

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B1 - VESTAS V172-7.2 7200 172.0 !O! hub: 175.0 m (TOT: 261.0 m) (101)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January	February	March	April	May	June
1	08:51 12:36-13:12/36 15:48 10:16-11:21/65	08:15 11:05-11:13/8 16:45	07:11 08:04-08:34/30 17:47 07:37-07:55/18	06:49 19:53	05:32 06:18-07:28/70 20:55	04:36 21:52
2	08:50 12:37-13:12/35 15:49 10:18-11:22/64	08:13 16:47	07:08 08:07-08:13/6 08:15-08:32/17 17:50 07:35-07:56/21	06:46 19:55	05:30 05:58-06:03/5 20:57 06:19-07:25/66	04:35 21:54
3	08:50 12:38-13:12/34 15:50 10:18-11:22/64	08:11 08:41-08:47/6 16:50	07:06 07:34-07:57/23 17:52 08:18-08:29/11	06:43 19:57	05:28 05:56-06:05/9 20:59 06:20-07:20/60	04:33 21:55
4	08:50 12:38-13:12/34 15:52 10:18-11:22/64	08:09 08:39-08:50/11 16:52	07:03 07:33-07:57/24 17:54	06:41 07:24-07:31/7 19:59	05:25 05:54-06:07/13 21:02 06:21-07:19/58	04:32 21:57
5	08:49 12:39-13:13/34 15:53 10:20-11:24/64	08:07 08:37-08:52/15 16:54	07:00 07:32-07:57/25 17:56	06:38 07:17-07:35/18 20:01	05:23 05:52-06:08/16 21:04 06:23-07:19/56	04:32 21:58
6	08:49 12:40-13:13/33 15:55 10:21-11:24/63	08:05 08:34-08:52/18 16:56	06:58 07:33-07:58/25 17:58	06:35 07:14-07:38/24 20:03	05:21 05:50-06:09/19 21:06 06:24-07:18/54	04:31 21:59
7	08:48 12:41-13:13/32 15:56 10:21-11:24/63	08:03 08:32-08:53/21 16:58	06:55 07:32-07:57/25 18:00	06:33 07:11-07:40/29 20:05	05:19 05:49-06:09/20 21:08 06:25-07:17/52	04:30 22:00
8	08:47 12:41-13:13/32 10:40-11:25/45 15:58 10:22-10:39/17	08:00 08:32-08:54/22 17:01	06:53 07:32-07:56/24 18:03	06:30 07:09-07:41/32 20:07	05:17 05:48-06:09/21 21:10 06:25-07:16/51	04:29 22:01
9	08:47 12:42-13:13/31 10:40-11:25/45 15:59 10:24-10:39/15	07:58 08:31-08:54/23 17:03	06:50 07:33-07:56/23 18:05	06:27 07:08-07:42/34 20:10	05:15 05:48-06:10/22 21:12 06:25-07:15/50	04:28 22:02
10	08:46 12:43-13:13/30 10:41-11:26/45 16:01 10:25-10:38/13	07:56 08:31-08:55/24 17:05	06:47 07:33-07:55/22 18:07	06:25 07:06-07:42/36 20:12	05:12 05:48-06:10/22 21:14 06:25-07:14/49	04:28 22:03
11	08:45 12:44-13:13/29 10:41-11:26/45 16:03 10:27-10:37/10	07:54 08:32-08:55/23 17:07	06:45 07:33-07:53/20 18:09	06:22 07:05-07:44/39 20:14	05:10 05:47-06:09/22 21:16 06:25-07:13/48	04:27 22:04
12	08:44 12:46-13:13/27 10:42-11:27/45 16:04 10:30-10:35/5	07:52 08:31-08:54/23 17:10	06:42 07:35-07:52/17 18:11	06:20 07:04-07:44/40 20:16	05:08 05:47-06:09/22 21:18 06:26-07:11/45	04:27 22:05
13	08:43 12:46-13:12/26 16:06 10:42-11:26/44	07:49 08:20-08:55/35 17:12	06:39 07:37-07:49/12 18:13	06:17 07:03-07:44/41 20:18	05:06 05:47-06:09/22 21:20 06:26-07:10/44	04:26 22:06
14	08:42 12:48-13:12/24 16:08 10:43-11:27/44	07:47 08:17-08:54/37 17:14	06:37 07:41-07:44/3 18:15	06:14 06:57-07:44/47 20:20	05:04 05:48-06:09/21 21:22 06:28-07:09/41	04:26 22:07
15	08:41 12:50-13:11/21 16:10 10:43-11:27/44	07:45 08:15-08:54/39 17:16	06:34 18:17	06:12 06:54-07:45/51 20:22	05:02 05:48-06:09/21 21:23 06:28-07:06/38	04:25 22:07
16	08:40 12:51-13:10/19 16:12 10:43-11:27/44	07:43 08:10-08:52/42 17:19	06:31 18:19	06:09 06:47-07:44/57 20:24	05:00 05:49-06:08/19 21:25 06:29-07:03/34	04:25 22:08
17	08:39 12:53-13:09/16 16:14 10:45-11:28/43	07:40 08:08-08:51/43 17:21	06:29 18:22	06:07 06:42-07:44/62 20:26	04:59 05:50-06:08/18 21:27 06:30-06:57/27	04:25 22:08
18	08:37 12:56-13:06/10 16:15 10:45-11:27/42	07:38 08:05-08:49/44 17:23	06:26 18:24	06:04 06:38-07:43/65 20:28	04:57 05:50-06:07/17 21:29 06:31-06:55/24	04:25 22:09
19	08:36 10:45-11:27/42 16:17	07:35 08:03-08:47/44 17:25	06:23 18:26	06:02 06:37-07:43/66 20:30 06:28-06:35/7	04:55 05:51-06:05/14 21:31 06:32-06:54/22	04:25 22:09
20	08:35 10:46-11:28/42 16:19	07:33 08:01-08:39/38 17:28	06:21 18:28	05:59 06:25-07:42/77 20:32	04:53 05:52-06:05/13 21:33 06:34-06:53/19	04:25 22:10
21	08:33 10:47-11:27/40 16:22	07:31 08:01-08:40/39 17:30	06:18 18:30	05:57 06:23-07:42/79 20:35	04:51 05:54-06:03/9 21:35 06:35-06:51/16	04:25 22:10
22	08:32 10:47-11:27/40 16:24	07:28 08:00-08:39/39 17:32	06:15 18:32	05:54 06:21-07:42/81 20:37	04:50 05:57-06:00/3 21:36 06:38-06:49/11	04:25 22:10
23	08:30 10:48-11:26/38 16:26	07:26 08:00-08:40/40 17:34	06:13 18:34	05:52 06:19-07:40/81 20:39	04:48 06:42-06:44/2 21:38	04:26 22:10
24	08:29 10:50-11:27/37 16:28	07:23 08:00-08:39/39 17:36	06:10 18:36	05:49 06:18-07:40/82 20:41	04:47 21:40	04:26 22:10
25	08:27 10:51-11:26/35 16:30	07:21 08:01-08:38/37 17:39	06:07 18:38	05:47 06:18-07:39/81 20:43	04:45 21:42	04:26 22:10
26	08:25 10:52-11:25/33 16:32	07:18 08:01-08:38/37 17:41	06:05 18:40	05:44 06:17-07:37/80 20:45	04:44 21:43	04:27 22:10
27	08:24 10:53-11:24/31 16:34	07:16 08:01-08:37/36 17:43 07:42-07:51/9	06:02 18:42	05:42 06:17-07:36/79 20:47	04:42 21:45	04:27 22:10
28	08:22 10:54-11:23/29 16:36	07:13 08:03-08:36/33 17:45 07:40-07:54/14	05:59 18:45	05:39 06:17-07:35/78 20:49	04:41 21:47	04:28 22:10
29	08:20 10:56-11:22/26 16:38		06:57 19:47	05:37 06:18-07:34/76 20:51	04:39 21:48	04:28 22:10
30	08:18 10:58-11:20/22 16:41		06:54 19:49	05:35 06:17-07:31/74 20:53	04:38 21:50	04:29 22:09
31	08:17 11:01-11:18/17 16:43		06:51 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Sum of minutes with flicker	1928	839	346	1523	1285	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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Vilandes 3-6
LV-1010 Riga
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Anna / anna@environment.lv
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Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
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Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	04:30 22:09	05:15 05:58-06:19/21 21:28 06:36-07:22/46	06:17 07:04-07:43/39 20:14	07:17 08:15-08:30/15 18:53	07:22 08:01-08:24/23 16:36	08:24 12:27-12:55/28 10:23-11:08/45 15:45 10:09-10:19/10
2	04:31 22:08	05:17 05:58-06:20/22 21:26 06:36-07:24/48	06:19 07:05-07:41/36 20:11	07:19 08:13-08:32/19 18:51	07:25 08:01-08:23/22 16:34	08:26 12:26-12:56/30 10:24-11:09/45 15:44 10:08-10:21/13
3	04:31 22:08	05:19 05:58-06:20/22 21:24 06:35-07:25/50	06:21 07:06-07:40/34 20:09	07:21 08:11-08:32/21 18:48	07:27 08:02-08:24/22 16:31	08:27 12:25-12:56/31 10:24-11:09/45 15:43 10:08-10:23/15
4	04:32 22:07	05:21 05:58-06:20/22 21:22 06:35-07:26/51	06:23 07:07-07:39/32 20:06	07:23 08:10-08:33/23 18:45	07:29 08:02-08:23/21 16:29	08:29 12:26-12:57/31 10:24-11:09/45 15:42 10:07-10:23/16
5	04:33 22:07	05:23 05:58-06:19/21 21:19 06:34-07:26/52	06:25 07:07-07:36/29 20:03	07:25 08:09-08:33/24 18:43	07:31 08:05-08:22/17 16:27	08:31 12:26-12:58/32 10:25-11:09/44 15:41 10:07-10:24/17
6	04:34 22:06	05:25 05:58-06:18/20 21:17 06:34-07:27/53	06:27 07:09-07:34/25 20:01	07:27 08:08-08:33/25 18:40	07:33 08:07-08:21/14 16:25	08:32 12:26-12:59/33 15:41 10:07-11:10/63
7	04:36 22:05	05:27 06:00-06:18/18 21:15 06:34-07:27/53	06:29 07:12-07:31/19 19:58	07:29 08:08-08:33/25 18:38	07:36 08:09-08:19/10 16:23	08:34 12:26-12:59/33 15:40 10:06-11:10/64
8	04:37 22:04	05:29 06:02-06:17/15 21:13 06:32-07:28/56	06:31 07:17-07:26/9 19:55	07:31 08:08-08:32/24 18:35	07:38 08:12-08:18/6 16:21	08:35 12:26-13:00/34 15:40 10:06-11:11/65
9	04:38 22:03	05:31 06:04-06:16/12 21:11 06:30-07:29/59	06:33 19:53	07:34 08:08-08:33/25 18:32	07:40 16:19	08:37 12:26-13:00/34 15:39 10:07-11:11/64
10	04:39 22:02	05:33 06:06-06:14/8 21:08 06:29-07:28/59	06:35 19:50	07:36 08:08-08:32/24 18:30 08:55-09:01/6	07:42 10:35-10:44/9 16:17	08:38 12:27-13:01/34 15:39 10:07-11:11/64
11	04:40 22:01	05:35 06:07-06:11/4 21:06 06:27-07:35/68	06:37 19:47	07:38 08:09-08:31/22 18:27 08:51-09:05/14	07:44 10:32-10:49/17 16:15	08:39 12:27-13:02/35 15:38 10:07-11:11/64
12	04:42 22:00	05:37 06:26-07:38/72 21:04	06:39 19:45	07:40 08:39-09:07/28 18:25 08:09-08:29/20	07:46 10:29-10:51/22 16:13	08:40 12:27-13:03/36 15:38 10:08-11:12/64
13	04:43 21:59	05:39 06:26-07:40/74 21:01	06:41 19:42	07:42 08:36-09:08/32 18:22 08:11-08:28/17	07:48 10:28-10:54/26 16:11	08:41 12:28-13:03/35 15:38 10:08-11:13/65
14	04:45 21:58	05:41 06:25-07:41/76 20:59	06:43 19:39	07:44 08:34-09:09/35 18:19 08:13-08:25/12	07:51 10:26-10:55/29 16:09	08:43 12:28-13:04/36 15:38 10:08-11:13/65
15	04:46 21:57	05:43 06:25-07:43/78 20:57	06:45 19:37	07:46 08:34-09:10/36 18:17 08:16-08:23/7	07:53 10:25-10:56/31 16:07	08:44 12:28-13:04/36 15:38 10:08-11:13/65
16	04:48 21:55	05:45 06:25-07:44/79 20:54	06:47 19:34	07:48 08:33-09:10/37 18:14	07:55 10:25-10:58/33 16:06	08:45 12:28-13:05/37 15:38 10:08-11:14/66
17	04:49 21:54	05:47 06:25-07:44/79 20:52	06:49 19:31	07:50 08:32-09:10/38 18:12	07:57 10:24-10:59/35 16:04	08:45 12:29-13:05/36 15:38 10:09-11:14/65
18	04:51 21:52	05:49 06:24-07:45/81 20:49	06:51 19:28	07:52 08:31-09:10/39 18:09	07:59 10:24-11:01/37 16:02	08:46 12:30-13:06/36 15:38 10:09-11:15/66
19	04:52 21:51	05:51 06:24-07:46/82 20:47	06:53 19:26	07:54 08:32-09:11/39 18:07	08:01 10:23-11:01/38 16:01	08:47 12:30-13:07/37 15:38 10:10-11:15/65
20	04:54 21:49	05:53 06:25-07:46/81 20:45	06:55 19:23	07:57 08:31-09:10/39 18:04	08:03 10:22-11:02/40 15:59	08:48 12:30-13:07/37 15:38 10:10-11:15/65
21	04:56 06:49-06:57/8 21:48	05:55 06:26-07:47/81 20:42	06:57 19:20	07:59 08:31-09:10/39 18:02	08:05 10:22-11:02/40 15:57	08:48 12:31-13:08/37 15:39 10:11-11:16/65
22	04:57 06:06-06:12/6 21:46 06:47-07:00/13	05:57 06:28-07:47/79 20:40	06:59 19:18	08:01 08:31-09:09/38 17:59	08:07 10:22-11:04/42 15:56	08:49 12:31-13:07/36 15:39 10:11-11:16/65
23	04:59 06:03-06:14/11 21:45 06:44-07:02/18	05:59 06:30-07:47/77 20:37	07:01 19:15	08:03 08:34-09:18/44 17:57	08:09 10:22-11:04/42 15:55	08:49 12:32-13:09/37 15:40 10:12-11:17/65
24	05:01 06:02-06:16/14 21:43 06:43-07:04/21	06:01 06:41-07:47/66 20:35 06:32-06:39/7	07:03 19:12	08:05 08:36-09:20/44 17:54	08:11 12:33-12:43/10 15:53 10:22-11:04/42	08:50 12:32-13:09/37 15:40 10:12-11:17/65
25	05:03 06:02-06:17/15 21:41 06:41-07:05/24	06:03 06:42-07:47/65 20:32	07:05 19:10	07:07 07:38-08:21/43 16:52	08:13 12:31-12:46/15 15:52 10:22-11:05/43	08:50 12:32-13:09/37 15:41 10:12-11:18/66
26	05:04 06:00-06:17/17 21:39 06:41-07:06/25	06:05 06:44-07:46/62 20:29	07:07 19:07	07:09 07:41-08:23/42 16:50	08:15 12:29-12:48/19 15:50 10:23-11:06/43	08:51 12:33-13:09/36 15:42 10:13-11:18/65
27	05:06 06:00-06:18/18 21:37 06:40-07:10/30	06:07 06:52-07:46/54 20:27	07:09 19:04	07:12 07:45-08:23/38 16:47	08:17 12:29-12:50/21 15:49 10:23-11:07/44	08:51 12:33-13:10/37 15:43 10:13-11:18/65
28	05:08 05:59-06:18/19 21:36 06:38-07:15/37	06:09 06:55-07:45/50 20:24	07:11 19:02	07:14 07:46-08:23/37 16:45	08:19 12:28-12:52/24 15:48 10:23-11:07/44	08:51 12:34-13:10/36 15:43 10:14-11:19/65
29	05:10 05:58-06:19/21 21:34 06:38-07:17/39	06:11 06:58-07:45/47 20:22	07:13 18:59	07:16 07:50-08:24/34 16:43	08:21 12:27-12:53/26 15:47 10:23-11:07/44	08:51 12:34-13:11/37 15:44 10:14-11:20/66
30	05:12 05:58-06:20/22 21:32 06:38-07:20/42	06:13 07:03-07:44/41 20:19	07:15 08:18-08:28/10 18:56	07:18 08:01-08:24/23 16:40	08:22 12:27-12:54/27 10:23-11:08/45 15:46 10:11-10:16/5	08:51 12:35-13:11/36 15:45 10:15-11:20/65
31	05:14 05:58-06:20/22 21:30 06:37-07:22/45	06:15 07:04-07:43/39 20:16		07:20 08:01-08:25/24 16:38		08:51 12:36-13:12/36 15:46 10:16-11:21/65
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	467	2150	233	1052	1028	3065

Table 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
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0037167242411

Anna / anna@environment.lv

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2	08:50 15:49	08:13 08:59-09:41/42 16:47	07:08 17:49	06:46 07:25-07:59/34 19:55	05:30 20:57	04:35 21:54
3	08:50 15:51	08:11 08:59-09:41/42 16:49	07:05 17:52	06:43 07:24-07:59/35 19:57	05:28 20:59	04:34 21:55
4	08:49 15:52	08:09 08:59-09:42/43 16:52	07:03 17:54	06:41 07:24-07:59/35 19:59	05:25 21:01	04:33 21:56
5	08:49 15:53	08:07 08:58-09:41/43 16:54	07:00 17:56	06:38 07:23-07:59/36 20:01	05:23 21:03	04:32 21:58
6	08:48 15:55	08:04 08:59-09:41/42 16:56	06:58 17:58	06:35 07:23-07:59/36 20:03	05:21 21:05	04:31 21:59
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9	08:46 15:59	07:58 08:59-09:40/41 17:03	06:50 18:05	06:27 07:22-07:58/36 20:09	05:15 21:11	04:28 22:02
10	08:46 16:01	07:56 09:00-09:39/39 17:05	06:47 18:07	06:25 07:22-07:57/35 20:11	05:12 21:13	04:28 22:03
11	08:45 16:03	07:54 09:00-09:37/37 17:07	06:45 18:09	06:22 07:23-07:56/33 20:14	05:10 21:15	04:27 22:04
12	08:44 16:04	07:51 09:01-09:37/36 17:10	06:42 18:11	06:19 07:23-07:55/32 20:16	05:08 21:17	04:27 22:05
13	08:43 16:06	07:49 09:02-09:35/33 17:12	06:39 18:13	06:17 07:24-07:54/30 20:18	05:06 21:19	04:26 22:06
14	08:42 16:08	07:47 09:02-09:32/30 17:14	06:37 18:15	06:14 07:24-07:52/28 20:20	05:04 21:21	04:26 22:06
15	08:41 16:10	07:45 09:04-09:27/23 17:16	06:34 18:17	06:12 07:26-07:51/25 20:22	05:02 21:23	04:26 22:07
16	08:40 16:12	07:42 09:05-09:25/20 17:19	06:31 18:19	06:09 07:27-07:48/21 20:24	05:00 21:25	04:25 22:08
17	08:38 16:14	07:40 09:07-09:23/16 17:21	06:29 18:22	06:07 07:29-07:46/17 20:26	04:59 21:27	04:25 22:08
18	08:37 16:16	07:38 09:10-09:19/9 17:23	06:26 18:24	06:04 07:32-07:41/9 20:28	04:57 21:29	04:25 22:09
19	08:36 16:17	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09
20	08:34 09:16-09:27/11 16:19	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09
21	08:33 09:15-09:30/15 16:22	07:30 17:30	06:18 18:30	05:57 20:34	04:51 21:34	04:25 22:10
22	08:32 09:14-09:32/18 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10
23	08:30 09:12-09:33/21 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10
24	08:29 09:11-09:34/23 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10
25	08:27 09:07-09:35/28 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10
26	08:25 09:06-09:37/31 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10
27	08:24 09:04-09:38/34 16:34	07:16 17:43	06:02 06:37-06:52/15 18:42	05:42 20:47	04:42 21:45	04:27 22:10
28	08:22 09:03-09:39/36 16:36	07:13 17:45	05:59 06:34-06:54/20 18:44	05:39 20:49	04:41 21:46	04:28 22:10
29	08:20 09:02-09:40/38 16:38		06:57 07:32-07:56/24 19:47	05:37 20:51	04:39 21:48	04:28 22:09
30	08:18 09:01-09:39/38 16:41		06:54 07:29-07:57/28 19:49	05:35 20:53	04:38 21:49	04:29 22:09
31	08:16 09:00-09:40/40 16:43		06:51 07:27-07:57/30 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	528
Sum of minutes with flicker	333	619	117	547	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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B11 - VESTAS V172-7.2 7200 172.0 !OI! hub: 175.0 m (TOT: 261.0 m) (98)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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 07:22-07:55/33 20:14	07:17 18:53	07:22 08:29-09:09/40 16:36	08:24 15:45
2	04:31 22:08	05:17 21:26	06:19 07:21-07:56/35 20:11	07:19 18:51	07:24 08:29-09:09/40 16:34	08:26 15:44
3	04:32 22:08	05:19 21:23	06:21 07:20-07:56/36 20:08	07:21 18:48	07:27 08:28-09:10/42 16:31	08:27 15:43
4	04:32 22:07	05:21 21:21	06:23 07:19-07:55/36 20:06	07:23 18:45	07:29 08:29-09:11/42 16:29	08:29 15:42
5	04:33 22:06	05:23 21:19	06:25 07:18-07:55/37 20:03	07:25 18:43	07:31 08:28-09:11/43 16:27	08:30 15:41
6	04:35 22:06	05:25 21:17	06:27 07:18-07:54/36 20:01	07:27 18:40	07:33 08:29-09:12/43 16:25	08:32 15:41
7	04:36 22:05	05:27 21:15	06:29 07:18-07:54/36 19:58	07:29 18:37	07:35 08:29-09:11/42 16:23	08:33 15:40
8	04:37 22:04	05:29 21:13	06:31 07:18-07:54/36 19:55	07:31 18:35	07:38 08:29-09:11/42 16:21	08:35 15:40
9	04:38 22:03	05:31 21:10	06:33 07:18-07:53/35 19:53	07:33 18:32	07:40 08:30-09:12/42 16:19	08:36 15:39
10	04:39 22:02	05:33 21:08	06:35 07:19-07:52/33 19:50	07:35 18:30	07:42 08:31-09:11/40 16:17	08:38 15:39
11	04:41 22:01	05:35 21:06	06:37 07:19-07:51/32 19:47	07:38 18:27	07:44 08:32-09:12/40 16:15	08:39 15:38
12	04:42 22:00	05:37 21:04	06:39 07:20-07:50/30 19:45	07:40 18:24	07:46 08:32-09:11/39 16:13	08:40 15:38
13	04:43 21:59	05:39 21:01	06:41 07:21-07:48/27 19:42	07:42 18:22	07:48 08:34-09:12/38 16:11	08:41 15:38
14	04:45 21:58	05:41 20:59	06:43 07:22-07:47/25 19:39	07:44 18:19	07:50 08:35-09:11/36 16:09	08:42 15:38
15	04:46 21:56	05:43 20:57	06:45 07:23-07:45/22 19:36	07:46 18:17	07:53 08:36-09:10/34 16:07	08:43 15:38
16	04:48 21:55	05:45 20:54	06:47 07:26-07:42/16 19:34	07:48 18:14	07:55 08:39-09:10/31 16:06	08:44 15:38
17	04:49 21:54	05:47 20:52	06:49 07:31-07:37/6 19:31	07:50 18:12	07:57 08:41-09:09/28 16:04	08:45 15:38
18	04:51 21:52	05:49 20:49	06:51 19:28	07:52 18:09	07:59 08:45-09:08/23 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 08:47-09:08/21 16:01	08:47 15:38
20	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	08:03 08:49-09:07/18 15:59	08:48 15:38
21	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 08:50-09:05/15 15:57	08:48 15:39
22	04:57 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 08:52-09:03/11 15:56	08:49 15:39
23	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	08:09 15:55	08:49 15:40
24	05:01 21:43	06:01 20:34	07:03 19:12	08:05 09:40-09:50/10 17:54	08:11 15:53	08:50 15:40
25	05:03 21:41	06:03 07:34-07:45/11 20:32	07:05 19:09	07:07 08:36-08:53/17 16:52	08:13 15:52	08:50 15:41
26	05:04 21:39	06:05 07:30-07:48/18 20:29	07:07 19:07	07:09 08:35-08:55/20 16:50	08:15 15:50	08:50 15:42
27	05:06 21:37	06:07 07:28-07:50/22 20:27	07:09 19:04	07:11 08:33-08:59/26 16:47	08:17 15:49	08:50 15:43
28	05:08 21:35	06:09 07:26-07:52/26 20:24	07:11 19:01	07:14 08:31-09:02/31 16:45	08:19 15:48	08:51 15:44
29	05:10 21:33	06:11 07:25-07:53/28 20:22	07:13 18:59	07:16 08:31-09:05/34 16:43	08:20 15:47	08:51 15:44
30	05:12 21:32	06:13 07:24-07:54/30 20:19	07:15 18:56	07:18 08:30-09:06/36 16:40	08:22 15:46	08:51 15:45
31	05:14 21:30	06:15 07:23-07:55/32 20:16		07:20 08:29-09:07/38 16:38		08:51 15:47
Potential sun hours		529	469	385	324	216
Sum of minutes with flicker		0	167	511	212	750
						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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B12 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (99)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January		February		March		April		May		June	
1	08:50	09:30-09:54/24	08:14		07:10	07:47-08:16/29	06:49		05:32		04:36	05:46-06:05/19
	15:48		16:45		17:47		19:53		20:55		21:52	
2	08:50	09:29-09:54/25	08:12		07:08	07:46-08:16/30	06:46		05:30		04:35	05:46-06:04/18
	15:49		16:47		17:49		19:55		20:57		21:54	
3	08:50	09:29-09:55/26	08:11		07:05	07:46-08:17/31	06:43		05:28		04:34	05:47-06:03/16
	15:51		16:50		17:52		19:57		20:59		21:55	
4	08:49	09:28-09:56/28	08:09		07:03	07:46-08:16/30	06:41		05:25		04:33	05:48-06:03/15
	15:52		16:52		17:54		19:59		21:01		21:56	
5	08:49	09:28-09:56/28	08:06		07:00	07:45-08:15/30	06:38		05:23		04:32	05:49-06:03/14
	15:53		16:54		17:56		20:01		21:03		21:57	
6	08:48	09:29-09:57/28	08:04		06:58	07:46-08:15/29	06:35		05:21		04:31	05:50-06:02/12
	15:55		16:56		17:58		20:03		21:05		21:59	
7	08:48	09:28-09:58/30	08:02		06:55	07:46-08:14/28	06:33		05:19	05:49-06:00/11	04:30	05:51-06:01/10
	15:56		16:58		18:00		20:05		21:07		22:00	
8	08:47	09:28-09:58/30	08:00		06:52	07:46-08:13/27	06:30		05:17	05:47-06:02/15	04:29	05:05-05:07/2
	15:58		17:01		18:02		20:07		21:09		22:01	05:53-06:00/7
9	08:46	09:29-09:59/30	07:58		06:50	07:47-08:12/25	06:27		05:15	05:45-06:03/18	04:28	05:04-05:08/4
	15:59		17:03		18:05		20:09		21:11		22:02	05:54-05:58/4
10	08:46	09:29-10:00/31	07:56		06:47	07:48-08:10/22	06:25		05:12	05:44-06:04/20	04:28	05:04-05:10/6
	16:01		17:05		18:07		20:11		21:13		22:03	
11	08:45	09:29-10:00/31	07:54		06:45	07:49-08:08/19	06:22		05:10	05:43-06:05/22	04:27	05:03-05:10/7
	16:03		17:07		18:09		20:14		21:15		22:04	
12	08:44	09:28-10:00/32	07:51		06:42	07:50-08:05/15	06:19		05:08	05:42-06:05/23	04:27	05:03-05:11/8
	16:04		17:10		18:11		20:16		21:17		22:05	
13	08:43	09:29-10:01/32	07:49		06:39	07:55-08:00/5	06:17		05:06	05:41-06:06/25	04:26	05:03-05:12/9
	16:06		17:12		18:13		20:18		21:19		22:06	
14	08:42	09:29-10:01/32	07:47		06:37		06:14		05:04	05:42-06:07/25	04:26	05:03-05:13/10
	16:08		17:14		18:15		20:20		21:21		22:06	
15	08:41	09:29-10:01/32	07:45		06:34		06:12		05:02	05:41-06:07/26	04:26	05:02-05:13/11
	16:10		17:16		18:17		20:22		21:23		22:07	
16	08:40	09:30-10:02/32	07:42		06:31		06:09		05:00	05:40-06:07/27	04:25	05:02-05:13/11
	16:12		17:19		18:19		20:24		21:25		22:08	
17	08:38	09:30-10:01/31	07:40		06:29		06:07		04:59	05:41-06:08/27	04:25	05:02-05:14/12
	16:14		17:21		18:21		20:26		21:27		22:08	
18	08:37	09:31-10:02/31	07:38		06:26		06:04		04:57	05:40-06:08/28	04:25	05:02-05:14/12
	16:16		17:23		18:24		20:28		21:29		22:09	
19	08:36	09:31-10:01/30	07:35		06:23		06:02		04:55	05:40-06:07/27	04:25	05:02-05:14/12
	16:18		17:25		18:26		20:30		21:31		22:09	
20	08:34	09:31-10:01/30	07:33		06:21		05:59		04:53	05:41-06:08/27	04:25	05:02-05:15/13
	16:20		17:28		18:28		20:32		21:33		22:09	
21	08:33	09:32-10:01/29	07:30		06:18		05:57		04:52	05:40-06:07/27	04:25	05:03-05:16/13
	16:22		17:30		18:30		20:34		21:34		22:10	
22	08:32	09:33-10:00/27	07:28		06:15		05:54		04:50	05:41-06:08/27	04:25	05:03-05:16/13
	16:24		17:32		18:32		20:36		21:36		22:10	
23	08:30	09:33-09:59/26	07:26	07:56-08:08/12	06:13		05:52		04:48	05:41-06:08/27	04:26	05:03-05:15/12
	16:26		17:34		18:34		20:39		21:38		22:10	
24	08:28	09:34-09:58/24	07:23	07:54-08:11/17	06:10		05:49		04:47	05:41-06:07/26	04:26	05:04-05:16/12
	16:28		17:36		18:36		20:41		21:40		22:10	
25	08:27	09:35-09:56/21	07:21	07:51-08:13/22	06:07		05:47		04:45	05:42-06:07/25	04:26	05:04-05:16/12
	16:30		17:39		18:38		20:43		21:41		22:10	
26	08:25	09:37-09:53/16	07:18	07:50-08:14/24	06:05		05:44		04:44	05:42-06:07/25	04:27	05:04-05:15/11
	16:32		17:41		18:40		20:45		21:43		22:10	
27	08:24	09:39-09:52/13	07:16	07:49-08:15/26	06:02		05:42		04:42	05:42-06:06/24	04:27	05:05-05:16/11
	16:34		17:43		18:42		20:47		21:45		22:10	
28	08:22	09:41-09:50/9	07:13	07:47-08:15/28	05:59		05:39		04:41	05:43-06:06/23	04:28	05:05-05:15/10
	16:36		17:45		18:44		20:49		21:46		22:10	
29	08:20				06:57		05:37		04:39	05:44-06:06/22	04:28	05:06-05:16/10
	16:38				19:47		20:51		21:48		22:09	
30	08:18				06:54		05:35		04:38	05:44-06:06/22	04:29	05:07-05:16/9
	16:41				19:49		20:53		21:49		22:09	
31	08:16				06:51				04:37	05:45-06:05/20		
	16:43				19:51				21:51			
Potential sun hours	235		266		366		426		508		528	
Sum of minutes with flicker	758		129		320		0		589		345	

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B12 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (99)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	July		August		September		October		November		December	
1	04:30	05:07-05:15/8	05:16	05:53-06:16/23	06:17	07:17	08:32-08:43/11	07:22			08:24	09:10-09:41/31
	22:09		21:28		20:14	18:53		16:36			15:45	
2	04:31	05:08-05:15/7	05:17	05:54-06:15/21	06:19	07:19	08:29-08:46/17	07:24			08:26	09:11-09:42/31
	22:08		21:25		20:11	18:51		16:34			15:44	
3	04:32	05:09-05:14/5	05:19	05:55-06:14/19	06:21	07:21	08:26-08:48/22	07:27			08:27	09:12-09:42/30
	22:08		21:23		20:08	18:48		16:31			15:43	
4	04:33	05:10-05:13/3	05:21	05:56-06:13/17	06:23	07:23	08:25-08:49/24	07:29			08:29	09:13-09:43/30
	22:07	05:59-06:05/6	21:21		20:06	18:45		16:29			15:42	
5	04:34	05:58-06:06/8	05:23	05:57-06:11/14	06:25	07:25	08:23-08:50/27	07:31			08:30	09:14-09:43/29
	22:06		21:19		20:03	18:43		16:27			15:41	
6	04:35	05:57-06:08/11	05:25	06:00-06:08/8	06:27	07:27	08:22-08:50/28	07:33			08:32	09:15-09:44/29
	22:06		21:17		20:01	18:40		16:25			15:41	
7	04:36	05:56-06:09/13	05:27		06:29	07:29	08:21-08:50/29	07:35			08:33	09:15-09:43/28
	22:05		21:15		19:58	18:37		16:23			15:40	
8	04:37	05:55-06:10/15	05:29		06:31	07:31	08:21-08:50/29	07:37			08:35	09:16-09:44/28
	22:04		21:13		19:55	18:35		16:21			15:40	
9	04:38	05:55-06:11/16	05:31		06:33	07:33	08:20-08:50/30	07:40			08:36	09:17-09:43/26
	22:03		21:10		19:53	18:32		16:19			15:39	
10	04:39	05:54-06:11/17	05:33		06:35	07:35	08:21-08:51/30	07:42			08:38	09:19-09:44/25
	22:02		21:08		19:50	18:30		16:17			15:39	
11	04:41	05:53-06:12/19	05:35		06:37	07:38	08:20-08:50/30	07:44			08:39	09:20-09:44/24
	22:01		21:06		19:47	18:27		16:15			15:38	
12	04:42	05:54-06:13/19	05:37		06:39	07:40	08:20-08:50/30	07:46			08:40	09:21-09:44/23
	22:00		21:04		19:44	18:24		16:13			15:38	
13	04:43	05:53-06:14/21	05:39		06:41	07:42	08:20-08:49/29	07:48			08:41	09:23-09:45/22
	21:59		21:01		19:42	18:22		16:11			15:38	
14	04:45	05:52-06:14/22	05:41		06:43	07:44	08:21-08:48/27	07:50	09:13-09:22/9		08:42	09:24-09:45/21
	21:57		20:59		19:39	18:19		16:09			15:38	
15	04:46	05:52-06:15/23	05:43		06:45	07:46	08:21-08:47/26	07:52	09:10-09:24/14		08:43	09:25-09:45/20
	21:56		20:56		19:36	18:17		16:07			15:38	
16	04:48	05:52-06:16/24	05:45		06:47	07:48	08:23-08:46/23	07:55	09:10-09:26/16		08:44	09:26-09:46/20
	21:55		20:54		19:34	18:14		16:06			15:38	
17	04:49	05:51-06:16/25	05:47		06:49	07:50	08:24-08:44/20	07:57	09:09-09:30/21		08:45	09:27-09:46/19
	21:54		20:52		19:31	18:12		16:04			15:38	
18	04:51	05:52-06:17/25	05:49		06:51	07:52	08:26-08:42/16	07:59	09:08-09:32/24		08:46	09:28-09:46/18
	21:52		20:49		19:28	18:09		16:02			15:38	
19	04:52	05:51-06:17/26	05:51		06:53	07:54	08:29-08:38/9	08:01	09:08-09:34/26		08:47	09:28-09:46/18
	21:51		20:47		19:26	18:07		16:01			15:38	
20	04:54	05:51-06:18/27	05:53		06:55	07:56		08:03	09:08-09:35/27		08:47	09:29-09:47/18
	21:49		20:44		19:23	18:04		15:59			15:38	
21	04:56	05:51-06:17/26	05:55		06:57	07:59		08:05	09:07-09:36/29		08:48	09:29-09:47/18
	21:48		20:42		19:20	18:02		15:57			15:39	
22	04:57	05:51-06:18/27	05:57		06:59	08:01		08:07	09:07-09:37/30		08:49	09:30-09:48/18
	21:46		20:39		19:18	17:59		15:56			15:39	
23	04:59	05:50-06:18/28	05:59		07:01	08:03		08:09	09:08-09:38/30		08:49	09:30-09:48/18
	21:44		20:37		19:15	17:57		15:55			15:40	
24	05:01	05:51-06:18/27	06:01		07:03	08:05		08:11	09:08-09:39/31		08:50	09:31-09:49/18
	21:43		20:34		19:12	17:54		15:53			15:40	
25	05:03	05:50-06:18/28	06:03		07:05	07:07		08:13	09:08-09:39/31		08:50	09:31-09:49/18
	21:41		20:32		19:09	16:52		15:52			15:41	
26	05:04	05:51-06:18/27	06:05		07:07	07:09		08:15	09:08-09:40/32		08:50	09:31-09:50/19
	21:39		20:29		19:07	16:50		15:51			15:42	
27	05:06	05:51-06:18/27	06:07		07:09	07:11		08:17	09:08-09:40/32		08:50	09:31-09:50/19
	21:37		20:27		19:04	16:47		15:49			15:43	
28	05:08	05:51-06:17/26	06:09		07:11	07:14		08:18	09:08-09:40/32		08:51	09:31-09:51/20
	21:35		20:24		19:01	16:45		15:48			15:44	
29	05:10	05:51-06:17/26	06:11		07:13	07:16		08:20	09:10-09:42/32		08:51	09:31-09:52/21
	21:33		20:22		18:59	16:43		15:47			15:44	
30	05:12	05:52-06:17/25	06:13		07:15	07:18		08:22	09:10-09:42/32		08:51	09:31-09:53/22
	21:31		20:19		18:56	16:40		15:46			15:45	
31	05:14	05:53-06:17/24	06:15			07:20					08:51	09:30-09:53/23
	21:30		20:16			16:38					15:47	
Potential sun hours	529		469		385	324		247			216	
Sum of minutes with flicker	631		102		0	457		448			704	

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B14 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (100)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January	February	March	April	May	June
1	08:51 09:32-10:29/57 15:48	08:15 09:20-10:28/68 16:45	07:11 07:37-08:24/47 17:48	06:49 07:14-07:26/12 19:53	05:33 06:18-07:14/56 20:55	04:36 05:16-05:39/23 21:52 05:52-06:27/35
2	08:50 09:33-10:30/57 15:49	08:13 09:20-10:28/68 16:48	07:08 07:34-08:23/49 17:50	06:46 07:11-07:27/16 19:55	05:30 06:19-07:13/54 20:57	04:35 05:16-05:39/23 21:54 05:53-06:27/34
3	08:50 09:32-10:30/58 15:51	08:11 09:20-10:28/68 16:50	07:06 07:32-08:22/50 17:52	06:43 07:09-07:28/19 19:57	05:28 06:19-07:13/54 20:59	04:34 05:17-05:40/23 21:55 05:53-06:27/34
4	08:50 09:32-10:30/58 15:52	08:09 09:21-10:28/67 16:52	07:03 07:29-08:21/52 17:54	06:41 07:06-07:29/23 19:59	05:26 06:19-07:12/53 21:02 06:05-06:14/9	04:33 05:17-05:40/23 21:56 05:54-06:28/34
5	08:49 09:32-10:31/59 15:53	08:07 09:21-10:27/66 16:54	07:00 07:26-08:19/53 17:56	06:38 07:03-07:28/25 20:01	05:23 06:19-07:11/52 21:04 06:02-06:17/15	04:32 05:17-05:40/23 21:58 05:54-06:27/33
6	08:49 09:32-10:32/60 15:55	08:05 09:20-10:26/66 16:56	06:58 07:24-08:18/54 17:58	06:35 07:01-07:29/28 20:03	05:21 06:20-07:09/49 21:06 05:59-06:19/20	04:31 05:17-05:40/23 21:59 05:54-06:27/33
7	08:48 09:31-10:32/61 15:56	08:03 09:21-10:25/64 16:59	06:55 07:21-08:15/54 18:01	06:33 06:58-07:28/30 20:05	05:19 05:58-07:08/70 21:08	04:30 05:18-05:40/22 22:00 05:56-06:27/31
8	08:47 09:31-10:33/62 15:58	08:00 09:22-10:24/62 17:01	06:53 07:18-08:10/52 18:03	06:30 06:56-07:29/33 20:08	05:17 05:56-07:06/70 21:10	04:29 05:18-05:40/22 22:01 05:56-06:27/31
9	08:47 09:31-10:33/62 16:00	07:58 09:21-10:22/61 17:03	06:50 07:16-08:03/47 18:05	06:28 06:53-07:28/35 20:10	05:15 05:55-07:04/69 21:12	04:29 05:18-05:41/23 22:02 05:56-06:26/30
10	08:46 09:31-10:34/63 16:01	07:56 09:22-10:20/58 17:05	06:47 07:13-08:00/47 18:07	06:25 06:50-07:27/37 20:12	05:13 05:54-07:03/69 21:14	04:28 05:18-05:40/22 22:03 05:56-06:27/31
11	08:45 09:31-10:34/63 16:03	07:54 09:23-10:18/55 17:08	06:45 07:10-07:58/48 18:09	06:22 06:48-07:26/38 20:14	05:11 05:53-07:02/69 21:16	04:27 05:19-05:41/22 22:04 05:57-06:27/30
12	08:44 09:32-10:35/63 16:05	07:52 09:23-10:13/50 17:10	06:42 07:08-07:58/50 18:11	06:20 06:46-07:24/38 20:16	05:09 05:52-07:01/69 21:18	04:27 05:18-05:40/22 22:05 05:57-06:26/29
13	08:43 09:31-10:34/63 16:06	07:49 09:24-10:03/39 17:12	06:40 07:05-07:57/52 18:13	06:17 06:45-07:23/38 20:18	05:07 06:27-07:01/34 21:20 05:52-06:26/34	04:26 05:19-05:41/22 22:06 05:58-06:26/28
14	08:42 09:31-10:35/64 16:08	07:47 09:25-10:00/35 17:14	06:37 07:02-07:55/53 18:15	06:15 06:43-07:21/38 20:20	05:05 05:52-07:00/68 21:22	04:26 05:20-05:41/21 22:07 05:58-06:27/29
15	08:41 09:32-10:35/63 16:10	07:45 09:26-09:58/32 17:17	06:34 07:00-07:55/55 18:18	06:12 06:43-07:18/35 20:22	05:03 05:51-06:27/36 21:23 06:28-06:59/31	04:26 05:20-05:41/21 22:07 05:59-06:27/28
16	08:40 09:31-10:35/64 16:12	07:43 09:27-09:56/29 17:19	06:32 06:59-07:53/54 18:20	06:09 06:41-07:14/33 20:24	05:01 05:50-06:27/37 21:25 06:28-06:58/30	04:26 05:20-05:41/21 22:08 05:58-06:26/28
17	08:39 09:30-10:36/66 16:14	07:40 09:29-09:54/25 17:21	06:29 06:57-07:52/55 18:22	06:07 06:41-07:15/34 20:26	04:59 05:51-06:28/37 21:27 06:30-06:58/28	04:25 05:20-05:41/21 22:08 05:59-06:26/27
18	08:37 09:29-10:36/67 16:16	07:38 09:31-09:52/21 17:23	06:26 06:56-07:50/54 18:24	06:04 06:41-07:15/34 20:28	04:57 05:50-06:28/38 21:29 06:31-06:56/25	04:25 05:20-05:41/21 22:09 05:59-06:26/27
19	08:36 09:27-10:35/68 16:18	07:35 08:03-08:20/17 17:26	06:24 06:55-07:48/53 18:26	06:02 06:34-07:16/42 20:30	04:55 05:27-05:30/3 06:32-06:56/24 21:31 05:51-06:28/37	04:25 05:21-05:42/21 22:09 05:59-06:26/27
20	08:35 09:26-10:36/70 16:20	07:33 08:00-08:21/21 17:28	06:21 06:54-07:45/51 18:28	05:59 06:30-07:17/47 20:33	04:53 05:25-05:32/7 06:33-06:54/21 21:33 05:50-06:28/38	04:25 05:21-05:42/21 22:10 06:01-06:27/26
21	08:33 09:25-10:35/70 16:22	07:31 07:58-08:23/25 17:30	06:18 06:54-07:35/41 18:30	05:57 06:27-07:17/50 20:35	04:52 05:24-05:34/10 06:36-06:53/17 21:35 05:50-06:29/39	04:25 05:21-05:42/21 22:10 06:01-06:27/26
22	08:32 09:24-10:35/71 16:24	07:28 07:55-08:23/28 17:32	06:16 06:54-07:35/41 18:32	05:54 06:25-07:17/52 20:37	04:50 05:22-05:34/12 06:37-06:50/13 21:36 05:50-06:28/38	04:26 05:21-05:42/21 22:10 06:01-06:27/26
23	08:30 09:23-10:34/71 16:26	07:26 07:53-08:24/31 17:34	06:13 06:54-07:34/40 18:34	05:52 06:23-07:17/54 20:39	04:48 05:21-05:36/15 06:41-06:47/6 21:38 05:50-06:28/38	04:26 05:21-05:42/21 22:10 06:00-06:27/27
24	08:29 09:24-10:34/70 16:28	07:23 07:50-08:24/34 17:37	06:10 06:53-07:33/40 18:36	05:49 06:22-07:17/55 20:41	04:47 05:19-05:36/17 21:40 05:50-06:28/38	04:26 05:22-05:43/21 22:10 06:01-06:28/27
25	08:27 09:23-10:33/70 16:30	07:21 07:48-08:25/37 17:39	06:07 06:54-07:33/39 18:38	05:47 06:22-07:17/55 20:43	04:45 05:18-05:37/19 21:42 05:50-06:28/38	04:26 05:22-05:43/21 22:10 06:01-06:28/27
26	08:25 09:22-10:32/70 16:32	07:18 07:45-08:25/40 17:41	06:05 06:54-07:31/37 18:41	05:44 06:20-07:16/56 20:45	04:44 05:17-05:37/20 21:43 05:51-06:28/37	04:27 05:23-05:44/21 22:10 06:02-06:29/27
27	08:24 09:22-10:31/69 16:34	07:16 07:42-08:24/42 17:43	06:02 06:55-07:29/34 18:43	05:42 06:20-07:16/56 20:47	04:42 05:17-05:38/21 21:45 05:51-06:29/38	04:27 05:22-05:43/21 22:10 06:01-06:29/28
28	08:22 09:22-10:29/67 16:37	07:13 07:40-08:25/45 17:45	05:59 06:56-07:28/32 18:45	05:40 06:20-07:16/56 20:49	04:41 05:16-05:38/22 21:46 05:51-06:28/37	04:28 05:23-05:44/21 22:10 06:02-06:30/28
29	08:20 09:21-10:29/68 16:39		06:57 07:57-08:25/28 19:47	05:37 06:20-07:16/56 20:51	04:40 05:16-05:38/22 21:48 05:51-06:28/37	04:29 05:22-05:44/22 22:10 06:01-06:30/29
30	08:18 09:21-10:29/68 16:41		06:54 07:59-08:22/23 19:49	05:35 06:19-07:15/56 20:53	04:38 05:16-05:38/22 21:50 05:52-06:28/36	04:29 05:23-05:44/21 22:09 06:01-06:30/29
31	08:17 09:21-10:29/68 16:43		06:51 07:17-07:24/7 19:51		04:37 05:16-05:39/23 21:51 05:52-06:28/36	
Potential sun hours	235	266	366	426	508	528
Sum of minutes with flicker	2010	1287	1762	1181	1957	1530

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B14 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (100)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	July	August	September	October	November	December
1	04:30 05:23-05:45/22 22:09 06:02-06:31/29 04:31 05:22-05:44/22 22:08 06:01-06:31/30	05:16 06:04-07:12/68 21:28 05:18 06:03-07:13/70 21:26	06:17 06:47-07:25/38 20:14 06:19 06:49-07:26/37 20:11	07:17 07:46-08:37/51 18:54 18:00-18:20/20 07:19 07:48-08:37/49 18:51 18:01-18:18/17	07:23 08:52-09:50/58 16:36 07:25 08:51-09:52/61 16:34	08:24 09:13-10:16/63 15:45 08:26 09:14-10:17/63 15:44
2	04:32 05:23-05:45/22 22:08 06:01-06:31/30	05:20 06:04-07:13/69 21:24	06:21 06:51-07:26/35 20:09	07:21 07:50-08:38/48 18:48 18:03-18:16/13	07:27 08:51-09:54/63 16:32	08:27 09:14-10:16/62 15:43
3	04:33 05:23-05:45/22 22:07 06:01-06:32/31	05:21 06:06-07:15/69 21:22	06:23 06:53-07:26/33 20:06	07:23 07:52-08:39/47 18:46	07:29 08:51-09:55/64 16:29	08:29 09:15-10:17/62 15:42
4	04:34 05:23-05:46/23 22:07 06:01-06:33/32	05:23 06:07-07:17/70 21:19	06:25 06:55-07:26/31 20:03	07:25 07:54-08:40/46 18:43	07:31 08:50-09:55/65 16:27	08:31 09:17-10:17/60 15:42
5	04:35 05:23-05:46/23 22:06 06:01-06:33/32	05:25 06:07-07:18/71 21:17	06:27 06:57-07:25/28 20:01	07:27 07:56-08:50/54 18:40	07:33 08:51-09:57/66 16:25	08:32 09:18-10:18/60 15:41
6	04:36 05:23-05:46/23 22:05 06:01-06:33/32	05:27 06:29-07:19/50 21:15	06:29 06:58-07:24/26 19:58	07:29 07:58-08:52/54 18:38	07:36 08:50-09:57/67 16:23	08:34 09:18-10:18/60 15:40
7	04:37 05:23-05:46/23 22:04 06:01-06:34/33	05:29 06:29-07:20/51 21:13	06:31 07:00-07:23/23 19:55	07:32 08:00-08:54/54 18:35	07:38 08:51-09:59/68 16:21	08:35 09:20-10:18/58 15:40
8	04:38 05:23-05:46/23 22:03 06:00-06:34/34	05:31 06:28-07:21/53 21:11	06:33 07:02-07:22/20 19:53	07:34 08:03-08:56/53 18:32	07:40 08:51-09:59/68 16:19	08:36 09:20-10:18/58 15:39
9	04:39 05:24-05:46/22 22:02 06:00-06:34/34	05:33 06:28-07:22/54 21:08	06:35 07:04-07:20/16 19:50	07:36 08:05-08:56/51 18:30	07:42 08:51-09:59/68 16:17	08:38 09:22-10:19/57 15:39
10	04:41 05:25-05:47/22 22:01 06:01-06:36/35	05:35 06:28-07:23/55 21:06	06:37 07:06-07:18/12 19:47	07:38 08:07-08:57/50 18:27	07:44 08:52-10:00/68 16:15	08:39 09:22-10:19/57 15:39
11	04:42 05:24-05:47/23 22:00 06:01-06:36/35	05:37 06:27-07:23/56 21:04	06:39 07:08-07:16/8 19:45	07:40 08:09-08:57/48 18:25	07:46 08:52-10:00/68 16:13	08:40 09:24-10:20/56 15:38
12	04:43 05:24-05:47/23 21:59 06:00-06:36/36	05:39 06:27-07:23/56 21:01	06:41 07:50-08:12/22 19:42	07:42 08:11-08:57/46 18:22	07:48 08:53-10:01/68 16:11	08:41 09:39-10:20/41 15:38
13	04:45 05:24-05:47/23 21:58 06:00-06:36/36	05:41 06:27-07:23/56 20:59	06:43 07:48-08:15/27 19:39	07:44 08:13-08:57/44 18:20	07:51 08:53-10:01/68 16:09	08:43 09:39-10:20/41 15:38
14	04:46 05:25-05:47/22 21:56 06:01-06:37/36	05:43 06:27-07:24/57 20:57	06:45 07:46-08:17/31 19:37	07:46 08:16-08:57/41 18:17	07:53 08:54-10:03/69 16:08	08:44 09:39-10:20/41 15:38
15	04:48 05:25-05:47/22 21:55 06:00-06:37/37	05:45 06:28-07:24/56 20:54	06:47 07:44-08:18/34 19:34	07:48 08:18-08:57/39 18:14	07:55 08:55-10:05/70 16:06	08:45 09:40-10:21/41 15:38
16	04:49 05:26-05:47/21 21:54 06:00-06:37/37	05:47 06:28-07:24/56 20:52	06:49 07:43-08:19/36 19:31	07:50 08:20-08:56/36 18:12	07:57 08:56-10:06/70 16:04	08:45 09:41-10:21/40 15:38
17	04:51 05:27-05:46/19 21:52 06:00-06:38/38	05:49 06:29-07:24/55 20:49	06:51 07:42-08:20/38 19:29	07:52 08:22-08:55/33 18:09	07:59 08:58-10:08/70 16:02	08:46 09:41-10:22/41 15:38
18	04:53 05:28-05:46/18 21:51 06:00-06:38/38	05:51 06:28-07:23/55 20:47	06:53 07:41-08:20/39 19:26	07:55 08:25-08:55/30 18:07	08:01 08:58-10:09/71 16:01	08:47 09:41-10:22/41 15:38
19	04:54 05:30-05:46/16 21:49 06:00-06:38/38	05:53 06:29-07:22/53 20:45	06:55 07:40-08:21/41 19:23	07:57 08:27-08:54/27 18:04	08:03 08:59-10:10/71 15:59	08:48 09:42-10:22/40 15:39
20	04:56 05:31-05:44/13 06:48-06:58/10 21:48 06:00-06:38/38	05:55 06:30-07:22/52 20:42	06:57 07:40-08:21/41 19:20	07:59 08:29-08:52/23 18:02	08:05 09:00-10:10/70 15:58	08:48 09:43-10:23/40 15:39
21	04:58 05:33-05:44/11 06:46-07:01/15 21:46 06:00-06:38/38	05:57 06:32-07:22/50 20:40	06:59 07:39-08:21/42 19:18	08:01 08:31-08:51/20 17:59	08:07 09:02-10:12/70 15:56	08:49 09:43-10:23/40 15:40
22	04:59 05:35-05:43/8 06:44-07:03/19 21:45 06:00-06:38/38	05:59 06:34-07:21/47 20:37	07:01 07:39-08:28/49 19:15	08:03 08:34-08:50/16 17:57	08:09 09:04-10:12/68 15:55	08:49 09:44-10:24/40 15:40
23	05:01 05:36-05:41/5 06:43-07:05/22 21:43 06:00-06:38/38	06:01 06:39-06:43/4 20:35	07:03 07:39-08:31/52 19:12	08:05 10:00-10:23/23 17:55	08:11 09:06-10:13/67 15:53	08:50 09:44-10:24/40 15:41
24	05:03 06:01-06:39/38 21:41 06:42-07:06/24	06:03 06:44-07:19/35 20:32	07:05 07:39-08:33/54 19:10	08:07 08:58-09:24/26 16:52	08:13 09:08-10:13/65 15:52	08:50 09:44-10:25/41 15:41
25	05:05 06:00-06:38/38 21:39 06:40-07:07/27	06:05 06:44-07:18/34 20:29	07:07 07:39-08:34/55 19:07	08:09 08:57-09:27/30 16:50	08:15 09:10-10:13/63 15:51	08:50 09:45-10:25/40 15:42
26	05:06 06:01-06:38/37 21:37 06:40-07:08/28	06:07 06:44-07:17/33 20:27	07:09 07:40-08:35/55 19:04	08:12 08:55-09:28/33 16:47	08:17 09:11-10:15/64 15:49	08:51 09:45-10:26/41 15:43
27	05:08 06:02-06:38/36 21:36 06:39-07:10/31	06:09 06:44-07:19/35 20:24	07:11 07:41-08:36/55 19:02	08:14 08:54-09:30/36 16:45	08:19 09:11-10:15/64 15:48	08:51 09:45-10:26/41 15:44
28	05:10 06:01-06:37/36 21:34 06:38-07:10/32	06:11 06:44-07:22/38 20:22	07:13 07:42-08:36/54 18:59	08:16 08:54-09:34/40 16:43	08:21 09:12-10:15/63 15:47	08:51 09:46-10:27/41 15:45
29	05:12 06:02-07:11/69 21:32	06:13 06:45-07:23/38 20:19	07:15 07:44-08:36/52 18:56	08:18 08:52-09:44/52 16:41	08:22 09:13-10:16/63 15:46	08:51 09:46-10:28/42 15:46
30	05:14 06:03-07:12/69 21:30	06:15 06:45-07:24/39 20:17	07:17 07:45-08:37/51 18:54	08:20 08:51-09:47/56 16:38	08:24 09:14-10:17/63 15:47	08:51 09:47-10:29/42 15:47
31	Potential sun hours 529 Sum of minutes with flicker 1837	469 1658	385 1401	324 1339	247 1998	216 1613

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B15 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (92)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January	February	March	April	May	June
1	08:51 15:48	08:15 16:45	07:11 17:47	06:49 19:53	07:19-07:43/24 20:55	05:32 21:52
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	07:17-07:43/26 20:57	05:30 21:54
3	08:50 15:50	08:11 16:49	07:05 17:52	06:43 19:57	07:16-07:43/27 20:59	05:28 21:55
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	07:16-07:44/28 21:01	05:25 21:56
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	07:15-07:43/28 21:03	05:23 21:58
6	08:49 15:55	08:05 16:56	06:58 17:58	06:35 20:03	07:15-07:43/28 21:05	05:21 21:59
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	07:15-07:42/27 21:07	05:19 22:00
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	07:14-07:41/27 21:10	05:17 22:01
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:09	07:15-07:41/26 21:12	05:14 22:02
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	07:15-07:39/24 21:14	05:12 22:03
11	08:45 16:03	07:54 17:07	06:45 18:09	06:22 20:14	07:16-07:38/22 21:16	05:10 22:04
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	07:17-07:36/19 21:18	05:08 22:05
13	08:43 16:06	07:49 17:12	06:39 18:13	06:17 20:18	07:19-07:35/16 21:19	05:06 22:06
14	08:42 16:08	07:47 17:14	06:37 18:15	06:14 20:20	07:20-07:32/12 21:21	05:04 22:06
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	05:02 22:07
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	05:00 22:08
17	08:39 16:13	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	05:00 22:08
18	08:37 16:15	07:38 17:23	06:26 18:24	06:04 20:28	04:57 21:29	05:00 22:09
19	08:36 16:17	07:35 17:25	06:23 18:26	06:01 20:30	04:55 21:31	05:00 22:09
20	08:35 16:19	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	05:00 22:09
21	08:33 16:21	07:30 17:30	06:18 18:30	05:56 20:34	04:51 21:35	05:00 22:10
22	08:32 16:23	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	05:00 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:51 20:39	04:48 21:38	05:00 22:10
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 21:40	05:00 22:10
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	05:00 22:10
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:43 21:43	05:00 22:10
27	08:24 16:34	07:16 17:43	06:02 18:42	05:42 20:47	04:42 05:30-05:40/10 21:45	05:00 22:10
28	08:22 16:36	07:13 17:45	05:59 06:28-06:36/8 18:44	05:39 20:49	04:41 05:26-05:43/17 21:46	05:00 22:10
29	08:20 16:38		06:57 07:25-07:40/15 19:47	05:37 20:51	04:39 05:25-05:45/20 21:48	05:00 22:10
30	08:18 16:41		06:54 07:22-07:41/19 19:49	05:35 20:53	04:38 05:24-05:46/22 21:49	05:00 22:09
31	08:16 16:43		06:51 07:20-07:42/22 19:51		04:37 05:23-05:47/24 21:51	
Potential sun hours	235	266	366	426	508	529
Sum of minutes with flicker	0	0	64	334	93	1059

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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B15 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (92)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	July	August	September	October	November	December
1	04:30 05:22-05:58/36 22:09	05:15 21:28	06:17 07:15-07:37/22 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	04:31 05:23-05:59/36 22:08	05:17 21:26	06:19 07:14-07:38/24 20:11	07:19 18:51	07:25 16:34	08:26 15:44
3	04:31 05:24-05:59/35 22:08	05:19 21:24	06:21 07:13-07:39/26 20:09	07:21 18:48	07:27 16:31	08:27 15:43
4	04:32 05:24-05:59/35 22:07	05:21 21:21	06:23 07:12-07:39/27 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	04:33 05:25-05:59/34 22:06	05:23 21:19	06:25 07:11-07:38/27 20:03	07:25 18:43	07:31 16:27	08:31 15:41
6	04:34 05:26-05:59/33 22:06	05:25 21:17	06:27 07:10-07:38/28 20:01	07:27 18:40	07:33 16:25	08:32 15:41
7	04:36 05:26-05:58/32 22:05	05:27 21:15	06:29 07:10-07:38/28 19:58	07:29 18:37	07:35 16:23	08:34 15:40
8	04:37 05:27-05:58/31 22:04	05:29 21:13	06:31 07:10-07:38/28 19:55	07:31 18:35	07:38 16:21	08:35 15:40
9	04:38 05:27-05:57/30 22:03	05:31 21:10	06:33 07:10-07:37/27 19:53	07:33 18:32	07:40 16:19	08:36 15:39
10	04:39 05:28-05:57/29 22:02	05:33 21:08	06:35 07:11-07:36/25 19:50	07:35 18:30	07:42 16:17	08:38 15:39
11	04:40 05:29-05:56/27 22:01	05:35 21:06	06:37 07:11-07:35/24 19:47	07:38 18:27	07:44 16:15	08:39 15:38
12	04:42 05:30-05:55/25 22:00	05:37 21:04	06:39 07:12-07:34/22 19:45	07:40 18:24	07:46 16:13	08:40 15:38
13	04:43 05:32-05:55/23 21:59	05:39 21:01	06:41 07:13-07:33/20 19:42	07:42 18:22	07:48 16:11	08:41 15:38
14	04:45 05:33-05:54/21 21:58	05:41 20:59	06:43 07:15-07:30/15 19:39	07:44 18:19	07:50 16:09	08:42 15:38
15	04:46 05:34-05:52/18 21:56	05:43 20:57	06:45 07:17-07:27/10 19:36	07:46 18:17	07:53 16:07	08:43 15:38
16	04:48 05:37-05:51/14 21:55	05:45 20:54	06:47 19:34	07:48 18:14	07:55 16:06	08:44 15:38
17	04:49 05:41-05:48/7 21:54	05:47 20:52	06:49 19:31	07:50 18:12	07:57 16:04	08:45 15:38
18	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	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:07	08:01 16:01	08:47 15:38
20	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	04:56 21:48	05:55 20:42	06:57 19:20	07:59 18:02	08:05 15:57	08:48 15:39
22	04:57 21:46	05:57 20:39	06:59 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	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	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	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	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	05:06 21:37	06:07 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:43
28	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	05:10 21:34	06:11 07:21-07:33/12 20:22	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:44
30	05:12 21:32	06:13 07:18-07:35/17 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	05:14 21:30	06:15 07:17-07:36/19 20:16		07:20 16:38		08:51 15:46
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	466	48	353	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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B17 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (108)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January		February		March	April		May		June	
1	08:51	10:50-11:33/43	08:15	07:11		06:49		05:32	07:25-08:48/83	04:36	07:34-08:33/59
	15:48		16:45	17:47		19:53		20:55	06:31-07:14/43	21:53	
2	08:50	10:51-11:34/43	08:13	07:08		06:46		05:30	07:25-08:48/83	04:34	07:35-08:32/57
	15:49		16:47	17:50		19:55		20:57	06:31-07:14/43	21:54	
3	08:50	10:51-11:34/43	08:11	07:06	07:35-07:45/10	06:43		05:28	07:25-08:47/82	04:33	07:35-08:31/56
	15:50		16:49	17:52		19:57		20:59	06:31-07:14/43	21:55	
4	08:50	10:51-11:34/43	08:09	07:03	07:31-07:48/17	06:41	08:04-08:23/19	05:25	07:25-08:47/82	04:32	07:36-08:31/55
	15:52		16:52	17:54		19:59		21:02	06:31-07:13/42	21:57	
5	08:49	10:52-11:35/43	08:07	07:00	07:29-07:49/20	06:38	07:59-08:27/28	05:23	07:25-08:47/82	04:31	07:37-08:31/54
	15:53		16:54	17:56		20:01		21:04	06:31-07:13/42	21:58	
6	08:49	10:53-11:36/43	08:05	06:58	07:28-07:51/23	06:35	07:55-08:31/36	05:21	07:25-08:47/82	04:31	07:37-08:30/53
	15:55		16:56	17:58		20:03		21:06	06:32-07:13/41	21:59	
7	08:48	10:53-11:36/43	08:03	06:55	07:26-07:51/25	06:33	07:52-08:34/42	05:19	07:25-08:46/81	04:30	07:38-08:29/51
	15:56		16:58	18:00		20:05		21:08	06:32-07:12/40	22:00	
8	08:47	10:53-11:36/43	08:00	06:53	07:25-07:52/27	06:30	07:48-08:35/47	05:17	07:25-08:46/81	04:29	07:39-08:30/51
	15:58		17:01	18:02		20:07		21:10	06:32-07:12/40	22:01	
9	08:47	10:54-11:37/43	07:58	06:50	07:25-07:53/28	06:27	07:47-08:38/51	05:14	07:25-08:45/80	04:28	07:39-08:29/50
	15:59		17:03	18:05		20:10		21:12	06:33-07:11/38	22:02	
10	08:46	10:54-11:37/43	07:56	06:47	07:24-07:52/28	06:25	07:44-08:39/55	05:12	07:25-08:45/80	04:28	07:40-08:29/49
	16:01		17:05	18:07		20:12		21:14	06:33-07:10/37	22:03	
11	08:45	10:55-11:37/42	07:54	06:45	07:23-07:52/29	06:22	07:43-08:41/58	05:10	07:25-08:44/79	04:27	07:40-08:28/48
	16:02		17:07	18:09		20:14		21:16	06:34-07:09/35	22:04	
12	08:44	10:56-11:38/42	07:52	06:42	07:24-07:52/28	06:19	07:40-08:42/62	05:08	07:25-08:44/79	04:26	07:41-08:28/47
	16:04		17:10	18:11		20:16	06:45-06:47/2	21:18	06:34-07:08/34	22:05	
13	08:43	10:55-11:37/42	07:49	06:39	07:23-07:52/29	06:17	07:39-08:43/64	05:06	07:25-08:43/78	04:26	07:42-08:28/46
	16:06		17:12	18:13		20:18	06:43-06:50/7	21:20	06:35-07:07/32	22:06	
14	08:42	10:56-11:38/42	07:47	06:37	07:23-07:51/28	06:14	07:37-08:44/67	05:04	07:25-08:42/77	04:26	07:41-08:27/46
	16:08		17:14	18:15		20:20	06:40-06:51/11	21:22	06:37-07:07/30	22:07	
15	08:41	10:57-11:39/42	07:45	06:34	07:23-07:49/26	06:12	07:36-08:45/69	05:02	07:26-08:42/76	04:25	07:42-08:27/45
	16:10		17:16	18:17		20:22	06:38-06:53/15	21:24	06:37-07:05/28	22:07	
16	08:40	10:57-11:38/41	07:42	06:31	07:24-07:49/25	06:09	07:35-08:45/70	05:00	07:26-08:41/75	04:25	07:42-08:27/45
	16:12		17:19	18:19		20:24	06:35-07:03/28	21:25	06:38-07:04/26	22:08	
17	08:39	10:59-11:39/40	07:40	06:29	07:25-07:47/22	06:07	07:34-08:46/72	04:58	07:26-08:41/75	04:25	07:43-08:28/45
	16:13		17:21	18:22		20:26	06:33-07:06/33	21:27	06:39-07:02/23	22:08	
18	08:37	10:59-11:38/39	07:38	06:26	07:26-07:45/19	06:04	07:32-08:46/74	04:57	07:27-08:41/74	04:25	07:43-08:28/45
	16:15		17:23	18:24		20:28	06:32-07:08/36	21:29	06:41-07:01/20	22:09	
19	08:36	10:59-11:38/39	07:35	06:23	07:28-07:44/16	06:02	07:32-08:47/75	04:55	07:27-08:40/73	04:25	07:44-08:28/44
	16:17		17:25	18:26		20:30	06:32-07:10/38	21:31	06:43-06:59/16	22:09	
20	08:35	11:01-11:38/37	07:33	06:21	07:30-07:40/10	05:59	07:30-08:47/77	04:53	07:28-08:40/72	04:25	07:44-08:28/44
	16:19		17:28	18:28		20:32	06:31-07:10/39	21:33	06:46-06:56/10	22:10	
21	08:33	11:01-11:38/37	07:31	06:18		05:56	07:30-08:48/78	04:51	07:28-08:39/71	04:25	07:44-08:28/44
	16:21		17:30	18:30		20:35	06:32-07:11/39	21:35		22:10	
22	08:32	11:02-11:37/35	07:28	06:15		05:54	07:28-08:47/79	04:50	07:29-08:38/69	04:25	07:45-08:29/44
	16:23		17:32	18:32		20:37	06:32-07:13/41	21:36		22:10	
23	08:30	11:03-11:36/33	07:26	06:13		05:51	07:28-08:48/80	04:48	07:28-08:37/69	04:25	07:45-08:29/44
	16:26		17:34	18:34		20:39	06:32-07:13/41	21:38		22:10	
24	08:29	11:05-11:36/31	07:23	06:10		05:49	07:28-08:48/80	04:46	07:29-08:37/68	04:26	07:44-08:29/45
	16:28		17:36	18:36		20:41	06:33-07:13/40	21:40		22:10	
25	08:27	11:06-11:36/30	07:21	06:07		05:47	07:27-08:48/81	04:45	07:30-08:37/67	04:26	07:45-08:30/45
	16:30		17:39	18:38		20:43	06:34-07:14/40	21:42		22:10	
26	08:25	11:07-11:34/27	07:18	06:05		05:44	07:26-08:48/82	04:43	07:30-08:35/65	04:27	07:45-08:29/44
	16:32		17:41	18:40		20:45	06:33-07:14/41	21:43		22:10	
27	08:24	11:09-11:33/24	07:16	06:02		05:42	07:26-08:48/82	04:42	07:31-08:35/64	04:27	07:45-08:30/45
	16:34		17:43	18:42		20:47	06:32-07:14/42	21:45		22:10	
28	08:22	11:11-11:31/20	07:13	05:59		05:39	07:26-08:48/82	04:41	07:32-08:35/63	04:28	07:45-08:30/45
	16:36		17:45	18:45		20:49	06:32-07:14/42	21:47		22:10	
29	08:20	11:14-11:29/15		06:57		05:37	07:25-08:48/83	04:39	07:32-08:34/62	04:28	07:45-08:31/46
	16:38			19:47		20:51	06:31-07:14/43	21:48		22:10	
30	08:18	11:19-11:24/5		06:54		05:35	07:25-08:48/83	04:38	07:33-08:34/61	04:29	07:44-08:31/47
	16:41			19:49		20:53	06:31-07:14/43	21:50		22:09	
31	08:17			06:51				04:37	07:34-08:33/59		
	16:43			19:51				21:51			
Potential sun hours	235		266	366		426		508		529	
Sum of minutes with flicker	1093		0	410		2397		2955		1439	

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B17 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (108)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	July	August	September	October	November	December
1	04:30 07:44-08:32/48 22:09	05:15 07:35-08:54/79 21:28 06:44-07:19/35	06:17 07:42-08:40/58 20:14	07:17 08:03-08:31/28 18:53	07:22 16:36	08:24 10:37-11:20/43 15:45
2	04:31 07:44-08:33/49 22:08	05:17 07:35-08:55/80 21:26 06:44-07:20/36	06:19 07:43-08:38/55 20:11	07:19 08:02-08:31/29 18:51	07:25 16:34	08:26 10:37-11:20/43 15:44
3	04:31 07:44-08:34/50 22:08	05:19 07:35-08:55/80 21:24 06:43-07:21/38	06:21 07:45-08:36/51 20:09	07:21 08:02-08:30/28 18:48	07:27 16:31	08:28 10:38-11:21/43 15:43
4	04:32 07:44-08:35/51 22:07	05:21 07:34-08:55/81 21:22 06:43-07:21/38	06:23 07:45-08:32/47 20:06	07:23 08:02-08:30/28 18:45	07:29 16:29	08:29 10:37-11:20/43 15:42
5	04:33 07:44-08:35/51 22:07	05:23 07:34-08:55/81 21:19 06:42-07:21/39	06:25 07:48-08:30/42 20:03	07:25 08:02-08:29/27 18:43	07:31 16:27	08:31 10:38-11:21/43 15:41
6	04:34 07:44-08:36/52 22:06	05:25 07:34-08:56/82 21:17 06:41-07:22/41	06:27 07:50-08:27/37 20:01	07:27 08:02-08:28/26 18:40	07:33 16:25	08:32 10:39-11:22/43 15:41
7	04:35 07:44-08:37/53 22:05	05:27 07:34-08:56/82 21:15 06:41-07:22/41	06:29 07:53-08:23/30 19:58	07:29 08:03-08:27/24 18:38	07:36 16:23	08:34 10:38-11:21/43 15:40
8	04:37 07:43-08:38/55 22:04	05:29 07:34-08:56/82 21:13 06:41-07:23/42	06:31 07:58-08:17/19 19:55	07:31 08:04-08:25/21 18:35	07:38 16:21	08:35 10:39-11:22/43 15:39
9	04:38 07:43-08:38/55 22:03	05:31 07:34-08:57/83 21:11 06:41-07:23/42	06:33 19:53	07:33 08:06-08:24/18 18:32	07:40 16:19	08:37 10:40-11:23/43 15:39
10	04:39 07:42-08:39/57 22:02	05:33 07:33-08:56/83 21:08 06:39-07:22/43	06:35 19:50	07:36 08:08-08:21/13 18:30	07:42 16:17	08:38 10:40-11:23/43 15:39
11	04:40 07:42-08:40/58 22:01	05:35 07:33-08:56/83 21:06 06:39-07:22/43	06:37 19:47	07:38 08:11-08:17/6 18:27	07:44 16:15	08:39 10:40-11:23/43 15:38
12	04:42 07:41-08:40/59 22:00	05:37 07:33-08:56/83 21:04 06:39-07:22/43	06:39 19:45	07:40 18:24	07:46 10:49-10:56/7 16:13	08:40 10:41-11:24/43 15:38
13	04:43 07:42-08:42/60 21:59	05:39 07:33-08:56/83 21:01 06:39-07:22/43	06:41 19:42	07:42 18:22	07:48 10:46-11:01/15 16:11	08:42 10:42-11:24/42 15:38
14	04:45 07:41-08:42/61 21:58	05:41 07:33-08:56/83 20:59 06:40-07:22/42	06:43 19:39	07:44 18:19	07:51 10:43-11:03/20 16:09	08:43 10:42-11:25/43 15:38
15	04:46 07:40-08:43/63 21:57	05:43 07:34-08:56/82 20:57 06:40-07:22/42	06:45 19:37	07:46 18:17	07:53 10:41-11:05/24 16:07	08:44 10:42-11:25/43 15:38
16	04:47 07:41-08:44/63 21:55	05:45 07:33-08:55/82 20:54 06:40-07:22/42	06:47 19:34	07:48 18:14	07:55 10:40-11:07/27 16:06	08:45 10:43-11:25/42 15:38
17	04:49 07:40-08:45/65 21:54	05:47 07:33-08:54/81 20:52 06:39-07:20/41	06:49 19:31	07:50 18:12	07:57 10:39-11:09/30 16:04	08:46 10:44-11:26/42 15:38
18	04:51 07:39-08:45/66 21:52	05:49 07:33-08:54/81 20:49 06:39-07:20/41	06:51 19:28	07:52 18:09	07:59 10:39-11:10/31 16:02	08:46 10:44-11:26/42 15:38
19	04:52 07:39-08:46/67 21:51	05:51 07:34-08:54/80 20:47 06:38-07:19/41	06:53 19:26	07:54 18:07	08:01 10:38-11:11/33 16:01	08:47 10:45-11:27/42 15:38
20	04:54 07:38-08:47/69 21:49	05:53 07:34-08:53/79 20:45 06:37-07:18/41	06:55 19:23	07:57 18:04	08:03 10:37-11:12/35 15:59	08:48 10:45-11:27/42 15:38
21	04:55 07:39-08:48/69 21:48	05:55 07:34-08:53/79 20:42 06:37-07:17/40	06:57 19:20	07:59 18:02	08:05 10:36-11:13/37 15:57	08:48 10:46-11:28/42 15:39
22	04:57 07:39-08:49/70 21:46	05:57 07:35-08:52/77 20:40 06:36-07:16/40	06:59 19:18	08:01 17:59	08:07 10:37-11:14/37 15:56	08:49 10:46-11:28/42 15:39
23	04:59 07:38-08:49/71 21:45 06:59-07:03/4	05:59 07:35-08:51/76 20:37 06:36-07:15/39	07:01 08:16-08:22/6 19:15	08:03 17:57	08:09 10:36-11:15/39 15:54	08:50 10:47-11:29/42 15:40
24	05:01 07:38-08:50/72 21:43 06:55-07:08/13	06:01 07:36-08:51/75 20:35 06:36-07:13/37	07:03 08:11-08:26/15 19:12	08:05 17:54	08:11 10:36-11:15/39 15:53	08:50 10:47-11:29/42 15:40
25	05:02 07:37-08:50/73 21:41 06:52-07:10/18	06:03 07:35-08:49/74 20:32 06:36-07:10/34	07:05 08:09-08:28/19 19:10	07:07 16:52	08:13 10:36-11:16/40 15:52	08:50 10:47-11:29/42 15:41
26	05:04 07:37-08:51/74 21:39 06:51-07:12/21	06:05 07:36-08:48/72 20:29 06:35-07:08/33	07:07 08:07-08:29/22 19:07	07:09 16:50	08:15 10:36-11:17/41 15:50	08:51 10:47-11:30/43 15:42
27	05:06 07:37-08:52/75 21:37 06:50-07:14/24	06:07 07:37-08:47/70 20:27 06:37-07:04/27	07:09 08:07-08:31/24 19:04	07:12 16:47	08:17 10:36-11:18/42 15:49	08:51 10:48-11:30/42 15:42
28	05:08 07:36-08:52/76 21:36 06:48-07:15/27	06:09 07:37-08:46/69 20:24 06:39-06:54/15	07:11 08:05-08:31/26 19:01	07:14 16:45	08:19 10:36-11:18/42 15:48	08:51 10:48-11:31/43 15:43
29	05:10 07:36-08:53/77 21:34 06:47-07:16/29	06:11 07:38-08:44/66 20:22 06:41-06:52/11	07:13 08:04-08:31/27 18:59	07:16 16:43	08:21 10:37-11:19/42 15:47	08:51 10:49-11:31/42 15:44
30	05:12 07:36-08:54/78 21:32 06:46-07:17/31	06:13 07:39-08:43/64 20:19 06:43-06:50/7	07:15 08:03-08:31/28 18:56	07:18 16:40	08:22 10:37-11:19/42 15:46	08:51 10:49-11:32/43 15:45
31	05:13 07:35-08:53/78 21:30 06:45-07:18/33	06:15 07:40-08:41/61 20:16 06:45-06:47/2		07:20 16:38		08:51 10:50-11:33/43 15:46
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	2165	3512	506	248	623	1320

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B18 - VESTAS V172-7.2 7200 172.0 !OI! hub: 175.0 m (TOT: 261.0 m) (93)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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 17:47	06:49 19:53	05:32 20:55	04:36 21:52
2	08:50 15:49	08:13 16:47	07:08 17:49	06:46 19:55	05:30 20:57	04:35 21:54
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
4	08:50 15:52	08:09 16:52	07:03 17:54	06:41 19:59	05:25 21:01	04:32 21:56
5	08:49 15:53	08:07 16:54	07:00 17:56	06:38 20:01	05:23 21:03	04:32 21:58
6	08:49 15:55	08:04 16:56	06:58 17:58	06:35 20:03	05:21 21:05	04:31 21:59
7	08:48 15:56	08:02 16:58	06:55 18:00	06:33 20:05	05:19 21:07	04:30 22:00
8	08:47 15:58	08:00 17:01	06:52 18:02	06:30 20:07	05:17 21:09	04:29 22:01
9	08:47 15:59	07:58 17:03	06:50 18:05	06:27 20:09	05:15 21:12	04:28 22:02
10	08:46 16:01	07:56 17:05	06:47 18:07	06:25 20:11	05:12 21:14	04:28 22:03
11	08:45 16:03	07:54 17:07	06:45 18:09	06:22 20:14	05:10 21:15	04:27 22:04
12	08:44 16:04	07:52 17:10	06:42 18:11	06:19 20:16	05:08 21:17	04:27 22:05
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
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
15	08:41 16:10	07:45 17:16	06:34 18:17	06:12 20:22	05:02 21:23	04:26 22:07
16	08:40 16:12	07:42 17:19	06:31 18:19	06:09 20:24	05:00 21:25	04:25 22:08
17	08:39 16:14	07:40 17:21	06:29 18:22	06:07 20:26	04:59 21:27	04:25 22:08
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
19	08:36 16:17	07:35 17:25	06:23 18:26	06:02 20:30	04:55 21:31	04:25 22:09
20	08:35 16:19	07:33 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:09
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
22	08:32 16:24	07:28 17:32	06:15 18:32	05:54 20:36	04:50 21:36	04:25 22:10
23	08:30 16:26	07:26 17:34	06:13 18:34	05:52 20:39	04:48 21:38	04:26 22:10
24	08:29 16:28	07:23 17:36	06:10 18:36	05:49 20:41	04:47 21:40	04:26 22:10
25	08:27 16:30	07:21 17:39	06:07 18:38	05:47 20:43	04:45 21:41	04:26 22:10
26	08:25 16:32	07:18 17:41	06:05 18:40	05:44 20:45	04:44 21:43	04:27 22:10
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
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
29	08:20 16:38		06:57 19:47	05:37 20:51	04:39 21:48	04:28 22:09
30	08:18 16:41		06:54 19:49	05:35 20:53	04:38 21:49	04:29 22:09
31	08:16 16:43		06:51 19:51		04:37 21:51	05:18-05:23/5
Potential sun hours	235	266	366	426	508	529
Sum of minutes with flicker	0	177	560	1027	5	705

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B18 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (93)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	July	August	September	October	November	December
1	04:30 05:14-05:38/24 22:09	05:15 21:28	06:17 07:30-08:23/53 20:14	07:17 18:53	07:22 16:36	08:24 15:45
2	04:31 05:15-05:39/24 22:08	05:17 21:26	06:19 07:29-08:24/55 20:11	07:19 18:51	07:24 16:34	08:26 15:44
3	04:32 05:15-05:39/24 22:08	05:19 21:23	06:21 07:29-08:24/55 20:08	07:21 18:48	07:27 16:31	08:27 15:43
4	04:32 05:16-05:39/23 22:07	05:21 21:21	06:23 07:27-08:23/56 20:06	07:23 18:45	07:29 16:29	08:29 15:42
5	04:33 05:17-05:38/21 22:06	05:23 21:19	06:25 07:27-08:23/56 20:03	07:25 08:38-08:41/3 18:43	07:31 16:27	08:31 15:41
6	04:34 05:18-05:38/20 22:06	05:25 21:17	06:27 07:27-08:23/56 20:01	07:27 08:33-08:46/13 18:40	07:33 16:25	08:32 15:41
7	04:36 05:18-05:38/20 22:05	05:27 21:15	06:29 07:27-08:23/56 19:58	07:29 08:31-08:47/16 18:37	07:35 16:23	08:34 15:40
8	04:37 05:19-05:37/18 22:04	05:29 21:13	06:31 07:27-08:23/56 19:55	07:31 08:29-08:48/19 18:35	07:38 16:21	08:35 15:40
9	04:38 05:20-05:36/16 22:03	05:31 21:10	06:33 07:27-08:23/56 19:53	07:33 08:27-08:49/22 18:32	07:40 16:19	08:36 15:39
10	04:39 05:21-05:35/14 22:02	05:33 21:08	06:35 07:28-08:22/54 19:50	07:35 08:27-08:51/24 18:30	07:42 16:17	08:38 15:39
11	04:40 05:22-05:34/12 22:01	05:35 21:06	06:37 07:28-08:22/54 19:47	07:38 08:26-08:51/25 18:27	07:44 16:15	08:39 15:38
12	04:42 05:25-05:33/8 22:00	05:37 21:04	06:39 07:29-08:21/52 19:45	07:40 08:25-08:51/26 18:24	07:46 16:13	08:40 15:38
13	04:43 21:59	05:39 21:01	06:41 07:29-08:20/51 19:42	07:42 08:25-08:50/25 18:22	07:48 16:11	08:41 15:38
14	04:45 21:58	05:41 20:59	06:43 07:30-08:19/49 19:39	07:44 08:24-08:50/26 18:19	07:50 16:09	08:42 15:38
15	04:46 21:56	05:43 20:57	06:45 07:32-08:18/46 19:36	07:46 08:24-08:50/26 18:17	07:53 16:07	08:43 15:38
16	04:48 21:55	05:45 20:54	06:47 07:33-08:17/44 19:34	07:48 08:25-08:49/24 18:14	07:55 16:06	08:44 15:38
17	04:49 21:54	05:47 20:52	06:49 07:36-08:16/40 19:31	07:50 08:25-08:48/23 18:12	07:57 16:04	08:45 15:38
18	04:51 21:52	05:49 20:49	06:51 07:38-08:13/35 19:28	07:52 08:26-08:47/21 18:09	07:59 16:02	08:46 15:38
19	04:52 21:51	05:51 20:47	06:53 07:41-08:11/30 19:26	07:54 08:26-08:45/19 18:07	08:01 16:01	08:47 15:38
20	04:54 21:49	05:53 07:50-07:57/7 20:44	06:55 07:42-08:09/27 19:23	07:56 08:28-08:45/17 18:04	08:03 15:59	08:48 15:38
21	04:56 21:48	05:55 07:45-08:02/17 20:42	06:57 07:44-08:06/22 19:20	07:59 08:30-08:42/12 18:02	08:05 15:57	08:48 15:39
22	04:57 21:46	05:57 07:42-08:04/22 20:39	06:59 07:48-08:02/14 19:18	08:01 17:59	08:07 15:56	08:49 15:39
23	04:59 21:44	05:59 07:40-08:06/26 20:37	07:01 19:15	08:03 17:57	08:09 15:54	08:49 15:40
24	05:01 21:43	06:01 07:38-08:12/34 20:34	07:03 19:12	08:05 17:54	08:11 15:53	08:50 15:40
25	05:03 21:41	06:03 07:36-08:14/38 20:32	07:05 19:09	07:07 16:52	08:13 15:52	08:50 15:41
26	05:04 21:39	06:05 07:35-08:16/41 20:29	07:07 19:07	07:09 16:50	08:15 15:50	08:50 15:42
27	05:06 21:37	06:07 07:33-08:18/45 20:27	07:09 19:04	07:11 16:47	08:17 15:49	08:51 15:43
28	05:08 21:35	06:09 07:32-08:20/48 20:24	07:11 19:01	07:14 16:45	08:19 15:48	08:51 15:43
29	05:10 21:34	06:11 07:32-08:21/49 20:22	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:44
30	05:12 21:32	06:13 07:31-08:22/51 20:19	07:15 18:56	07:18 16:40	08:22 15:46	08:51 15:45
31	05:14 21:30	06:15 07:30-08:22/52 20:16		07:20 16:38		08:51 15:46
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	224	430	1017	341	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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B2 - VESTAS V172-7.2 7200 172.0 !O! hub: 175.0 m (TOT: 261.0 m) (102)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:51 15:48	08:15 09:00-09:29/29 16:45	07:11 07:55-08:19/24 17:47	06:49 19:53	05:32 20:55	04:36 21:52	04:30 22:09	05:15 21:28	06:17 20:14	07:17 18:53	07:22 08:31-09:00/29 16:36	08:24 15:45
2	08:50 15:49	08:13 09:00-09:30/30 16:47	07:08 07:55-08:18/23 17:49	06:46 19:55	05:30 20:57	04:34 21:54	04:31 22:08	05:17 21:26	06:19 20:11	07:19 18:51	07:25 08:30-09:00/30 16:34	08:26 15:44
3	08:50 15:50	08:11 09:00-09:31/31 16:49	07:05 07:57-08:18/21 17:52	06:43 19:57	05:28 20:59	04:33 21:55	04:31 22:08	05:19 21:24	06:21 20:09	07:21 18:48	07:27 08:30-09:01/31 16:31	08:27 15:43
4	08:50 15:52	08:09 09:00-09:31/31 16:52	07:03 07:58-08:16/18 17:54	06:41 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 08:30-09:01/31 16:29	08:29 15:42
5	08:49 15:53	08:07 09:00-09:32/32 16:54	07:00 07:59-08:13/14 17:56	06:38 20:01	05:23 21:04	04:31 21:58	04:33 22:07	05:23 21:19	06:25 20:03	07:25 18:43	07:31 08:29-09:01/32 16:27	08:31 15:41
6	08:49 15:55	08:05 09:00-09:31/31 16:56	06:58 08:03-08:10/7 17:58	06:35 20:03	05:21 21:06	04:31 21:59	04:34 22:06	05:25 21:17	06:27 20:01	07:27 18:40	07:33 08:30-09:01/31 16:25	08:32 15:41
7	08:48 15:56	08:02 09:00-09:31/31 16:58	06:55 18:00	06:33 20:05	05:19 21:08	04:30 22:00	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	07:35 08:30-09:01/31 16:23	08:34 15:40
8	08:47 15:58	08:00 09:01-09:32/31 17:01	06:53 18:02	06:30 20:07	05:17 21:10	04:29 22:01	04:37 22:04	05:29 21:13	06:31 19:55	07:31 08:35-08:47/12 18:35	07:38 08:31-09:01/30 16:21	08:35 15:39
9	08:47 15:59	07:58 09:00-09:31/31 17:03	06:50 18:05	06:27 20:09	05:14 21:12	04:28 22:02	04:38 22:03	05:31 21:11	06:33 19:53	07:33 08:33-08:49/16 18:32	07:40 08:31-09:01/30 16:19	08:36 15:39
10	08:46 16:01	07:56 09:01-09:31/30 17:05	06:47 18:07	06:25 20:12	05:12 21:14	04:28 22:03	04:39 22:02	05:33 21:08	06:35 19:50	07:36 08:32-08:51/19 18:30	07:42 08:31-09:00/29 16:17	08:38 15:39
11	08:45 16:03	07:54 09:02-09:31/29 17:07	06:45 18:09	06:22 20:14	05:10 21:16	04:27 22:04	04:40 22:01	05:35 21:06	06:37 19:47	07:38 08:30-08:52/22 18:27	07:44 08:32-09:00/28 16:15	08:39 15:38
12	08:44 16:04	07:52 09:02-09:29/27 17:10	06:42 18:11	06:19 20:16	05:08 21:18	04:27 22:05	04:42 22:00	05:37 21:04	06:39 19:45	07:40 08:29-08:52/23 18:24	07:46 08:32-08:59/27 16:13	08:40 15:38
13	08:43 16:06	07:49 09:04-09:29/25 17:12	06:39 18:13	06:17 20:18	05:06 21:20	04:26 22:06	04:43 21:59	05:39 21:01	06:41 19:42	07:42 08:28-08:52/24 18:22	07:48 08:34-08:59/25 16:11	08:41 15:38
14	08:42 16:08	07:47 09:04-09:27/23 17:14	06:37 18:15	06:14 20:20	05:04 21:22	04:26 22:07	04:45 21:58	05:41 20:59	06:43 19:39	07:44 08:27-08:52/25 18:19	07:51 08:35-08:58/23 16:09	08:43 15:38
15	08:41 16:10	07:45 09:06-09:26/20 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 08:28-08:53/25 18:17	07:53 08:36-08:57/21 16:07	08:44 15:38
16	08:40 16:12	07:42 09:08-09:23/15 17:19	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 08:27-08:53/26 18:14	07:55 08:38-08:56/18 16:06	08:45 15:38
17	08:39 16:13	07:40 09:12-09:20/8 17:21	06:29 18:22	06:07 20:26	04:58 21:27	04:25 22:08	04:49 21:54	05:47 20:52	06:49 19:31	07:50 08:27-08:52/25 18:12	07:57 08:39-08:54/15 16:04	08:45 15:38
18	08:37 16:15	07:38 08:05-08:13/8 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 08:27-08:51/24 18:09	07:59 08:43-08:53/10 16:02	08:46 15:38
19	08:36 16:17	07:35 08:03-08:16/13 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 08:28-08:51/23 18:07	08:01 16:01	08:47 15:38
20	08:35 16:19	07:33 08:00-08:17/17 17:28	06:21 18:28	05:59 20:32	04:53 21:33	04:25 22:10	04:54 21:49	05:53 20:44	06:55 19:23	07:57 08:28-08:50/22 18:04	08:03 15:59	08:48 15:38
21	08:33 16:21	07:31 07:58-08:19/21 17:30	06:18 18:30	05:56 20:34	04:51 21:35	04:25 22:10	04:56 21:48	05:55 20:42	06:57 19:20	07:59 08:29-08:49/20 18:02	08:05 15:57	08:48 15:39
22	08:32 16:23	07:28 07:57-08:19/22 17:32	06:15 18:32	05:54 20:37	04:50 21:36	04:25 22:10	04:57 21:46	05:57 20:39	06:59 19:18	08:01 08:31-08:47/16 17:59	08:07 15:56	08:49 15:39
23	08:30 16:26	07:26 07:56-08:20/24 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 08:34-08:46/12 17:57	08:09 15:54	08:49 15:40
24	08:29 09:09-09:19/10 16:28	07:23 07:55-08:20/25 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 08:36-08:42/6 17:54	08:11 15:53	08:50 15:40
25	08:27 09:06-09:21/15 16:30	07:21 07:55-08:20/25 17:39	06:07 18:38	05:47 20:43	04:45 21:42	04:26 22:10	05:02 21:41	06:03 20:32	07:05 19:10	07:07 08:40-08:50/10 16:52	08:13 15:52	08:50 15:41
26	08:25 09:05-09:23/18 16:32	07:18 07:55-08:21/26 17:41	06:05 18:40	05:44 20:45	04:43 21:43	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 08:38-08:54/16 16:50	08:15 15:50	08:50 15:42
27	08:24 09:04-09:25/21 16:34	07:16 07:55-08:20/25 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	07:12 08:35-08:56/21 16:47	08:17 15:49	08:51 15:42
28	08:22 09:03-09:26/23 16:36	07:13 07:55-08:20/25 17:45	05:59 18:44	05:39 20:49	04:41 21:46	04:28 22:10	05:08 21:36	06:09 20:24	07:11 19:01	07:14 08:34-08:57/23 16:45	08:19 15:48	08:51 15:43
29	08:20 09:02-09:27/25 16:38		05:57 19:47	05:37 20:51	04:39 21:48	04:28 22:10	05:10 21:34	06:11 20:22	07:13 18:59	07:16 08:33-08:58/25 16:43	08:21 15:47	08:51 15:44
30	08:18 09:02-09:28/26 16:41		05:54 19:49	05:35 20:53	04:38 21:50	04:29 22:09	05:12 21:32	06:13 20:19	07:15 18:56	07:18 08:32-08:59/27 16:40	08:22 15:46	08:51 15:45
31	08:16 09:01-09:29/28 16:43		05:51 19:51		04:37 21:51		05:13 21:30	06:15 20:16		07:20 08:31-08:59/28 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	166	685	107	0	0	0	0	0	0	490	471	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:
10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B22 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (94)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January	February	March	April	May	June
1	08:51 09:39-11:03/84 12:56-13:15/19 15:48 13:26-14:30/64 12:33-12:45/12 2 08:50 09:39-11:04/85 12:58-13:13/15 15:49 13:27-14:31/64 12:34-12:45/11 3 08:50 09:39-11:04/85 12:59-13:13/14 15:51 13:26-14:32/66 12:36-12:44/8 4 08:50 09:38-11:06/93 13:00-13:12/12 15:52 13:26-14:33/67 12:39-12:40/1 5 08:49 09:33-11:05/92 13:02-13:11/9 15:53 13:27-14:34/67 6 08:49 09:32-11:05/93 13:05-13:09/4 15:55 13:27-14:35/68 7 08:48 09:31-11:05/94 15:56 13:27-14:36/69 8 08:47 09:30-11:06/96 15:58 13:27-14:37/70 9 08:47 09:30-11:06/96 15:59 13:28-14:38/70 10 08:46 09:29-11:06/97 16:01 13:28-14:39/71 11 08:45 09:29-11:06/97 16:03 13:28-14:40/72 12 08:44 09:29-11:07/98 16:05 13:28-14:40/72 13 08:43 09:28-11:06/98 16:06 13:28-14:41/73 14 08:42 09:28-11:06/98 16:08 13:29-14:42/73 15 08:41 09:29-11:07/98 16:10 13:28-14:42/74 16 08:40 09:28-11:06/98 16:12 13:29-14:44/75 17 08:39 09:28-11:06/98 16:14 13:29-14:44/75 18 08:37 09:28-11:05/97 16:16 13:29-14:45/76 19 08:36 09:27-11:04/97 16:18 13:29-14:45/76 20 08:35 09:28-11:04/96 16:20 13:30-14:47/77 21 08:33 09:28-11:03/95 09:07-09:15/8 16:22 13:30-14:47/77 22 08:32 09:28-11:01/93 09:05-09:17/12 16:24 13:31-14:47/76 23 08:30 09:28-10:59/91 09:03-09:19/16 16:26 13:31-14:47/76 24 08:29 09:29-10:58/91 09:03-09:21/18 16:28 13:31-14:48/77 10:53-10:55/2 25 08:27 09:29-10:58/91 09:00-09:22/22 16:30 13:32-14:49/77 26 08:25 09:30-10:58/88 08:58-09:23/25 16:32 13:33-14:49/76 27 08:24 09:30-10:58/88 08:56-09:24/28 16:34 13:33-14:49/76 28 08:22 09:31-10:57/9 08:54-09:24/30 16:36 13:34-14:49/75 29 08:20 09:31-10:57/9 08:53-09:25/32 16:39 13:35-14:50/75 30 08:18 09:32-10:57/8 08:52-09:25/33 16:41 13:36-14:50/74 31 08:17 09:33-10:49/76 08:52-09:26/34 16:43 13:36-14:49/73	08:15 09:33-10:48/75 08:51-09:25/34 16:45 13:37-14:49/72 08:13 09:35-10:48/73 08:51-09:25/34 16:47 13:38-14:49/71 08:11 09:36-10:47/71 08:51-09:25/34 16:50 13:39-14:48/69 08:09 09:36-10:46/70 08:51-09:25/34 16:52 13:41-14:48/67 08:07 09:37-10:46/69 08:51-09:26/35 16:54 13:43-14:48/65 08:05 09:36-10:43/67 08:49-09:25/36 16:56 13:44-14:47/63 08:03 09:37-10:42/65 08:46-09:25/39 16:59 13:47-14:46/59 08:00 09:38-10:40/62 08:44-09:26/42 17:01 13:50-14:45/55 07:58 09:38-10:36/58 14:01-14:43/42 08:27-08:32/5 17:03 13:57-14:00/3 08:42-09:27/45 07:56 09:39-10:26/47 08:41-09:28/47 17:05 14:03-14:42/39 08:25-08:35/10 07:54 09:40-10:25/45 08:23-08:36/13 17:08 14:05-14:41/36 08:40-09:29/49 07:52 09:41-10:23/42 08:20-08:37/17 17:10 14:07-14:37/30 08:38-09:29/51 07:49 09:43-10:22/39 08:18-09:29/71 17:12 14:11-14:32/21 07:47 09:43-10:19/36 17:14 08:16-09:29/73 07:45 09:46-10:17/31 17:17 08:16-09:30/74 07:43 09:48-10:13/25 08:15-09:29/74 17:19 16:13-16:26/13 07:40 09:51-10:09/18 08:15-09:29/74 17:21 16:10-16:30/20 16:39-16:48/9 07:38 16:07-16:32/25 08:14-09:29/75 17:22 09:55-10:04/9 16:35-16:50/15 07:35 16:06-16:53/47 17:25 08:15-09:29/74 07:33 16:04-16:54/50 17:28 08:14-09:28/74 07:31 16:03-16:56/53 17:30 08:15-09:28/73 17:28 16:01-16:56/55 17:32 08:15-09:27/72 07:26 16:01-16:57/56 17:34 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Potential sun hours	235	266	366	426	508	529
Sum of minutes with flicker	5412	3817	1637	1361	611	135

Potential sun hours: 235

Sum of minutes with flicker: 5412

266

3817

1637

426

1361

611

135

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B22 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (94)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	July	August	September	October	November	December
1	04:30	05:16 20:20-20:43/23	06:17 06:47-07:32/45	07:17 07:49-08:00/11	07:23 09:09-09:56/47 08:11-08:57/46	08:24 09:11-10:48/97
2	22:09	21:28 06:15-06:23/8	20:14	18:54 16:43-17:24/41	16:36 13:32-14:12/40 07:55-08:04/9	15:45 13:10-14:22/72
3	04:31	05:18 20:20-20:43/23	06:19 06:49-07:31/42	07:19 16:40-17:26/46	07:25 09:08-10:06/58 08:12-08:56/44	08:26 09:12-10:49/97
4	22:08	21:26 06:13-06:25/12	20:11	18:51	16:34 13:24-14:13/49 07:57-08:01/4	15:44 13:11-14:22/71
5	04:32	05:19 20:20-20:44/24	06:21 06:51-07:30/39	07:21 16:39-17:26/47	07:27 09:08-10:10/62 08:14-08:56/42	08:27 09:14-10:49/95
6	22:08	21:24 06:12-06:26/14	20:09	18:48	16:32 13:19-14:15/56	15:43 13:11-14:21/70
7	04:33	05:21 20:20-20:44/24	06:23 06:59-07:29/30	07:23 16:37-17:27/50	07:29 09:07-10:12/65 08:16-08:55/39	08:29 09:14-10:50/96
8	22:07	21:22 06:11-06:28/17	20:06	18:46	16:29 13:16-14:16/60	15:42 13:11-14:21/70
9	04:34	05:23 20:20-20:43/23	06:25 07:00-07:28/28	07:25 16:35-17:27/52	07:31 09:06-10:13/67 08:20-08:55/35	08:31 09:16-10:50/94
10	22:07	21:19 06:10-06:29/19	20:03	18:43	16:27 13:13-14:16/63	15:42 13:12-14:21/69
11	04:35	05:25 20:20-20:42/22	06:27 07:01-07:25/24	07:27 16:34-17:27/53	07:33 09:06-10:15/69 08:21-08:55/34	08:32 09:18-10:51/93 12:52-12:55/3
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17	04:38	05:31 20:22-20:38/16	06:33 07:54-08:02/8 18:50-18:54/4	07:34 16:31-17:27/56	07:40 09:05-10:19/74 08:21-08:56/35	08:37 09:27-10:52/85 12:47-13:01/14
18	22:03	21:11 06:08-06:30/22	19:53 07:44-07:49/5	18:32	16:19 13:09-14:19/70	15:39 13:14-14:20/66 12:24-12:32/8
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52	21:39	20:29	19:07	16:50 15:45-15:55/10	15:51 13:07-14:22/75	15:42 13:24-14:24/60 12:27-12:45/18
53	05:06	06:06 06:43-07:34/51	07:07 07:43-08:09/26	07:12 09:15-09:47/32	08:17 09:08-10:46/98	08:51 09:48-11:00/72 12:52-13:16/24
54	21:37	20:27	19:04	16:47 07:46-08:59/73	15:49 13:08-14:22/74	15:43 13:24-14:25/61 12:27-12:45/18
55	05:08	06:09 06:41-07:34/53	07:11 07:44-08:07/23	07:14 09:13-09:49/36 07:46-08:58/72	08:19 09:08-10:46/98	08:51 09:49-11:01/72 12:53-13:16/25
56	21:36	20:24	19:02	16:45 13:44-13:52/8	15:48 13:09-14:22/73	15:44 13:25-14:26/61 12:28-12:45/17
57	05:10	06:11 06:41-07:34/53	07:13 07:45-08:05/20 16:49-17:05/16	07:16 09:22-09:51/39 07:48-08:07/19	08:21 09:09-10:47/98	08:51 09:49-11:01/72 12:53-13:16/25 12:29-12:46/17
58	21:34	20:22	18:59 17:06-17:20/14	16:43 13:39-14:04/25 08:08-08:59/51	15:47 13:09-14:22/73	15:45 13:25-14:27/62 09:41-09:46/5
59	05:12	06:13 06:43-07:33/50	07:15 07:46-08:03/17	07:18 09:10-09:52/42 07:50-08:06/16	08:22 09:10-10:48/98	08:51 09:50-11:02/72 12:54-13:16/22 12:30-12:46/16
60	21:32	20:19	18:56 16:46-17:23/37	16:40 13:36-14:07/21 08:08-08:58/50	15:46 13:10-14:22/72	15:46 13:26-14:28/62 09:41-09:48/7
61	05:14	06:15 06:43-07:33/48	06:15 06:43-07:33/48	07:20 09:09-09:53/44 07:53-08:06/13	08:51 09:40-11:03/83 12:56-13:16/20	08:51 09:40-11:03/83 12:56-13:16/20
62	21:30	20:17	18:56 16:46-17:23/37	16:38 13:33-14:10/37 08:10-08:58/48	15:47 13:26-14:29/63 12:32-12:46/14	15:47 13:26-14:29/63 12:32-12:46/14
63	Potential sun hours	529	469	385	324	247
64	Sum of minutes with flicker	151	1490	1269	2944	5212
65						5382

Table 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:
10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B23 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (97)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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 08:50 15:49	08:14 16:45 08:11 16:47	07:10 17:47 07:08 17:49	06:48 19:53 07:11-07:28/17 19:55	05:32 20:55 05:30 20:57	04:36 21:52 04:34 21:54	04:30 22:09 04:31 22:08	05:15 21:28 05:17 21:26	06:17 20:14 06:59-07:27/28 20:11	07:17 18:53 07:19 18:51	07:22 16:36 07:24 16:34	08:24 15:45 08:26 15:44
2	08:50 15:50 08:49 15:52	08:11 16:49 08:09 17:54	07:05 17:52 07:03 17:54	06:43 19:57 07:06-07:30/24 19:59	05:28 20:59 05:25 21:01	04:33 21:55 04:32 21:56	04:31 22:08 04:32 22:07	05:19 21:23 05:21 21:21	06:21 20:08 06:58-07:26/28 20:06	07:21 18:48 07:23 18:45	07:27 16:31 07:29 16:29	08:27 15:43 08:29 15:42
3	08:49 15:53 08:48 15:55	08:07 16:54 08:04 16:56	07:00 17:56 06:58 17:58	06:38 20:01 07:03-07:31/28 20:03	05:23 21:03 05:21 21:05	04:31 21:58 04:34 22:06	04:33 22:06 04:31 22:06	05:23 21:19 05:25 21:17	06:25 20:03 06:58-07:26/28 20:01	07:25 18:43 07:27 18:40	07:31 16:27 07:33 16:25	08:30 15:41 08:32 15:41
4	08:48 15:56 08:47 15:58	08:02 16:58 08:00 17:01	06:55 18:00 06:52 18:02	06:33 20:05 07:02-07:29/28 20:07	05:19 21:07 05:17 21:09	04:30 22:00 04:29 22:01	04:36 22:05 04:37 22:04	05:27 21:15 05:29 21:13	06:29 19:58 06:58-07:25/27 19:55	07:29 18:37 07:31 18:35	07:35 16:23 07:38 16:21	08:33 15:40 08:35 15:39
5	08:47 15:59 08:47 15:59	07:58 17:03 07:56 17:03	06:50 18:05 06:47 18:05	06:27 20:09 07:01-07:29/28 20:09	05:14 21:11 05:12 21:12	04:28 22:02 04:28 22:03	04:38 22:03 04:39 22:10	05:31 21:10 05:33 21:10	06:33 19:53 07:02-07:23/21 19:53	07:33 18:35 07:35 18:32	07:40 16:19 07:42 16:19	08:36 15:39 08:38 15:39
6	08:46 16:01 08:45 16:03	07:56 17:05 07:54 17:07	06:47 18:07 06:45 18:09	06:25 20:11 07:00-07:28/28 20:11	05:12 21:13 05:10 21:13	04:28 22:03 04:27 22:03	04:39 22:03 04:40 22:02	05:33 21:08 05:35 21:08	06:35 19:50 07:04-07:22/18 19:50	07:35 18:30 07:37 18:30	07:42 16:17 07:44 16:17	08:38 15:39 08:39 15:39
7	08:44 16:03 08:43 16:04	07:51 17:07 07:49 17:10	06:42 18:09 06:39 18:11	06:19 20:14 07:01-07:26/25 20:16	05:08 21:15 05:06 21:17	04:27 22:04 04:27 22:05	04:42 22:01 04:43 22:02	05:37 21:06 05:39 21:04	06:39 19:47 07:08-07:17/9 19:44	07:40 18:27 07:42 18:24	07:46 16:15 07:48 16:13	08:40 15:38 08:41 15:38
8	08:42 16:06 08:42 16:06	07:47 17:12 07:47 17:12	06:37 18:13 06:34 18:15	06:14 20:18 07:02-07:22/20 20:20	05:04 21:19 05:02 21:21	04:26 22:06 04:26 22:06	04:45 21:59 04:46 21:58	05:41 21:01 05:43 21:01	06:43 19:42 07:06-07:20/14 19:42	07:44 18:22 07:46 18:22	07:50 16:11 07:52 16:11	08:42 15:38 08:43 15:38
9	08:41 16:10 08:40 16:12	07:45 17:16 07:42 17:19	06:34 18:17 06:31 18:19	06:12 20:22 07:04-07:19/15 20:24	05:02 21:23 05:00 21:25	04:25 22:07 04:25 22:08	04:46 21:56 04:48 21:55	05:43 21:06 05:45 21:04	06:45 19:36 07:04-07:17/9 19:36	07:46 18:17 07:48 18:17	07:53 16:07 07:55 16:07	08:43 15:38 08:44 15:38
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11	08:38 16:13 08:37 16:15	07:38 17:21 07:36 17:23	06:26 18:24 06:23 18:24	06:04 20:28 06:01 20:30	04:57 21:29 04:55 21:31	04:25 22:09 04:25 22:09	04:51 21:52 04:52 21:52	05:49 21:01 05:51 21:01	06:51 19:31 07:05-07:17/9 19:31	07:52 18:12 07:54 18:10	07:59 16:04 08:01 16:01	08:46 15:38 08:47 15:38
12	08:36 16:17 08:34 16:19	07:35 17:25 07:33 17:27	06:23 18:26 06:21 18:28	06:01 20:30 05:59 20:32	04:55 21:31 04:53 21:33	04:25 22:09 04:25 22:09	04:52 21:49 04:54 21:49	05:51 21:01 05:53 21:01	06:53 19:26 07:05-07:17/9 19:26	07:54 18:07 07:56 18:04	08:01 16:01 08:03 16:01	08:47 15:38 08:48 15:38
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14	08:32 16:23 08:30 16:26	07:28 17:32 07:26 17:34	06:15 18:32 06:13 18:34	05:54 20:36 05:51 20:39	04:50 21:36 04:48 21:38	04:25 22:10 04:25 22:10	04:57 21:46 04:59 21:44	05:57 21:01 05:59 21:01	06:59 19:18 07:05-07:17/9 19:18	08:01 17:59 08:03 17:57	08:07 15:56 08:09 15:54	08:49 15:39 08:50 15:40
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17	08:22 16:36 08:20 16:38	07:13 17:45 07:11 17:46	05:59 18:44 05:56 18:46	05:39 20:49 05:37 20:51	04:41 21:46 04:39 21:48	04:28 22:10 04:28 22:09	05:08 21:35 05:10 21:33	06:09 21:24 06:11 21:22	07:04-07:20/16 19:01 07:03-07:23/20 18:59	07:11 16:45 07:13 16:43	08:19 15:48 08:20 15:47	08:51 15:44 08:51 15:44
18	08:18 16:41 08:16 16:43	07:04 17:49 07:01 17:51	05:54 18:49 05:51 18:51	05:35 20:53 05:33 20:55	04:38 21:49 04:37 21:51	04:29 22:09 04:29 22:10	05:12 21:32 05:13 21:30	06:13 21:19 06:15 21:16	07:01-07:25/24 18:56 07:00-07:26/26 18:56	07:15 16:40 07:17 16:38	08:22 15:46 08:23 15:46	08:51 15:45 08:51 15:46
19	08:16 16:43	07:01 17:51	06:07 18:51	05:47 20:51	04:45 21:51	04:26 22:10	05:02 21:30	06:03 21:16	07:05 18:56	08:05 17:54	08:11 15:53	08:50 15:42
20	08:14 16:41	06:59 18:49	06:05 18:55	05:43 20:49	04:43 21:49	04:24 22:09	05:01 21:31	06:01 21:17	07:03 18:54	08:03 17:53	08:09 15:53	08:49 15:42
21	08:12 16:39	06:57 18:47	06:03 18:53	05:41 20:47	04:41 21:47	04:22 22:08	05:00 21:30	06:00 21:16	07:01 18:52	08:01 17:52	08:07 15:52	08:47 15:42
22	08:10 16:37	06:55 18:45	06:01 18:51	05:39 20:45	04:39 21:45	04:20 22:07	05:00 21:29	06:00 21:15	07:00 18:50	08:00 17:50	08:06 15:50	08:46 15:42
23	08:08 16:35	06:53 18:43	06:00 18:50	05:37 20:43	04:37 21:43	04:18 22:06	05:00 21:28	06:00 21:14	07:00 18:48	08:00 17:48	08:06 15:48	08:46 15:42
24	08:06 16:33	06:51 18:41	05:58 18:47	05:35 20:41	04:35 21:41	04:16 22:05	05:00 21:26	06:00 21:12	07:00 18:46	08:00 17:46	08:06 15:48	08:46 15:42
25	08:04 16:31	06:49 18:39	05:56 18:45	05:33 20:39	04:33 21:39	04:14 22:04	05:00 21:24	06:00 21:10	07:00 18:44	08:00 17:44	08:06 15:46	08:46 15:42
26	08:02 16:29	06:47 18:37	05:54 18:43	05:31 20:37	04:31 21:37	04:12 22:02	05:00 21:22	06:00 21:08	07:00 18:42	08:00 17:42	08:06 15:46	08:46 15:42
27	08:00 16:27	06:45 18:35	05:52 18:41	05:29 20:35	04:29 21:35	04:10 22:00	05:00 21:20	06:00 21:06	07:00 18:40	08:00 17:40	08:06 15:46	08:46 15:42
28	07:58 16:25	06:43 18:33	05:50 18:39	05:27 20:33	04:27 21:33	04:08 21:58	05:00 21:18	06:00 21:04	07:00 18:38	08:00 17:38	08:06 15:46	08:46 15:42
29	07:56 16:23	06:41 18:31	05:48 18:37	05:25 20:31	04:25 21:31	04:06 21:56	05:00 21:16	06:00 21:02	07:00 18:36	08:00 17:36	08:06 15:46	08:46 15:42
30	07:54 16:21	06:39 18:29	05:46 18:35	05:23 20:29	04:23 21:29	04:04 21:54	05:00 21:14	06:00 21:00	07:00 18:34	08:00 17:34	08:06 15:46	08:46 15:42
31	07:52 16:19	06:37 18:27	05:44 18:33	05:21 20:27	04:21 21:27	04:02 21:52	05:00 21:12	06:00 21:00	07:00 18:32	08:00 17:32	08:06 15:46	08:46 15:42
Potential sun hours	235	266	366	426	508	529	529	469	385	324	247	216
Sum of minutes with flicker	0	0	8	362	0	0	0	96	280	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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B24 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (95)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January	February	March	April	May	June
1	08:51 15:48	08:15 08:45-09:20/35 16:45 15:28-15:50/22	07:11 17:14-17:18/4 17:48	06:49 07:14-07:29/15 19:53 07:33-07:52/19	05:33 20:55	04:36 05:26-06:00/34 21:52
2	08:50 15:49	08:13 08:43-09:20/37 16:47 15:27-15:53/26	07:08 17:09-17:20/11 17:50	06:46 07:11-07:30/19 19:55 07:34-07:50/16	05:30 20:57	04:35 05:25-06:01/36 21:54
3	08:50 15:51	08:11 08:42-09:20/38 16:50 15:26-15:54/28	07:06 17:08-17:23/15 17:52	06:43 07:10-07:31/21 19:57 07:36-07:49/13	05:28 20:59	04:34 05:25-06:01/36 21:55
4	08:50 15:52	08:09 08:42-09:20/38 16:52 15:25-15:56/31	07:03 17:06-17:25/19 17:54	06:41 07:09-07:31/22 19:59 07:39-07:44/5	05:26 20:25-20:28/3 21:01	04:33 05:26-06:02/36 21:56 21:17-21:18/1
5	08:49 15:53	08:07 08:42-09:20/38 16:54 15:23-15:56/33	07:00 17:04-17:25/21 17:56	06:38 07:08-07:30/22 20:01	05:23 20:21-20:31/10 21:04	04:32 05:25-06:02/37 21:58 21:15-21:19/4
6	08:49 15:55	08:05 08:41-09:19/38 16:56 15:23-15:58/35	06:58 17:04-17:26/22 17:58	06:35 07:08-07:31/23 20:03	05:21 20:19-20:33/14 21:06	04:31 05:25-06:03/38 21:59 21:14-21:20/6
7	08:48 15:56	08:03 08:42-09:19/37 16:59 15:22-15:59/37	06:55 17:03-17:26/23 18:00	06:33 07:07-07:30/23 20:05	05:19 20:17-20:35/18 21:08	04:30 05:26-06:04/38 22:00 21:13-21:20/7
8	08:47 15:58	08:00 08:42-09:18/36 17:01 15:22-16:00/38	06:53 17:02-17:26/24 18:03	06:30 07:08-07:30/22 20:07	05:17 20:16-20:36/20 21:10	04:29 05:25-06:04/39 22:01 21:13-21:22/9
9	08:47 16:00	07:58 08:42-09:16/34 17:03 15:21-16:00/39	06:50 17:03-17:26/23 18:05	06:28 07:08-07:29/21 20:10	05:15 20:15-20:37/22 21:12	04:29 05:25-06:04/39 22:02 21:13-21:22/9
10	08:46 16:01	07:56 08:43-09:14/31 17:05 15:21-16:01/40	06:47 17:02-17:26/24 18:07	06:25 07:08-07:27/19 20:12	05:13 20:15-20:37/22 21:14	04:28 05:25-06:04/39 22:03 21:13-21:23/10
11	08:45 16:03	07:54 08:44-09:08/24 17:08 15:20-16:01/41	06:45 17:02-17:25/23 18:09	06:22 07:09-07:26/17 20:14	05:11 20:14-20:37/23 21:16	04:27 05:26-06:05/39 22:04 21:12-21:24/12
12	08:44 16:05	07:52 08:44-09:05/21 17:10 15:20-16:01/41	06:42 17:02-17:23/21 18:11	06:20 07:10-07:24/14 20:16	05:09 20:13-20:38/25 21:18	04:27 05:25-06:05/40 22:05 21:12-21:25/13
13	08:43 16:06	07:49 08:45-09:03/18 17:12 15:20-16:02/42	06:39 17:04-17:23/19 18:13	06:17 07:12-07:22/10 20:18	05:07 20:13-20:38/25 21:20	04:26 05:25-06:05/40 22:06 21:13-21:26/13
14	08:42 16:08	07:47 08:46-09:00/14 17:14 15:20-16:02/42	06:37 17:04-17:21/17 18:15	06:14 20:20	05:05 20:14-20:39/25 21:21	04:26 05:26-06:06/40 22:06 21:13-21:27/14
15	08:41 16:10	07:45 08:49-08:58/9 17:17 15:20-16:02/42	06:34 17:06-17:18/12 18:17	06:12 20:22	05:03 20:13-20:38/25 21:23	04:26 05:26-06:06/40 22:07 21:12-21:26/14
16	08:40 16:12	07:42 15:20-16:01/41 17:19	06:32 17:11-17:14/3 18:20	06:09 20:24	05:01 20:13-20:38/25 21:25	04:26 05:25-06:06/41 22:08 21:12-21:27/15
17	08:39 16:14	07:40 15:20-16:02/42 17:21	06:29 18:22	06:07 20:26	04:59 20:14-20:39/25 21:27	04:25 05:25-06:06/41 22:08 21:12-21:28/16
18	08:37 16:16	07:38 15:20-16:01/41 17:23	06:26 06:51-06:55/4 18:24	06:04 20:28	04:57 20:14-20:38/24 21:29	04:25 05:26-06:06/40 22:09 21:13-21:28/15
19	08:36 16:18	07:35 15:21-16:01/40 17:26	06:24 06:49-06:59/10 18:26	06:02 20:30	04:55 20:13-20:37/24 21:31	04:25 05:26-06:07/41 22:09 21:13-21:28/15
20	08:35 16:20	07:33 15:21-16:00/39 17:28	06:21 06:46-07:00/14 18:28	05:59 20:32	04:53 20:14-20:38/24 21:33	04:25 05:27-06:08/41 22:10 21:13-21:29/16
21	08:33 16:22	07:31 15:22-16:00/38 17:30	06:18 06:43-07:01/18 18:30	05:57 20:35	04:52 05:38-05:45/7 21:35 20:14-20:37/23	04:25 05:27-06:08/41 22:10 21:14-21:30/16
22	08:32 09:05-09:10/5 16:24	07:28 15:23-15:58/35 17:32	06:15 06:41-07:02/21 18:32	05:54 20:37	04:50 05:35-05:49/14 21:36 20:15-20:37/22	04:26 05:27-06:08/41 22:10 21:14-21:30/16
23	08:30 09:03-09:12/9 16:26	07:26 15:24-15:58/34 17:34	06:13 06:38-07:02/24 18:34	05:52 20:39	04:48 05:33-05:52/19 21:38 20:16-20:37/21	04:26 05:27-06:08/41 22:10 21:14-21:29/15
24	08:29 09:02-09:15/13 16:28	07:23 15:25-15:56/31 17:37	06:10 06:35-07:01/26 18:36	05:49 20:41	04:47 05:31-05:53/22 21:40 20:16-20:36/20	04:26 05:28-06:08/40 22:10 21:15-21:30/15
25	08:27 09:00-09:16/16 16:30	07:21 15:26-15:54/28 17:39	06:07 06:34-07:02/28 18:38	05:47 20:43	04:45 05:30-05:54/24 21:42 20:17-20:35/18	04:26 05:28-06:08/40 22:10 21:14-21:30/16
26	08:25 08:58-09:17/19 16:32	07:18 15:28-15:53/25 17:41	06:05 06:33-07:01/28 18:40	05:44 20:45	04:44 05:30-05:56/26 21:43 20:19-20:35/16	04:27 05:27-06:08/41 22:10 21:14-21:29/15
27	08:24 08:56-09:18/22 16:34	07:16 15:31-15:50/19 17:43	06:02 06:32-07:00/28 18:43	05:42 20:47	04:42 05:29-05:57/28 21:45 20:19-20:33/14	04:27 05:28-06:09/41 22:10 21:15-21:30/15
28	08:22 08:54-09:19/25 16:36	07:13 15:35-15:46/11 17:45	05:59 06:33-07:00/27 18:45	05:40 20:49	04:41 05:28-05:57/29 21:46 20:20-20:33/13	04:28 05:29-06:09/40 22:10 21:15-21:29/14
29	08:20 08:52-09:19/27 16:39		06:57 07:32-07:58/26 19:47	05:37 20:51	04:40 05:27-05:58/31 21:48 20:22-20:32/10	04:29 05:29-06:09/40 22:10 21:16-21:29/13
30	08:18 08:50-09:20/30 16:41	08:50-09:20/30 15:33-15:45/12	06:54 07:19-07:25/6 19:49 07:32-07:56/24	05:35 20:53	04:38 05:27-05:59/32 21:49 20:24-20:30/6	04:29 05:29-06:09/40 22:09 21:16-21:29/13
31	08:16 08:48-09:20/32 16:43	15:30-15:48/18	06:51 07:17-07:28/11 19:51 07:33-07:54/21		05:36 05:26-05:59/33 21:51	
Potential sun hours	235	266	366	426	508	528
Sum of minutes with flicker	228	1409	597	301	782	1517

Table 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:
10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B24 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (95)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	July	August	September	October	November	December
1	04:30 05:30-06:09/39 22:09 21:16-21:28/12	05:16 20:24-20:48/24 21:28	06:17 07:08-07:25/17 20:14	07:17 17:43-18:03/20 18:54	07:22 08:12-08:44/32 16:36 14:50-15:30/40	08:24 15:45
2	04:31 05:29-06:09/40 22:08 21:17-21:28/11	05:18 20:24-20:48/24 21:26	06:19 07:07-07:26/19 20:11	07:19 17:41-18:03/22 18:51	07:25 08:11-08:46/35 16:34 14:51-15:29/38	08:26 15:44
3	04:32 05:30-06:09/39 22:08 21:18-21:28/10	05:20 20:25-20:47/22 21:24	06:21 07:06-07:27/21 20:09	07:21 17:40-18:03/23 18:48	07:27 08:12-08:48/36 16:32 14:52-15:29/37	08:27 15:43
4	04:33 05:30-06:09/39 22:07 21:18-21:27/9	05:21 20:26-20:47/21 21:22	06:23 07:05-07:27/22 20:06	07:23 17:40-18:03/23 18:46	07:29 08:11-08:48/37 16:29 14:52-15:28/36	08:29 15:42
5	04:34 05:31-06:09/38 22:07 21:19-21:27/8	05:23 20:26-20:45/19 21:19	06:25 07:04-07:27/23 20:03	07:25 17:39-18:03/24 18:43	07:31 08:11-08:49/38 16:27 14:52-15:27/35	08:31 15:42
6	04:35 05:31-06:09/38 22:06 21:20-21:26/6	05:25 20:27-20:43/16 21:17	06:27 07:04-07:27/23 20:01	07:27 17:39-18:02/23 18:40	07:33 08:12-08:50/38 16:25 14:54-15:27/33	08:32 15:41
7	04:36 05:32-06:09/37 22:05 21:21-21:26/5	05:27 20:29-20:41/12 21:15	06:29 07:03-07:25/22 19:58	07:29 17:39-18:02/23 18:38	07:36 08:12-08:50/38 16:23 14:55-15:26/31	08:34 15:40
8	04:37 05:32-06:09/37 22:04 21:23-21:25/2	05:29 20:31-20:40/9 21:13	06:31 07:03-07:25/22 19:55 07:34-07:38/4	07:32 17:39-18:01/22 18:35	07:38 08:13-08:51/38 16:21 14:57-15:25/28	08:35 15:40
9	04:38 05:32-06:09/37 22:03	05:31 21:11	06:33 07:03-07:24/21 19:53 07:30-07:42/12	07:34 17:39-18:00/21 18:32	07:40 08:14-08:51/37 16:19 14:58-15:23/25	08:36 15:39
10	04:39 05:33-06:08/35 22:02	05:33 21:08	06:35 07:04-07:23/19 19:50 07:27-07:43/16	07:36 17:41-17:59/18 18:30	07:42 08:16-08:51/35 16:17 14:59-15:21/22	08:38 15:39
11	04:41 05:34-06:09/35 22:01	05:35 21:06	06:37 07:06-07:22/16 19:47 07:26-07:44/18	07:38 17:42-17:56/14 18:27	07:44 08:19-08:51/32 16:15 15:02-15:20/18	08:39 15:39
12	04:42 05:35-06:08/33 22:00	05:37 21:04	06:39 07:08-07:20/12 19:45 07:24-07:45/21	07:40 17:44-17:53/9 18:25	07:46 08:21-08:51/30 16:13 15:05-15:16/11	08:40 15:38
13	04:43 05:35-06:08/33 21:59 20:34-20:37/3	05:39 21:01	06:41 07:10-07:17/7 19:42 07:23-07:47/24	07:42 18:22	07:48 08:24-08:51/27 16:11	08:41 15:38
14	04:45 05:35-06:07/32 21:58 20:31-20:39/8	05:41 20:59	06:43 07:23-07:48/25 19:39	07:44 16:05-16:20/15 18:19	07:51 08:26-08:50/24 16:09	08:42 15:38
15	04:46 05:37-06:07/30 21:56 20:29-20:41/12	05:43 20:57	06:45 07:22-07:49/27 19:37	07:46 16:02-16:24/22 18:17	07:53 08:28-08:50/22 16:08	08:44 13:41-13:45/4 15:38
16	04:48 05:37-06:06/29 21:55 20:29-20:43/14	05:45 20:54	06:47 07:22-07:49/27 19:34	07:48 16:00-16:26/26 18:14	07:55 08:31-08:50/19 16:06	08:44 13:41-13:46/5 15:38
17	04:49 05:38-06:05/27 21:54 20:28-20:43/15	05:47 20:52	06:49 07:22-07:49/27 19:31	07:50 15:57-16:27/30 18:12	07:57 08:33-08:49/16 16:04	08:45 13:41-13:48/7 15:38
18	04:51 05:40-06:05/25 21:52 20:27-20:45/18	05:49 20:49	06:51 07:22-07:49/27 19:29	07:52 15:56-16:28/32 18:09	07:59 08:36-08:49/13 16:02	08:46 13:41-13:49/8 15:38
19	04:53 05:40-06:03/23 21:51 20:26-20:45/19	05:51 20:47	06:53 07:22-07:49/27 19:26	07:54 15:54-16:28/34 18:07	08:01 08:38-08:47/9 16:01	08:47 13:40-13:49/9 15:38
20	04:54 05:42-06:02/20 21:49 20:26-20:46/20	05:53 20:45	06:55 07:24-07:48/24 19:23	07:57 15:54-16:30/36 18:04	08:03 08:40-08:45/5 15:59	08:48 13:41-13:50/9 15:39
21	04:56 05:44-06:00/16 21:48 20:25-20:46/21	05:55 20:42	06:57 07:26-07:48/22 19:20	07:59 15:52-16:30/38 18:02	08:05 15:58	08:48 13:42-13:51/9 15:39
22	04:58 05:46-05:58/12 21:46 20:25-20:47/22	05:57 20:40	06:59 07:28-07:46/18 19:18	08:01 15:51-16:30/39 17:59	08:07 15:56	08:49 13:41-13:51/10 15:39
23	04:59 20:24-20:47/23 21:44	05:59 20:37	07:01 07:30-07:45/15 19:15	08:03 15:51-16:31/40 17:57	08:09 15:55	08:49 13:42-13:51/9 15:40
24	05:01 20:24-20:48/24 21:43	06:01 20:35	07:03 07:32-07:43/11 19:12	08:05 15:50-16:31/41 17:55	08:11 15:53	08:50 13:43-13:52/9 15:41
25	05:03 20:24-20:48/24 21:41	06:03 20:32	07:05 07:34-07:40/6 19:10	07:07 14:50-15:31/41 16:52	08:13 15:52	08:50 13:43-13:52/9 15:41
26	05:05 20:24-20:48/24 21:39	06:05 20:29	07:07 19:07	07:09 14:50-15:32/42 16:50	08:15 15:51	08:50 13:44-13:52/8 15:42
27	05:06 20:24-20:49/25 21:37	06:07 20:27	07:09 19:04	07:12 08:18-08:28/10 16:47 14:49-15:31/42	08:17 15:49	08:51 13:45-13:51/6 15:43
28	05:08 20:23-20:48/25 21:36	06:09 20:24	07:11 17:48-17:58/10 19:02	07:14 08:16-08:30/14 16:45 14:49-15:31/42	08:19 15:48	08:51 13:47-13:51/4 15:44
29	05:10 20:24-20:49/25 21:34	06:11 20:22	07:13 17:45-18:00/15 18:59	07:16 08:15-08:32/17 16:43 14:50-15:31/41	08:20 15:47	08:51 15:45
30	05:12 20:24-20:49/25 21:32	06:13 07:12-07:22/10 20:19	07:15 17:44-18:02/18 18:56	07:18 08:13-08:35/22 16:41 14:50-15:31/41	08:22 15:46	08:51 15:46
31	05:14 20:24-20:49/25 21:30	06:15 07:10-07:24/14 20:17		07:20 08:12-08:38/26 16:38 14:49-15:30/41		08:51 15:47
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	1129	171	638	974	915	106

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B25 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (96)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January		February		March	April	May		June	
1	08:51	12:20-13:08/48	08:15	12:45-13:02/17	07:11	06:49	05:33	06:41-06:48/7	04:36	20:15-20:53/38
	15:48		16:45		17:47	19:53	20:55		21:52	
2	08:50	12:19-13:08/49	08:13	12:51-12:58/7	07:08	06:46	05:30		04:35	20:15-20:53/38
	15:49		16:47		17:50	19:55	20:57		21:54	
3	08:50	12:20-13:09/49	08:11		07:06	06:43	05:28		04:34	20:14-20:53/39
	15:51		16:50		17:52	19:57	20:59		21:55	
4	08:50	12:20-13:09/49	08:09		07:03	06:41	05:26		04:33	20:14-20:53/39
	15:52		16:52		17:54	19:59	21:01		21:56	
5	08:49	12:21-13:09/48	08:07	16:04-16:10/6	07:00	06:38	05:23		04:32	20:15-20:54/39
	15:53		16:54		17:56	20:01	21:03		21:58	
6	08:49	12:22-13:10/48	08:05	16:00-16:15/15	06:58	06:35	05:21		04:31	20:15-20:54/39
	15:55		16:56		17:58	20:03	21:06		21:59	
7	08:48	12:22-13:11/49	08:02	15:58-16:17/19	06:55	06:33	05:19		04:30	20:14-20:54/40
	15:56		16:59		18:00	20:05	21:08		22:00	
8	08:47	12:22-13:11/49	08:00	15:56-16:19/23	06:53	06:30	05:17		04:29	20:15-20:55/40
	15:58		17:01		18:03	20:07	21:10		22:01	
9	08:47	12:23-13:11/48	07:58	15:55-16:20/25	06:50	06:27	05:15		04:29	20:15-20:55/40
	15:59		17:03		18:05	20:10	21:12		22:02	
10	08:46	12:23-13:12/49	07:56	15:54-16:22/28	06:47	06:25	05:13		04:28	20:15-20:56/41
	16:01		17:05		18:07	20:12	21:14		22:03	
11	08:45	12:24-13:12/48	07:54	15:53-16:22/29	06:45	06:22	05:11		04:27	20:15-20:55/40
	16:03		17:08		18:09	20:14	21:16		22:04	
12	08:44	12:24-13:12/48	07:52	15:53-16:23/30	06:42	06:20 06:46-06:52/6	05:08		04:27	20:15-20:56/41
	16:05		17:10		18:11	20:16	21:18		22:05	
13	08:43	12:24-13:13/49	07:49	15:53-16:24/31	06:39	06:17 06:43-06:56/13	05:06		04:26	20:16-20:57/41
	16:06		17:12		18:13	20:18	21:19		22:06	
14	08:42	12:25-13:13/48	07:47	15:52-16:24/32	06:37	06:14 06:40-06:57/17	05:04		04:26	20:16-20:57/41
	16:08		17:14		18:15	20:20	21:21		22:06	
15	08:41	12:25-13:13/48	07:45	15:52-16:25/33	06:34	06:12 06:38-06:59/21	05:03		04:26	20:15-20:57/42
	16:10		17:17		18:17	20:22	21:23		22:07	
16	08:40	12:26-13:13/47	07:42	15:51-16:25/34	06:31	06:09 06:37-06:59/22	05:01		04:26	20:16-20:57/41
	16:12		17:19		18:20	20:24	21:25		22:08	
17	08:39	12:26-13:13/47	07:40	15:51-16:25/34	06:29	06:07 06:36-07:00/24	04:59 20:30-20:35/5		04:25	20:16-20:57/41
	16:14		17:21		18:22	20:26	21:27		22:08	
18	08:37	12:27-13:14/47	07:38	15:51-16:25/34	06:26	06:04 06:35-07:00/25	04:57 20:26-20:39/13		04:25	20:16-20:57/41
	16:16		17:23		18:24	20:28	21:29		22:09	
19	08:36	12:28-13:13/45	07:35	15:52-16:25/33	06:23	06:02 06:34-07:01/27	04:55 20:23-20:41/18		04:25	20:16-20:58/42
	16:18		17:25		18:26	20:30	21:31		22:09	
20	08:35	12:28-13:13/45	07:33	15:51-16:24/33	06:21	05:59 06:34-07:01/27	04:53 20:22-20:43/21		04:25	20:16-20:58/42
	16:20		17:28		18:28	20:32	21:33		22:09	
21	08:33	12:29-13:14/45	07:31	15:52-16:24/32	06:18	05:57 06:33-07:00/27	04:52 20:20-20:44/24		04:25	20:17-20:59/42
	16:22		17:30		18:30	20:34	21:35		22:10	
22	08:32	12:30-13:13/43	07:28	15:53-16:23/30	06:15	05:54 06:34-07:00/26	04:50 20:20-20:46/26		04:26	20:17-20:59/42
	16:24		17:32		18:32	20:37	21:36		22:10	
23	08:30	12:31-13:13/42	07:26	15:53-16:22/29	06:13	05:52 06:33-06:59/26	04:48 20:19-20:47/28		04:26	20:17-20:59/42
	16:26		17:34		18:34	20:39	21:38		22:10	
24	08:29	12:31-13:12/41	07:23	15:55-16:21/26	06:10	05:49 06:33-06:59/26	04:47 20:18-20:48/30		04:26	20:17-20:59/42
	16:28		17:37		18:36	20:41	21:40		22:10	
25	08:27	12:32-13:12/40	07:21	15:55-16:19/24	06:07	05:47 06:34-06:59/25	04:45 20:17-20:49/32		04:26	20:18-20:59/41
	16:30		17:39		18:38	20:43	21:41		22:10	
26	08:25	12:34-13:12/38	07:18	15:58-16:18/20	06:05	05:44 06:34-06:57/23	04:44 20:17-20:50/33		04:27	20:18-20:59/41
	16:32		17:41		18:40	20:45	21:43		22:10	
27	08:24	12:36-13:11/35	07:16	16:00-16:14/14	06:02	05:42 06:35-06:56/21	04:42 20:16-20:50/34		04:27	20:18-21:00/42
	16:34		17:43		18:43	20:47	21:45		22:10	
28	08:22	12:37-13:10/33	07:13		05:59	05:40 06:36-06:55/19	04:41 20:16-20:50/34		04:28	20:18-20:59/41
	16:36		17:45		18:45	20:49	21:46		22:10	
29	08:20	12:39-13:09/30			06:57	05:37 06:37-06:54/17	04:40 20:15-20:51/36		04:29	20:19-21:00/41
	16:39				19:47	20:51	21:48		22:09	
30	08:18	12:40-13:07/27			06:54	05:35 06:39-06:52/13	04:38 20:15-20:52/37		04:29	20:19-21:00/41
	16:41				19:49	20:53	21:49		22:09	
31	08:16	12:42-13:05/23			06:51		04:37 20:15-20:52/37			
	16:43				19:51		21:51			
Potential sun hours	235		266		366	426	508		528	1220
Sum of minutes with flicker	1355		638		0	405	415			

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B25 - VESTAS V172-7.2 7200 172.0 !OI hub: 175.0 m (TOT: 261.0 m) (96)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	July		August		September		October		November		December	
1	04:30	20:19-21:00/41	05:16		06:17		07:17		07:22	15:24-15:51/27	08:24	12:06-12:55/49
	22:09		21:28		20:14		18:54		16:36		15:45	
2	04:31	20:19-21:00/41	05:18		06:19		07:19		07:25	15:25-15:50/25	08:26	12:06-12:54/48
	22:08		21:26		20:11		18:51		16:34		15:44	
3	04:32	20:20-21:00/40	05:19		06:21		07:21		07:27	15:26-15:48/22	08:27	12:06-12:55/49
	22:08		21:24		20:09		18:48		16:32		15:43	
4	04:33	20:20-21:01/41	05:21		06:23		07:23		07:29	15:28-15:47/19	08:29	12:07-12:55/48
	22:07		21:21		20:06		18:46		16:29		15:42	
5	04:34	20:21-21:01/40	05:23		06:25		07:25		07:31	15:30-15:44/14	08:31	12:07-12:56/49
	22:06		21:19		20:03		18:43		16:27		15:42	
6	04:35	20:21-21:01/40	05:25		06:27		07:27		07:33	15:35-15:40/5	08:32	12:08-12:57/49
	22:06		21:17		20:01		18:40		16:25		15:41	
7	04:36	20:21-21:01/40	05:27		06:29		07:29		07:35		08:34	12:08-12:56/48
	22:05		21:15		19:58		18:38		16:23		15:40	
8	04:37	20:22-21:01/39	05:29		06:31		07:31		07:38		08:35	12:09-12:57/48
	22:04		21:13		19:55		18:35		16:21		15:40	
9	04:38	20:22-21:01/39	05:31		06:33		07:34		07:40	12:21-12:29/8	08:36	12:09-12:57/48
	22:03		21:11		19:53		18:32		16:19		15:39	
10	04:39	20:22-21:00/38	05:33		06:35		07:36		07:42	12:16-12:33/17	08:38	12:10-12:58/48
	22:02		21:08		19:50		18:30		16:17		15:39	
11	04:41	20:22-21:00/38	05:35		06:37		07:38		07:44	12:14-12:37/23	08:39	12:10-12:58/48
	22:01		21:06		19:47		18:27		16:15		15:39	
12	04:42	20:23-21:01/38	05:37	06:49-06:58/9	06:39		07:40		07:46	12:11-12:39/28	08:40	12:10-12:58/48
	22:00		21:04		19:45		18:25		16:13		15:38	
13	04:43	20:24-21:00/36	05:39	06:46-07:00/14	06:41		07:42		07:48	12:10-12:41/31	08:41	12:11-12:59/48
	21:59		21:01		19:42		18:22		16:11		15:38	
14	04:45	20:24-21:00/36	05:41	06:44-07:02/18	06:43		07:44	16:35-16:44/9	07:51	12:09-12:42/33	08:42	12:11-12:59/48
	21:58		20:59		19:39		18:19		16:09		15:38	
15	04:46	20:24-20:59/35	05:43	06:43-07:03/20	06:45		07:46	16:31-16:48/17	07:53	12:08-12:43/35	08:43	12:12-13:00/48
	21:56		20:57		19:37		18:17		16:08		15:38	
16	04:48	20:25-20:59/34	05:45	06:42-07:04/22	06:47		07:48	16:29-16:51/22	07:55	12:07-12:45/38	08:44	12:12-13:00/48
	21:55		20:54		19:34		18:14		16:06		15:38	
17	04:49	20:25-20:59/34	05:47	06:41-07:05/24	06:49		07:50	16:27-16:52/25	07:57	12:06-12:45/39	08:45	12:13-13:01/48
	21:54		20:52		19:31		18:12		16:04		15:38	
18	04:51	20:27-20:59/32	05:49	06:39-07:04/25	06:51		07:52	16:25-16:52/27	07:59	12:05-12:46/41	08:46	12:14-13:01/47
	21:52		20:49		19:28		18:09		16:02		15:38	
19	04:53	20:27-20:58/31	05:51	06:39-07:05/26	06:53		07:54	16:24-16:53/29	08:01	12:06-12:48/42	08:47	12:13-13:01/48
	21:51		20:47		19:26		18:07		16:01		15:38	
20	04:54	20:28-20:57/29	05:53	06:38-07:05/27	06:55		07:57	16:24-16:54/30	08:03	12:05-12:48/43	08:48	12:14-13:02/48
	21:49		20:44		19:23		18:04		15:59		15:39	
21	04:56	20:29-20:56/27	05:55	06:38-07:05/27	06:57		07:59	16:23-16:54/31	08:05	12:05-12:49/44	08:48	12:14-13:02/48
	21:48		20:42		19:20		18:02		15:58		15:39	
22	04:57	20:30-20:56/26	05:57	06:38-07:05/27	06:59		08:01	16:22-16:54/32	08:07	12:05-12:50/45	08:49	12:15-13:03/48
	21:46		20:40		19:18		17:59		15:56		15:39	
23	04:59	20:31-20:54/23	05:59	06:38-07:05/27	07:01		08:03	16:22-16:55/33	08:09	12:05-12:50/45	08:49	12:15-13:03/48
	21:44		20:37		19:15		17:57		15:55		15:40	
24	05:01	20:33-20:53/20	06:01	06:38-07:04/26	07:03		08:05	16:21-16:55/34	08:11	12:04-12:51/47	08:50	12:16-13:04/48
	21:43		20:34		19:12		17:55		15:53		15:41	
25	05:03	20:34-20:50/16	06:03	06:38-07:04/26	07:05		07:07	15:21-15:55/34	08:13	12:04-12:51/47	08:50	12:16-13:04/48
	21:41		20:32		19:10		16:52		15:52		15:41	
26	05:05	20:37-20:48/11	06:05	06:39-07:03/24	07:07		07:09	15:20-15:54/34	08:15	12:04-12:51/47	08:50	12:17-13:05/48
	21:39		20:29		19:07		16:50		15:51		15:42	
27	05:06		06:07	06:38-07:01/23	07:09		07:12	15:21-15:54/33	08:17	12:04-12:52/48	08:51	12:17-13:05/48
	21:37		20:27		19:04		16:47		15:49		15:43	
28	05:08		06:09	06:39-07:00/21	07:11		07:14	15:21-15:54/33	08:19	12:05-12:53/48	08:51	12:18-13:06/48
	21:35		20:24		19:02		16:45		15:48		15:44	
29	05:10		06:11	06:41-06:58/17	07:13		07:16	15:22-15:54/32	08:20	12:06-12:54/48	08:51	12:18-13:06/48
	21:34		20:22		18:59		16:43		15:47		15:45	
30	05:12		06:13	06:43-06:56/13	07:15		07:18	15:22-15:53/31	08:22	12:06-12:54/48	08:51	12:19-13:07/48
	21:32		20:19		18:56		16:40		15:46		15:46	
31	05:14		06:15	06:46-06:52/6			07:20	15:23-15:52/29			08:51	12:19-13:07/48
	21:30		20:16				16:38				15:47	
Potential sun hours	529		469		384		324		248		216	
Sum of minutes with flicker		865		422		0	515		957		1491	

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B3 - VESTAS V172-7.2 7200 172.0 !O! hub: 175.0 m (TOT: 261.0 m) (103)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January	February	March	April	May	June
1	08:50 15:48	08:14 15:34-15:56/22 16:45	07:10 16:21-16:53/32 17:47	06:48 19:53	05:32 20:55	04:35 21:52
2	08:50 15:49	08:12 15:35-15:56/21 16:47	07:08 16:21-16:52/31 17:49	06:46 19:55	05:30 20:57	04:34 21:54
3	08:50 15:50	08:11 15:35-15:56/21 16:49	07:05 16:21-16:51/30 17:51	06:43 19:57	05:27 20:59	04:33 21:55
4	08:50 15:51	08:09 15:36-15:56/20 16:51	07:03 16:22-16:51/29 17:54	06:40 19:59	05:25 21:01	04:32 21:56
5	08:49 15:53	08:06 15:37-15:54/17 16:54	07:00 16:22-16:50/28 17:56	06:38 20:01	05:23 21:03	04:31 21:58
6	08:49 15:54	08:04 15:38-15:53/15 16:56	06:58 16:22-16:48/26 17:58	06:35 20:03	05:21 21:05	04:30 21:59
7	08:48 15:56	08:02 15:40-15:52/12 16:58	06:55 16:24-16:47/23 18:00	06:32 20:05	05:19 21:07	04:29 22:00
8	08:47 15:57	08:00 15:43-15:48/5 17:00	06:52 16:26-16:45/19 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 16:27-16:42/15 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 16:33-16:38/5 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 17:09-17:39/30 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 17:08-17:40/32 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 17:07-17:40/33 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 17:08-17:41/33 18:15	06:14 20:20	05:04 21:21	04:25 22:06
15	08:41 16:09	07:45 17:16	06:34 17:08-17:41/33 18:17	06:12 20:22	05:02 21:23	04:25 22:07
16	08:40 16:11	07:42 17:18	06:31 17:08-17:40/32 18:19	06:09 20:24	05:00 21:25	04:25 22:08
17	08:38 16:13	07:40 16:37-16:39/2 17:21	06:29 17:09-17:41/32 18:21	06:06 20:26	04:58 21:27	04:25 22:08
18	08:37 16:15	07:38 16:31-16:44/13 17:23	06:26 17:09-17:40/31 18:23	06:04 20:28	04:56 21:29	04:25 22:09
19	08:36 16:17	07:35 16:29-16:47/18 17:25	06:23 17:10-17:39/29 18:26	06:01 20:30	04:55 21:31	04:25 22:09
20	08:35 15:39-15:40/1 16:19	07:33 16:27-16:49/22 17:27	06:21 17:13-17:38/25 18:28	05:59 20:32	04:53 21:33	04:25 22:09
21	08:33 15:38-15:43/5 16:21	07:30 16:25-16:50/25 17:30	06:18 17:17-17:37/20 18:30	05:56 20:34	04:51 21:34	04:25 22:10
22	08:32 15:36-15:46/10 16:23	07:28 16:24-16:51/27 17:32	06:15 17:18-17:35/17 18:32	05:54 20:36	04:49 21:36	04:25 22:10
23	08:30 15:35-15:48/13 16:25	07:25 16:23-16:51/28 17:34	06:12 17:20-17:32/12 18:34	05:51 20:38	04:48 21:38	04:25 22:10
24	08:29 15:34-15:50/16 16:27	07:23 16:22-16:53/31 17:36	06:10 18:36	05:49 20:41	04:46 21:40	04:26 22:10
25	08:27 15:34-15:52/18 16:30	07:20 16:21-16:53/32 17:38	06:07 18:38	05:46 20:43	04:45 21:41	04:26 22:10
26	08:25 15:33-15:53/20 16:32	07:18 16:22-16:53/31 17:41	06:04 18:40	05:44 20:45	04:43 21:43	04:26 22:10
27	08:24 15:33-15:54/21 16:34	07:15 16:21-16:53/32 17:43	06:02 18:42	05:42 20:47	04:42 21:45	04:27 22:10
28	08:22 15:33-15:55/22 16:36	07:13 16:20-16:53/33 17:45	05:59 18:44	05:39 20:49	04:40 21:46	04:27 22:10
29	08:20 15:33-15:55/22 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09
30	08:18 15:33-15:55/22 16:40		06:54 19:48	05:34 20:53	04:38 21:49	04:29 22:09
31	08:16 15:34-15:56/22 16:43		06:51 19:51		04:37 21:51	
Potential sun hours	235	266	366	426	508	529
Sum of minutes with flicker	192	427	705	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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B3 - VESTAS V172-7.2 7200 172.0 !O! hub: 175.0 m (TOT: 261.0 m) (103)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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	17:47-18:19/32 16:36	07:22 15:45
2	04:30 22:08	05:17 21:26	06:19 20:11	07:19 18:51	17:47-18:18/31 16:33	07:24 15:44
3	04:31 22:08	05:19 21:23	06:21 20:08	07:21 18:48	17:47-18:16/29 16:31	07:27 15:43
4	04:32 22:07	05:21 21:21	06:23 20:06	07:23 18:45	17:07-17:19/12 17:48-18:15/27	07:29 16:29
5	04:33 22:06	05:23 21:19	06:25 20:03	07:25 18:43	17:04-17:21/17 17:48-18:11/23	07:31 16:27
6	04:34 22:06	05:25 21:17	06:27 20:00	07:27 18:40	17:01-17:23/22 17:49-18:08/19	07:33 16:25
7	04:35 22:05	05:27 21:15	06:29 19:58	07:29 18:37	16:59-17:24/25 17:50-18:06/16	07:35 16:23
8	04:36 22:04	05:29 21:13	06:31 19:55	07:31 18:35	16:58-17:25/27 17:53-18:03/10	07:37 16:21
9	04:38 22:03	05:31 21:10	06:33 19:52	07:33 18:32	16:56-17:25/29 16:55-17:25/30	07:40 16:19
10	04:39 22:02	05:33 21:08	06:35 19:50	07:35 18:29	16:55-17:25/30 16:54-17:25/31	07:42 16:17
11	04:40 22:01	05:35 21:06	06:37 19:47	07:37 18:27	16:54-17:25/31 16:53-17:24/31	07:44 16:15
12	04:42 22:00	05:37 21:04	06:39 19:44	07:40 18:24	16:54-17:26/32 16:53-17:24/31	07:46 16:13
13	04:43 21:59	05:39 21:01	06:41 19:42	07:42 18:22	16:54-17:26/32 16:53-17:26/33	07:48 16:11
14	04:44 21:58	05:41 20:59	06:43 19:39	07:44 18:19	16:53-17:26/33 16:52-17:25/32	07:50 16:09
15	04:46 21:56	05:43 20:56	06:45 19:36	07:46 18:17	16:53-17:25/32 16:53-17:24/31	07:53 16:07
16	04:47 21:55	05:45 20:54	06:47 19:34	07:48 18:14	16:53-17:24/31 16:54-17:25/31	07:55 16:05
17	04:49 21:54	05:47 20:52	06:49 19:31	07:50 18:11	16:54-17:25/31 16:54-17:24/30	07:57 16:04
18	04:50 21:52	05:49 20:49	06:51 19:28	07:52 18:09	16:54-17:24/30 16:54-17:22/28	07:59 16:02
19	04:52 21:51	05:51 20:47	06:53 19:26	07:54 18:06	16:54-17:22/28 16:55-17:21/26	08:01 16:00
20	04:54 21:49	05:53 20:44	06:55 19:23	07:56 18:04	16:55-17:21/26 16:56-17:20/24	08:03 15:59
21	04:55 21:48	05:55 20:42	06:57 19:20	07:58 18:01	16:56-17:20/24 16:57-17:18/21	08:05 15:57
22	04:57 21:46	05:57 20:39	06:59 19:17	08:01 17:59	16:57-17:18/21 17:02-17:14/12	08:07 15:56
23	04:59 21:44	05:59 20:37	07:01 19:15	08:03 17:57	16:59-17:16/17 17:02-17:14/12	08:09 15:54
24	05:00 21:43	06:01 20:34	07:03 19:12	08:05 17:54	17:02-17:14/12 17:03-17:15/11	08:11 15:53
25	05:02 21:41	06:03 20:32	07:05 19:09	08:07 17:52	17:03-17:15/11 17:04-17:16/10	08:13 15:51
26	05:04 21:39	06:05 20:29	07:07 19:07	08:09 17:50	17:04-17:16/10 17:05-17:17/9	08:15 15:50
27	05:06 21:37	06:07 20:27	07:09 19:04	08:11 17:48	17:05-17:17/9 17:06-17:18/8	08:17 15:49
28	05:08 21:35	06:09 20:24	07:11 19:01	08:13 17:46	17:06-17:18/8 17:07-17:19/7	08:19 15:48
29	05:10 21:33	06:11 20:21	07:13 18:59	08:15 17:44	17:07-17:19/7 17:08-17:20/6	08:21 15:47
30	05:11 21:32	06:13 20:19	07:15 18:56	08:17 17:42	17:08-17:20/6 17:09-17:21/5	08:23 15:46
31	05:13 21:30	06:15 20:16		08:19 17:40	17:09-17:21/5 17:10-17:22/4	08:25 15:45
Potential sun hours	529	469	385	324	247	216
Sum of minutes with flicker	0	0	288	729	331	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

Project:

Mezares_AB211223

Licensed user:

SIA Estonian, Latvian & Lithuanian environment

Vilandes 3-6

LV-1010 Riga

0037167242411

Anna / anna@environment.lv

Calculated:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B4 - VESTAS V172-7.2 7200 172.0 !O! hub: 175.0 m (TOT: 261.0 m) (104)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	January		February		March	April		May		June	
1	08:51	10:26-10:43/17	08:15	07:11		06:49		05:32		04:36	05:29-06:05/36
	15:48		16:45	17:47		19:53		20:55		21:52	
2	08:50	10:27-10:43/16	08:13	07:08		06:46		05:30		04:35	05:29-06:05/36
	15:49		16:47	17:50		19:55		20:57		21:54	
3	08:50	10:28-10:43/15	08:11	07:05		06:43		05:28		04:33	05:29-06:04/35
	15:50	09:29-09:31/2	16:49	17:52		19:57		20:59		21:55	
4	08:50	10:28-10:42/14	08:09	07:03		06:41		05:25		04:32	05:29-06:04/35
	15:52	09:28-09:32/4	16:52	17:54		19:59		21:01		21:56	
5	08:49	10:30-10:42/12	08:07	07:00		06:38		05:23		04:31	05:30-06:04/34
	15:53	09:28-09:34/6	16:54	17:56		20:01		21:03		21:58	
6	08:49	10:32-10:42/10	08:05	06:58		06:35		05:21		04:31	05:29-06:05/36
	15:55	09:27-09:35/8	16:56	17:58		20:03		21:06		21:59	
7	08:48	10:33-10:40/7	08:02	06:55		06:33		05:19		04:30	05:28-06:05/37
	15:56	09:26-09:36/10	16:58	18:00		20:05		21:08		22:00	
8	08:47	09:25-09:37/12	08:00	06:53	07:18-07:24/6	06:30		05:17	05:51-05:53/2	04:29	05:29-06:06/37
	15:58		17:01	18:02		20:07		21:10		22:01	
9	08:47	09:24-09:38/14	07:58	06:50	07:16-07:27/11	06:27	06:53-07:01/8	05:15	05:46-05:58/12	04:28	05:28-06:06/38
	15:59		17:03	18:05		20:09		21:12		22:02	
10	08:46	09:23-09:39/16	07:56	06:47	07:13-07:28/15	06:25	06:50-07:03/13	05:12	05:44-05:59/15	04:28	05:28-06:07/39
	16:01		17:05	18:07		20:12		21:14		22:03	
11	08:45	09:22-09:40/18	07:54	06:45	07:10-07:28/18	06:22	06:48-07:05/17	05:10	05:43-06:01/18	04:27	05:28-06:07/39
	16:03		17:07	18:09		20:14		21:16		22:04	
12	08:44	09:21-09:41/20	07:52	06:42	07:08-07:30/22	06:20	06:45-07:05/20	05:08	05:41-06:02/21	04:27	05:28-06:08/40
	16:04		17:10	18:11		20:16		21:18		22:05	
13	08:43	09:20-09:41/21	07:49	06:39	07:05-07:29/24	06:17	06:43-07:06/23	05:06	05:40-06:02/22	04:26	05:28-06:08/40
	16:06		17:12	18:13		20:18		21:20		22:06	
14	08:42	09:20-09:42/22	07:47	06:37	07:02-07:29/27	06:14	06:40-07:06/26	05:04	05:40-06:04/24	04:26	05:27-06:08/41
	16:08		17:14	18:15		20:20		21:21		22:06	
15	08:41	09:21-09:43/22	07:45	06:34	06:59-07:28/29	06:12	06:38-07:06/28	05:02	05:39-06:04/25	04:25	05:27-06:09/42
	16:10		17:16	18:17		20:22		21:23		22:07	
16	08:40	09:20-09:43/23	07:42	06:31	06:57-07:28/31	06:09	06:35-07:06/31	05:00	05:36-06:04/28	04:25	05:28-06:09/41
	16:12		17:19	18:19		20:24		21:25		22:08	
17	08:39	09:21-09:44/23	07:40	06:29	06:54-07:27/33	06:07	06:33-07:06/33	04:59	05:35-06:05/30	04:25	05:28-06:09/41
	16:14		17:21	18:22		20:26		21:27		22:08	
18	08:37	09:21-09:44/23	07:38	06:26	06:51-07:26/35	06:04	06:32-07:05/33	04:57	05:34-06:05/31	04:25	05:28-06:10/42
	16:15		17:23	18:24		20:28		21:29		22:09	
19	08:36	09:21-09:44/23	07:35	06:23	06:49-07:25/36	06:02	06:31-07:05/34	04:55	05:32-06:05/33	04:25	05:28-06:10/42
	16:17		17:25	18:26		20:30		21:31		22:09	
20	08:35	09:22-09:45/23	07:33	06:21	06:47-07:22/35	05:59	06:30-07:03/33	04:53	05:32-06:06/34	04:25	05:28-06:10/42
	16:19		17:28	18:28		20:32		21:33		22:10	
21	08:33	09:22-09:45/23	07:31	06:18	06:46-07:17/31	05:56	06:30-07:02/32	04:51	05:31-06:05/34	04:25	05:28-06:10/42
	16:21		17:30	18:30		20:34		21:35		22:10	
22	08:32	09:22-09:45/23	07:28	06:15	06:47-07:16/29	05:54	06:31-07:01/30	04:50	05:31-06:06/35	04:25	05:29-06:11/42
	16:24		17:32	18:32		20:37		21:36		22:10	
23	08:30	09:22-09:45/23	07:26	06:13	06:46-07:14/28	05:52	06:30-06:59/29	04:48	05:30-06:05/35	04:25	05:29-06:11/42
	16:26		17:34	18:34		20:39		21:38		22:10	
24	08:29	09:24-09:46/22	07:23	06:10	06:46-07:12/26	05:49	06:31-06:56/25	04:47	05:30-06:06/36	04:26	05:29-06:11/42
	16:28		17:36	18:36		20:41		21:40		22:10	
25	08:27	09:25-09:45/20	07:21	06:07	06:46-07:08/22	05:47	06:31-06:54/23	04:45	05:30-06:06/36	04:26	05:30-06:11/41
	16:30		17:39	18:38		20:43		21:42		22:10	
26	08:25	09:25-09:45/20	07:18	06:05	06:47-07:04/17	05:44	06:31-06:52/21	04:44	05:30-06:06/36	04:27	05:30-06:11/41
	16:32		17:41	18:40		20:45		21:43		22:10	
27	08:24	09:26-09:44/18	07:16	06:02	06:48-07:02/14	05:42	06:33-06:51/18	04:42	05:29-06:05/36	04:27	05:31-06:12/41
	16:34		17:43	18:42		20:47		21:45		22:10	
28	08:22	09:28-09:43/15	07:13	05:59	06:49-06:59/10	05:39	06:34-06:49/15	04:41	05:29-06:05/36	04:28	05:30-06:11/41
	16:36		17:45	18:45		20:49		21:46		22:10	
29	08:20	09:30-09:42/12		06:57		05:37	06:37-06:46/9	04:39	05:29-06:05/36	04:28	05:31-06:12/41
	16:38			19:47		20:51		21:48		22:10	
30	08:18	09:32-09:39/7		06:54		05:35		04:38	05:29-06:05/36	04:29	05:32-06:12/40
	16:41			19:49		20:53		21:49		22:09	
31	08:16			06:51				04:37	05:29-06:05/36		
	16:43			19:51				21:51			
Potential sun hours	235		266	366		426		508		529	
Sum of minutes with flicker	564		0	499		501		687		1186	

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B4 - VESTAS V172-7.2 7200 172.0 !O! hub: 175.0 m (TOT: 261.0 m) (104)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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

	July		August		September		October		November		December	
1	04:30	05:32-06:11/39	05:15	05:52-06:12/20	06:17	06:47-07:04/17	07:17	07:46-08:09/23	07:22		08:24	09:04-09:22/18
	22:09		21:28		20:14		18:53		16:36		15:45	
2	04:31	05:32-06:11/39	05:17	05:53-06:11/18	06:19	06:49-07:02/13	07:19	07:48-08:08/20	07:25		08:26	09:06-09:22/16
	22:08		21:26		20:11		18:51		16:34		15:44	
3	04:31	05:33-06:12/39	05:19	05:55-06:09/14	06:21	06:51-06:59/8	07:21	07:50-08:07/17	07:27		08:27	09:08-09:22/14
	22:08		21:24		20:09		18:48		16:31		15:43	
4	04:32	05:34-06:12/38	05:21	05:58-06:07/9	06:23		07:23	07:52-08:05/13	07:29		08:29	09:09-09:21/12
	22:07		21:21		20:06		18:45		16:29		15:42	
5	04:33	05:35-06:11/36	05:23		06:25		07:25	07:54-08:03/9	07:31		08:31	10:19-10:25/6
	22:07		21:19		20:03		18:43		16:27		15:41	09:11-09:21/10
6	04:34	05:35-06:11/36	05:25		06:27		07:27	07:56-07:58/2	07:33		08:32	10:18-10:28/10
	22:06		21:17		20:01		18:40		16:25		15:41	09:13-09:21/8
7	04:36	05:36-06:11/35	05:27		06:29		07:29		07:35		08:34	10:17-10:28/11
	22:05		21:15		19:58		18:38		16:23		15:40	09:14-09:20/6
8	04:37	05:37-06:11/34	05:29		06:31		07:31		07:38		08:35	10:17-10:30/13
	22:04		21:13		19:55		18:35		16:21		15:40	09:16-09:20/4
9	04:38	05:37-06:11/34	05:31		06:33		07:33		07:40		08:36	10:16-10:31/15
	22:03		21:11		19:53		18:32		16:19		15:39	09:18-09:20/2
10	04:39	05:37-06:12/35	05:33		06:35		07:36		07:42		08:38	10:16-10:32/16
	22:02		21:08		19:50		18:30		16:17		15:39	
11	04:40	05:37-06:12/35	05:35		06:37		07:38		07:44		08:39	10:16-10:33/17
	22:01		21:06		19:47		18:27		16:15		15:38	
12	04:42	05:38-06:13/35	05:37		06:39		07:40		07:46	09:03-09:10/7	08:40	10:17-10:34/17
	22:00		21:04		19:45		18:24		16:13		15:38	
13	04:43	05:38-06:14/36	05:39		06:41		07:42		07:48	09:01-09:14/13	08:41	10:17-10:35/18
	21:59		21:01		19:42		18:22		16:11		15:38	
14	04:45	05:38-06:14/36	05:41	06:43-06:55/12	06:43		07:44		07:51	09:00-09:15/15	08:43	10:17-10:35/18
	21:58		20:59		19:39		18:19		16:09		15:38	
15	04:46	05:38-06:14/36	05:43	06:41-06:57/16	06:45	07:40-07:49/9	07:46		07:53	08:58-09:16/18	08:44	10:17-10:36/19
	21:56		20:57		19:36		18:17		16:07		15:38	
16	04:48	05:39-06:15/36	05:45	06:40-06:58/18	06:47	07:37-07:51/14	07:48		07:55	08:58-09:18/20	08:44	10:17-10:37/20
	21:55		20:54		19:34		18:14		16:06		15:38	
17	04:49	05:38-06:15/37	05:47	06:38-06:58/20	06:49	07:36-07:53/17	07:50		07:57	08:58-09:18/20	08:45	10:18-10:37/19
	21:54		20:52		19:31		18:12		16:04		15:38	
18	04:51	05:39-06:16/37	05:49	06:37-06:59/22	06:51	07:34-07:55/21	07:52		07:59	08:58-09:20/22	08:46	10:18-10:38/20
	21:52		20:49		19:28		18:09		16:02		15:38	
19	04:52	05:39-06:15/36	05:51	06:36-07:03/27	06:53	07:33-07:59/26	07:54		08:01	08:57-09:20/23	08:47	10:19-10:39/20
	21:51		20:47		19:26		18:07		16:01		15:38	
20	04:54	05:40-06:16/36	05:53	06:36-07:05/29	06:55	07:33-08:01/28	07:57		08:03	08:57-09:20/23	08:48	10:18-10:39/21
	21:49		20:44		19:23		18:04		15:59		15:38	
21	04:56	05:40-06:16/36	05:55	06:35-07:06/31	06:57	07:32-08:01/29	07:59		08:05	08:57-09:20/23	08:48	10:19-10:40/21
	21:48		20:42		19:20		18:02		15:57		15:39	
22	04:57	05:41-06:16/35	05:57	06:35-07:07/32	06:59	07:31-08:01/30	08:01		08:07	08:58-09:21/23	08:49	10:19-10:40/21
	21:46		20:39		19:18		17:59		15:56		15:39	
23	04:59	05:41-06:16/35	05:59	06:35-07:08/33	07:01	07:31-08:04/33	08:03		08:09	08:58-09:21/23	08:49	10:20-10:41/21
	21:44		20:37		19:15		17:57		15:54		15:40	
24	05:01	05:43-06:16/33	06:01	06:35-07:08/33	07:03	07:31-08:07/36	08:05		08:11	08:58-09:21/23	08:50	10:21-10:41/20
	21:43		20:34		19:12		17:54		15:53		15:40	
25	05:02	05:43-06:15/32	06:03	06:35-07:09/34	07:05	07:33-08:08/35	07:07		08:13	08:58-09:21/23	08:50	10:21-10:41/20
	21:41		20:32		19:10		16:52		15:52		15:41	
26	05:04	05:44-06:15/31	06:05	06:35-07:08/33	07:07	07:36-08:10/34	07:09		08:15	08:59-09:22/23	08:50	10:21-10:41/20
	21:39		20:29		19:07		16:50		15:50		15:42	
27	05:06	05:46-06:15/29	06:07	06:37-07:08/31	07:09	07:38-08:10/32	07:12		08:17	09:00-09:22/22	08:51	10:22-10:41/19
	21:37		20:27		19:04		16:47		15:49		15:43	
28	05:08	05:47-06:14/27	06:09	06:39-07:07/28	07:11	07:40-08:10/30	07:14		08:19	09:00-09:22/22	08:51	10:23-10:42/19
	21:36		20:24		19:01		16:45		15:48		15:43	
29	05:10	05:50-06:14/24	06:11	06:41-07:07/26	07:13	07:42-08:10/28	07:16		08:20	09:01-09:22/21	08:51	10:23-10:42/19
	21:34		20:22		18:59		16:43		15:47		15:44	
30	05:12	05:51-06:14/23	06:13	06:43-07:06/23	07:15	07:44-08:09/25	07:18		08:22	09:02-09:22/20	08:51	10:24-10:43/19
	21:32		20:19		18:56		16:40		15:46		15:45	
31	05:14	05:52-06:13/21	06:15	06:45-07:05/20			07:20				08:51	10:25-10:43/18
	21:30		20:16				16:38				15:46	
Potential sun hours	529		469		385		324		247		216	
Sum of minutes with flicker	1051		529		465		84		384		567	

Table 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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B5 - VESTAS V172-7.2 7200 172.0 !O! hub: 175.0 m (TOT: 261.0 m) (105)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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
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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)	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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B7 - VESTAS V172-7.2 7200 172.0 !O! hub: 175.0 m (TOT: 261.0 m) (106)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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	04:36 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	08:49 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
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31	08:16 16:43		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:16		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:

10/04/2024 06:21/4.0.531

SHADOW - Calendar per WTG

WTG: B9 - VESTAS V172-7.2 7200 172.0 !O! hub: 175.0 m (TOT: 261.0 m) (107)

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
442	466	539	464	488	781	784	938	1,215	1,079	833	556	8,584

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	04:36 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	05:30 20:57	04:34 21:54	04:31 22:08	05:17 21:25	06:19 20:11	07:19 18:51	07:24 16:33	08:26 15:44
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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	07:58 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 16:26	07:25 17:34	06:13 18:34	05:51 20:38	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	08:28 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	05:47 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	04:27 22:10	05:04 21:39	06:05 20:29	07:07 19:07	07:09 16:50	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	08:50 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	08:18 15:48	08:51 15:43
29	08:20 16:38		06:56 19:46	05:37 20:51	04:39 21:48	04:28 22:09	05:10 21:33	06:11 20:21	07:13 18:59	07:16 16:43	08:20 15:47	08:51 15:44
30	08:18 16:41		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		06:51 19:51		04:37 21:51		05:13 21:30	06:15 20:16		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
		First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker