:58		
6	08:49	08:04	06:58							06:35			05:21	06:23-07:13/50		04:31		
	15:55	16:56	17:58							20:03			21:05	05:50-06:02/12		21:59		
7	08:48	08:02	06:55	07:23-07:31/8						06:33			05:19	06:23-07:13/50		04:30		
	15:56	16:58	18:00							20:05			21:07	05:48-06:02/14		22:00		
8	08:47	08:00	06:52	07:18-07:33/15						06:30			05:17	06:23-07:12/49		04:29		
	15:58	17:01	18:02							20:07			21:10	05:46-06:02/16		22:01		
9	08:47	07:58	06:50	07:16-07:36/20						06:27			05:14	06:24-07:12/48		04:28		
	15:59	17:03	18:05							20:09			21:12	05:45-06:02/17		22:02		
10	08:46	07:56	06:47	07:13-07:36/23						06:25			05:12	06:24-07:11/47		04:28		
	16:01	17:05	18:07							20:11			21:14	05:44-06:02/18		22:03		
11	08:45	07:54	06:45	07:10-07:37/27						06:22			05:10	06:24-07:11/47		04:27		
	16:03	17:07	18:09							20:14			21:16	05:44-06:02/18		22:04		
12	08:44	07:52	06:42	07:08-07:37/29						06:19			05:08	06:24-07:10/46		04:27		
	16:04	17:10	18:11							20:16			21:17	05:45-06:01/16		22:05		
13	08:43	07:49	06:39	07:05-07:38/33						06:17			05:06	06:24-07:09/45		04:26		
	16:06	17:12	18:13							20:18			21:19	05:45-06:00/15		22:06		
14	08:42	07:47	06:37	07:02-07:37/35						06:14			05:04	06:26-07:09/43		04:26		
	16:08	17:14	18:15							20:20			21:21	05:46-06:01/15		22:06		
15	08:41	07:45	06:34	06:59-07:37/38						06:12			05:02	06:26-07:08/42		04:25		
	16:10	17:16	18:17							20:22			21:23	05:47-05:59/12		22:07		
16	08:40	07:42	06:31	06:59-07:37/38						06:09			05:00	06:26-07:07/41		04:25		
	16:12	17:19	18:19							20:24			21:25	05:48-05:58/10		22:08		
17	08:39	07:40	06:29	06:59-07:36/37						06:07	06:52-07:00/8		04:59	06:27-07:05/38		04:25		
	16:14	17:21	18:22							20:26			21:27	05:50-05:57/7		22:08		
18	08:37	07:38	06:26	06:59-07:11/12						06:04	06:46-07:03/17		04:57	06:28-07:05/37		04:25		
	16:15	17:23	18:24	07:12-07:35/23						20:28			21:29			22:09		
19	08:36	07:35	06:23	06:49-06:55/6	07:13-07:34/21					06:02	06:44-07:06/22		04:55	06:29-07:03/34		04:25		
	16:17	17:25	18:26	07:02-07:09/7						20:30			21:31			22:09		
20	08:35	07:33	06:21	06:46-06:57/11						05:59	06:40-07:08/28		04:53	06:30-07:02/32		04:25		
	16:19	17:28	18:28	07:13-07:32/19						20:32			21:33			22:09		
21	08:33	07:30	06:18	06:43-06:57/14						05:56	06:37-07:09/32		04:51	06:31-07:00/29		04:25		
	16:21	17:30	18:30	07:14-07:30/16						20:34			21:34			22:10		
22	08:32	07:28	06:15	06:41-06:59/18						05:54	06:35-07:11/36		04:50	06:32-06:59/27		04:25		
	16:24	17:32	18:32	07:16-07:27/11						20:36			21:36			22:10		
23	08:30	07:26	06:13	06:38-06:58/20						05:52	06:32-07:11/39		04:48	06:33-06:55/22		04:25		
	16:26	17:34	18:34							20:39			21:38			22:10		
24	08:29	07:23	06:10	06:36-06:58/22						05:49	06:31-07:12/41		04:47	06:36-06:50/14		04:26		
	16:28	17:36	18:36							20:41			21:40			22:10		
25	08:27	07:21	06:07	06:35-06:58/23						05:47	06:30-07:13/43		04:45	06:38-06:48/10		04:26		
	16:30	17:39	18:38							20:43			21:41			22:10		
26	08:25	07:18	06:05	06:36-06:58/22						05:44	06:28-07:13/45		04:44			04:27		
	16:32	17:41	18:40							20:45			21:43			22:10		
27	08:24	07:16	06:02	06:36-06:56/20						05:42	06:27-07:13/46		04:42			04:27		
	16:34	17:43	18:42							20:47			21:45			22:10		
28	08:22	07:13	05:59	06:36-06:55/19						05:39	06:26-07:14/48		04:41			04:28		
	16:36	17:45	18:44							20:49			21:46			22:10		
29	08:20		06:57	07:38-07:54/16						05:37	06:25-07:13/48		04:39			04:28		
	16:38		19:47							20:51			21:48			22:09		
30	08:18		06:54	07:40-07:51/11						05:35	06:25-07:14/49		04:38			04:29		
	16:41		19:49							20:53			21:49			22:09		
31	08:16		06:51										04:37					
	16:43		19:51										21:51					
Potential sun hours	235	266	366							426			508			529		
Sum of minutes with flicker	0	0	614							502			1191			0		

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

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

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

25/06/2024 23:53/4.0.540

SHADOW - Calendar per WTG

WTG: E9 - GE WIND ENERGY 6.0-164 6000 164.0 !O! hub: 167.0 m (TOT: 249.0 m)

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) []

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.01	1.91	4.85	7.09	9.29	9.83	8.40	7.53	5.47	2.70	0.68	0.49

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
441	466	538	463	488	780	784	937	1,214	1,078	832	556	8,577

Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:15 06:34-07:20/46 21:28 05:55-06:12/17	06:17 20:14	07:17 07:46-08:17/31 18:53	07:22 16:36	08:24 15:45
2	04:31 22:08	05:17 06:34-07:21/47 21:26 05:55-06:12/17	06:19 20:11	07:19 07:48-08:16/28 18:51	07:25 16:34	08:26 15:44
3	04:31 22:08	05:19 06:34-07:22/48 21:24 05:55-06:12/17	06:21 20:09	07:21 07:50-08:15/25 18:48	07:27 16:31	08:27 15:43
4	04:32 22:07	05:21 06:34-07:22/48 21:21 05:55-06:13/18	06:23 20:06	07:23 07:52-08:13/21 18:45	07:29 16:29	08:29 15:42
5	04:33 22:06	05:23 06:33-07:22/49 21:19 05:56-06:12/16	06:25 20:03	07:25 07:54-08:11/17 18:43	07:31 16:27	08:31 15:41
6	04:34 22:06	05:25 06:33-07:22/49 21:17 05:58-06:11/13	06:27 20:01	07:27 07:56-08:09/13 18:40	07:33 16:25	08:32 15:41
7	04:36 22:05	05:27 06:33-07:23/50 21:15 06:00-06:11/11	06:29 19:58	07:29 18:37	07:35 16:23	08:34 15:40
8	04:37 22:04	05:29 06:33-07:23/50 21:13 06:02-06:10/8	06:31 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	04:38 22:03	05:31 06:33-07:23/50 21:10 06:04-06:10/6	06:33 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	04:39 22:02	05:33 06:32-07:22/50 21:08 06:05-06:07/2	06:35 19:50	07:35 18:30	07:42 16:17	08:38 15:39
11	04:40 22:01	05:35 06:32-07:22/50 21:06	06:37 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	04:42 22:00	05:37 06:33-07:22/49 21:04	06:39 19:45	07:40 18:24	07:46 16:13	08:40 15:38
13	04:43 21:59	05:39 06:33-07:22/49 21:01	06:41 07:31-07:42/11 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	04:45 21:58	05:41 06:34-07:22/48 20:59	06:43 07:28-07:44/16 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	04:46 21:56	05:43 06:34-07:21/47 20:57	06:45 07:27-07:45/18 19:36	07:46 18:17	07:53 16:07	08:43 15:38
16	04:48 21:55	05:45 06:35-07:21/46 20:54	06:47 07:25-07:46/21 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	04:49 21:54	05:47 06:35-07:19/44 20:52	06:49 07:25-07:46/21 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	04:51 06:50-06:56/6 21:52	05:49 06:35-07:18/43 20:49	06:51 07:24-07:46/22 19:28	07:52 18:09	07:59 16:02	08:46 15:38
19	04:52 06:46-06:59/13 21:51	05:51 06:37-07:18/41 20:47	06:53 07:24-07:46/22 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	04:54 06:45-07:04/19 21:49	05:53 06:38-07:16/38 20:44	06:55 07:24-07:44/20 19:23	07:56 18:04	08:03 15:59	08:48 15:38
21	04:56 06:43-07:07/24 21:48	05:55 06:40-07:15/35 20:42	06:57 07:25-07:43/18 19:20	07:59 08:03-08:12/9 18:02	08:05 15:57	08:48 15:39
22	04:57 06:42-07:10/28 21:46	05:57 06:42-07:14/32 20:39	06:59 07:27-07:42/15 19:18	08:01 07:59-08:14/15 17:59	08:07 15:56	08:49 15:39
23	04:59 06:40-07:11/31 21:44	05:59 06:46-07:12/26 20:37	07:01 07:29-07:41/12 19:15	08:03 07:57-08:16/19 17:57	08:09 15:54	08:49 15:40
24	05:01 06:40-07:13/33 21:43	06:01 06:48-07:10/22 20:34	07:03 07:31-07:39/8 07:56-08:17/21 19:12	08:05 07:46-07:50/4 17:54	08:11 15:53	08:50 15:40
25	05:02 06:38-07:14/36 21:41	06:03 06:49-07:06/17 20:32	07:05 07:33-07:34/1 07:55-08:17/22 19:09	07:07 07:43-07:53/10 16:52	08:13 15:52	08:50 15:41
26	05:04 06:38-07:16/38 21:39	06:05 06:54-07:01/7 20:29	07:07 07:41-08:17/36 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	05:06 06:38-07:17/39 21:37	06:07 06:00-06:08/8 20:27	07:09 07:41-08:18/37 19:04	07:11 16:47	08:17 15:49	08:51 15:43
28	05:08 06:36-07:17/41 21:35	06:09 06:09-06:09/12 20:24	07:11 07:40-08:18/38 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	05:10 06:36-07:18/42 21:34	06:11 05:57-06:10/13 20:22	07:13 07:42-08:18/36 18:59	07:16 16:43	08:20 15:47	08:51 15:44
30	05:12 06:36-07:19/43 21:32	06:13 05:56-06:11/15 20:19	07:15 07:44-08:18/34 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	05:14 06:34-07:19/45 21:30	06:15 05:56-06:12/16 20:16		07:20 16:38		08:51 15:46
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	505	1206	486	135	0	0

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	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker