



Nuovo impianto per la produzione
di energia da fonte eolica
nei comuni di Sassari e Porto Torres
(SS)

INTEGRAZIONE WIND006.REL010 –
RELAZIONE SULLO SHADOW FLICKERING

Rev. 00

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Integrazione WIND006.REL010

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Sommario

1 Premessa.....	3
2 Recettori	4
3 Risultati	7
4 Conclusioni	10
<u>5</u> Appendice.....	11

1 Premessa

Si presenta la documentazione integrativa per la relazione REL010 Studio del tremolio delle ombre per il parco eolico proposto Sa Corredda. La richiesta chiede di integrare la relazione aggiungendo ai recettori anche i beni e siti culturali. Quindi è stata ripetuta la simulazione utilizzando gli stessi parametri esposti nella relazione REL010 ma includendo i beni e siti archeologici limitrofi (11km) al parco in proposta.

Si precisa, tuttavia, che nella relazione REL010 si è scelto di non includere questi beni e siti culturali poiché in essi non è presente nessun edificio adibito ad uso uffici o nessuna struttura nella quale degli eventuali lavoratori/abitanti siano costretti ad occupare una postazione fissa, pertanto un eventuale fenomeno di shadow flickering risulterebbe in un impatto nullo ai fini dell'analisi del impatto ambientale. Infatti le linee guida ("Hinweise zur Ermittlung und Beurteilung der optischen Immissionen von Windenergieanlagen" (WEA-Shattenwurf-Hinweise) specificano che gli ombreggiamenti diventano rilevanti solamente quando si considerano i recettori comportanti attività residenziali e lavorative stabili "è auspicabile – che l'effetto flickering - si mantenga al di sotto delle 30 ore/anno in presenza di attività lavorative statiche, tipo ufficio, scuole, ospedali, interessate direttamente da impatto".

Questa indicazione è legata al fatto che all'interno di un edificio adibito a uffici, le postazioni di lavoro sono generalmente fisse, pertanto se l'edificio con pareti finestrate risulta prospiciente all'impianto eolico, chiaramente lo sfarfallio delle ombre oltre certi limiti può costituire un problema per quei lavoratori che si ritrovano con le loro postazioni proprio davanti alle pareti vetrate. **Viceversa, lo sfarfallio diventa irrilevante per tutte i recettori di tipo non residenziale e dedicati ad attività che non richiedono un'assidua presenza in una stazione fissa**, come ad esempio le attività agricole e agropastorali, nelle quali il personale addetto si muove in continuazione all'interno dei terreni per svolgere le proprie mansioni. Le stesse considerazioni valgono per tutti i beni paesaggistici, manufatti, beni archeologici etc, i quali possono essere frequentati, ma in un contesto nel quale le persone devono, per natura dei luoghi, muoversi in continuazione e non stazionare fermi nello stesso punto per quantità considerevoli di ore.

Dovrebbero, quindi, essere considerati recettori quei beni e siti culturali nei quali delle persone devono svolgere dei lavori e/o passare del tempo in maniera continuativa in una certa posizione fissa rispetto alle turbine. Tale condizione non si verifica per nessuno dei recettori elencati di seguito e per i quali si è chiesto di effettuare il calcolo.

2 Recettori

Seguono in tabella 1 i recettori beni e siti culturali considerati.

Nome	Coordinata x (m)	Coordinata y (m)	Identificativo
P1 CASA CANTONIERA	1451577	4518693	
P2 GROTTA DELLA CICALA	1450735	4521238	
P3 GROTTA DELLA PANCHINA	1450688	4521176	
P4 GROTTA GATTABBIANO	1450664	4521145	
P5 GROTTA NAO NAO	1450406	4520993	
P6 NURAGHE	1451584	4516482	
P7 NURAGHE	1448995	4519517	
P8 NURAGHE	1451182	4516408	
P9 NURAGHE	1448335	4517523	
P10 NURAGHE	1443074	4514848	RB07
P11 nuraghe Biunisi	1443535	4518084	
P12 Nuraghe M. Elva	1441466	4519821	
P13 nuraghe Margone	1441557	4518215	
P14 nuraghe S. Elena	1441182	4518868	
P15 POZZO DI MONTE ALVARO	1443074	4514848	
P16 TORRE ARAGONESE	1449572	4521119	
P17 8761 cuile	1434447	4512982	
P18 8760 Cuile	1434864	4513762	
P19 9069 Cuile Intrada Noba	1434530	4509017	
P20 9070 Cuile lu Strampu	1434441	4514141	
P21 Cantoniera Juanne Abbas	1443256	4509050	
P22 CANTONIERA MONTEFERRO	1435385	4515668	
P23 Castello di Monteforte	1437443	4508055	
P24 CUILE	1432984	4521177	
P25 CUILE	1434449	4512985	
P26 CUILE	1434862	4513726	
P27 CUILE	1433811	4517067	
P28 CUILE BADINEDDA	1430565	4509890	
P29 CUILE CRABILEDU	1439189	4506425	
P30 CUILE DE S'ABE	1434706	4504573	
P31 CUILE ISSI	1439179	4521661	
P32 CUILE LETTIREGGIU	1432029	4507085	
P33 CUILE ORTAREDDU	1433483	4504437	
P34 CUILE PERA	1432538	4505781	
P35 CUILE PETRU SILIGU	1434216	4505474	
P36 CUILE PUDDIGHINU	1434216	4505474	
P37 CUILE S'ISTANTARIDA	1430616	4507027	
P38 CUILE SA CROZE	1431588	4506824	
P39 Cuile Tullu	1446557	4511789	
P40 DOMUS DE JANAS, INSEDIAMENTO DI NURE	1432978	4504606	
P41 Fortificazione di Rocca della Bagassa	1439228	4506994	
P42 Fortini Canaglia	1439319	4518267	
P43 GROTTA DI MONTE NURRA	1445484	4507891	
P44 Grotta I e II di Santa Giusta	1437615	4517883	

P45 INSEDIAMENTO	1449992	4505841
P46 MENHIR DI CABULA MUNTONES	1449498	4517395
P47 NECROPOLI A DOMUS DE JANAS DI LA CRUCCA	1450662	4513539
P48 NECROPOLI A DOMUS DE JANAS DI SU JAU	1451380	4514629
P49 NECROPOLI A DOMUS DE JANAS DI TANCA DELL'OLIVETO	1452082	4511891
P50 NURAGHE	1447768	4509569
P51 NURAGHE ALISPARGHE	1431973	4515798
P52 NURAGHE ANDRIA MANNU	1443926	4504077
P53 NURAGHE ANDRIA MANNU	1443821	4504101
P54 NURAGHE BADDE URPINU O SUSANNA	1449239	4514953
P55 NURAGHE BADDU E SETTI MATTIUZZU	1447983	4515838
P56 Nuraghe Bazzinitta	1443516	4510051
P57 NURAGHE BONASSAI	1444757	4502464
P58 Nuraghe Branca	1440278	4508868
P59 Nuraghe Cazzetteri	1443313	4511374
P60 NURAGHE CHERCHI	1451218	4516312
P61 NURAGHE CORONA DE CANE	1450415	4513767
P62 NURAGHE CUGULASU	1450781	4515860
P63 NURAGHE DRAGONASA	1438568	4503510
P64 NURAGHE DUOS NURAGHES	1433386	4520348
P65 Nuraghe e villaggio di Lampaggiu - Leppuzzu	1442870	4506886
P66 Nuraghe e villaggio di Monte reposu	1441064	4508477
P67 Nuraghe Elighe Longu I - Nuraghe Elighe Longu II	1443776	4507437
P68 NURAGHE ERTAS	1448939	4511841
P69 NURAGHE ERTAS, INSEDIAMENTO, VILLAGGIO	1448917	4511843
P70 NURAGHE FENOSU	1449415	4510890
P71 NURAGHE FERRO	1452314	4515898
P72 NURAGHE GIAGA DE MARE	1449597	4506910
P73 NURAGHE GIAGU DE SERRA	1446938	4505285
P74 Nuraghe Joanne Abbas	1442718	4508596
P75 NURAGHE LA FIGGA	1450986	4516425
P76 NURAGHE LI PADULAZZI	1449092	4507907
P77 NURAGHE LIORI	1447716	4511686
P78 Nuraghe Maccia de Spina	1436553	4516761
P79 NURAGHE MACCIA DI CASULA	1441777	4507321
P80 NURAGHE MANCINI	1437212	4518509
P81 NURAGHE MANDREBBAS	1448546	4506385
P82 NURAGHE MANU DE DONNA	1450126	4512095
P83 NURAGHE MARACAZZA	1431349	4515543
P84 NURAGHE MAZZOCCA	1448831	4511437
P85 NURAGHE MONTE PEDROSU	1440628	4502596
P86 NURAGHE MONTE UCCARI	1444794	4504197
P87 Nuraghe Palaonessa (San Nicola Mancineddu)	1437177	4519293
P88 NURAGHE PEDRA CALPIDA	1446381	4514657
P89 NURAGHE PEDRA CALPIDA	1446556	4515042
P90 Nuraghe Pedra Calpida - Lughiedda	1446376	4514661
P91 NURAGHE PICCA MOLA	1448777	4513283
P92 Nuraghe Pilotta	1446345	4516450
P93 NURAGHE PIREDDU	1446930	4513584

P94 NURAGHE PUNTA MANNA	1449292	4509486	
P95 Nuraghe Renuzzu - Pozzo d'Esse	1441014	4517822	RB05
P96 Nuraghe S. Osanna	1440656	4517601	RB04
P97 NURAGHE SA MISSA	1442657	4506338	
P98 NURAGHE SACCHEDDUZZU	1449923	4509440	
P99 Nuraghe San Nicola B	1438181	4519125	
P100 NURAGHE SANT'ANDRIA	1448704	4507227	
P101 NURAGHE SERRA OLZU	1448704	4507227	
P102 Nuraghe Siareddu - Nuraghe Donna Ricca	1441674	4510124	RB06
P103 NURAGHE TANCA SANTA BARBARA	1447848	4510695	
P104 Nuraghe Trobas	1440275	4517178	RB03
P105 NURAGHE UCCARI	1445064	4504771	
P106 NURAGHE UCCARI A	1447684	4513195	
P107 NURAGHE ZIU SANTONA	1445619	4503494	
P108 PORTO STORICO	1428699	4511304	
P109 SA CUILAZZA VECCIA	1438654	4506005	
P110 SITO DI CARABELLA	1447768	4509569	
P111 SITO DI FIUME SANTO	1442010	4521866	
P112 Sito di Funtanazza	1442038	4509165	
P113 Sito di Mandras	1446030	4513905	
P114 Sito di Pozzo d'Ussi	1437849	4514728	RB01
P115 SITO DI TIDULA SAN QUIRICO	1448635	4514924	
P116 TORRE BIANCA O AIRADU	1432615	4504559	
P117 TORRE DI BANTINE 'E SALE	1432155	4503355	
P118 TORRE NEGRA O SPAGNA	1432261	4504549	
P119 UT · Su Crabiore (Lu Crabioni) - pressi WTG01	1438117	4511634	RB02
P120 CUILE CAGABOI	1438464	4522704	
P121 CUILE ERCOLI	1434883	4522064	
P122 CUILE EZI	1436897	4525152	
P123 CUILE EZZI MANNU	1437707	4524783	
P124 CUILE GUARDIASECCA	1436469	4521904	
P125 CUILE MONTISCOBA	1435717	4522962	
P126 CUILE NANNI D'ORO	1435307	4526054	
P127 CUILE NANNI DOREDDU	1435224	4525407	
P128 CUILE ULINEDDU	1435124	4524360	
P129 CUILE UNIA	1434915	4524148	
P130 EDIFICIO EZI	1437161	4525074	
P131 NURAGHE CASTEDDU	1435999	4520323	
P132 NURAGHE ERCULI	1435190	4521790	
P133 NURAGHE (cod. BUR 3077)	1437770	4501839	
P134 NURAGHE (cod. BUR 3078)	1438315	4501942	
P135 NURAGHE (cod. BUR 3080)	1437770	4501294	
P136 NURAGHE (cod. BUR 3090)	1440911	4500101	
P137 NURAGHE (cod. BUR 3118)	1444286	4501086	
P138 NURAGHE NURAGATTOLU	1437703	4500433	
P139 NURAGHE SAN MARCO	1441797	4500435	

Tabella 1 Recettori considerati. Di questi solamente 7 (evidenziati in giallo) ricadono nell'area entro 2km dal parco in proposta. Le coordinate sono espresso in Gauss-boaga (3003).

Solamente 7 recettori, rinominati in seguito RB01, RB02, ricadono entro un'area di 2 km dal parco in proposta e subiscono ombreggiamento da parte delle turbine. I restanti recettori non subiscono ombreggiamento dalle turbine (ombreggiamento < 0.4 ore/anno) e di conseguenza non subiscono flickering.

3 Risultati

Si riporta in tabella 2 l'ombreggiatura subita dai recettori entro 2 km dal parco eolico in proposta.

Codice	Denominazione	Ombra (ore/anno)	max ombra giornaliera (min/giorno)	Giorni ombra (giorni/anno)	Altitudine	WTG più vicina	Distanza a WTG più vicina (m)
RB01	Sito di Pozzo d'Ussi	15	10	144	51	WTG00 3	1258
RB02	UT · Su Crabiore (Lu Crabioni)	144	56	306	281	WTG00 1	141
RB03	Nuraghe Trobas	0	0	0	91	WTG00 6	948
RB04	Nuraghe S. Osanna	0	0	0	26	WTG00 6	1463
RB05	Nuraghe Renuzzu - Pozzo d'Esse	0	0	0	46	WTG00 6	1820
RB06	Nuraghe Siareddu - Nuraghe Donna Ricca	0	0	0	70	WTG00 9	1946
RB07	NURAGHE	2	5	54	307	WTG01 4	1506

Tabella 2 Ombre subite dai recettori secondo il modello realistico (si veda la REL010). Di tutti i recettori solamente RB02 subisce un ombreggiatura rilevante (> 30 ore/anno).

Di questi recettori solamente RB02 ovvero UT Su Crabiore che si trova a circa 140m dalla WTG001 subisce un'ombra maggiore di 30 ore/anno, pari a 144 ore/anno. I restanti recettori subiscono un'ombreggiatura minore della soglia delle 30 ore/anno (fig.1).

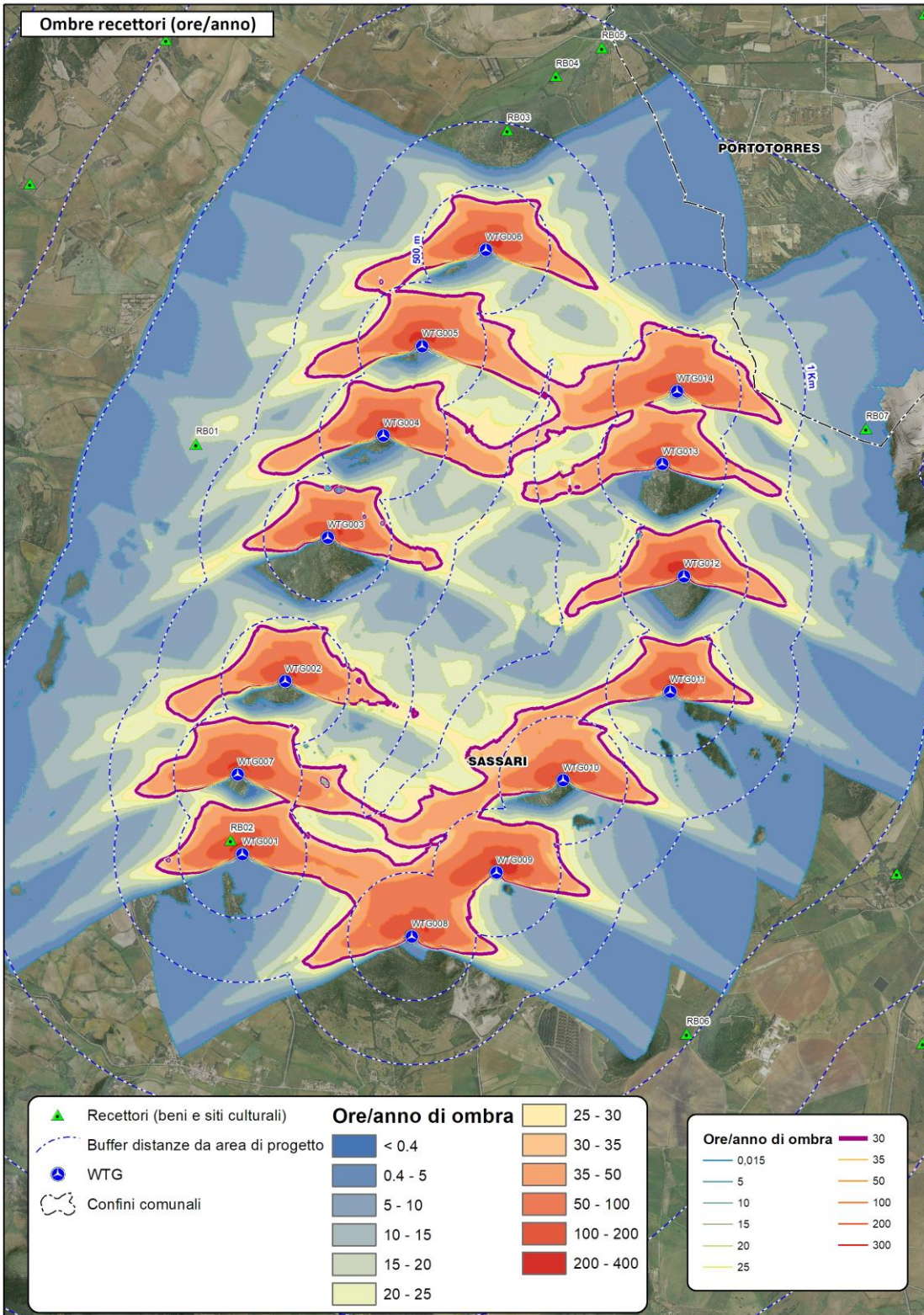


Figura 1 Ombreggiatura (ore di ombra all'anno) subita dai recettori. Solamente il recettore RB02 subisce un ombreggiatura maggiore di 30 ore/anno.

Perché si presenti il fenomeno di flickering è necessario che più pale proiettino la propria ombra contemporaneamente sullo stesso recettore. Questo non avviene per nessun recettore considerato

(si vedano i calendari tabulari in appendice), e per tanto non si presenta il fenomeno di flickering delle ombre su nessun recettore considerato in questo addendum.

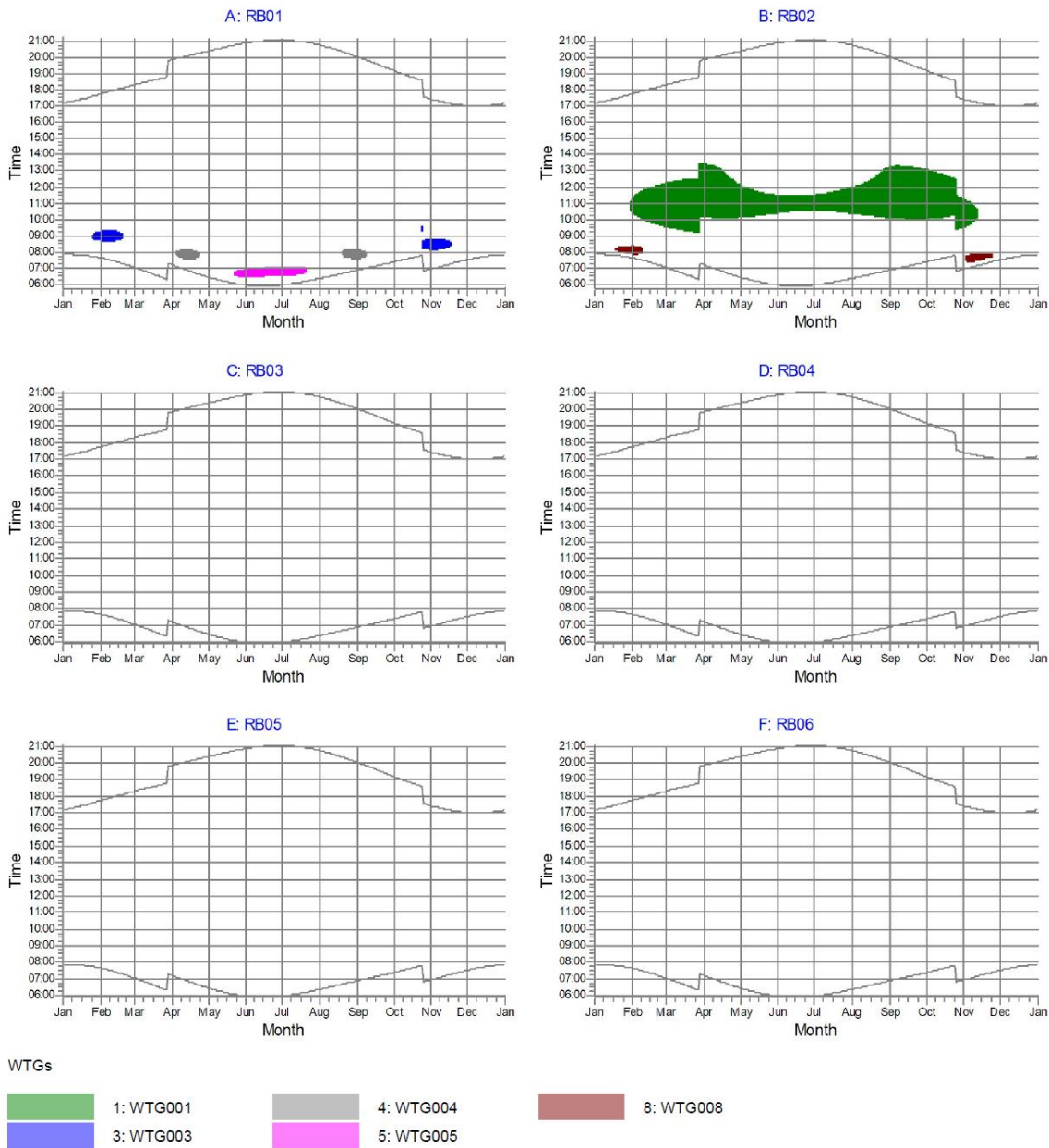


Figura 2 Calendario grafico ombreggiatura dei recettori ottenuto con la simulazione al caso peggiore (non realistica, si veda REL010). Il recettore RB02 subisce ombreggiatura principalmente da WTG001.

In figura 2 è possibile analizzare graficamente quali turbine determinano l'ombreggiatura sui recettori considerati. Ad esempio il recettore RB01 subisce l'ombra delle turbine WTG003, WTG004, WTG005. I calendar grafici per tutti i recettori sono presenti in appendice.

4 Conclusioni

Di tutti i recettori considerati solamente il RB02 subisce un'ombreggiatura maggiore di 30 ore/anno. L'ombra è determinata da una turbina per volta, pertanto il fenomeno di flickering non è rilevante per esso e di conseguenza nemmeno per i restanti beni e siti archeologici considerati (tabella 1). Inoltre nei recettori considerati non sono presenti strutture nelle quali degli eventuali lavoratori/abitanti siano costretti ad occupare una postazione fissa e pertanto l'impatto delle ombre è nullo per essi.

5 Appendice

Si riportano in appendice il calendario grafico e tabellare per ogni recettore e per ogni turbina. Le metodologie di lettura delle tabelle e dei grafici sono state esposte nei precedenti paragrafi e in relazione REL010.

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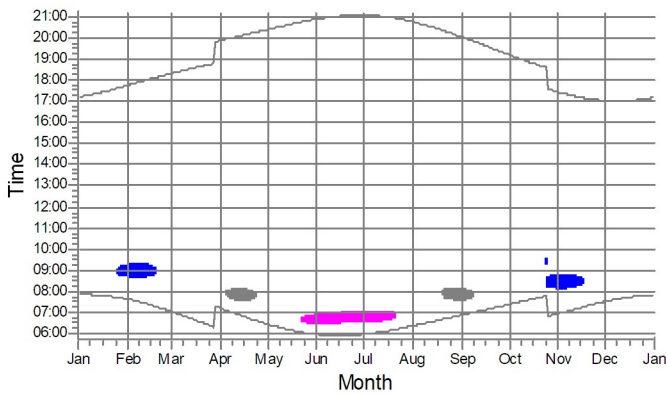
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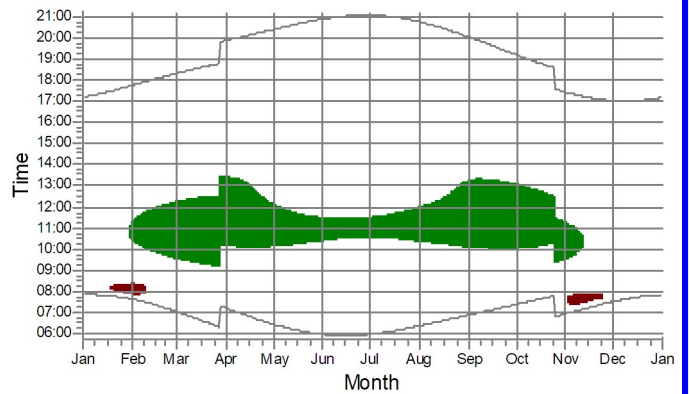
SHADOW - Calendar, graphical

Calculation: Sa Corredda beni

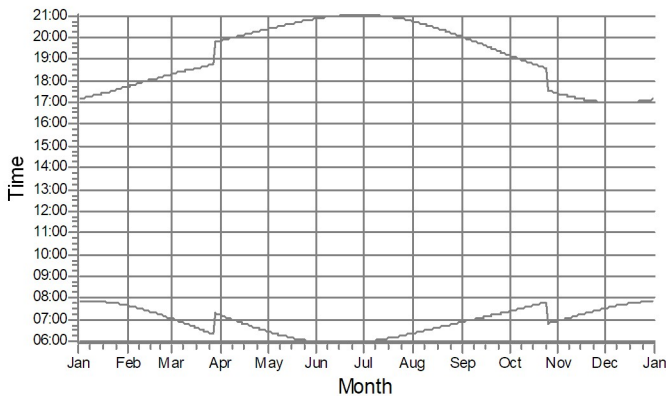
A: RB01



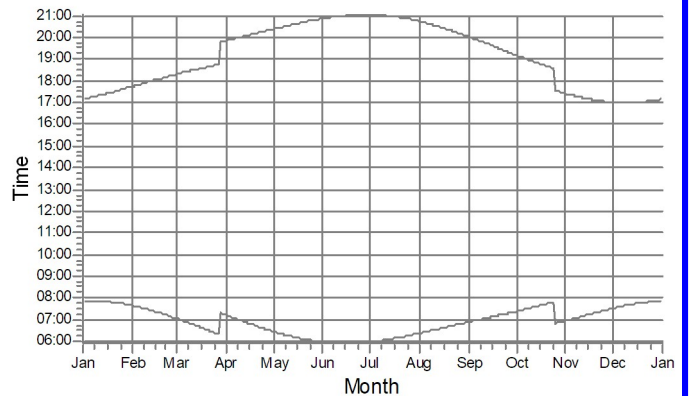
B: RB02



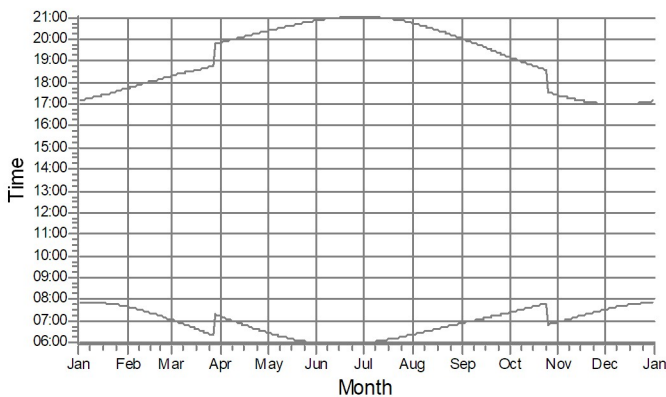
C: RB03



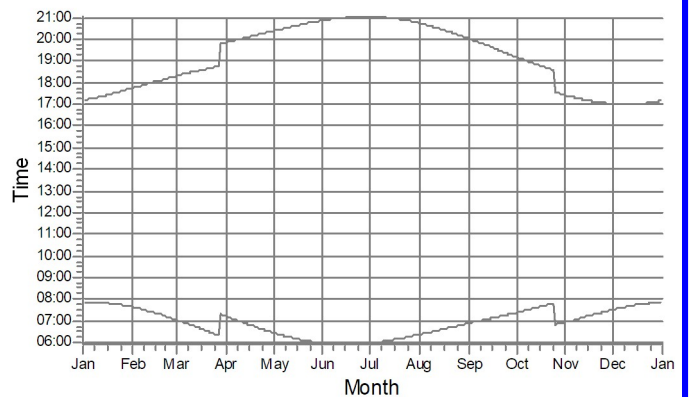
D: RB04



E: RB05



F: RB06



WTGs



1: WTG001

3: WTG003



4: WTG004

5: WTG005



8: WTG008

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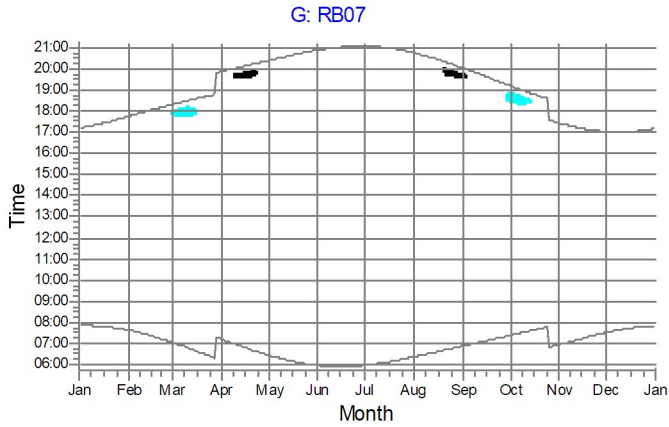
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SHADOW - Calendar, graphical

Calculation: Sa Corredda beni



WTGs



13: WTG013



14: WTG014

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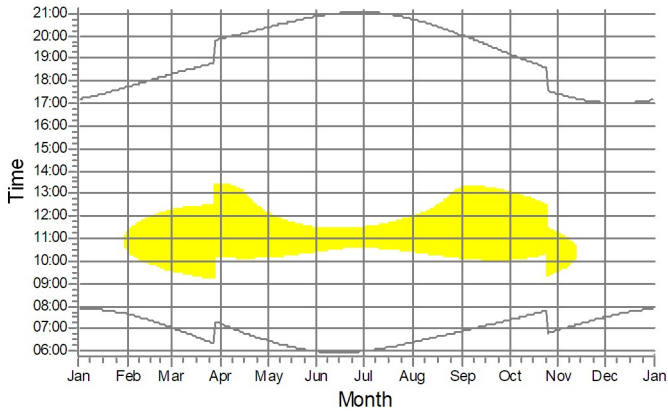
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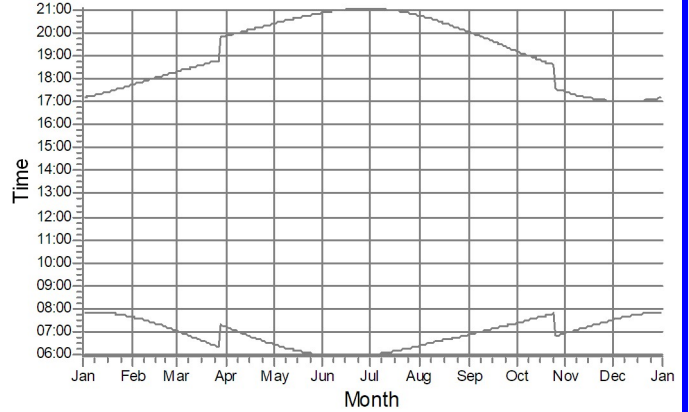
SHADOW - Calendar per WTG, graphical

Calculation: Sa Corredda beni

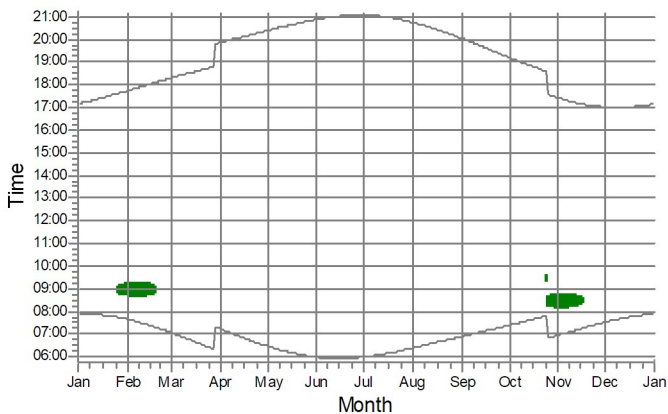
1: WTG001



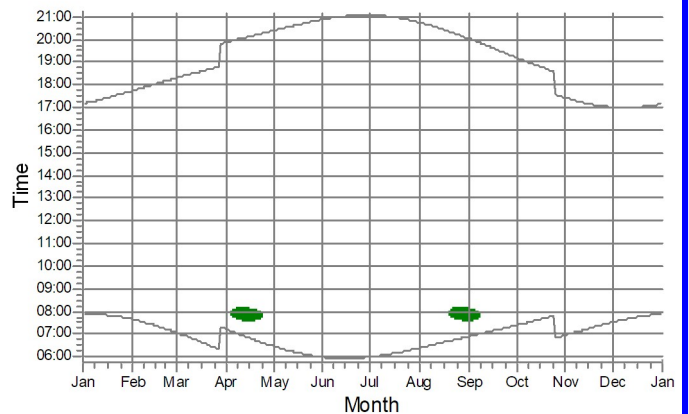
2: WTG002



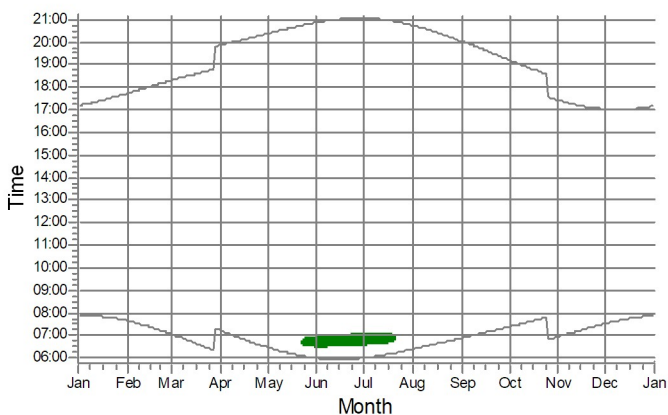
3: WTG003



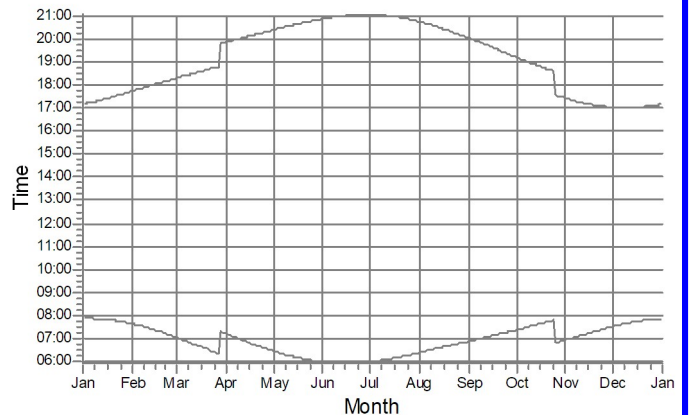
4: WTG004



5: WTG005



6: WTG006



Shadow receptors

A: RB01

B: RB02

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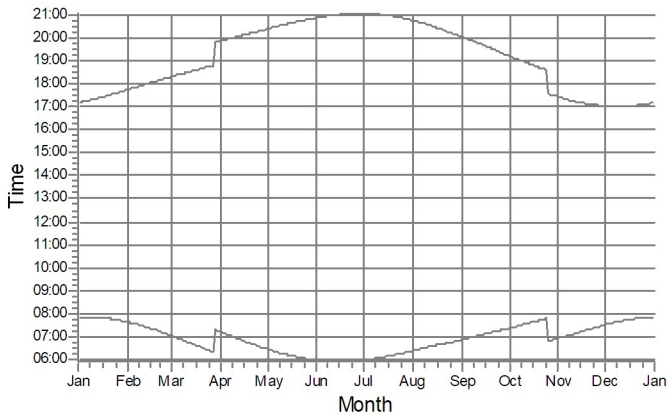
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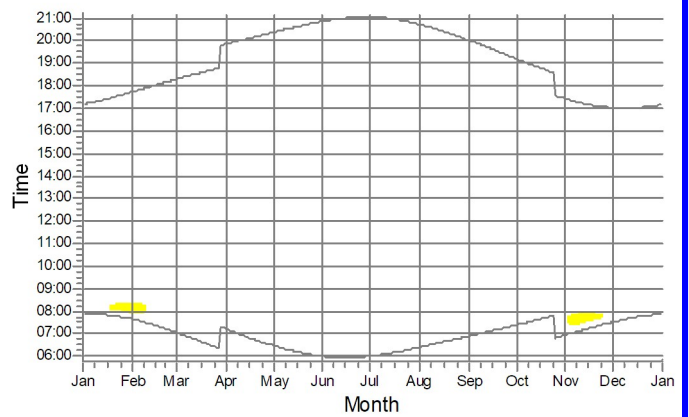
SHADOW - Calendar per WTG, graphical

Calculation: Sa Corredda beni

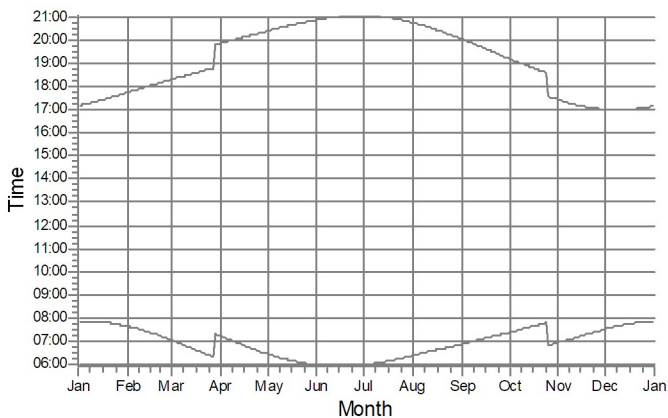
7: WTG007



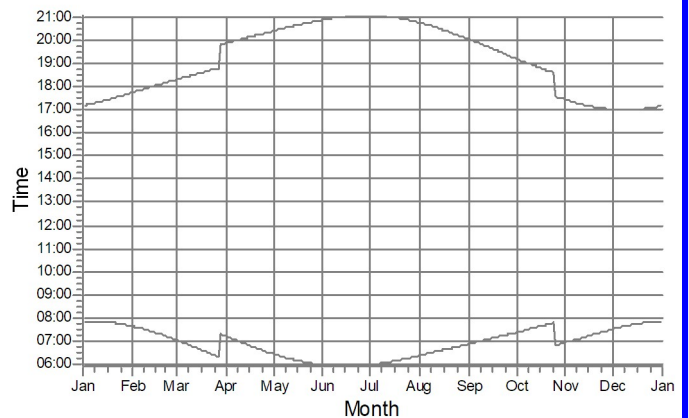
8: WTG008



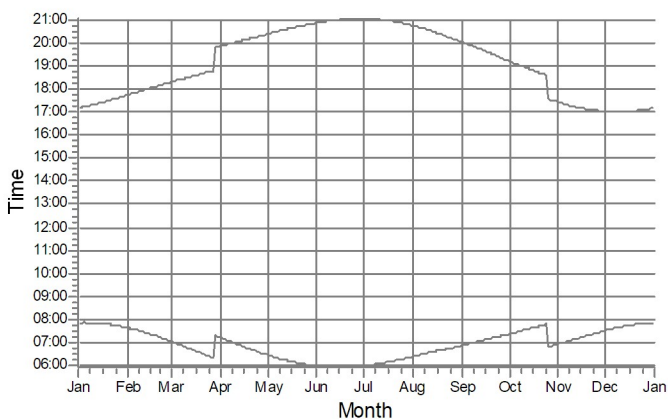
9: WTG009



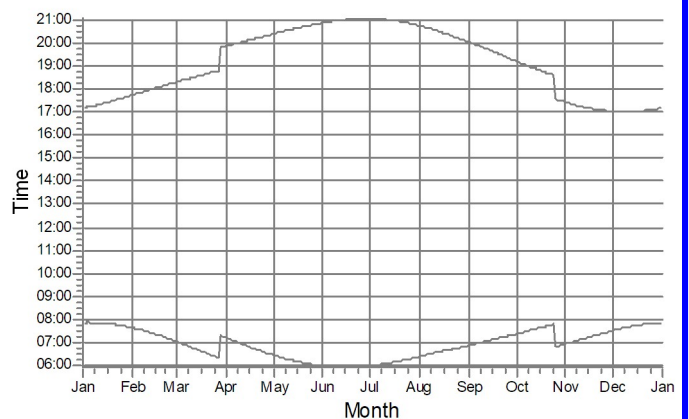
10: WTG010



11: WTG011



12: WTG012



Shadow receptors

B: RB02

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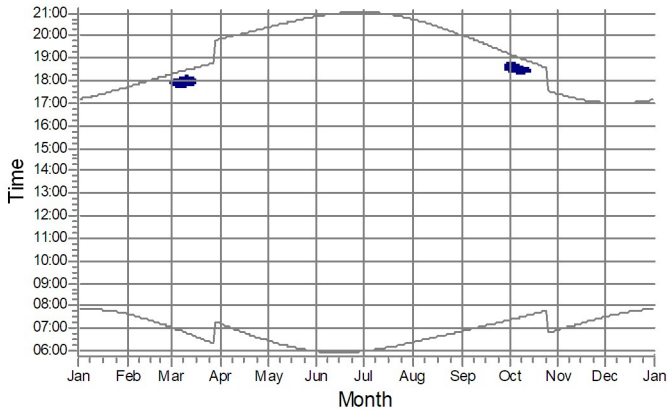
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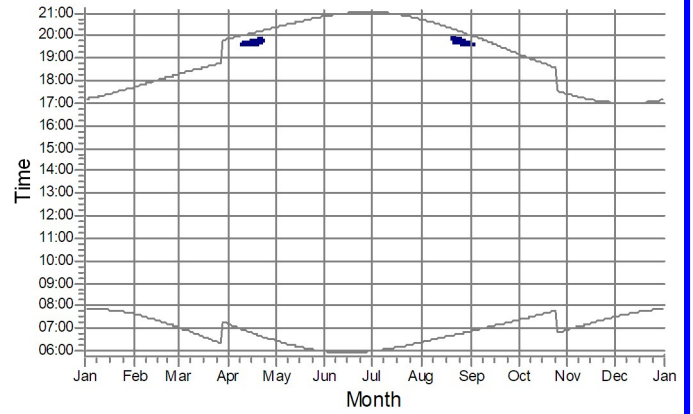
SHADOW - Calendar per WTG, graphical

Calculation: Sa Corredda beni

13: WTG013



14: WTG014



Shadow receptors



G: RB07

Project:
Sa Correda Rev2

Printed/Page
26/01/2022 12:52 / 1

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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 1 - WTG001

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGERO]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	07:52 17:10	07:39 10:33-11:13/40 17:44	07:03 09:38-12:12/154 18:18	07:13 10:15-13:23/188 19:51	06:27 10:13-12:03/110 20:23	05:59 10:28-11:25/57 20:52
2	07:52 17:11	07:38 10:28-11:17/49 17:45	07:01 09:37-12:12/155 18:19	07:11 10:14-13:22/188 19:52	06:26 10:13-12:01/108 20:24	05:58 10:29-11:25/56 20:53
3	07:52 17:12	07:37 10:24-11:21/57 17:46	07:00 09:36-12:14/158 18:20	07:09 10:14-13:22/188 19:53	06:25 10:14-11:59/105 20:25	05:58 10:29-11:24/55 20:53
4	07:52 17:13	07:36 10:21-11:25/64 17:48	06:58 09:35-12:14/159 18:21	07:08 10:14-13:21/187 19:54	06:23 10:14-11:57/103 20:26	05:58 10:30-11:24/54 20:54
5	07:52 17:13	07:35 10:18-11:28/70 17:49	06:57 09:34-12:16/162 18:22	07:06 10:14-13:21/187 19:55	06:22 10:15-11:55/100 20:27	05:57 10:31-11:24/53 20:55
6	07:52 17:14	07:33 10:16-11:31/75 17:50	06:55 09:33-12:16/163 18:23	07:04 10:13-13:20/187 19:57	06:21 10:15-11:54/99 20:28	05:57 10:31-11:23/52 20:55
7	07:52 17:15	07:32 10:14-11:34/80 17:51	06:54 09:32-12:16/164 18:24	07:03 10:13-13:18/185 19:58	06:20 10:15-11:51/96 20:29	05:57 10:32-11:23/51 20:56
8	07:52 17:16	07:31 10:11-11:37/86 17:53	06:52 09:31-12:18/167 18:26	07:01 10:13-13:18/185 19:59	06:19 10:15-11:49/94 20:30	05:56 10:32-11:23/51 20:57
9	07:52 17:17	07:30 10:09-11:40/91 17:54	06:50 09:30-12:18/168 18:27	07:00 10:12-13:16/184 20:00	06:18 10:16-11:48/92 20:31	05:56 10:33-11:23/50 20:57
10	07:51 17:18	07:29 10:06-11:41/95 17:55	06:49 09:30-12:19/169 18:28	06:58 10:13-13:15/182 20:01	06:16 10:16-11:46/90 20:32	05:56 10:34-11:23/49 20:58
11	07:51 17:19	07:28 10:05-11:44/99 17:56	06:47 09:28-12:20/172 18:29	06:56 10:12-13:13/181 20:02	06:15 10:17-11:45/88 20:33	05:56 10:34-11:23/49 20:58
12	07:51 17:20	07:27 10:03-11:46/103 17:58	06:46 09:27-12:20/173 18:30	06:55 10:11-13:10/179 20:03	06:14 10:17-11:43/86 20:34	05:56 10:35-11:23/48 20:59
13	07:51 17:22	07:25 10:01-11:49/108 17:59	06:44 09:27-12:21/174 18:31	06:53 10:12-13:08/176 20:04	06:13 10:18-11:42/84 20:35	05:56 10:35-11:23/48 20:59
14	07:50 17:23	07:24 09:59-11:50/111 18:00	06:42 09:26-12:21/175 18:32	06:52 10:11-13:04/173 20:05	06:12 10:18-11:41/83 20:36	05:56 10:36-11:23/47 21:00
15	07:50 17:24	07:23 09:58-11:52/114 18:01	06:41 09:25-12:21/176 18:33	06:50 10:12-13:00/168 20:06	06:11 10:18-11:39/81 20:37	05:55 10:36-11:23/47 21:00
16	07:50 17:25	07:21 09:56-11:54/118 18:02	06:39 09:24-12:22/178 18:34	06:49 10:11-12:56/165 20:07	06:10 10:19-11:38/79 20:38	05:55 10:36-11:23/47 21:01
17	07:49 17:26	07:20 09:54-11:55/121 18:04	06:37 09:23-12:22/179 18:35	06:47 10:12-12:51/159 20:08	06:09 10:20-11:38/78 20:39	05:56 10:37-11:23/46 21:01
18	07:49 17:27	07:19 09:53-11:57/124 18:05	06:36 09:22-12:22/180 18:36	06:46 10:11-12:46/155 20:09	06:08 10:21-11:36/75 20:40	05:56 10:37-11:23/46 21:01
19	07:48 17:28	07:17 09:52-11:59/127 18:06	06:34 09:22-12:23/181 18:38	06:44 10:12-12:42/150 20:10	06:08 10:21-11:35/74 20:41	05:56 10:37-11:23/46 21:02
20	07:48 17:29	07:16 09:50-12:00/130 18:07	06:33 09:21-12:23/182 18:39	06:43 10:11-12:37/146 20:11	06:07 10:21-11:34/73 20:42	05:56 10:37-11:23/46 21:02
21	07:47 17:31	07:15 09:49-12:02/133 18:08	06:31 09:20-12:23/183 18:40	06:41 10:12-12:34/142 20:12	06:06 10:22-11:33/71 20:43	05:56 10:37-11:23/46 21:02
22	07:46 17:32	07:13 09:47-12:03/136 18:10	06:29 09:20-12:24/184 18:41	06:40 10:11-12:29/138 20:13	06:05 10:23-11:33/70 20:44	05:56 10:38-11:24/46 21:02
23	07:46 17:33	07:12 09:46-12:05/139 18:11	06:28 09:19-12:24/185 18:42	06:38 10:12-12:26/134 20:14	06:04 10:23-11:31/68 20:44	05:56 10:38-11:24/46 21:02
24	07:45 17:34	07:10 09:44-12:05/141 18:12	06:26 09:18-12:23/185 18:43	06:37 10:12-12:23/131 20:15	06:04 10:23-11:30/67 20:45	05:57 10:38-11:24/46 21:03
25	07:44 17:35	07:09 09:43-12:07/144 18:13	06:24 09:19-12:24/185 18:44	06:35 10:12-12:19/127 20:16	06:03 10:25-11:30/65 20:46	05:57 10:38-11:24/46 21:03
26	07:44 17:37	07:07 09:41-12:08/147 18:14	06:23 09:18-12:24/186 18:45	06:34 10:12-12:16/124 20:17	06:02 10:25-11:29/64 20:47	05:57 10:38-11:25/47 21:03
27	07:43 17:38	07:06 09:41-12:09/148 18:15	06:21 09:17-12:23/186 18:46	06:33 10:13-12:14/121 20:19	06:02 10:26-11:29/63 20:48	05:58 10:38-11:25/47 21:03
28	07:42 17:39	07:04 09:39-12:10/151 18:17	06:19 09:17-12:24/187 18:47	06:31 10:12-12:10/118 20:20	06:01 10:26-11:28/62 20:49	05:58 10:38-11:25/47 21:03
29	07:41 17:40		07:18 10:16-13:23/187 19:48	06:30 10:13-12:08/115 20:21	06:00 10:26-11:27/61 20:50	05:58 10:38-11:26/48 21:03
30	07:40 17:41		07:16 10:15-13:23/188 19:49	06:29 10:13-12:06/113 20:22	06:00 10:27-11:27/60 20:50	05:59 10:38-11:26/48 21:03
31	07:39 17:43	10:38-11:06/28	07:14 10:16-13:23/187 19:50		05:59 10:28-11:26/58 20:51	
Potential sun hours	298	298	370	398	448	451
Sum of minutes with flicker	28	3001	5432	4776	2507	1465

Table 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:

Sa Correda Rev2

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26/01/2022 12:52 / 2

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25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 1 - WTG001

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3,85	4,78	5,80	6,92	8,25	9,91	10,91	9,92	8,15	6,40	4,83	3,92

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
350	372	406	451	293	316	135	192	496	654	575	406	496	744	564	382	6.832

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

	July		August		September		October		November		December	
1	05:59	10:38-11:27/49	06:23	10:28-11:55/87	06:53	10:11-13:12/181	07:23	10:06-13:00/174	06:57	09:37-11:11/94	07:31	
	21:03		20:44		20:01		19:11		17:25		17:01	
2	06:00	10:38-11:27/49	06:24	10:27-11:56/89	06:54	10:11-13:13/182	07:24	10:07-12:58/171	06:58	09:39-11:08/89	07:32	
	21:03		20:43		20:00		19:09		17:24		17:01	
3	06:00	10:38-11:28/50	06:25	10:27-11:57/90	06:55	10:10-13:14/184	07:25	10:07-12:57/170	06:59	09:42-11:06/84	07:33	
	21:02		20:42		19:58		19:08		17:23		17:00	
4	06:01	10:38-11:28/50	06:26	10:26-11:59/93	06:56	10:10-13:15/185	07:26	10:07-12:56/169	07:00	09:44-11:04/80	07:34	
	21:02		20:41		19:56		19:06		17:21		17:00	
5	06:01	10:38-11:29/51	06:27	10:26-12:01/95	06:57	10:10-13:15/185	07:27	10:08-12:55/167	07:01	09:46-11:01/75	07:35	
	21:02		20:40		19:55		19:05		17:20		17:00	
6	06:02	10:37-11:29/52	06:28	10:25-12:02/97	06:58	10:09-13:16/187	07:28	10:08-12:54/166	07:03	09:49-10:58/69	07:36	
	21:02		20:38		19:53		19:03		17:19		17:00	
7	06:03	10:37-11:30/53	06:29	10:25-12:04/99	06:59	10:09-13:16/187	07:29	10:08-12:52/164	07:04	09:52-10:55/63	07:37	
	21:02		20:37		19:52		19:01		17:18		17:00	
8	06:03	10:38-11:31/53	06:30	10:23-12:05/102	07:00	10:09-13:16/187	07:30	10:09-12:51/162	07:05	09:56-10:51/55	07:38	
	21:01		20:36		19:50		19:00		17:17		17:00	
9	06:04	10:37-11:31/54	06:31	10:23-12:06/103	07:01	10:08-13:16/188	07:31	10:09-12:49/160	07:06	09:59-10:47/48	07:39	
	21:01		20:35		19:48		18:58		17:16		17:00	
10	06:05	10:37-11:32/55	06:32	10:22-12:08/106	07:02	10:07-13:15/188	07:32	10:10-12:48/158	07:07	10:05-10:43/38	07:40	
	21:00		20:33		19:47		18:56		17:15		17:00	
11	06:05	10:37-11:33/56	06:33	10:22-12:10/108	07:03	10:07-13:15/188	07:33	10:10-12:47/157	07:09	10:11-10:37/26	07:41	
	21:00		20:32		19:45		18:55		17:14		17:00	
12	06:06	10:36-11:33/57	06:34	10:21-12:12/111	07:04	10:07-13:14/187	07:34	10:12-12:46/154	07:10		07:42	
	21:00		20:31		19:43		18:53		17:13		17:00	
13	06:07	10:36-11:35/59	06:35	10:21-12:14/113	07:05	10:07-13:14/187	07:35	10:12-12:45/153	07:11		07:42	
	20:59		20:30		19:41		18:52		17:12		17:00	
14	06:07	10:36-11:36/60	06:36	10:20-12:16/116	07:06	10:06-13:14/188	07:37	10:13-12:43/150	07:12		07:43	
	20:59		20:28		19:40		18:50		17:11		17:00	
15	06:08	10:36-11:37/61	06:37	10:20-12:19/119	07:07	10:06-13:13/187	07:38	10:14-12:41/147	07:13		07:44	
	20:58		20:27		19:38		18:49		17:10		17:01	
16	06:09	10:35-11:37/62	06:38	10:19-12:21/122	07:08	10:06-13:13/187	07:39	10:14-12:40/146	07:14		07:45	
	20:57		20:25		19:36		18:47		17:09		17:01	
17	06:10	10:34-11:38/64	06:39	10:19-12:24/125	07:09	10:06-13:12/186	07:40	10:15-12:38/143	07:16		07:45	
	20:57		20:24		19:35		18:46		17:09		17:01	
18	06:11	10:34-11:39/65	06:40	10:18-12:26/128	07:10	10:06-13:11/185	07:41	10:16-12:36/140	07:17		07:46	
	20:56		20:23		19:33		18:44		17:08		17:01	
19	06:11	10:34-11:40/66	06:41	10:18-12:29/131	07:11	10:06-13:11/185	07:42	10:17-12:35/138	07:18		07:46	
	20:56		20:21		19:31		18:43		17:07		17:02	
20	06:12	10:33-11:40/67	06:42	10:17-12:32/135	07:12	10:06-13:10/184	07:43	10:19-12:34/135	07:19		07:47	
	20:55		20:20		19:30		18:41		17:06		17:02	
21	06:13	10:33-11:42/69	06:43	10:17-12:36/139	07:13	10:06-13:09/183	07:44	10:20-12:32/132	07:20		07:48	
	20:54		20:18		19:28		18:40		17:06		17:03	
22	06:14	10:32-11:43/71	06:44	10:16-12:39/143	07:14	10:06-13:09/183	07:45	10:21-12:30/129	07:21		07:48	
	20:53		20:17		19:26		18:38		17:05		17:03	
23	06:15	10:32-11:44/72	06:45	10:16-12:43/147	07:15	10:06-13:08/182	07:46	10:22-12:28/126	07:23		07:49	
	20:52		20:15		19:25		18:37		17:04		17:04	
24	06:16	10:32-11:45/73	06:46	10:15-12:47/152	07:16	10:06-13:07/181	07:48	10:23-12:26/123	07:24		07:49	
	20:52		20:14		19:23		18:35		17:04		17:04	
25	06:17	10:31-11:46/75	06:47	10:14-12:50/156	07:17	10:06-13:06/180	06:49	09:25-11:25/120	07:25		07:50	
	20:51		20:12		19:21		17:34		17:03		17:05	
26	06:17	10:31-11:48/77	06:47	10:14-12:54/160	07:18	10:06-13:05/179	06:50	09:26-11:23/117	07:26		07:50	
	20:50		20:11		19:20		17:33		17:03		17:05	
27	06:18	10:30-11:48/78	06:48	10:13-12:58/165	07:19	10:06-13:04/178	06:51	09:28-11:21/113	07:27		07:50	
	20:49		20:09		19:18		17:31		17:02		17:06	
28	06:19	10:29-11:49/80	06:49	10:13-13:02/169	07:20	10:06-13:03/177	06:52	09:29-11:19/110	07:28		07:51	
	20:48		20:08		19:16		17:30		17:02		17:07	
29	06:20	10:29-11:50/81	06:50	10:12-13:05/173	07:21	10:06-13:02/176	06:53	09:31-11:17/106	07:29		07:51	
	20:47		20:06		19:14		17:29		17:02		17:07	
30	06:21	10:28-11:52/84	06:51	10:12-13:08/176	07:22	10:06-13:01/175	06:54	09:33-11:15/102	07:30		07:51	
	20:46		20:04		19:13		17:27		17:01		17:08	
31	06:22	10:28-11:53/85	06:52	10:11-13:10/179	06:52	10:06-13:00/174	06:56	09:35-11:13/98	07:31		07:51	
	20:45		20:03				17:26				17:09	
Potential sun hours	458		427		375		346		299		289	0
Sum of minutes with flicker		1978		3928		5512		4400		721		

Table 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:

Sa Correda Rev2

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26/01/2022 12:52 / 3

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25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 2 - WTG002

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3,85	4,78	5,80	6,92	8,25	9,91	10,91	9,92	8,15	6,40	4,83	3,92

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
350	372	406	451	293	316	135	192	496	654	575	406	496	744	564	382	6.832

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:39 17:44	07:03 18:18	07:13 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 19:11	06:57 17:25	07:31 17:01
2	07:52 17:11	07:38 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:53	06:00 21:03	06:24 20:43	06:54 20:00	07:24 19:09	06:58 17:24	07:32 17:01
3	07:52 17:12	07:37 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:02	06:25 20:42	06:55 19:58	07:25 19:08	06:59 17:22	07:33 17:00
4	07:52 17:13	07:36 17:48	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 19:06	07:00 17:21	07:34 17:00
5	07:52 17:13	07:35 17:49	06:57 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:01 21:02	06:27 20:40	06:57 19:55	07:27 19:05	07:01 17:20	07:35 17:00
6	07:52 17:14	07:33 17:50	06:55 18:23	07:04 19:57	06:21 20:28	05:57 20:55	06:02 21:02	06:28 20:38	06:58 19:53	07:28 19:03	07:03 17:19	07:36 17:00
7	07:52 17:15	07:32 17:51	06:54 18:24	07:03 19:58	06:20 20:29	05:57 20:56	06:03 21:02	06:29 20:37	06:59 19:52	07:29 19:01	07:04 17:18	07:37 17:00
8	07:52 17:16	07:31 17:53	06:52 18:26	07:01 19:59	06:19 20:30	05:56 20:57	06:03 21:01	06:30 20:36	07:00 19:50	07:30 19:00	07:05 17:17	07:38 17:00
9	07:52 17:17	07:30 17:54	06:50 18:27	07:00 20:00	06:18 20:31	05:56 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:31 18:58	07:06 17:16	07:39 17:00
10	07:51 17:18	07:29 17:55	06:49 18:28	06:58 20:01	06:16 20:32	05:56 20:58	06:05 21:01	06:32 20:33	07:02 19:47	07:32 18:56	07:07 17:15	07:40 17:00
11	07:51 17:19	07:28 17:56	06:47 18:29	06:56 20:02	06:15 20:33	05:56 20:58	06:05 21:00	06:33 20:32	07:03 19:45	07:33 18:55	07:09 17:14	07:41 17:00
12	07:51 17:20	07:27 17:57	06:46 18:30	06:55 20:03	06:14 20:34	05:56 20:59	06:06 21:00	06:34 20:31	07:04 19:43	07:34 18:53	07:10 17:13	07:42 17:00
13	07:51 17:21	07:25 17:59	06:44 18:31	06:53 20:04	06:13 20:35	05:56 20:59	06:07 20:59	06:35 20:30	07:05 19:41	07:35 18:52	07:11 17:12	07:42 17:00
14	07:50 17:23	07:24 18:00	06:42 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:07 20:59	06:36 20:28	07:06 19:40	07:37 18:50	07:12 17:11	07:43 17:00
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16	07:50 17:25	07:21 18:02	06:39 18:34	06:49 20:07	06:10 20:38	05:55 21:01	06:09 20:57	06:38 20:25	07:08 19:36	07:39 18:47	07:14 17:09	07:45 17:01
17	07:49 17:26	07:20 18:04	06:37 18:35	06:47 20:08	06:09 20:39	05:55 21:01	06:10 20:57	06:39 20:24	07:09 19:35	07:40 18:46	07:16 17:09	07:45 17:01
18	07:49 17:27	07:19 18:05	06:36 18:36	06:46 20:09	06:08 20:40	05:56 21:01	06:10 20:56	06:40 20:23	07:10 19:33	07:41 18:44	07:17 17:08	07:46 17:01
19	07:48 17:28	07:17 18:06	06:34 18:38	06:44 20:10	06:07 20:41	05:56 21:02	06:11 20:56	06:41 20:21	07:11 19:31	07:42 18:43	07:18 17:07	07:47 17:02
20	07:48 17:29	07:16 18:07	06:33 18:39	06:43 20:11	06:07 20:42	05:56 21:02	06:12 20:55	06:42 20:20	07:12 19:30	07:43 18:41	07:19 17:06	07:47 17:02
21	07:47 17:31	07:15 18:08	06:31 18:40	06:41 20:12	06:06 20:43	05:56 21:02	06:13 20:54	06:43 20:18	07:13 19:28	07:44 18:40	07:20 17:06	07:48 17:03
22	07:46 17:32	07:13 18:09	06:29 18:41	06:40 20:13	06:05 20:44	05:56 21:02	06:14 20:53	06:44 20:17	07:14 19:26	07:45 18:38	07:21 17:05	07:48 17:03
23	07:46 17:33	07:12 18:11	06:28 18:42	06:38 20:14	06:04 20:44	05:56 21:02	06:15 20:53	06:44 20:15	07:15 19:25	07:46 18:37	07:23 17:04	07:49 17:04
24	07:45 17:34	07:10 18:12	06:26 18:43	06:37 20:15	06:04 20:45	05:57 21:03	06:16 20:52	06:45 20:14	07:16 19:23	07:48 18:35	07:24 17:04	07:49 17:04
25	07:44 17:35	07:09 18:13	06:24 18:44	06:35 20:16	06:03 20:46	05:57 21:03	06:16 20:51	06:46 20:12	07:17 19:21	07:49 17:34	07:25 17:03	07:50 17:05
26	07:44 17:37	07:07 18:14	06:23 18:45	06:34 20:17	06:02 20:47	05:57 21:03	06:17 20:50	06:47 20:11	07:18 19:20	07:50 17:33	07:26 17:03	07:50 17:05
27	07:43 17:38	07:06 18:15	06:21 18:46	06:33 20:19	06:01 20:48	05:58 21:03	06:18 20:49	06:48 20:09	07:19 19:18	07:51 17:31	07:27 17:02	07:50 17:06
28	07:42 17:39	07:04 18:16	06:19 18:47	06:31 20:20	06:01 20:49	05:58 21:03	06:19 20:48	06:49 20:08	07:20 19:16	07:52 17:30	07:28 17:02	07:51 17:07
29	07:41 17:40		07:18 19:48	06:30 20:21	06:00 20:50	05:58 21:03	06:20 20:47	06:50 20:06	07:21 19:14	07:53 17:29	07:29 17:02	07:51 17:07
30	07:40 17:41		07:16 19:49	06:29 20:22	06:00 20:50	05:59 21:03	06:21 20:46	06:51 20:04	07:22 19:13	07:54 17:27	07:30 17:01	07:51 17:08
31	07:39 17:43		07:14 19:50		05:59 20:51		06:22 20:45	06:52 20:03		06:56 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
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:
Sa Correda Rev2

Printed/Page
26/01/2022 12:52 / 4

Licensed user:
Ing. Bruno Manca
Via Vittorio Veneto 231
IT-09028 Sestu
+390702358125
BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 3 - WTG003

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3,85	4,78	5,80	6,92	8,25	9,91	10,91	9,92	8,15	6,40	4,83	3,92

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
350	372	406	451	293	316	135	192	496	654	575	406	496	744	564	382	6.832

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:39 08:46-09:12/26 17:44	07:03 18:18	07:13 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 19:11	06:57 08:13-08:43/30 17:25	07:31 17:01
2	07:52 17:11	07:38 08:45-09:13/28 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:53	06:00 21:03	06:24 20:43	06:54 20:00	07:24 19:09	06:58 08:13-08:43/30 17:24	07:32 17:01
3	07:52 17:12	07:37 08:45-09:13/28 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:03	06:25 20:42	06:55 19:58	07:25 19:08	06:59 08:13-08:44/31 17:22	07:33 17:00
4	07:52 17:12	07:36 08:43-09:13/30 17:48	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 19:06	07:00 08:13-08:44/31 17:21	07:34 17:00
5	07:52 17:13	07:35 08:43-09:14/31 17:49	06:57 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:01 21:02	06:27 20:40	06:57 19:55	07:27 19:05	07:01 08:13-08:44/31 17:20	07:35 17:00
6	07:52 17:14	07:33 08:43-09:14/31 17:50	06:55 18:23	07:04 19:56	06:21 20:28	05:57 20:55	06:02 21:02	06:28 20:38	06:58 19:53	07:28 19:03	07:03 08:14-08:44/30 17:19	07:36 17:00
7	07:52 17:15	07:32 08:43-09:14/31 17:51	06:54 18:24	07:03 19:58	06:20 20:29	05:56 20:56	06:03 21:02	06:29 20:37	06:59 19:51	07:29 19:01	07:04 08:14-08:44/30 17:18	07:37 17:00
8	07:52 17:16	07:31 08:44-09:14/30 17:53	06:52 18:26	07:01 19:59	06:19 20:30	05:56 20:57	06:03 21:01	06:30 20:36	06:00 19:50	07:30 19:00	07:05 08:15-08:43/28 17:17	07:38 17:00
9	07:52 17:17	07:30 08:44-09:15/31 17:54	06:50 18:27	07:00 20:00	06:17 20:31	05:56 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:31 18:58	07:06 08:15-08:43/28 17:16	07:39 17:00
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14	07:50 17:23	07:24 08:46-09:11/25 18:00	06:42 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:07 20:59	06:36 20:28	07:06 19:40	07:37 18:50	07:12 08:22-08:39/17 17:11	07:43 17:00
15	07:50 17:24	07:23 08:47-09:10/23 18:01	06:41 18:33	06:50 20:06	06:11 20:37	05:55 21:00	06:08 20:58	06:37 20:27	07:07 19:38	07:38 18:49	07:13 08:23-08:37/14 17:10	07:44 17:00
16	07:50 17:25	07:21 08:49-09:09/20 18:02	06:39 18:34	06:49 20:07	06:10 20:38	05:55 21:01	06:09 20:58	06:38 20:25	07:08 19:36	07:39 18:47	07:14 08:26-08:34/8 17:09	07:45 17:01
17	07:49 17:26	07:20 08:50-09:06/16 18:04	06:37 18:35	06:47 20:08	06:09 20:39	05:55 21:01	06:10 20:57	06:39 20:24	07:09 19:35	07:40 18:46	07:16 08:26-08:34/8 17:08	07:45 17:01
18	07:49 17:27	07:19 08:53-09:04/11 18:05	06:36 18:36	06:46 20:09	06:08 20:40	05:55 21:01	06:10 20:56	06:40 20:23	07:10 19:33	07:41 18:44	07:17 08:26-08:34/8 17:08	07:46 17:01
19	07:48 17:28	07:17 08:06 18:06	06:34 18:37	06:44 20:10	06:07 20:41	05:56 21:02	06:11 20:56	06:41 20:21	07:11 19:31	07:42 18:43	07:18 08:26-08:34/8 17:07	07:47 17:02
20	07:48 17:29	07:16 08:07 18:07	06:33 18:39	06:43 20:11	06:07 20:42	05:56 21:02	06:12 20:55	06:42 20:20	07:12 19:30	07:43 18:41	07:19 08:26-08:34/8 17:06	07:47 17:02
21	07:47 17:31	07:15 08:08 18:08	06:31 18:40	06:41 20:12	06:06 20:43	05:56 21:02	06:13 20:54	06:42 20:18	07:13 19:28	07:44 18:40	07:20 08:26-08:34/8 17:05	07:48 17:03
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23	07:46 17:33	07:12 08:10 18:11	06:28 18:42	06:38 20:14	06:04 20:44	05:56 21:02	06:15 20:53	06:44 20:15	07:15 19:25	07:46 18:37	07:23 08:26-08:34/8 17:04	07:49 17:04
24	07:45 17:34	07:10 08:11 18:12	06:26 18:43	06:37 20:15	06:03 20:45	05:57 21:03	06:16 20:52	06:45 20:14	07:16 19:23	07:48 18:35	09:22-09:34/12 17:04	07:49 17:04
25	07:44 17:35	07:09 08:12 18:13	06:24 18:44	06:35 20:16	06:03 20:46	05:57 21:03	06:16 20:51	06:46 20:12	07:17 19:21	06:49 17:34	08:20-08:38/18 17:04	07:50 17:05
26	07:44 17:37	08:53-09:01/8 07:07	06:23 18:45	06:34 20:17	06:02 20:47	05:57 21:03	06:17 20:50	06:47 20:11	07:18 19:19	06:50 17:33	08:18-08:39/21 17:03	07:50 17:05
27	07:43 17:38	08:50-09:04/14 07:06	06:21 18:46	06:33 20:19	06:01 20:48	05:58 21:03	06:18 20:49	06:48 20:09	07:19 19:18	06:51 17:31	08:16-08:40/24 17:02	07:50 17:06
28	07:42 17:39	08:49-09:06/17 07:04	06:19 18:47	06:31 20:20	06:01 20:49	05:58 21:03	06:19 20:48	06:49 20:08	07:20 19:16	06:52 17:30	08:15-08:41/26 17:02	07:51 17:07
29	07:41 17:40	08:47-09:08/21 07:04	06:18 18:48	06:30 20:21	06:00 20:50	05:58 21:03	06:20 20:47	06:50 20:06	07:21 19:14	06:53 17:29	08:15-08:43/28 17:01	07:51 17:07
30	07:40 17:41	08:47-09:10/23 07:04	06:16 18:49	06:29 20:22	06:00 20:50	05:59 21:03	06:21 20:46	06:51 20:04	07:22 19:13	06:54 17:27	08:14-08:43/29 17:01	07:50 17:08
31	07:39 17:43	08:46-09:11/25 07:04	06:14 18:50	06:29 20:23	06:00 20:51	05:59 21:03	06:22 20:45	06:52 20:03	07:23 17:26	06:56 17:26	08:14-08:43/29 17:01	07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
Sum of minutes with flicker	108	476	0	0	0	0	0	0	0	187	402	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:
Sa Correda Rev2

Printed/Page
26/01/2022 12:52 / 5

Licensed user:
Ing. Bruno Manca
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IT-09028 Sestu
+390702358125
BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 4 - WTG004

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGERO]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:39 17:44	07:03 18:18	07:13 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:39-08:04/25 19:11	06:57 17:25	07:31 17:01
2	07:52 17:11	07:38 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:53	06:00 21:03	06:24 20:43	06:54 20:00	07:39-08:04/25 19:09	06:58 17:24	07:32 17:00
3	07:52 17:12	07:37 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:03	06:25 20:42	06:55 19:58	07:40-08:03/23 19:08	06:59 17:22	07:33 17:00
4	07:52 17:12	07:36 17:48	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:41-08:01/20 19:06	07:00 17:21	07:34 17:00
5	07:52 17:13	07:35 17:49	06:57 18:22	07:06 19:55	07:53-07:57/4 20:27	06:22 20:55	06:01 21:02	06:27 20:40	06:57 19:55	07:42-07:59/17 19:04	07:27 17:20	07:35 17:00
6	07:52 17:14	07:33 17:50	06:55 18:23	07:04 19:56	07:48-08:01/13 20:28	06:21 20:55	06:02 21:02	06:28 20:38	06:58 19:53	07:44-07:57/13 19:03	07:28 17:19	07:36 17:00
7	07:52 17:15	07:32 17:51	06:54 18:24	07:03 19:58	07:45-08:02/17 20:29	06:20 20:56	06:02 21:02	06:29 20:37	06:59 19:51	07:47-07:53/6 19:01	07:29 17:18	07:37 17:00
8	07:52 17:16	07:31 17:53	06:52 18:25	07:01 19:59	07:44-08:04/20 20:30	06:19 20:57	06:03 21:01	06:30 20:36	07:00 19:50	07:00 19:00	07:30 17:17	07:38 17:00
9	07:52 17:17	07:30 17:54	06:50 18:27	07:00 20:00	07:42-08:05/23 20:31	06:17 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:01 18:58	07:31 17:16	07:39 17:00
10	07:51 17:18	07:29 17:55	06:49 18:28	06:58 20:01	07:41-08:06/25 20:32	06:16 20:58	06:04 21:01	06:32 20:33	07:02 19:46	07:02 18:56	07:32 17:15	07:40 17:00
11	07:51 17:19	07:28 17:56	06:47 18:29	06:56 20:02	07:40-08:05/25 20:33	06:15 20:58	06:05 21:00	06:33 20:32	07:03 19:45	07:03 18:55	07:33 17:14	07:41 17:00
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13	07:51 17:21	07:25 17:59	06:44 18:31	06:53 20:04	07:39-08:06/27 20:35	06:13 20:59	06:07 20:59	06:35 20:30	07:05 19:41	07:05 18:52	07:35 17:12	07:42 17:00
14	07:50 17:22	07:24 18:00	06:42 18:32	06:52 20:05	07:38-08:05/27 20:36	06:12 21:00	06:07 20:59	06:36 20:28	07:06 19:40	07:06 18:50	07:36 17:11	07:43 17:00
15	07:50 17:24	07:23 18:01	06:41 18:33	06:50 20:06	07:39-08:05/26 20:37	06:11 21:00	06:08 20:58	06:37 20:27	07:07 19:38	07:07 18:49	07:37 17:10	07:44 17:00
16	07:50 17:25	07:21 18:02	06:39 18:34	06:49 20:07	07:38-08:04/26 20:38	06:10 21:01	06:09 20:58	06:38 20:29	07:08 19:36	07:08 18:47	07:38 17:09	07:45 17:01
17	07:49 17:26	07:20 18:03	06:37 18:35	06:47 20:08	07:39-08:04/25 20:39	06:09 21:01	06:09 20:57	06:39 20:24	07:09 19:35	07:09 18:46	07:39 17:08	07:45 17:01
18	07:49 17:27	07:19 18:05	06:36 18:36	06:46 20:09	07:39-08:02/23 20:40	06:08 21:01	06:08 20:56	06:39 20:23	07:10 19:33	07:10 18:44	07:41 17:08	07:46 17:01
19	07:48 17:28	07:17 18:06	06:34 18:37	06:44 20:10	07:40-08:01/21 20:41	06:07 21:02	06:11 20:56	06:40 20:21	07:11 19:31	07:11 18:43	07:42 17:07	07:47 17:02
20	07:48 17:29	07:16 18:07	06:32 18:39	06:43 20:11	07:40-08:00/20 20:42	06:07 21:02	06:12 20:55	06:41 20:20	07:12 19:30	07:12 18:41	07:43 17:06	07:47 17:02
21	07:47 17:30	07:15 18:08	06:31 18:40	06:41 20:12	07:42-07:58/16 20:43	06:06 21:02	06:13 20:54	06:42 20:18	07:13 19:28	07:13 18:40	07:44 17:06	07:48 17:03
22	07:46 17:32	07:13 18:09	06:29 18:41	06:40 20:13	07:43-07:55/12 20:44	06:05 21:02	06:14 20:53	06:43 20:17	07:14 19:26	07:14 18:38	07:45 17:05	07:48 17:03
23	07:46 17:33	07:12 18:11	06:28 18:42	06:38 20:14	07:47-07:52/5 20:44	06:04 21:02	06:15 20:53	06:44 20:15	07:15 19:25	07:15 18:37	07:46 17:04	07:49 17:04
24	07:45 17:34	07:10 18:12	06:26 18:43	06:37 20:15	06:03 20:45	06:03 21:03	06:16 20:52	06:45 20:14	07:16 19:23	07:16 18:35	07:48 17:04	07:49 17:04
25	07:44 17:35	07:09 18:13	06:24 18:44	06:35 20:16	06:03 20:46	06:03 21:03	06:16 20:51	06:46 20:12	07:17 19:21	07:17 18:34	07:49 17:03	07:50 17:05
26	07:44 17:36	07:07 18:14	06:23 18:45	06:34 20:17	06:02 20:47	06:02 21:03	06:17 20:50	06:47 20:11	07:18 19:19	07:18 18:33	07:50 17:03	07:50 17:05
27	07:43 17:38	07:06 18:15	06:21 18:46	06:33 20:19	06:01 20:48	06:01 21:03	06:18 20:49	06:48 20:09	07:19 19:18	07:19 18:31	07:51 17:02	07:50 17:06
28	07:42 17:39	07:04 18:16	06:19 18:47	06:31 20:20	06:01 20:49	06:01 21:03	06:19 20:48	06:49 20:08	07:20 19:16	07:20 18:30	07:52 17:02	07:51 17:07
29	07:41 17:40		07:18 19:48	06:30 20:21	06:00 20:50	06:00 21:03	06:20 20:47	06:50 20:06	07:21 19:14	07:21 18:33	07:53 17:01	07:51 17:07
30	07:40 17:41		07:16 19:49	06:28 20:22	06:00 20:50	06:00 21:03	06:21 20:46	06:51 20:04	07:22 19:13	07:22 18:34	07:54 17:01	07:51 17:08
31	07:39 17:43		07:14 19:50		05:59 20:51		06:22 20:45	06:52 20:03	07:39-08:05/26 19:13	06:56 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
Sum of minutes with flicker	0	0	0	381	0	0	0	259	129	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:
Sa Correda Rev2

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26/01/2022 12:52 / 6

Licensed user:
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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 5 - WTG005

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGERO]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:39 17:44	07:03 18:18	07:13 19:51	06:27 20:23	05:59 20:52	06:33-06:53/20 21:03	05:59 20:44	06:39-07:01/22 20:01	06:23 19:11	06:53 17:25	07:23 17:01
2	07:52 17:11	07:38 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:53	06:34-06:54/20 21:03	06:00 20:43	06:38-07:00/22 20:00	06:24 19:09	06:54 17:24	07:24 17:00
3	07:52 17:12	07:37 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:33-06:54/21 21:03	06:00 20:42	06:39-07:01/22 19:58	06:25 19:08	06:55 17:22	07:25 17:00
4	07:52 17:12	07:36 17:48	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:33-06:54/21 21:02	06:01 20:41	06:39-07:01/22 19:56	06:26 19:06	06:56 17:21	07:26 17:00
5	07:52 17:13	07:35 17:49	06:57 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:34-06:55/21 21:02	06:01 20:40	06:39-07:01/22 19:55	06:27 19:04	06:57 17:20	07:27 17:00
6	07:52 17:14	07:33 17:50	06:55 18:23	07:04 19:56	06:21 20:28	05:57 20:55	06:33-06:54/21 21:02	06:02 20:38	06:39-07:01/22 19:53	06:28 19:03	06:58 17:19	07:28 17:00
7	07:52 17:15	07:32 17:51	06:54 18:24	07:03 19:58	06:20 20:29	05:56 20:56	06:33-06:55/22 21:02	06:02 20:37	06:40-07:01/21 19:51	06:29 19:01	06:59 17:18	07:29 17:00
8	07:52 17:16	07:31 17:52	06:52 18:25	07:01 19:59	06:19 20:30	05:56 20:57	06:34-06:55/21 21:01	06:03 20:36	06:40-07:02/22 19:50	06:30 19:00	07:00 17:17	07:30 17:00
9	07:52 17:17	07:30 17:54	06:50 18:27	07:00 20:00	06:17 20:31	05:56 20:57	06:34-06:56/22 21:01	06:04 20:35	06:40-07:01/21 19:48	06:31 18:58	07:01 17:16	07:31 17:00
10	07:51 17:18	07:29 17:55	06:49 18:28	06:58 20:01	06:16 20:32	05:56 20:58	06:34-06:56/22 21:01	06:04 20:33	06:41-07:01/20 19:46	06:32 18:56	07:02 17:15	07:32 17:00
11	07:51 17:19	07:28 17:56	06:47 18:29	06:56 20:02	06:15 20:33	05:56 20:58	06:34-06:56/22 21:00	06:05 20:32	06:41-07:02/21 19:45	06:33 18:55	07:03 17:14	07:33 17:00
12	07:51 17:20	07:27 17:57	06:46 18:30	06:55 20:03	06:14 20:34	05:55 20:59	06:35-06:57/22 21:00	06:06 20:31	06:41-07:01/20 19:43	06:34 18:53	07:04 17:13	07:34 17:00
13	07:51 17:21	07:25 17:59	06:44 18:31	06:53 20:04	06:13 20:35	05:55 20:59	06:34-06:56/22 20:59	06:06 20:30	06:42-07:01/19 19:41	06:35 18:52	07:05 17:12	07:35 17:00
14	07:50 17:22	07:24 18:00	06:42 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:34-06:56/22 20:59	06:07 20:28	06:43-07:01/18 19:40	06:36 18:50	07:06 17:11	07:36 17:00
15	07:50 17:24	07:23 18:01	06:41 18:33	06:50 20:06	06:11 20:37	05:55 21:00	06:34-06:56/22 20:58	06:08 20:27	06:43-07:00/17 19:38	06:37 18:49	07:07 17:10	07:38 17:00
16	07:50 17:25	07:21 18:02	06:39 18:34	06:49 20:07	06:10 20:38	05:55 21:01	06:36-06:57/21 20:58	06:09 20:25	06:44-07:00/16 19:36	06:37 18:47	07:08 17:09	07:39 17:01
17	07:49 17:26	07:20 18:03	06:37 18:35	06:47 20:08	06:09 20:39	05:55 21:01	06:36-06:58/22 20:57	06:10 20:24	06:45-06:59/14 19:35	06:38 18:46	07:09 17:08	07:40 17:01
18	07:49 17:27	07:19 18:05	06:36 18:36	06:46 20:09	06:08 20:40	05:55 21:01	06:36-06:58/22 20:56	06:10 20:23	06:46-06:59/13 19:33	06:39 18:44	07:10 17:07	07:41 17:01
19	07:48 17:28	07:17 18:06	06:34 18:37	06:44 20:10	06:07 20:41	05:56 21:02	06:36-06:58/22 20:56	06:11 20:21	06:47-06:58/11 19:31	06:40 18:43	07:11 17:07	07:42 17:02
20	07:48 17:29	07:16 18:07	06:32 18:39	06:43 20:11	06:07 20:42	05:56 21:02	06:36-06:58/22 20:55	06:12 20:20	06:49-06:55/6 19:30	06:41 18:41	07:12 17:06	07:43 17:02
21	07:47 17:30	07:15 18:08	06:31 18:40	06:41 20:12	06:06 20:43	05:56 21:02	06:36-06:58/22 20:54	06:13 20:18	06:42 19:28	07:13 18:40	07:44 17:06	07:48 17:02
22	07:46 17:32	07:13 18:09	06:29 18:41	06:40 20:13	06:05 20:44	05:56 21:02	06:36-06:58/22 20:53	06:14 20:17	06:43 19:26	07:14 18:38	07:45 17:05	07:48 17:03
23	07:46 17:33	07:12 18:11	06:27 18:42	06:38 20:14	06:4 20:44	05:56 21:02	06:37-06:59/22 20:53	06:15 20:15	06:44 19:25	07:15 18:37	07:46 17:04	07:49 17:03
24	07:45 17:34	07:10 18:12	06:26 18:43	06:37 20:15	06:3 20:45	05:57 21:03	06:37-06:59/22 20:52	06:15 20:14	06:45 19:23	07:16 18:35	07:48 17:04	07:49 17:04
25	07:44 17:35	07:09 18:13	06:24 18:44	06:35 20:16	06:3 20:46	05:57 21:03	06:37-06:59/22 20:51	06:16 20:12	06:46 19:21	07:17 18:34	07:49 17:03	07:50 17:05
26	07:44 17:36	07:07 18:14	06:23 18:45	06:34 20:17	06:2 20:47	05:57 21:03	06:38-06:59/21 20:50	06:17 20:11	06:47 19:19	07:18 18:33	07:50 17:03	07:51 17:05
27	07:43 17:38	07:06 18:15	06:21 18:46	06:33 20:19	06:01 20:48	05:57 21:03	06:37-06:59/22 20:49	06:18 20:09	06:48 19:18	07:19 18:31	07:51 17:02	07:52 17:06
28	07:42 17:39	07:04 18:16	06:19 18:47	06:31 20:20	06:01 20:49	05:58 21:03	06:37-06:59/22 20:48	06:19 20:08	06:49 19:16	07:20 18:30	07:52 17:02	07:53 17:07
29	07:41 17:40		07:18 19:48	06:30 20:21	06:00 20:50	05:58 21:03	06:38-07:00/22 20:47	06:20 20:06	06:50 19:14	07:21 18:29	07:53 17:01	07:54 17:07
30	07:40 17:41		07:16 19:49	06:28 20:22	06:00 20:50	05:59 21:03	06:38-07:00/22 20:46	06:21 20:04	06:51 19:13	07:22 18:27	07:54 17:01	07:55 17:08
31	07:39 17:43		07:14 19:50		05:59 20:51		06:33-06:52/19 20:45	06:22 20:03	06:52 19:13	06:56 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	345	299	289
Sum of minutes with flicker	0	0	0	0	120	649	371	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:

Sa Correda Rev2

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26/01/2022 12:52 / 7

Licensed user:

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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 6 - WTG006

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3,85	4,78	5,80	6,92	8,25	9,91	10,91	9,92	8,15	6,40	4,83	3,92

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
350	372	406	451	293	316	135	192	496	654	575	406	496	744	564	382	6.832

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:39 17:44	07:03 18:18	07:13 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 19:11	06:57 17:25	07:31 17:01
2	07:52 17:11	07:38 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:53	06:00 21:03	06:24 20:43	06:54 20:00	07:24 19:09	06:58 17:24	07:32 17:00
3	07:52 17:11	07:37 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:03	06:25 20:42	06:55 19:58	07:25 19:08	06:59 17:22	07:33 17:00
4	07:52 17:12	07:36 17:47	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 19:06	07:00 17:21	07:34 17:00
5	07:52 17:13	07:35 17:49	06:57 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:01 21:02	06:27 20:40	06:57 19:55	07:27 19:04	07:01 17:20	07:35 17:00
6	07:52 17:14	07:33 17:50	06:55 18:23	07:04 19:56	06:21 20:28	05:57 20:55	06:02 21:02	06:28 20:38	06:58 19:53	07:28 19:03	07:03 17:19	07:36 17:00
7	07:52 17:15	07:32 17:51	06:54 18:24	07:03 19:58	06:20 20:29	05:56 20:56	06:02 21:02	06:29 20:37	06:59 19:51	07:29 19:01	07:04 17:18	07:37 17:00
8	07:52 17:16	07:31 17:52	06:52 18:25	07:01 19:59	06:19 20:30	05:56 20:57	06:03 21:01	06:30 20:36	07:00 19:50	07:30 19:00	07:05 17:17	07:38 17:00
9	07:52 17:17	07:30 17:54	06:50 18:27	07:00 20:00	06:17 20:31	05:56 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:31 18:58	07:06 17:16	07:39 17:00
10	07:51 17:18	07:29 17:55	06:49 18:28	06:58 20:01	06:16 20:32	05:56 20:58	06:04 21:01	06:32 20:33	07:02 19:46	07:32 18:56	07:07 17:15	07:40 17:00
11	07:51 17:19	07:28 17:56	06:47 18:29	06:56 20:02	06:15 20:33	05:56 20:58	06:05 21:00	06:33 20:32	07:03 19:45	07:33 18:55	07:09 17:14	07:41 17:00
12	07:51 17:20	07:27 17:57	06:46 18:30	06:55 20:03	06:14 20:34	05:55 20:59	06:06 21:00	06:34 20:31	07:04 19:43	07:34 18:53	07:10 17:13	07:42 17:00
13	07:51 17:21	07:25 17:59	06:44 18:31	06:53 20:04	06:13 20:35	05:55 20:59	06:06 20:59	06:34 20:30	07:05 19:41	07:35 18:52	07:11 17:12	07:42 17:00
14	07:50 17:22	07:24 18:00	06:42 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:07 20:59	06:35 20:28	07:06 19:40	07:36 18:50	07:12 17:11	07:43 17:00
15	07:50 17:24	07:23 18:01	06:41 18:33	06:50 20:06	06:11 20:37	05:55 21:00	06:08 20:58	06:36 20:27	07:07 19:38	07:38 18:49	07:13 17:10	07:44 17:00
16	07:50 17:25	07:21 18:02	06:39 18:34	06:49 20:07	06:10 20:38	05:55 21:01	06:09 20:58	06:37 20:25	07:08 19:36	07:39 18:47	07:14 17:09	07:45 17:01
17	07:49 17:26	07:20 18:03	06:37 18:35	06:47 20:08	06:09 20:39	05:55 21:01	06:10 20:57	06:38 20:24	07:09 19:35	07:40 18:45	07:16 17:08	07:45 17:01
18	07:49 17:27	07:19 18:05	06:36 18:36	06:45 20:09	06:08 20:40	05:55 21:01	06:10 20:56	06:39 20:23	07:10 19:33	07:41 18:44	07:17 17:08	07:46 17:01
19	07:48 17:28	07:17 18:06	06:34 18:37	06:44 20:10	06:07 20:41	05:55 21:02	06:11 20:56	06:40 20:21	07:11 19:31	07:42 18:42	07:18 17:07	07:47 17:02
20	07:48 17:29	07:16 18:07	06:32 18:39	06:43 20:11	06:06 20:42	05:56 21:02	06:12 20:55	06:41 20:20	07:12 19:30	07:43 18:41	07:19 17:06	07:47 17:02
21	07:47 17:30	07:15 18:08	06:31 18:40	06:41 20:12	06:06 20:43	05:56 21:02	06:13 20:54	06:42 20:18	07:13 19:28	07:44 18:40	07:20 17:05	07:48 17:02
22	07:46 17:32	07:13 18:09	06:29 18:41	06:40 20:13	06:05 20:44	05:56 21:02	06:14 20:53	06:43 20:17	07:14 19:26	07:45 18:38	07:21 17:05	07:48 17:03
23	07:46 17:33	07:12 18:11	06:27 18:42	06:38 20:14	06:04 20:44	05:56 21:02	06:15 20:53	06:44 20:15	07:15 19:24	07:46 18:37	07:23 17:04	07:49 17:03
24	07:45 17:34	07:10 18:12	06:26 18:43	06:37 20:15	06:03 20:45	05:56 21:03	06:15 20:52	06:45 20:14	07:16 19:23	07:48 18:35	07:24 17:04	07:49 17:04
25	07:44 17:35	07:09 18:13	06:24 18:44	06:35 20:16	06:03 20:46	05:57 21:03	06:16 20:51	06:46 20:12	07:17 19:21	07:49 17:34	07:25 17:03	07:50 17:05
26	07:44 17:36	07:07 18:14	06:22 18:45	06:34 20:17	06:02 20:47	05:57 21:03	06:17 20:50	06:47 20:11	07:18 19:19	07:50 17:33	07:26 17:03	07:50 17:05
27	07:43 17:38	07:06 18:15	06:21 18:46	06:32 20:19	06:01 20:48	05:57 21:03	06:18 20:49	06:48 20:09	07:19 19:18	07:51 17:31	07:27 17:02	07:50 17:06
28	07:42 17:39	07:04 18:16	06:19 18:47	06:31 20:20	06:01 20:49	05:58 21:03	06:19 20:48	06:49 20:08	07:20 19:16	07:52 17:30	07:28 17:02	07:51 17:07
29	07:41 17:40		07:17 19:48	06:30 20:21	06:00 20:50	05:58 21:03	06:20 20:47	06:50 20:06	07:21 19:14	07:53 17:29	07:29 17:01	07:51 17:07
30	07:40 17:41		07:16 19:49	06:28 20:22	06:00 20:50	05:59 21:03	06:21 20:46	06:51 20:04	07:22 19:13	07:54 17:27	07:30 17:01	07:51 17:08
31	07:39 17:43		07:14 19:50		05:59 20:51		06:22 20:45	06:52 20:03		06:56 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	345	299	289
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:

Sa Correda Rev2

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26/01/2022 12:52 / 8

Licensed user:

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BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 7 - WTG007

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:39 17:44	07:03 18:18	07:13 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 19:11	06:57 17:25	07:31 17:01
2	07:52 17:11	07:38 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:53	06:00 21:03	06:24 20:43	06:54 21:00	07:24 19:09	06:58 17:24	07:32 17:01
3	07:52 17:12	07:37 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:02	06:25 20:42	06:55 19:58	07:25 19:08	06:59 17:22	07:33 17:00
4	07:52 17:13	07:36 17:48	06:58 18:21	07:08 19:54	06:23 20:26	05:58 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 19:06	07:00 17:21	07:34 17:00
5	07:52 17:13	07:35 17:49	06:57 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:01 21:02	06:27 20:40	06:57 19:55	07:27 19:05	07:01 17:20	07:35 17:00
6	07:52 17:14	07:33 17:50	06:55 18:23	07:04 19:57	06:21 20:28	05:57 20:55	06:02 21:02	06:28 20:38	06:58 19:53	07:28 19:03	07:03 17:19	07:36 17:00
7	07:52 17:15	07:32 17:51	06:54 18:24	07:03 19:58	06:20 20:29	05:57 20:56	06:03 21:02	06:29 20:37	06:59 19:52	07:29 19:01	07:04 17:18	07:37 17:00
8	07:52 17:16	07:31 17:53	06:52 18:26	07:01 19:59	06:19 20:30	05:56 20:57	06:03 21:01	06:30 20:36	07:00 19:50	07:30 19:00	07:05 17:17	07:38 17:00
9	07:52 17:17	07:30 17:54	06:51 18:27	07:00 20:00	06:18 20:31	05:56 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:31 18:58	07:06 17:16	07:39 17:00
10	07:51 17:18	07:29 17:55	06:49 18:28	06:58 20:01	06:16 20:32	05:56 20:58	06:05 21:01	06:32 20:33	07:02 19:47	07:32 18:56	07:07 17:15	07:40 17:00
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12	07:51 17:20	07:27 17:58	06:46 18:30	06:55 20:03	06:14 20:34	05:56 20:59	06:06 21:00	06:34 20:31	07:04 19:43	07:34 18:53	07:10 17:13	07:42 17:00
13	07:51 17:22	07:25 17:59	06:44 18:31	06:53 20:04	06:13 20:35	05:56 20:59	06:07 20:59	06:35 20:30	07:05 19:41	07:35 18:52	07:11 17:12	07:42 17:00
14	07:50 17:23	07:24 18:00	06:42 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:07 20:59	06:36 20:28	07:06 19:40	07:37 18:50	07:12 17:11	07:43 17:00
15	07:50 17:24	07:23 18:01	06:41 18:33	06:50 20:06	06:11 20:37	05:55 21:00	06:08 20:58	06:37 20:27	07:07 19:38	07:38 18:49	07:13 17:10	07:44 17:01
16	07:50 17:25	07:21 18:02	06:39 18:34	06:49 20:07	06:10 20:38	05:55 21:01	06:09 20:57	06:38 20:25	07:08 19:36	07:39 18:47	07:14 17:09	07:45 17:01
17	07:49 17:26	07:20 18:04	06:37 18:35	06:47 20:08	06:09 20:39	05:56 21:01	06:10 20:57	06:39 20:24	07:09 19:35	07:40 18:46	07:16 17:09	07:45 17:01
18	07:49 17:27	07:19 18:05	06:36 18:36	06:46 20:09	06:08 20:40	05:56 21:01	06:11 20:56	06:40 20:23	07:10 19:33	07:41 18:44	07:17 17:08	07:46 17:01
19	07:48 17:28	07:17 18:06	06:34 18:38	06:44 20:10	06:08 20:41	05:56 21:02	06:11 20:56	06:41 20:21	07:11 19:31	07:42 18:43	07:18 17:07	07:47 17:02
20	07:48 17:29	07:16 18:07	06:33 18:39	06:43 20:11	06:07 20:42	05:56 21:02	06:12 20:55	06:42 20:20	07:12 19:30	07:43 18:41	07:19 17:06	07:47 17:02
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22	07:46 17:32	07:13 18:10	06:29 18:41	06:40 20:13	06:05 20:44	05:56 21:02	06:14 20:53	06:44 20:17	07:14 19:26	07:45 18:38	07:21 17:05	07:48 17:03
23	07:46 17:33	07:12 18:11	06:28 18:42	06:38 20:14	06:04 20:44	05:56 21:02	06:15 20:53	06:45 20:15	07:15 19:25	07:46 18:37	07:23 17:04	07:49 17:04
24	07:45 17:34	07:10 18:12	06:26 18:43	06:37 20:15	06:04 20:45	05:57 21:03	06:16 20:52	06:46 20:14	07:16 19:23	07:48 18:35	07:24 17:04	07:49 17:04
25	07:44 17:35	07:09 18:13	06:24 18:44	06:35 20:16	06:03 20:46	05:57 21:03	06:17 20:51	06:46 20:12	07:17 19:21	07:49 17:34	07:25 17:03	07:50 17:05
26	07:44 17:37	07:07 18:14	06:23 18:45	06:34 20:17	06:02 20:47	05:57 21:03	06:17 20:50	06:47 20:11	07:18 19:20	07:50 17:33	07:26 17:03	07:50 17:05
27	07:43 17:38	07:06 18:15	06:21 18:46	06:33 20:19	06:02 20:48	05:58 21:03	06:18 20:49	06:48 20:09	07:19 19:18	07:51 17:31	07:27 17:02	07:50 17:06
28	07:42 17:39	07:05 18:17	06:19 18:47	06:31 20:20	06:01 20:49	05:58 21:03	06:19 20:48	06:49 20:08	07:20 19:16	07:52 17:30	07:28 17:02	07:51 17:07
29	07:41 17:40		07:18 19:48	06:30 20:21	06:00 20:50	05:58 21:03	06:20 20:47	06:50 20:06	07:21 19:14	07:53 17:29	07:29 17:02	07:51 17:07
30	07:40 17:41		07:16 19:49	06:29 20:22	06:00 20:50	05:59 21:03	06:21 20:46	06:51 20:04	07:22 19:13	07:54 17:27	07:30 17:01	07:51 17:08
31	07:39 17:43		07:14 19:50		05:59 20:51		06:22 20:45	06:52 20:03		06:56 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
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:
Sa Correda Rev2

Printed/Page
26/01/2022 12:52 / 9

Licensed user:
Ing. Bruno Manca
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IT-09028 Sestu
+390702358125
BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 8 - WTG008

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:38 07:59-08:19/20 17:44	07:03 18:18	07:13 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 19:11	06:57 17:25	07:31 17:01
2	07:52 17:11	07:38 07:57-08:18/21 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:53	06:00 21:03	06:24 20:43	06:54 20:00	07:24 19:09	06:58 17:24	07:32 17:01
3	07:52 17:12	07:37 07:56-08:17/21 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:02	06:25 20:42	06:55 19:58	07:25 19:08	06:59 07:31-07:42/11 17:22	07:33 17:00
4	07:52 17:13	07:36 07:55-08:17/22 17:48	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 19:06	07:00 07:29-07:44/15 17:21	07:34 17:00
5	07:52 17:13	07:34 07:56-08:16/20 17:49	06:57 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:01 21:02	06:27 20:39	06:57 19:55	07:27 19:04	07:01 07:27-07:45/18 17:20	07:35 17:00
6	07:52 17:14	07:33 07:58-08:15/17 17:50	06:55 18:23	07:04 19:56	06:21 20:28	05:57 20:55	06:02 21:02	06:28 20:38	06:58 19:53	07:28 19:03	07:03 07:26-07:46/20 17:19	07:36 17:00
7	07:52 17:15	07:32 07:59-08:14/15 17:51	06:54 18:24	07:03 19:57	06:20 20:29	05:57 20:56	06:03 21:01	06:29 20:37	06:59 19:51	07:29 19:01	07:04 07:26-07:48/22 17:18	07:37 17:00
8	07:52 17:16	07:31 08:02-08:12/10 17:53	06:52 18:25	07:01 19:59	06:19 20:30	05:56 20:57	06:03 21:01	06:30 20:36	07:00 19:50	07:30 19:00	07:05 07:27-07:48/21 17:17	07:38 17:00
9	07:52 17:17	07:30 17:54	06:50 18:27	07:00 20:00	06:18 20:31	05:56 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:31 18:58	07:06 07:28-07:49/21 17:16	07:39 17:00
10	07:51 17:18	07:29 17:55	06:49 18:28	06:58 20:01	06:16 20:32	05:56 20:58	06:05 21:00	06:32 20:33	07:02 19:46	07:32 18:56	07:07 07:30-07:50/20 17:15	07:40 17:00
11	07:51 17:19	07:28 17:56	06:47 18:29	06:56 20:02	06:15 20:33	05:56 20:58	06:05 21:00	06:33 20:32	07:03 19:45	07:33 18:55	07:08 07:31-07:50/19 17:14	07:41 17:00
12	07:51 17:20	07:26 17:57	06:46 18:30	06:55 20:03	06:14 20:34	05:56 20:59	06:06 21:00	06:34 20:31	07:04 19:43	07:34 18:53	07:10 07:32-07:50/18 17:13	07:41 17:00
13	07:51 17:21	07:25 17:59	06:44 18:31	06:53 20:04	06:13 20:35	05:56 20:59	06:07 20:59	06:35 20:29	07:05 19:41	07:35 18:52	07:11 07:33-07:50/17 17:12	07:42 17:00
14	07:50 17:23	07:24 18:00	06:42 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:07 20:59	06:36 20:28	07:06 19:40	07:36 18:50	07:12 07:35-07:51/16 17:11	07:43 17:00
15	07:50 17:24	07:23 18:01	06:41 18:33	06:50 20:06	06:11 20:37	05:55 21:00	06:08 20:58	06:37 20:27	07:07 19:38	07:38 18:49	07:13 07:36-07:50/14 17:10	07:44 17:00
16	07:50 17:25	07:21 18:02	06:39 18:34	06:49 20:07	06:10 20:38	05:55 21:00	06:09 20:57	06:38 20:25	07:08 19:36	07:39 18:47	07:14 07:37-07:50/13 17:09	07:44 17:01
17	07:49 17:26	07:20 18:04	06:37 18:35	06:47 20:08	06:09 20:39	05:55 21:01	06:10 20:57	06:39 20:24	07:09 19:35	07:40 18:46	07:16 07:38-07:50/12 17:09	07:45 17:01
18	07:49 17:27	07:19 18:05	06:36 18:36	06:46 20:09	06:08 20:40	05:56 21:01	06:10 20:56	06:40 20:23	07:10 19:33	07:41 18:44	07:17 07:40-07:50/10 17:08	07:46 17:01
19	07:48 17:28	08:09-08:10/1 18:06	07:17 18:37	06:34 20:10	06:44 20:41	06:07 21:01	06:11 20:55	06:41 20:21	07:11 19:31	07:42 18:43	07:18 07:41-07:50/9 17:07	07:46 17:02
20	07:48 17:29	08:08-08:11/3 18:07	07:16 18:39	06:32 20:11	06:43 20:42	06:07 21:02	06:12 20:55	06:42 20:20	07:12 19:30	07:43 18:41	07:19 07:42-07:49/7 17:06	07:47 17:02
21	07:47 17:31	08:08-08:13/5 18:08	07:15 18:38	06:31 20:12	06:41 20:43	06:06 21:02	06:13 20:54	06:43 20:18	07:13 19:28	07:44 18:40	07:20 07:43-07:48/5 17:06	07:48 17:03
22	07:46 17:32	08:07-08:14/7 18:09	07:13 18:39	06:29 20:13	06:40 20:43	06:05 21:02	06:14 20:53	06:43 20:17	07:14 19:26	07:45 18:38	07:21 07:44-07:47/3 17:05	07:48 17:03
23	07:46 17:33	08:06-08:15/9 18:11	07:12 18:42	06:28 20:14	06:38 20:44	06:04 21:02	06:15 20:52	06:44 20:15	07:15 19:25	07:46 18:37	07:22 07:46-07:47/1 17:04	07:49 17:04
24	07:45 17:34	08:06-08:16/10 18:12	07:10 18:43	06:26 20:15	06:37 20:45	06:04 21:03	06:16 20:52	06:45 20:14	07:16 19:23	07:47 18:35	07:17 07:44-07:48/10 17:04	07:49 17:04
25	07:44 17:35	08:05-08:17/12 18:13	07:09 18:44	06:24 20:16	06:35 20:46	06:03 21:03	06:16 20:51	06:46 20:12	07:17 19:21	07:49 17:34	07:25 07:47-07:48/11 17:03	07:49 17:05
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27	07:43 17:38	08:03-08:17/14 18:15	07:06 18:46	06:21 20:18	06:33 20:48	06:01 21:03	06:18 20:49	06:48 20:09	07:19 19:18	07:51 17:31	07:27 07:49-07:50/13 17:02	07:50 17:06
28	07:42 17:39	08:02-08:18/16 18:16	07:04 18:47	06:19 20:19	06:31 20:49	06:01 21:03	06:19 20:48	06:49 20:08	07:20 19:16	07:52 17:30	07:28 07:49-07:50/14 17:02	07:51 17:07
29	07:41 17:40	08:01-08:18/17 18:17	07:03 18:48	06:18 20:21	06:30 20:49	06:00 21:03	06:20 20:47	06:50 20:06	07:21 19:14	07:53 17:29	07:29 07:49-07:50/15 17:02	07:51 17:07
30	07:40 17:41	08:00-08:18/18 18:18	07:02 18:49	06:16 20:22	06:29 20:50	06:00 21:03	06:21 20:46	06:51 20:04	07:22 19:13	07:54 17:27	07:30 07:49-07:50/16 17:01	07:51 17:08
31	07:39 17:43	07:59-08:18/19 18:19	07:01 19:50	07:14 20:51	06:59 20:51	05:59 21:03	06:22 20:45	06:52 20:03	07:55 17:26	08:00 17:00	07:56 07:49-07:50/17 17:00	07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
Sum of minutes with flicker	144	146	0	0	0	0	0	0	0	0	292	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:

Sa Correda Rev2

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26/01/2022 12:52 / 10

Licensed user:

Ing. Bruno Manca
Via Vittorio Veneto 231
IT-09028 Sestu
+390702358125
BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 9 - WTG009

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:38 17:44	07:03 18:18	07:13 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 19:11	06:57 17:25	07:31 17:01
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3	07:52 17:12	07:36 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:02	06:25 20:42	06:55 19:58	07:25 19:08	06:59 17:22	07:33 17:00
4	07:52 17:14	07:35 17:50	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 19:06	07:00 17:21	07:34 17:00
5	07:52 17:13	07:34 17:49	06:57 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:01 21:02	06:27 20:39	06:57 19:55	07:27 19:04	07:01 17:20	07:35 17:00
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16	07:49 17:25	07:21 18:02	06:39 18:34	06:49 20:07	06:10 20:38	05:55 21:00	06:09 20:57	06:38 20:25	07:08 19:36	07:39 18:47	07:14 17:09	07:44 17:01
17	07:49 17:26	07:20 18:03	06:37 18:35	06:47 20:08	06:09 20:39	05:55 21:01	06:10 20:57	06:39 20:24	07:09 19:35	07:40 18:46	07:15 17:08	07:45 17:01
18	07:49 17:27	07:19 18:05	06:36 18:36	06:46 20:09	06:08 20:40	05:56 21:01	06:10 20:56	06:40 20:23	07:10 19:33	07:41 18:44	07:17 17:08	07:46 17:01
19	07:48 17:28	07:17 18:06	06:34 18:37	06:44 20:10	06:07 20:41	05:56 21:01	06:11 20:55	06:40 20:21	07:11 19:31	07:42 18:43	07:18 17:07	07:46 17:02
20	07:48 17:29	07:16 18:07	06:32 18:39	06:43 20:11	06:07 20:42	05:56 21:02	06:12 20:55	06:41 20:20	07:12 19:30	07:43 18:41	07:19 17:06	07:47 17:02
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31	07:39 17:43		07:14 19:50		05:59 20:51		06:22 20:45	06:52 20:03		06:55 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
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:

Sa Correda Rev2

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26/01/2022 12:52 / 11

Licensed user:

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+390702358125
BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 10 - WTG010

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:38 17:44	07:03 18:18	07:13 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 19:11	06:57 17:25	07:31 17:01
2	07:52 17:11	07:37 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:52	06:00 21:03	06:24 20:43	06:54 21:00	07:24 19:09	06:58 17:24	07:32 17:00
3	07:52 17:12	07:36 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:02	06:25 20:42	06:55 19:58	07:25 19:08	06:59 17:22	07:33 17:00
4	07:52 17:12	07:35 17:48	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 19:06	07:00 17:21	07:34 17:00
5	07:52 17:13	07:34 17:49	06:57 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:01 21:02	06:27 20:39	06:57 19:55	07:27 19:04	07:01 17:20	07:35 17:00
6	07:52 17:14	07:33 17:50	06:55 18:23	07:04 19:56	06:21 20:28	05:57 20:55	06:02 21:02	06:28 20:38	06:58 19:53	07:28 19:03	07:03 17:19	07:36 17:00
7	07:52 17:15	07:32 17:51	06:54 18:24	07:03 19:57	06:20 20:29	05:56 20:56	06:02 21:01	06:29 20:37	06:59 19:51	07:29 19:01	07:04 17:18	07:37 17:00
8	07:52 17:16	07:31 17:52	06:52 18:25	07:01 19:58	06:19 20:30	05:56 20:56	06:03 21:01	06:30 20:36	07:00 19:50	07:30 19:00	07:05 17:17	07:38 17:00
9	07:52 17:17	07:30 17:54	06:50 18:27	07:00 20:00	06:17 20:31	05:56 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:31 18:58	07:06 17:16	07:39 17:00
10	07:51 17:18	07:29 17:55	06:49 18:28	06:58 20:01	06:16 20:32	05:56 20:58	06:04 21:00	06:32 20:33	07:02 19:46	07:32 18:56	07:07 17:15	07:40 17:00
11	07:51 17:19	07:28 17:56	06:47 18:29	06:56 20:02	06:15 20:33	05:56 20:58	06:05 21:00	06:33 20:32	07:03 19:45	07:33 18:55	07:08 17:14	07:41 17:00
12	07:51 17:20	07:26 17:57	06:46 18:30	06:55 20:03	06:14 20:34	05:56 20:59	06:06 21:00	06:34 20:31	07:04 19:43	07:34 18:53	07:10 17:13	07:41 17:00
13	07:51 17:21	07:25 17:59	06:44 18:31	06:53 20:04	06:13 20:35	05:55 20:59	06:07 20:59	06:35 20:29	07:05 19:41	07:35 18:52	07:11 17:12	07:42 17:00
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18	07:49 17:27	07:19 18:05	06:36 18:36	06:46 20:09	06:08 20:40	05:55 21:01	06:10 20:56	06:39 20:23	07:10 19:33	07:41 18:44	07:17 17:08	07:46 17:01
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21	07:47 17:30	07:15 18:08	06:31 18:40	06:41 20:12	06:06 20:43	05:56 21:02	06:13 20:54	06:42 20:18	07:13 19:28	07:44 18:40	07:20 17:06	07:48 17:03
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30	07:40 17:41		07:16 19:49	06:28 20:22	06:00 20:50	05:59 21:03	06:21 20:46	06:51 20:04	07:22 19:13	07:54 18:27	07:30 17:01	07:51 17:08
31	07:39 17:43		07:14 19:50		05:59 20:51		06:22 20:45	06:52 20:03		06:55 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
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:

Sa Correda Rev2

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26/01/2022 12:52 / 12

Licensed user:

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BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 11 - WTG011

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3,85	4,78	5,80	6,92	8,25	9,91	10,91	9,92	8,15	6,40	4,83	3,92

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
350	372	406	451	293	316	135	192	496	654	575	406	496	744	564	382	6.832

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:38 17:44	07:03 18:17	07:12 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 19:11	06:57 17:25	07:31 17:01
2	07:52 17:11	07:37 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:52	06:00 21:02	06:24 20:43	06:54 20:00	07:24 19:09	06:58 17:24	07:32 17:00
3	07:52 17:12	07:36 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:02	06:25 20:42	06:55 19:58	07:25 19:08	06:59 17:22	07:33 17:00
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8	07:52 17:16	07:31 17:52	06:52 18:25	07:01 19:58	06:19 20:30	05:56 20:56	06:03 21:01	06:30 20:36	07:00 19:50	07:30 19:00	07:05 17:17	07:38 17:00
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13	07:51 17:21	07:25 17:59	06:44 18:31	06:53 20:04	06:13 20:35	05:55 20:59	06:06 20:59	06:34 20:29	07:05 19:41	07:35 18:52	07:11 17:12	07:42 17:00
14	07:50 17:22	07:24 18:00	06:42 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:07 20:58	06:35 20:28	07:06 19:40	07:36 18:50	07:12 17:11	07:43 17:00
15	07:50 17:24	07:23 18:01	06:41 18:33	06:50 20:06	06:11 20:37	05:55 21:00	06:08 20:58	06:36 20:27	07:07 19:38	07:37 18:48	07:13 17:10	07:44 17:00
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21	07:47 17:30	07:15 18:08	06:31 18:40	06:41 20:12	06:06 20:42	05:56 21:02	06:13 20:54	06:42 20:18	07:13 19:28	07:44 18:40	07:20 17:05	07:48 17:02
22	07:46 17:32	07:13 18:09	06:29 18:41	06:40 20:13	06:05 20:43	05:56 21:02	06:14 20:53	06:43 20:17	07:14 19:26	07:45 18:38	07:21 17:05	07:48 17:03
23	07:46 17:33	07:12 18:11	06:27 18:42	06:38 20:14	06:04 20:44	05:56 21:02	06:15 20:52	06:44 20:15	07:15 19:24	07:46 18:37	07:22 17:04	07:49 17:03
24	07:45 17:34	07:10 18:12	06:26 18:43	06:37 20:15	06:03 20:45	05:57 21:02	06:15 20:52	06:45 20:14	07:16 19:23	07:47 18:35	07:24 17:04	07:49 17:04
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28	07:42 17:39	07:04 18:16	06:19 18:47	06:31 20:19	06:01 20:49	05:58 21:03	06:19 20:48	06:49 20:07	07:20 19:16	07:52 18:30	07:28 17:02	07:51 17:07
29	07:41 17:40		07:17 19:48	06:30 20:20	06:00 20:49	05:58 21:03	06:20 20:47	06:50 20:06	07:21 19:14	07:53 18:29	07:29 17:01	07:51 17:07
30	07:40 17:41		07:16 19:49	06:28 20:22	06:00 20:50	05:59 21:03	06:21 20:46	06:51 20:04	07:22 19:13	07:54 18:27	07:30 17:01	07:51 17:08
31	07:39 17:43		07:14 19:50		05:59 20:51		06:22 20:45	06:52 20:03		06:55 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
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:

Sa Correda Rev2

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26/01/2022 12:52 / 13

Licensed user:

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BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 12 - WTG012

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3,85	4,78	5,80	6,92	8,25	9,91	10,91	9,92	8,15	6,40	4,83	3,92

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
350	372	406	451	293	316	135	192	496	654	575	406	496	744	564	382	6.832

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:38 17:44	07:03 18:17	07:12 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 19:11	06:57 17:25	07:31 17:01
2	07:52 17:11	07:37 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:52	06:00 21:03	06:24 20:43	06:54 20:00	07:24 19:09	06:58 17:24	07:32 17:00
3	07:52 17:11	07:36 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:02	06:25 20:42	06:55 19:58	07:25 19:08	06:59 17:22	07:33 17:00
4	07:52 17:12	07:35 17:47	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 19:06	07:00 17:21	07:34 17:00
5	07:52 17:13	07:34 17:49	06:57 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:01 21:02	06:27 20:39	06:57 19:55	07:27 19:04	07:01 17:20	07:35 17:00
6	07:52 17:14	07:33 17:50	06:55 18:23	07:04 19:56	06:21 20:28	05:57 20:55	06:02 21:02	06:28 20:38	06:58 19:53	07:28 19:03	07:02 17:19	07:36 17:00
7	07:52 17:15	07:32 17:51	06:54 18:24	07:03 19:57	06:20 20:29	05:56 20:56	06:02 21:01	06:29 20:37	06:59 19:51	07:29 19:01	07:04 17:18	07:37 17:00
8	07:52 17:16	07:31 17:52	06:52 18:25	07:01 19:58	06:18 20:30	05:56 20:56	06:03 21:01	06:30 20:36	07:00 19:50	07:30 19:00	07:05 17:17	07:38 17:00
9	07:52 17:17	07:30 17:54	06:50 18:26	06:59 20:00	06:17 20:31	05:56 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:31 18:58	07:06 17:16	07:39 17:00
10	07:51 17:18	07:29 17:55	06:49 18:28	06:58 20:01	06:16 20:32	05:56 20:58	06:04 21:00	06:32 20:33	07:02 19:46	07:32 18:56	07:07 17:15	07:40 17:00
11	07:51 17:19	07:28 17:56	06:47 18:29	06:56 20:02	06:15 20:33	05:56 20:58	06:05 21:00	06:33 20:32	07:03 19:45	07:33 18:55	07:08 17:14	07:41 17:00
12	07:51 17:20	07:26 17:57	06:46 18:30	06:55 20:03	06:14 20:34	05:55 20:59	06:06 21:00	06:33 20:31	07:04 19:43	07:34 18:53	07:10 17:13	07:41 17:00
13	07:51 17:21	07:25 17:59	06:44 18:31	06:53 20:04	06:13 20:35	05:55 20:59	06:06 20:59	06:34 20:29	07:05 19:41	07:35 18:52	07:11 17:12	07:42 17:00
14	07:50 17:22	07:24 18:00	06:42 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:07 20:59	06:35 20:28	07:06 19:40	07:36 18:50	07:12 17:11	07:43 17:00
15	07:50 17:24	07:23 18:01	06:41 18:33	06:50 20:06	06:11 20:37	05:55 21:00	06:08 20:58	06:36 20:27	07:07 19:38	07:37 18:48	07:13 17:10	07:44 17:00
16	07:49 17:25	07:21 18:02	06:39 18:34	06:48 20:07	06:10 20:38	05:55 21:00	06:09 20:57	06:37 20:25	07:08 19:36	07:39 18:47	07:14 17:09	07:44 17:01
17	07:49 17:26	07:20 18:03	06:37 18:35	06:47 20:08	06:09 20:39	05:55 21:01	06:10 20:57	06:38 20:24	07:09 19:35	07:40 18:45	07:15 17:08	07:45 17:01
18	07:49 17:27	07:19 18:05	06:36 18:36	06:45 20:09	06:08 20:40	05:55 21:01	06:10 20:56	06:39 20:22	07:10 19:33	07:41 18:44	07:17 17:08	07:46 17:01
19	07:48 17:28	07:17 18:06	06:34 18:37	06:44 20:10	06:07 20:41	05:55 21:01	06:11 20:55	06:40 20:21	07:11 19:31	07:42 18:42	07:18 17:07	07:46 17:02
20	07:48 17:29	07:16 18:07	06:32 18:38	06:42 20:11	06:06 20:42	05:56 21:02	06:12 20:55	06:41 20:20	07:12 19:30	07:43 18:41	07:19 17:06	07:47 17:02
21	07:47 17:30	07:15 18:08	06:31 18:39	06:41 20:12	06:06 20:43	05:56 21:02	06:13 20:54	06:42 20:18	07:13 19:28	07:44 18:40	07:20 17:05	07:48 17:02
22	07:46 17:32	07:13 18:09	06:29 18:41	06:40 20:13	06:05 20:43	05:56 21:02	06:14 20:53	06:43 20:17	07:14 19:26	07:45 18:38	07:21 17:05	07:48 17:03
23	07:46 17:33	07:12 18:11	06:27 18:42	06:38 20:14	06:04 20:44	05:56 21:02	06:15 20:52	06:44 20:15	07:15 19:24	07:46 18:37	07:22 17:04	07:49 17:03
24	07:45 17:34	07:10 18:12	06:26 18:43	06:37 20:15	06:03 20:45	05:56 21:02	06:15 20:52	06:45 20:14	07:16 19:23	07:47 18:35	07:24 17:04	07:49 17:04
25	07:44 17:35	07:09 18:13	06:24 18:44	06:35 20:16	06:03 20:46	05:57 21:03	06:16 20:51	06:46 20:12	07:17 19:21	07:49 17:34	07:25 17:03	07:49 17:05
26	07:44 17:36	07:07 18:14	06:22 18:45	06:34 20:17	06:02 20:47	05:57 21:03	06:17 20:50	06:47 20:11	07:18 19:19	07:50 17:32	07:26 17:03	07:50 17:05
27	07:43 17:38	07:06 18:15	06:21 18:46	06:32 20:18	06:01 20:48	05:57 21:03	06:18 20:49	06:48 20:09	07:19 19:18	07:51 17:31	07:27 17:02	07:50 17:06
28	07:42 17:39	07:04 18:16	06:19 18:47	06:31 20:19	06:01 20:49	05:58 21:03	06:19 20:48	06:49 20:07	07:20 19:16	07:52 17:30	07:28 17:02	07:51 17:07
29	07:41 17:40		07:17 19:48	06:30 20:20	06:00 20:49	05:58 21:03	06:20 20:47	06:50 20:06	07:21 19:14	07:53 17:29	07:29 17:01	07:51 17:07
30	07:40 17:41		07:16 19:49	06:28 20:22	06:00 20:50	05:59 21:03	06:21 20:46	06:51 20:04	07:22 19:13	07:54 17:27	07:30 17:01	07:51 17:08
31	07:39 17:43		07:14 19:50		05:59 20:51		06:22 20:45	06:52 20:03		06:55 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
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:

Sa Correda Rev2

Printed/Page

26/01/2022 12:52 / 14

Licensed user:

Ing. Bruno Manca
Via Vittorio Veneto 231
IT-09028 Sestu
+390702358125
BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 13 - WTG013

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGERO]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10 17:11	07:38 17:44 17:45	07:03 17:53-17:56/3 18:17	07:12 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	07:23 18:28-18:46/18 19:11	06:57 17:25	07:31 17:01
2	07:52 17:11 17:11	07:37 17:46 17:45	07:01 17:51-17:57/6 18:19	07:11 19:53	06:26 20:25	05:58 20:53	06:00 21:02	06:24 20:42	06:54 19:58	07:24 18:27-18:47/20 19:09	06:58 17:22	07:32 17:00
3	07:52 17:12 17:12	07:36 17:47 17:47	07:00 17:50-17:59/9 18:21	07:09 19:54	06:25 20:26	05:58 20:54	06:00 21:02	06:25 20:41	06:55 19:56	07:25 18:25-18:45/20 19:06	06:59 17:22	07:33 17:00
4	07:52 17:13 17:13	07:35 17:47 17:47	06:58 17:49-18:00/11 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 18:24-18:44/20 19:06	07:00 17:21	07:34 17:00
5	07:52 17:13 17:13	07:34 17:49 17:49	06:57 17:47-18:00/13 18:22	07:06 19:55	06:22 20:27	05:57 20:55	06:01 21:02	06:27 20:39	06:57 19:55	07:27 18:24-18:42/18 19:04	07:01 17:20	07:35 17:00
6	07:52 17:14 17:14	07:33 17:50 17:50	06:55 17:47-18:02/15 18:23	07:04 19:56	06:21 20:28	05:57 20:55	06:02 21:02	06:28 20:38	06:58 19:53	07:28 18:23-18:40/17 19:03	07:03 17:19	07:36 17:00
7	07:52 17:15 17:15	07:32 17:51 17:51	06:54 17:47-18:03/16 18:24	07:03 19:57	06:20 20:29	05:56 20:56	06:02 21:01	06:29 20:37	06:59 19:51	07:29 18:23-18:38/15 19:01	07:04 17:18	07:37 17:00
8	07:52 17:16 17:16	07:31 17:52 17:52	06:52 17:47-18:05/18 18:25	07:01 19:58	06:18 20:30	05:56 20:57	06:03 21:01	06:30 20:36	07:00 19:50	07:30 18:23-18:37/14 19:00	07:05 17:17	07:38 17:00
9	07:52 17:17 17:17	07:30 17:54 17:54	06:50 17:47-18:05/18 18:26	06:59 20:00	06:17 20:31	05:56 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:31 18:23-18:35/12 18:58	07:06 17:16	07:39 17:00
10	07:51 17:18 17:18	07:29 17:55 17:55	06:49 17:47-18:06/19 18:28	06:58 20:01	06:16 20:32	05:56 20:58	06:04 21:00	06:32 20:33	07:02 19:46	07:32 18:23-18:33/10 18:56	07:07 17:15	07:40 17:00
11	07:51 17:19 17:19	07:28 17:56 17:56	06:47 17:48-18:08/20 18:29	06:56 20:02	06:15 20:33	05:56 20:58	06:05 21:00	06:32 20:32	07:03 19:45	07:33 18:24-18:32/8 18:55	07:08 17:14	07:41 17:00
12	07:51 17:20 17:20	07:26 17:57 17:57	06:46 17:48-18:07/19 18:30	06:55 20:03	06:14 20:34	05:55 20:59	06:06 21:00	06:33 20:31	07:04 19:43	07:34 18:25-18:30/5 18:53	07:10 17:13	07:41 17:00
13	07:51 17:21 17:21	07:25 17:59 17:59	06:44 17:49-18:05/16 18:31	06:53 20:04	06:13 20:35	05:55 20:59	06:06 20:59	06:34 20:29	07:05 19:41	07:35 18:27-18:28/1 18:52	07:11 17:12	07:42 17:00
14	07:50 17:22 17:22	07:24 18:00 18:00	06:42 17:51-18:04/13 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:07 20:59	06:35 20:28	07:06 19:40	07:36 18:50	07:12 17:11	07:43 17:00
15	07:50 17:23 17:23	07:23 18:01 18:01	06:41 17:55-17:59/4 18:33	06:50 20:06	06:11 20:37	05:55 21:00	06:08 20:58	06:36 20:27	07:07 19:38	07:37 18:48	07:13 17:10	07:44 17:00
16	07:50 17:25 17:25	07:21 18:02 18:02	06:39 18:34 18:34	06:48 20:07	06:10 20:38	05:55 21:00	06:09 20:57	06:37 20:25	07:08 19:36	07:39 18:47	07:14 17:09	07:44 17:01
17	07:49 17:26 17:26	07:20 18:03 18:03	06:37 18:35 18:35	06:47 20:08	06:09 20:39	05:55 21:01	06:09 20:57	06:38 20:24	07:09 19:35	07:40 18:45	07:16 17:08	07:45 17:01
18	07:49 17:27 17:27	07:19 18:05 18:05	06:36 18:36 18:36	06:45 20:09	06:08 20:40	05:55 21:01	06:10 20:56	06:39 20:23	07:10 19:33	07:41 18:44	07:17 17:08	07:46 17:01
19	07:48 17:28 17:28	07:17 18:06 18:06	06:34 18:37 18:37	06:44 20:10	06:07 20:41	05:55 21:01	06:11 20:55	06:40 20:21	07:11 19:31	07:42 18:42	07:18 17:07	07:46 17:02
20	07:48 17:29 17:29	07:16 18:07 18:07	06:32 18:38 18:38	06:42 20:11	06:06 20:42	05:56 21:02	06:12 20:55	06:41 20:20	07:12 19:30	07:43 18:41	07:19 17:06	07:47 17:02
21	07:47 17:30 17:30	07:15 18:08 18:08	06:31 18:40 18:40	06:41 20:12	06:06 20:43	05:56 21:02	06:13 20:54	06:42 20:18	07:13 19:28	07:44 18:40	07:20 17:05	07:48 17:02
22	07:46 17:32 17:32	07:13 18:09 18:09	06:29 18:41 18:41	06:40 20:13	06:05 20:43	05:56 21:02	06:14 20:53	06:43 20:17	07:14 19:26	07:45 18:38	07:21 17:05	07:48 17:03
23	07:46 17:33 17:33	07:12 18:11 18:11	06:27 18:42 18:42	06:38 20:14	06:04 20:44	05:56 21:02	06:15 20:52	06:44 20:15	07:15 19:24	07:46 18:37	07:22 17:04	07:49 17:03
24	07:45 17:34 17:34	07:10 18:12 18:12	06:26 18:43 18:43	06:37 20:15	06:03 20:45	05:56 21:03	06:15 20:52	06:45 20:14	07:16 19:23	07:47 18:35	07:24 17:04	07:49 17:04
25	07:44 17:35 17:35	07:09 18:13 18:13	06:24 18:44 18:44	06:35 20:16	06:03 20:46	05:57 21:03	06:16 20:51	06:46 20:12	07:17 19:21	07:49 17:34	07:25 17:03	07:49 17:05
26	07:44 17:36 17:36	07:07 18:14 18:14	06:22 18:45 18:45	06:34 20:17	06:02 20:47	05:57 21:03	06:17 20:50	06:47 20:11	07:18 19:19	07:50 17:32	07:26 17:03	07:50 17:05
27	07:43 17:38 17:38	07:06 18:15 18:15	06:21 18:46 18:46	06:32 20:18	06:01 20:48	05:57 21:03	06:18 20:49	06:48 20:09	07:19 19:18	07:51 17:31	07:27 17:02	07:50 17:06
28	07:42 17:39 17:39	07:04 18:16 18:16	06:19 18:47 18:47	06:31 20:19	06:01 20:49	05:58 21:03	06:19 20:48	06:49 20:08	07:20 19:16	07:52 17:30	07:28 17:02	07:51 17:06
29	07:41 17:40 17:40		07:17 19:48 19:48	06:30 20:21	06:00 20:49	05:58 21:03	06:20 20:47	06:50 20:06	07:21 19:14	18:33-18:43/10 06:53	07:29 17:01	07:51 17:07
30	07:40 17:41 17:41		07:16 19:49 19:49	06:28 20:22	06:00 20:50	05:59 21:03	06:21 20:46	06:51 20:04	07:22 19:13	18:30-18:45/15 06:54	07:30 17:01	07:51 17:08
31	07:39 17:43 17:43		07:14 19:50 19:50		05:59 20:51		06:22 20:45	06:52 20:03		06:55 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
Sum of minutes with flicker	0	0	200	0	0	0	0	0	25	178	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:
Sa Correda Rev2

Printed/Page
26/01/2022 12:52 / 15

Licensed user:
Ing. Bruno Manca
Via Vittorio Veneto 231
IT-09028 Sestu
+390702358125
BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar per WTG

Calculation: Sa Correda beniWTG: 14 - WTG014

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:38 17:44	07:03 18:17	07:12 19:51	06:27 20:23	05:59 20:52	05:59 21:03	06:23 20:44	06:53 20:01	19:37-19:39/2 19:11	07:23 17:25	06:57 17:01
2	07:52 17:11	07:37 17:45	07:01 18:19	07:11 19:52	06:26 20:24	05:58 20:53	06:00 21:02	06:24 20:42	06:54 20:00	19:37-19:38/1 19:09	07:24 17:23	06:58 17:00
3	07:52 17:11	07:36 17:46	07:00 18:20	07:09 19:53	06:25 20:25	05:58 20:53	06:00 21:02	06:25 20:42	06:55 19:58	07:25 19:08	06:59 17:22	07:33 17:00
4	07:52 17:12	07:35 17:47	06:58 18:21	07:08 19:54	06:23 20:26	05:57 20:54	06:01 21:02	06:26 20:41	06:56 19:56	07:26 19:06	07:00 17:21	07:34 17:00
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8	07:52 17:16	07:31 17:52	06:52 18:25	07:01 19:58	06:18 20:30	05:56 20:57	06:03 21:01	06:30 20:36	07:00 19:50	07:30 18:59	07:05 17:17	07:38 17:00
9	07:52 17:17	07:30 17:54	06:50 18:26	06:59 20:00	06:17 20:31	05:56 20:57	06:04 21:01	06:31 20:35	07:01 19:48	07:31 18:58	07:06 17:16	07:39 17:00
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12	07:51 17:20	07:26 17:57	06:46 18:30	06:55 20:03	06:14 20:34	05:55 20:59	06:06 21:00	06:33 20:31	07:04 19:43	07:34 18:53	07:10 17:13	07:41 17:00
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14	07:50 17:22	07:24 18:00	06:42 18:32	06:52 20:05	06:12 20:36	05:55 21:00	06:07 20:59	06:35 20:28	07:06 19:40	07:36 18:50	07:12 17:11	07:43 17:00
15	07:50 17:23	07:23 18:01	06:41 18:33	06:50 20:06	06:11 20:37	05:55 21:00	06:08 20:58	06:36 20:27	07:07 19:38	07:37 18:48	07:13 17:10	07:44 17:00
16	07:50 17:25	07:21 18:02	06:39 18:34	06:48 20:07	06:10 20:38	05:55 21:00	06:09 20:57	06:37 20:25	07:08 19:36	07:39 18:47	07:14 17:09	07:44 17:01
17	07:49 17:26	07:20 18:03	06:37 18:35	06:47 20:08	06:09 20:39	05:55 21:01	06:09 20:57	06:38 20:24	07:09 19:35	07:40 18:45	07:16 17:08	07:45 17:01
18	07:49 17:27	07:19 18:05	06:36 18:36	06:45 20:09	06:08 20:40	05:55 21:01	06:10 20:56	06:39 20:23	07:10 19:33	07:41 18:44	07:17 17:08	07:46 17:01
19	07:48 17:28	07:17 18:06	06:34 18:37	06:44 20:10	06:07 20:41	05:55 21:01	06:11 20:55	06:40 20:21	07:11 19:31	07:42 18:42	07:18 17:07	07:46 17:02
20	07:48 17:29	07:16 18:07	06:32 18:38	06:42 20:11	06:06 20:42	05:56 21:02	06:12 20:55	06:41 20:20	07:12 19:30	07:43 18:41	07:19 17:06	07:47 17:02
21	07:47 17:30	07:15 18:08	06:31 18:40	06:41 20:12	06:06 20:43	05:56 21:02	06:13 20:54	06:42 20:18	07:13 19:28	07:44 18:39	07:20 17:05	07:48 17:02
22	07:46 17:32	07:13 18:09	06:29 18:41	06:40 20:13	06:05 20:43	05:56 21:02	06:14 20:53	06:43 20:17	07:14 19:26	07:45 18:38	07:21 17:05	07:48 17:03
23	07:46 17:33	07:12 18:11	06:27 18:42	06:38 20:14	06:04 20:44	05:56 21:02	06:15 20:52	06:44 20:15	07:15 19:24	07:46 18:37	07:22 17:04	07:49 17:03
24	07:45 17:34	07:10 18:12	06:26 18:43	06:37 20:15	06:03 20:45	05:56 21:03	06:15 20:52	06:45 20:14	07:16 19:23	07:47 18:35	07:24 17:04	07:49 17:04
25	07:44 17:35	07:09 18:13	06:24 18:44	06:35 20:16	06:03 20:46	05:57 21:03	06:16 20:51	06:46 20:12	07:17 19:21	07:49 17:34	07:25 17:03	07:50 17:05
26	07:44 17:36	07:07 18:14	06:22 18:45	06:34 20:17	06:02 20:47	05:57 21:03	06:17 20:50	06:47 20:11	07:18 19:19	07:50 17:32	07:26 17:03	07:50 17:05
27	07:43 17:38	07:06 18:15	06:21 18:46	06:32 20:18	06:01 20:48	05:57 21:03	06:18 20:49	06:48 20:09	07:19 19:18	07:51 17:31	07:27 17:02	07:50 17:06
28	07:42 17:39	07:04 18:16	06:19 18:47	06:31 20:19	06:01 20:49	05:58 21:03	06:19 20:48	06:49 20:08	07:20 19:16	07:52 17:30	07:28 17:02	07:51 17:06
29	07:41 17:40		07:17 19:48	06:30 20:21	06:00 20:49	05:58 21:03	06:20 20:47	06:50 20:06	07:21 19:14	07:53 17:28	07:29 17:01	07:51 17:07
30	07:40 17:41		07:16 19:49	06:28 20:22	06:00 20:50	05:59 21:03	06:21 20:46	06:51 20:04	07:22 19:13	07:54 17:27	07:30 17:01	07:51 17:08
31	07:39 17:42		07:14 19:50		05:59 20:51		06:22 20:45	06:52 20:03		07:55 17:26		07:51 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	345	299	289
Sum of minutes with flicker	0	0	0	97	0	0	0	95	3	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:
Sa Corredda Rev2

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26/01/2022 12:51 / 1

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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar

Calculation: Sa Corredda beniShadow receptor: A - RB01

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	
1	07:52	07:39	08:46 (3)	07:03	07:13	06:27	
	17:10	17:44	26 09:12 (3)	18:18	19:51	20:23	
2	07:52	07:38	08:45 (3)	07:02	07:11	06:26	
	17:11	17:45	28 09:13 (3)	18:19	19:52	20:24	
3	07:52	07:37	08:45 (3)	07:00	07:09	06:25	
	17:12	17:46	28 09:13 (3)	18:20	19:53	20:25	
4	07:52	07:36	08:43 (3)	06:58	07:08	06:23	
	17:13	17:48	30 09:13 (3)	18:21	19:54	20:26	
5	07:52	07:35	08:43 (3)	06:57	07:06	07:53 (4) 06:22	
	17:13	17:49	31 09:14 (3)	18:22	19:55	4 07:57 (4) 20:27	
6	07:52	07:34	08:43 (3)	06:55	07:04	07:48 (4) 06:21	
	17:14	17:50	31 09:14 (3)	18:23	19:57	13 08:01 (4) 20:28	
7	07:52	07:32	08:43 (3)	06:54	07:03	07:45 (4) 06:20	
	17:15	17:51	31 09:14 (3)	18:24	19:58	17 08:02 (4) 20:29	
8	07:52	07:31	08:44 (3)	06:52	07:01	07:44 (4) 06:19	
	17:16	17:53	30 09:14 (3)	18:26	19:59	20 08:04 (4) 20:30	
9	07:52	07:30	08:44 (3)	06:51	07:00	07:42 (4) 06:18	
	17:17	17:54	31 09:15 (3)	18:27	20:00	23 08:05 (4) 20:31	
10	07:52	07:29	08:44 (3)	06:49	06:58	07:41 (4) 06:16	
	17:18	17:55	31 09:15 (3)	18:28	20:01	25 08:06 (4) 20:32	
11	07:51	07:28	08:44 (3)	06:47	06:56	07:40 (4) 06:15	
	17:19	17:56	29 09:13 (3)	18:29	20:02	25 08:05 (4) 20:33	
12	07:51	07:27	08:45 (3)	06:46	06:55	07:39 (4) 06:14	
	17:20	17:57	28 09:13 (3)	18:30	20:03	26 08:05 (4) 20:34	
13	07:51	07:25	08:46 (3)	06:44	06:53	07:39 (4) 06:13	
	17:21	17:59	27 09:13 (3)	18:31	20:04	27 08:06 (4) 20:35	
14	07:50	07:24	08:46 (3)	06:42	06:52	07:38 (4) 06:12	
	17:23	18:00	25 09:11 (3)	18:32	20:05	27 08:05 (4) 20:36	
15	07:50	07:23	08:47 (3)	06:41	06:50	07:39 (4) 06:11	
	17:24	18:01	23 09:10 (3)	18:33	20:06	26 08:05 (4) 20:37	
16	07:50	07:22	08:49 (3)	06:39	06:49	07:38 (4) 06:10	
	17:25	18:02	20 09:09 (3)	18:34	20:07	26 08:04 (4) 20:38	
17	07:49	07:20	08:50 (3)	06:38	06:47	07:39 (4) 06:09	
	17:26	18:04	16 09:06 (3)	18:35	20:08	25 08:04 (4) 20:39	
18	07:49	07:19	08:53 (3)	06:36	06:46	07:39 (4) 06:08	
	17:27	18:05	11 09:04 (3)	18:36	20:09	23 08:02 (4) 20:40	
19	07:48	07:18	06:34	06:44	07:40 (4) 06:07	05:56 06:36 (5)	
	17:28	18:06	18:38	20:10	21 08:01 (4) 20:41	21:02 22 06:58 (5)	
20	07:48	07:16	06:33	06:43	07:40 (4) 06:07	05:56 06:36 (5)	
	17:29	18:07	18:39	20:11	20 08:00 (4) 20:42	21:02 22 06:58 (5)	
21	07:47	07:15	06:31	06:41	07:42 (4) 06:06	05:56 06:36 (5)	
	17:31	18:08	18:40	20:12	16 07:58 (4) 20:43	21:02 22 06:58 (5)	
22	07:47	07:13	06:29	06:40	07:43 (4) 06:05	05:56 06:36 (5)	
	17:32	18:10	18:41	20:13	12 07:55 (4) 20:44	21:02 22 06:58 (5)	
23	07:46	07:12	06:28	06:38	07:47 (4) 06:04	06:41 (5) 05:56 06:37 (5)	
	17:33	18:11	18:42	20:14	5 07:52 (4) 20:45	2 06:43 (5) 21:03 22 06:59 (5)	
24	07:45	07:10	06:26	06:37	06:03	06:38 (5) 05:57 06:37 (5)	
	17:34	18:12	18:43	20:15	20:45	8 06:46 (5) 21:03 22 06:59 (5)	
25	07:44	07:09	06:24	06:35	06:03	06:37 (5) 05:57 06:37 (5)	
	17:35	18:13	18:44	20:16	20:46	12 06:49 (5) 21:03 22 06:59 (5)	
26	07:44	08:53 (3)	07:08	06:23	06:34	06:02	06:36 (5) 05:57 06:38 (5)
	17:37	8 09:01 (3)	18:14	18:45	20:18	20:47	13 06:49 (5) 21:03 21 06:59 (5)
27	07:43	08:50 (3)	07:06	06:21	06:33	06:01	06:35 (5) 05:58 06:37 (5)
	17:38	14 09:04 (3)	18:15	18:46	20:19	20:48	15 06:50 (5) 21:03 22 06:59 (5)
28	07:42	08:49 (3)	07:05	06:19	06:31	06:01	06:35 (5) 05:58 06:37 (5)
	17:39	17 09:06 (3)	18:16	18:47	20:20	20:49	16 06:51 (5) 21:03 22 06:59 (5)
29	07:41	08:47 (3)		07:18	06:30	06:00	06:34 (5) 05:58 06:38 (5)
	17:40	21 09:08 (3)		19:48	20:21	20:50	17 06:51 (5) 21:03 22 07:00 (5)
30	07:40	08:47 (3)		07:16	06:29	06:00	06:34 (5) 05:59 06:38 (5)
	17:41	23 09:10 (3)		19:49	20:22	20:50	18 06:52 (5) 21:03 22 07:00 (5)
31	07:40	08:46 (3)		07:14		05:59	06:33 (5)
	17:43	25 09:11 (3)		19:50		20:51	19 06:52 (5)
Potential sun hours	298	298	370	398	448	451	
Total, worst case	108	476		381	120	649	
Sun reduction	0,40	0,45		0,52	0,57	0,66	
Oper. time red.	0,78	0,78		0,78	0,78	0,78	
Wind dir. red.	0,60	0,60		0,64	0,67	0,67	
Total reduction	0,19	0,21		0,26	0,30	0,34	
Total, real	20	100		98	35	221	

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

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

Project:
Sa Correda Rev2

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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar

Calculation: Sa Correda beniShadow receptor: A - RB01

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December			
1	05:59	06:39 (5)	06:23	06:53	07:39 (4)	07:23	06:57	08:13 (3)	07:31
	21:03	22 07:01 (5)	20:44	20:01	25 08:04 (4)	19:11	17:25	30 08:43 (3)	17:01
2	06:00	06:38 (5)	06:24	06:54	07:39 (4)	07:24	06:58	08:13 (3)	07:32
	21:03	22 07:00 (5)	20:43	20:00	25 08:04 (4)	19:10	17:24	30 08:43 (3)	17:01
3	06:00	06:39 (5)	06:25	06:55	07:40 (4)	07:25	06:59	08:13 (3)	07:33
	21:03	22 07:01 (5)	20:42	19:58	23 08:03 (4)	19:08	17:22	31 08:44 (3)	17:00
4	06:01	06:39 (5)	06:26	06:56	07:41 (4)	07:26	07:00	08:13 (3)	07:34
	21:02	22 07:01 (5)	20:41	19:56	20 08:01 (4)	19:06	17:21	31 08:44 (3)	17:00
5	06:01	06:39 (5)	06:27	06:57	07:42 (4)	07:27	07:02	08:13 (3)	07:35
	21:02	22 07:01 (5)	20:40	19:55	17 07:59 (4)	19:05	17:20	31 08:44 (3)	17:00
6	06:02	06:39 (5)	06:28	06:58	07:44 (4)	07:28	07:03	08:14 (3)	07:36
	21:02	22 07:01 (5)	20:38	19:53	13 07:57 (4)	19:03	17:19	30 08:44 (3)	17:00
7	06:03	06:40 (5)	06:29	06:59	07:47 (4)	07:29	07:04	08:14 (3)	07:37
	21:02	21 07:01 (5)	20:37	19:52	6 07:53 (4)	19:01	17:18	30 08:44 (3)	17:00
8	06:03	06:40 (5)	06:30	07:00	07:30	07:05	08:15 (3)	07:38	
	21:01	22 07:02 (5)	20:36	19:50	19:00	17:17	28 08:43 (3)	17:00	
9	06:04	06:40 (5)	06:31	07:01	07:31	07:06	08:15 (3)	07:39	
	21:01	21 07:01 (5)	20:35	19:48	18:58	17:16	28 08:43 (3)	17:00	
10	06:04	06:41 (5)	06:32	07:02	07:32	07:07	08:17 (3)	07:40	
	21:01	20 07:01 (5)	20:34	19:47	18:56	17:15	26 08:43 (3)	17:00	
11	06:05	06:41 (5)	06:33	07:03	07:33	07:09	08:17 (3)	07:41	
	21:00	21 07:02 (5)	20:32	19:45	18:55	17:14	25 08:42 (3)	17:00	
12	06:06	06:41 (5)	06:34	07:04	07:34	07:10	08:18 (3)	07:42	
	21:00	20 07:01 (5)	20:31	19:43	18:53	17:13	23 08:41 (3)	17:00	
13	06:07	06:42 (5)	06:35	07:05	07:35	07:11	08:19 (3)	07:42	
	20:59	19 07:01 (5)	20:30	19:42	18:52	17:12	20 08:39 (3)	17:00	
14	06:07	06:43 (5)	06:36	07:06	07:37	07:12	08:22 (3)	07:43	
	20:59	18 07:01 (5)	20:28	19:40	18:50	17:11	17 08:39 (3)	17:00	
15	06:08	06:43 (5)	06:37	07:07	07:38	07:13	08:23 (3)	07:44	
	20:58	17 07:00 (5)	20:27	19:38	18:49	17:10	14 08:37 (3)	17:00	
16	06:09	06:44 (5)	06:38	07:08	07:39	07:15	08:26 (3)	07:45	
	20:58	16 07:00 (5)	20:26	19:36	18:47	17:09	8 08:34 (3)	17:01	
17	06:10	06:45 (5)	06:39	07:09	07:40	07:16	07:45	07:45	
	20:57	14 06:59 (5)	20:24	19:35	18:46	17:09	17:01	17:01	
18	06:10	06:46 (5)	06:40	07:10	07:41	07:17	07:46	07:46	
	20:56	13 06:59 (5)	20:23	19:33	18:44	17:08	17:01	17:01	
19	06:11	06:47 (5)	06:41	07:11	07:42	07:18	07:47	07:47	
	20:56	11 06:58 (5)	20:21	19:31	18:43	17:07	17:02	17:02	
20	06:12	06:49 (5)	06:42	07:12	07:43	07:19	07:47	07:47	
	20:55	6 06:55 (5)	20:20	7 07:59 (4)	19:30	18:41	17:06	17:02	
21	06:13	06:43	07:48 (4)	07:13	07:44	07:20	07:48	07:48	
	20:54	14 08:02 (4)	19:28	18:40	18:40	17:06	17:03	17:03	
22	06:14	06:44	07:46 (4)	07:14	07:45	07:21	07:48	07:48	
	20:53	17 08:03 (4)	19:26	18:38	18:38	17:05	17:03	17:03	
23	06:15	06:45	07:45 (4)	07:15	07:46	07:23	07:49	07:49	
	20:53	20 08:05 (4)	19:25	18:37	18:37	17:04	17:04	17:04	
24	06:16	06:45	07:43 (4)	07:16	07:48	07:24	07:49	07:49	
	20:52	22 08:05 (4)	19:23	18:35	12 09:34 (3)	17:04	17:04	17:04	
25	06:16	06:46	07:41 (4)	07:17	06:49	08:20 (3)	07:25	07:50	
	20:51	24 08:05 (4)	19:21	17:34	18 08:38 (3)	17:03	17:05	17:05	
26	06:17	06:47	07:41 (4)	07:18	06:50	08:18 (3)	07:26	07:50	
	20:50	24 08:05 (4)	19:20	17:33	21 08:39 (3)	17:03	17:05	17:05	
27	06:18	06:48	07:40 (4)	07:19	06:51	08:16 (3)	07:27	07:50	
	20:49	26 08:06 (4)	19:18	17:31	24 08:40 (3)	17:02	17:06	17:06	
28	06:19	06:49	07:40 (4)	07:20	06:52	08:15 (3)	07:28	07:51	
	20:48	26 08:06 (4)	19:16	17:30	26 08:41 (3)	17:02	17:07	17:07	
29	06:20	06:50	07:39 (4)	07:21	06:53	08:15 (3)	07:29	07:51	
	20:47	27 08:06 (4)	19:14	17:29	28 08:43 (3)	17:02	17:07	17:07	
30	06:21	06:51	07:39 (4)	07:22	06:54	08:14 (3)	07:30	07:51	
	20:46	26 08:05 (4)	19:13	17:27	29 08:43 (3)	17:01	17:08	17:08	
31	06:22	06:52	07:39 (4)	07:23	06:56	08:14 (3)	07:51	07:51	
	20:45	26 08:05 (4)	19:12	17:26	29 08:43 (3)	17:00	17:09	17:09	
Potential sun hours	458	427	375	346	299	289			
Total, worst case	371	259	129	187	402				
Sun reduction	0,74	0,72	0,65	0,57	0,49				
Oper. time red.	0,78	0,78	0,78	0,78	0,78				
Wind dir. red.	0,67	0,64	0,64	0,60	0,60				
Total reduction	0,38	0,36	0,32	0,27	0,23				
Total, real	141	92	42	50	91				

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

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

Project:
Sa Corredda Rev2

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26/01/2022 12:51 / 3

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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar

Calculation: Sa Corredda beniShadow receptor: B - RB02

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	
1	07:52	07:39	07:59 (8) 07:03	09:38 (1) 07:13	10:15 (1) 06:27	10:13 (1) 05:59	
	17:10	17:44	60 11:13 (1) 18:18	154 12:12 (1) 19:51	188 13:23 (1) 20:23	110 12:03 (1) 20:52	
2	07:52	07:38	07:57 (8) 07:01	09:37 (1) 07:11	10:14 (1) 06:26	10:13 (1) 05:58	
	17:11	17:45	70 11:17 (1) 18:19	155 12:12 (1) 19:52	188 13:22 (1) 20:24	108 12:01 (1) 20:53	
3	07:52	07:37	07:56 (8) 07:00	09:36 (1) 07:09	10:14 (1) 06:25	10:14 (1) 05:58	
	17:12	17:46	78 11:21 (1) 18:20	158 12:14 (1) 19:53	188 13:22 (1) 20:25	105 11:59 (1) 20:53	
4	07:52	07:36	07:55 (8) 06:58	09:35 (1) 07:08	10:14 (1) 06:23	10:14 (1) 05:58	
	17:13	17:48	86 11:25 (1) 18:21	159 12:14 (1) 19:54	187 13:21 (1) 20:26	103 11:57 (1) 20:54	
5	07:52	07:35	07:56 (8) 06:57	09:34 (1) 07:06	10:14 (1) 06:22	10:15 (1) 05:57	
	17:13	17:49	90 11:28 (1) 18:22	162 12:16 (1) 19:55	187 13:21 (1) 20:27	100 11:55 (1) 20:55	
6	07:52	07:33	07:58 (8) 06:55	09:33 (1) 07:04	10:13 (1) 06:21	10:15 (1) 05:57	
	17:14	17:50	92 11:31 (1) 18:23	163 12:16 (1) 19:57	187 13:20 (1) 20:28	99 11:54 (1) 20:55	
7	07:52	07:32	07:59 (8) 06:54	09:32 (1) 07:03	10:13 (1) 06:20	10:13 (1) 06:20	
	17:15	17:51	95 11:34 (1) 18:24	164 12:16 (1) 19:58	185 13:18 (1) 20:29	96 11:51 (1) 20:56	
8	07:52	07:31	08:02 (8) 06:52	09:31 (1) 07:01	10:13 (1) 06:19	10:15 (1) 05:56	
	17:16	17:53	96 11:37 (1) 18:26	167 12:18 (1) 19:59	185 13:18 (1) 20:30	94 11:49 (1) 20:57	
9	07:52	07:30	10:09 (1) 06:51	09:30 (1) 07:00	10:12 (1) 06:18	10:16 (1) 05:56	
	17:17	17:54	91 11:40 (1) 18:27	168 12:18 (1) 20:00	184 13:16 (1) 20:31	92 11:48 (1) 20:57	
10	07:51	07:29	10:06 (1) 06:49	09:30 (1) 06:58	10:13 (1) 06:16	10:16 (1) 05:56	
	17:18	17:55	95 11:41 (1) 18:28	169 12:19 (1) 20:01	182 13:15 (1) 20:32	90 11:46 (1) 20:58	
11	07:51	07:28	10:05 (1) 06:47	09:28 (1) 06:56	10:12 (1) 06:15	10:17 (1) 05:56	
	17:19	17:56	99 11:44 (1) 18:29	172 12:20 (1) 20:02	181 13:13 (1) 20:33	88 11:45 (1) 20:58	
12	07:51	07:27	10:03 (1) 06:46	09:27 (1) 06:55	10:11 (1) 06:14	10:11 (1) 05:56	
	17:20	17:58	103 11:46 (1) 18:30	173 12:20 (1) 20:03	179 13:10 (1) 20:34	86 11:43 (1) 20:59	
13	07:51	07:25	10:01 (1) 06:44	09:27 (1) 06:53	10:12 (1) 06:13	10:18 (1) 05:56	
	17:22	17:59	108 11:49 (1) 18:31	174 12:21 (1) 20:04	176 13:08 (1) 20:35	84 11:42 (1) 20:59	
14	07:50	07:24	09:59 (1) 06:42	09:26 (1) 06:52	10:11 (1) 06:12	10:18 (1) 05:56	
	17:23	18:00	111 11:50 (1) 18:32	175 12:21 (1) 20:05	173 13:04 (1) 20:36	83 11:41 (1) 21:00	
15	07:50	07:23	09:58 (1) 06:41	09:25 (1) 06:50	10:12 (1) 06:11	10:18 (1) 05:55	
	17:24	18:01	114 11:52 (1) 18:33	176 12:21 (1) 20:06	168 13:00 (1) 20:37	81 11:39 (1) 21:00	
16	07:50	07:21	09:56 (1) 06:39	09:24 (1) 06:49	10:11 (1) 06:10	10:19 (1) 05:55	
	17:25	18:02	118 11:54 (1) 18:34	178 12:22 (1) 20:07	165 12:56 (1) 20:38	79 11:38 (1) 21:01	
17	07:49	07:20	09:54 (1) 06:38	09:23 (1) 06:47	10:12 (1) 06:09	10:20 (1) 05:56	
	17:26	18:04	121 11:55 (1) 18:35	179 12:22 (1) 20:08	159 12:51 (1) 20:39	78 11:38 (1) 21:01	
18	07:49	07:19	09:53 (1) 06:36	09:22 (1) 06:46	10:11 (1) 06:08	10:21 (1) 05:56	
	17:27	18:05	124 11:57 (1) 18:36	180 12:22 (1) 20:09	155 12:46 (1) 20:40	75 11:36 (1) 21:01	
19	07:48	08:09 (8) 07:17	09:52 (1) 06:34	09:22 (1) 06:44	10:12 (1) 06:08	10:21 (1) 05:56	
	17:28	2 08:10 (8) 18:06	127 11:59 (1) 18:38	181 12:23 (1) 20:10	150 12:42 (1) 20:41	74 11:35 (1) 21:02	
20	07:48	08:08 (8) 07:16	09:50 (1) 06:33	09:21 (1) 06:43	10:11 (1) 06:07	10:21 (1) 05:56	
	17:29	3 08:11 (8) 18:07	130 12:00 (1) 18:39	182 12:23 (1) 20:11	146 12:37 (1) 20:42	73 11:34 (1) 21:02	
21	07:47	08:08 (8) 07:15	09:49 (1) 06:31	09:20 (1) 06:41	10:12 (1) 06:06	10:22 (1) 05:56	
	17:31	5 08:13 (8) 18:08	133 12:02 (1) 18:40	183 12:23 (1) 20:12	142 12:34 (1) 20:43	71 11:33 (1) 21:02	
22	07:46	08:07 (8) 07:13	09:47 (1) 06:29	09:20 (1) 06:40	10:11 (1) 06:05	10:23 (1) 05:56	
	17:32	7 08:14 (8) 18:10	136 12:03 (1) 18:41	184 12:24 (1) 20:13	138 12:29 (1) 20:44	70 11:33 (1) 21:02	
23	07:46	08:06 (8) 07:12	09:46 (1) 06:28	09:19 (1) 06:38	10:12 (1) 06:04	10:23 (1) 05:56	
	17:33	9 08:15 (8) 18:11	139 12:05 (1) 18:42	185 12:24 (1) 20:14	134 12:26 (1) 20:44	68 11:31 (1) 21:02	
24	07:45	08:06 (8) 07:10	09:44 (1) 06:26	09:18 (1) 06:37	10:12 (1) 06:04	10:23 (1) 05:57	
	17:34	10 08:16 (8) 18:12	141 12:05 (1) 18:43	185 12:23 (1) 20:15	131 12:23 (1) 20:45	67 11:30 (1) 21:03	
25	07:44	08:05 (8) 07:09	09:43 (1) 06:24	09:19 (1) 06:35	10:12 (1) 06:03	10:25 (1) 05:57	
	17:35	12 08:17 (8) 18:13	144 12:07 (1) 18:44	185 12:24 (1) 20:16	127 12:19 (1) 20:46	65 11:30 (1) 21:03	
26	07:44	08:04 (8) 07:07	09:41 (1) 06:23	09:18 (1) 06:34	10:12 (1) 06:02	10:25 (1) 05:57	
	17:37	13 08:17 (8) 18:14	147 12:08 (1) 18:45	186 12:24 (1) 20:17	124 12:16 (1) 20:47	64 11:29 (1) 21:03	
27	07:43	08:03 (8) 07:06	09:41 (1) 06:21	09:17 (1) 06:33	10:13 (1) 06:02	10:26 (1) 05:58	
	17:38	14 08:17 (8) 18:15	148 12:09 (1) 18:46	186 12:23 (1) 20:19	121 12:14 (1) 20:48	63 11:29 (1) 21:03	
28	07:42	08:02 (8) 07:05	09:39 (1) 06:19	09:17 (1) 06:31	10:12 (1) 06:01	10:26 (1) 05:58	
	17:39	16 08:18 (8) 18:17	151 12:10 (1) 18:47	187 12:24 (1) 20:20	118 12:10 (1) 20:49	62 11:28 (1) 21:03	
29	07:41	08:01 (8) 07:04	09:38 (1) 06:18	10:16 (1) 06:30	10:13 (1) 06:00	10:26 (1) 05:58	
	17:40	17 08:18 (8) 18:18	157 12:11 (1) 18:48	187 13:23 (1) 20:21	115 12:08 (1) 20:50	61 11:27 (1) 21:03	
30	07:40	08:00 (8) 07:03	09:37 (1) 06:17	10:15 (1) 06:29	10:13 (1) 06:00	10:27 (1) 05:59	
	17:41	18 08:18 (8) 18:19	158 12:12 (1) 18:49	188 13:23 (1) 20:22	113 12:06 (1) 20:50	60 11:27 (1) 21:03	
31	07:39	07:59 (8) 07:02	09:36 (1) 06:16	10:16 (1) 06:28	10:14 (1) 05:59	10:28 (1) 05:59	
	17:43	47 11:06 (1) 19:50	187 13:23 (1) 20:51	58 11:26 (1) 20:51	448	451	
Potential sun hours	298	298	370	398	448	451	463
Total, worst case	173	3147	5432	4776	2507	1465	
Sun reduction	0,40	0,45	0,49	0,52	0,57	0,66	
Oper. time red.	0,78	0,78	0,78	0,78	0,78	0,78	
Wind dir. red.	0,61	0,61	0,61	0,61	0,61	0,61	
Total reduction	0,19	0,22	0,23	0,25	0,27	0,32	
Total, real	33	678	1267	1193	687	463	

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

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

Project:

Sa Correda Rev2

Printed/Page

26/01/2022 12:51 / 4

Licensed user:

Ing. Bruno Manca
Via Vittorio Veneto 231
IT-09028 Sestu
+390702358125
BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar

Calculation: Sa Correda beniShadow receptor: B - RB02

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	July		August		September		October		November		December				
1	05:59		10:38 (1)	06:23	10:28 (1)	06:53	10:11 (1)	07:23	10:06 (1)	06:57	09:37 (1)	07:31			
	21:03	49	11:27 (1)	20:44	11:55 (1)	20:01	181	13:12 (1)	19:11	174	13:00 (1)	17:25	94	11:11 (1)	17:01
2	06:00		10:38 (1)	06:24	10:27 (1)	06:54	10:11 (1)	07:24	10:07 (1)	06:58	09:39 (1)	07:32			
	21:03	49	11:27 (1)	20:43	11:56 (1)	20:00	182	13:13 (1)	19:09	171	12:58 (1)	17:24	89	11:08 (1)	17:01
3	06:00		10:38 (1)	06:25	10:27 (1)	06:55	10:10 (1)	07:25	10:07 (1)	06:59	07:31 (8)	07:33			
	21:02	50	11:28 (1)	20:42	11:57 (1)	19:58	184	13:14 (1)	19:08	170	12:57 (1)	17:23	95	11:06 (1)	17:00
4	06:01		10:38 (1)	06:26	10:26 (1)	06:56	10:10 (1)	07:26	10:07 (1)	07:00	07:29 (8)	07:34			
	21:02	50	11:28 (1)	20:41	11:59 (1)	19:56	185	13:15 (1)	19:06	169	12:56 (1)	17:21	95	11:04 (1)	17:00
5	06:01		10:38 (1)	06:27	10:26 (1)	06:57	10:10 (1)	07:27	10:08 (1)	07:01	07:27 (8)	07:35			
	21:02	51	11:29 (1)	20:40	12:01 (1)	19:55	185	13:15 (1)	19:05	167	12:55 (1)	17:20	93	11:01 (1)	17:00
6	06:02		10:37 (1)	06:28	10:25 (1)	06:58	10:09 (1)	07:28	10:08 (1)	07:03	07:26 (8)	07:36			
	21:02	52	11:29 (1)	20:38	12:02 (1)	19:53	187	13:16 (1)	19:03	166	12:54 (1)	17:19	89	10:58 (1)	17:00
7	06:03		10:37 (1)	06:29	10:25 (1)	06:59	10:09 (1)	07:29	10:08 (1)	07:04	07:26 (8)	07:37			
	21:02	53	11:30 (1)	20:37	12:04 (1)	19:52	187	13:16 (1)	19:01	164	12:52 (1)	17:18	85	10:55 (1)	17:00
8	06:03		10:38 (1)	06:30	10:23 (1)	07:00	10:09 (1)	07:30	10:09 (1)	07:05	07:27 (8)	07:38			
	21:01	53	11:31 (1)	20:36	12:05 (1)	19:50	187	13:16 (1)	19:00	162	12:51 (1)	17:17	76	10:51 (1)	17:00
9	06:04		10:37 (1)	06:31	10:23 (1)	07:01	10:08 (1)	07:31	10:09 (1)	07:06	07:28 (8)	07:39			
	21:01	54	11:31 (1)	20:35	12:06 (1)	19:48	188	13:16 (1)	18:58	160	12:49 (1)	17:16	69	10:47 (1)	17:00
10	06:05		10:37 (1)	06:32	10:22 (1)	07:02	10:07 (1)	07:32	10:10 (1)	07:07	07:30 (8)	07:40			
	21:00	55	11:32 (1)	20:33	12:08 (1)	19:47	188	13:15 (1)	18:56	158	12:48 (1)	17:15	58	10:43 (1)	17:00
11	06:05		10:37 (1)	06:33	10:22 (1)	07:03	10:07 (1)	07:33	10:10 (1)	07:09	07:31 (8)	07:41			
	21:00	56	11:33 (1)	20:32	12:10 (1)	19:45	188	13:15 (1)	18:55	157	12:47 (1)	17:14	45	10:37 (1)	17:00
12	06:06		10:36 (1)	06:34	10:21 (1)	07:04	10:07 (1)	07:34	10:12 (1)	07:10	07:32 (8)	07:42			
	21:00	57	11:33 (1)	20:31	12:12 (1)	19:43	187	13:14 (1)	18:53	154	12:46 (1)	17:13	18	07:50 (8)	17:00
13	06:07		10:36 (1)	06:35	10:21 (1)	07:05	10:07 (1)	07:35	10:12 (1)	07:11	07:33 (8)	07:42			
	20:59	59	11:35 (1)	20:30	12:14 (1)	19:41	187	13:14 (1)	18:52	153	12:45 (1)	17:12	17	07:50 (8)	17:00
14	06:07		10:36 (1)	06:36	10:20 (1)	07:06	10:06 (1)	07:37	10:13 (1)	07:12	07:35 (8)	07:43			
	20:59	60	11:36 (1)	20:28	12:16 (1)	19:40	188	13:14 (1)	18:50	150	12:43 (1)	17:11	16	07:51 (8)	17:00
15	06:08		10:36 (1)	06:37	10:20 (1)	07:07	10:06 (1)	07:38	10:14 (1)	07:13	07:36 (8)	07:44			
	20:58	61	11:37 (1)	20:27	12:19 (1)	19:38	187	13:13 (1)	18:49	147	12:41 (1)	17:10	14	07:50 (8)	17:00
16	06:09		10:35 (1)	06:38	10:19 (1)	07:08	10:06 (1)	07:39	10:14 (1)	07:14	07:37 (8)	07:45			
	20:57	62	11:37 (1)	20:25	12:21 (1)	19:36	187	13:13 (1)	18:47	146	12:40 (1)	17:09	13	07:50 (8)	17:01
17	06:10		10:34 (1)	06:39	10:19 (1)	07:09	10:06 (1)	07:40	10:15 (1)	07:16	07:38 (8)	07:45			
	20:57	64	11:38 (1)	20:24	12:24 (1)	19:35	186	13:12 (1)	18:46	143	12:38 (1)	17:09	12	07:50 (8)	17:01
18	06:11		10:34 (1)	06:40	10:18 (1)	07:10	10:06 (1)	07:41	10:16 (1)	07:17	07:40 (8)	07:46			
	20:56	65	11:39 (1)	20:23	12:26 (1)	19:33	185	13:11 (1)	18:44	140	12:36 (1)	17:08	10	07:50 (8)	17:01
19	06:11		10:34 (1)	06:41	10:18 (1)	07:11	10:06 (1)	07:42	10:17 (1)	07:18	07:41 (8)	07:47			
	20:56	66	11:40 (1)	20:21	12:29 (1)	19:31	185	13:11 (1)	18:43	138	12:35 (1)	17:07	9	07:50 (8)	17:02
20	06:12		10:33 (1)	06:42	10:17 (1)	07:12	10:06 (1)	07:43	10:19 (1)	07:19	07:42 (8)	07:47			
	20:55	67	11:40 (1)	20:20	12:32 (1)	19:30	184	13:10 (1)	18:41	135	12:34 (1)	17:06	7	07:49 (8)	17:02
21	06:13		10:33 (1)	06:43	10:17 (1)	07:13	10:06 (1)	07:44	10:20 (1)	07:20	07:43 (8)	07:48			
	20:54	69	11:42 (1)	20:18	12:36 (1)	19:28	183	13:09 (1)	18:40	132	12:32 (1)	17:06	5	07:48 (8)	17:03
22	06:14		10:32 (1)	06:44	10:16 (1)	07:14	10:06 (1)	07:45	10:21 (1)	07:21	07:44 (8)	07:48			
	20:53	71	11:43 (1)	20:17	12:39 (1)	19:26	183	13:09 (1)	18:38	129	12:30 (1)	17:05	3	07:47 (8)	17:03
23	06:15		10:32 (1)	06:45	10:16 (1)	07:15	10:06 (1)	07:46	10:22 (1)	07:23	07:46 (8)	07:49			
	20:52	72	11:44 (1)	20:15	12:43 (1)	19:25	182	13:08 (1)	18:37	126	12:28 (1)	17:04	2	07:47 (8)	17:04
24	06:16		10:32 (1)	06:46	10:15 (1)	07:16	10:06 (1)	07:48	10:23 (1)	07:24	07:49				
	20:52	73	11:45 (1)	20:14	12:47 (1)	19:23	181	13:07 (1)	18:35	123	12:26 (1)	17:04		17:04	
25	06:17		10:31 (1)	06:47	10:14 (1)	07:17	10:06 (1)	07:49	09:25 (1)	07:25	07:50				
	20:51	75	11:46 (1)	20:12	12:50 (1)	19:21	180	13:06 (1)	17:34	120	11:25 (1)	17:03		17:05	
26	06:17		10:31 (1)	06:47	10:14 (1)	07:18	10:06 (1)	07:50	09:26 (1)	07:26	07:50				
	20:50	77	11:48 (1)	20:11	12:54 (1)	19:20	179	13:05 (1)	17:33	117	11:23 (1)	17:03		17:05	
27	06:18		10:30 (1)	06:48	10:13 (1)	07:19	10:06 (1)	07:51	09:28 (1)	07:27	07:50				
	20:49	78	11:48 (1)	20:09	12:58 (1)	19:18	178	13:04 (1)	17:31	113	11:21 (1)	17:02		17:06	
28	06:19		10:29 (1)	06:49	10:13 (1)	07:20	10:06 (1)	07:52	09:29 (1)	07:28	07:51				
	20:48	80	11:49 (1)	20:08	13:02 (1)	19:16	177	13:03 (1)	17:30	110	11:19 (1)	17:02		17:07	
29	06:20		10:29 (1)	06:50	10:12 (1)	07:21	10:06 (1)	07:53	09:31 (1)	07:29	07:51				
	20:47	81	11:50 (1)	20:06	13:05 (1)	19:14	176	13:02 (1)	17:29	106	11:17 (1)	17:02		17:07	
30	06:21		10:28 (1)	06:51	10:12 (1)	07:22	10:06 (1)	07:54	09:33 (1)	07:30	07:51				
	20:46	84	11:52 (1)	20:04	13:08 (1)	19:13	175	13:01 (1)	17:27	102	11:15 (1)	17:01		17:08	
31	06:22		10:28 (1)	06:52	10:11 (1)		06:56		09:35 (1)		07:51				
	20:45	85	11:53 (1)	20:03	13:10 (1)		17:26	98	11:13 (1)		17:09				
Potential sun hours	458		427		375		346		299		289				
Total, worst case	1978		3928		5512		4400		1014						
Sun reduction	0,74		0,72		0,65		0,57		0,49						
Oper. time red.	0,78		0,78		0,78		0,78		0,78						
Wind dir. red.	0,61		0,61		0,61		0,61		0,61						
Total reduction	0,35		0,35		0,31		0,28		0,23						
Total, real	700		1355		1724		1211		235						

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

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

Project:

Sa Correda Rev2

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26/01/2022 12:51 / 5

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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar

Calculation: Sa Correda beniShadow receptor: C - RB03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52	07:39	07:03	07:13	06:27	05:59	05:59	06:23	06:53	07:23	06:57	07:31
	17:10	17:44	18:18	19:51	20:23	20:52	21:03	20:44	20:01	19:11	17:25	17:01
2	07:52	07:38	07:01	07:11	06:26	05:58	06:00	06:24	06:54	07:24	06:58	07:32
	17:11	17:45	18:19	19:52	20:24	20:53	21:03	20:43	20:00	19:09	17:24	17:00
3	07:52	07:37	07:00	07:09	06:25	05:58	06:00	06:25	06:55	07:25	06:59	07:33
	17:11	17:46	18:20	19:53	20:25	20:53	21:03	20:42	19:58	19:08	17:22	17:00
4	07:52	07:36	06:58	07:08	06:23	05:57	06:01	06:26	06:56	07:26	07:00	07:34
	17:12	17:47	18:21	19:54	20:26	20:54	21:02	20:41	19:56	19:06	17:21	17:00
5	07:52	07:35	06:57	07:06	06:22	05:57	06:01	06:27	06:57	07:27	07:01	07:35
	17:13	17:49	18:22	19:55	20:27	20:55	21:02	20:40	19:55	19:04	17:20	17:00
6	07:52	07:33	06:55	07:04	06:21	05:57	06:02	06:28	06:58	07:28	07:03	07:36
	17:14	17:50	18:23	19:56	20:28	20:55	21:02	20:38	19:53	19:03	17:19	17:00
7	07:52	07:32	06:54	07:03	06:20	05:56	06:02	06:29	06:59	07:29	07:04	07:37
	17:15	17:51	18:24	19:58	20:29	20:56	21:02	20:37	19:51	19:01	17:18	17:00
8	07:52	07:31	06:52	07:01	06:18	05:56	06:03	06:30	07:00	07:30	07:05	07:38
	17:16	17:52	18:25	19:59	20:30	20:57	21:01	20:36	19:50	19:00	17:17	17:00
9	07:52	07:30	06:50	07:00	06:17	05:56	06:04	06:31	07:01	07:31	07:06	07:39
	17:17	17:54	18:27	20:00	20:31	20:57	21:01	20:35	19:48	18:58	17:16	17:00
10	07:51	07:29	06:49	06:58	06:16	05:56	06:04	06:32	07:02	07:32	07:07	07:40
	17:18	17:55	18:28	20:01	20:32	20:58	21:01	20:33	19:46	18:56	17:15	17:00
11	07:51	07:28	06:47	06:56	06:15	05:56	06:05	06:33	07:03	07:33	07:09	07:41
	17:19	17:56	18:29	20:02	20:33	20:58	21:00	20:32	19:45	18:55	17:14	17:00
12	07:51	07:27	06:46	06:55	06:14	05:55	06:06	06:33	07:04	07:34	07:10	07:42
	17:20	17:57	18:30	20:03	20:34	20:59	21:00	20:31	19:43	18:53	17:13	17:00
13	07:51	07:25	06:44	06:53	06:13	05:55	06:06	06:34	07:05	07:35	07:11	07:42
	17:21	17:59	18:31	20:04	20:35	20:59	20:59	20:30	19:41	18:52	17:12	17:00
14	07:50	07:24	06:42	06:52	06:12	05:55	06:07	06:35	07:06	07:36	07:12	07:43
	17:22	18:00	18:32	20:05	20:36	21:00	20:59	20:28	19:40	18:50	17:11	17:00
15	07:50	07:23	06:41	06:50	06:11	05:55	06:08	06:36	07:07	07:38	07:13	07:44
	17:23	18:01	18:33	20:06	20:37	21:00	20:58	20:27	19:38	18:49	17:10	17:00
16	07:50	07:21	06:39	06:49	06:10	05:55	06:09	06:37	07:08	07:39	07:14	07:45
	17:25	18:02	18:34	20:07	20:38	21:01	20:58	20:25	19:36	18:47	17:09	17:01
17	07:49	07:20	06:37	06:47	06:09	05:55	06:09	06:38	07:09	07:40	07:16	07:45
	17:26	18:03	18:35	20:08	20:39	21:01	20:57	20:24	19:35	18:45	17:08	17:01
18	07:49	07:19	06:36	06:45	06:08	05:55	06:10	06:39	07:10	07:41	07:17	07:46
	17:27	18:05	18:36	20:09	20:40	21:01	20:56	20:23	19:33	18:44	17:08	17:01
19	07:48	07:17	06:34	06:44	06:07	05:55	06:11	06:40	07:11	07:42	07:18	07:47
	17:28	18:06	18:37	20:10	20:41	21:02	20:56	20:21	19:31	18:42	17:07	17:02
20	07:48	07:16	06:32	06:42	06:06	05:56	06:12	06:41	07:12	07:43	07:19	07:47
	17:29	18:07	18:39	20:11	20:42	21:02	20:55	20:20	19:30	18:41	17:06	17:02
21	07:47	07:15	06:31	06:41	06:06	05:56	06:13	06:42	07:13	07:44	07:20	07:48
	17:30	18:08	18:40	20:12	20:43	21:02	20:54	20:18	19:28	18:40	17:05	17:02
22	07:46	07:13	06:29	06:40	06:05	05:56	06:14	06:43	07:14	07:45	07:21	07:48
	17:32	18:09	18:41	20:13	20:44	21:02	20:53	20:17	19:26	18:38	17:05	17:03
23	07:46	07:12	06:27	06:38	06:04	05:56	06:15	06:44	07:15	07:46	07:23	07:49
	17:33	18:11	18:42	20:14	20:44	21:03	20:53	20:15	19:24	18:37	17:04	17:03
24	07:45	07:10	06:26	06:37	06:03	05:56	06:15	06:45	07:16	07:48	07:24	07:49
	17:34	18:12	18:43	20:15	20:45	21:03	20:52	20:14	19:23	18:35	17:04	17:04
25	07:44	07:09	06:24	06:35	06:03	05:57	06:16	06:46	07:17	07:49	07:25	07:50
	17:35	18:13	18:44	20:16	20:46	21:03	20:51	20:12	19:21	17:34	17:03	17:05
26	07:44	07:07	06:22	06:34	06:02	05:57	06:17	06:47	07:18	07:50	07:26	07:50
	17:36	18:14	18:45	20:17	20:47	21:03	20:50	20:11	19:19	17:33	17:03	17:05
27	07:43	07:06	06:21	06:32	06:01	05:57	06:18	06:48	07:19	07:51	07:27	07:50
	17:38	18:15	18:46	20:19	20:48	21:03	20:49	20:09	19:18	17:31	17:02	17:06
28	07:42	07:04	06:19	06:31	06:01	05:58	06:19	06:49	07:20	07:52	07:28	07:51
	17:39	18:16	18:47	20:20	20:49	21:03	20:48	20:08	19:16	17:30	17:02	17:06
29	07:41		07:17	06:30	06:00	05:58	06:20	06:50	07:21	07:53	07:29	07:51
	17:40		19:48	20:21	20:50	21:03	20:47	20:06	19:14	17:29	17:01	17:07
30	07:40		07:16	06:28	06:00	05:59	06:21	06:51	07:22	07:54	07:30	07:51
	17:41		19:49	20:22	20:50	21:03	20:46	20:04	19:13	17:27	17:01	17:08
31	07:39		07:14		05:59		06:22	06:52		06:56		07:51
	17:43		19:50		20:51		20:45	20:03		17:26		17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	345	299	289
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

Sa Correda Rev2

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26/01/2022 12:51 / 6

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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar

Calculation: Sa Correda beniShadow receptor: D - RB04

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52	07:39	07:03	07:13	06:27	05:59	05:59	06:23	06:53	07:23	06:57	07:31
	17:10	17:44	18:17	19:51	20:23	20:52	21:03	20:44	20:01	19:11	17:25	17:01
2	07:52	07:38	07:01	07:11	06:26	05:58	06:00	06:24	06:54	07:24	06:58	07:32
	17:11	17:45	18:19	19:52	20:24	20:53	21:03	20:43	20:00	19:09	17:23	17:00
3	07:52	07:37	07:00	07:09	06:25	05:58	06:00	06:25	06:55	07:25	06:59	07:33
	17:11	17:46	18:20	19:53	20:25	20:53	21:03	20:42	19:58	19:08	17:22	17:00
4	07:52	07:36	06:58	07:08	06:23	05:57	06:01	06:26	06:56	07:26	07:00	07:34
	17:12	17:47	18:21	19:54	20:26	20:54	21:02	20:41	19:56	19:06	17:21	17:00
5	07:52	07:35	06:57	07:06	06:22	05:57	06:01	06:27	06:57	07:27	07:01	07:35
	17:13	17:49	18:22	19:55	20:27	20:55	21:02	20:40	19:55	19:04	17:20	17:00
6	07:52	07:33	06:55	07:04	06:21	05:57	06:02	06:28	06:58	07:28	07:03	07:36
	17:14	17:50	18:23	19:56	20:28	20:55	21:02	20:38	19:53	19:03	17:19	17:00
7	07:52	07:32	06:54	07:03	06:20	05:56	06:02	06:29	06:59	07:29	07:04	07:37
	17:15	17:51	18:24	19:57	20:29	20:56	21:02	20:37	19:51	19:01	17:18	17:00
8	07:52	07:31	06:52	07:01	06:18	05:56	06:03	06:30	07:00	07:30	07:05	07:38
	17:16	17:52	18:25	19:59	20:30	20:57	21:01	20:36	19:50	19:00	17:17	17:00
9	07:52	07:30	06:50	06:59	06:17	05:56	06:04	06:31	07:01	07:31	07:06	07:39
	17:17	17:54	18:27	20:00	20:31	20:57	21:01	20:35	19:48	18:58	17:16	18:59
10	07:51	07:29	06:49	06:58	06:16	05:56	06:04	06:31	07:02	07:32	07:07	07:40
	17:18	17:55	18:28	20:01	20:32	20:58	21:01	20:33	19:46	18:56	17:15	17:00
11	07:51	07:28	06:47	06:56	06:15	05:55	06:05	06:32	07:03	07:33	07:09	07:41
	17:19	17:56	18:29	20:02	20:33	20:58	21:00	20:32	19:45	18:55	17:14	17:00
12	07:51	07:27	06:46	06:55	06:14	05:55	06:06	06:33	07:04	07:34	07:10	07:42
	17:20	17:57	18:30	20:03	20:34	20:59	21:00	20:31	19:43	18:53	17:13	17:00
13	07:51	07:25	06:44	06:53	06:13	05:55	06:06	06:34	07:05	07:35	07:11	07:42
	17:21	17:59	18:31	20:04	20:35	20:59	20:59	20:30	19:41	18:52	17:12	17:00
14	07:50	07:24	06:42	06:52	06:12	05:55	06:07	06:35	07:06	07:36	07:12	07:43
	17:22	18:00	18:32	20:05	20:36	21:00	20:59	20:28	19:40	18:50	17:11	17:00
15	07:50	07:23	06:41	06:50	06:11	05:55	06:08	06:36	07:07	07:38	07:13	07:44
	17:23	18:01	18:33	20:06	20:37	21:00	20:58	20:27	19:38	18:48	17:10	17:00
16	07:50	07:21	06:39	06:49	06:10	05:55	06:09	06:37	07:08	07:39	07:14	07:45
	17:25	18:02	18:34	20:07	20:38	21:01	20:58	20:25	19:36	18:47	17:09	17:01
17	07:49	07:20	06:37	06:47	06:09	05:55	06:09	06:38	07:09	07:40	07:16	07:45
	17:26	18:03	18:35	20:08	20:39	21:01	20:57	20:24	19:35	18:45	17:08	17:01
18	07:49	07:19	06:36	06:45	06:08	05:55	06:10	06:39	07:10	07:41	07:17	07:46
	17:27	18:05	18:36	20:09	20:40	21:01	20:56	20:23	19:33	18:44	17:08	17:01
19	07:48	07:17	06:34	06:44	06:07	05:55	06:11	06:40	07:11	07:42	07:18	07:47
	17:28	18:06	18:37	20:10	20:41	21:02	20:56	20:21	19:31	18:42	17:07	17:02
20	07:48	07:16	06:32	06:42	06:06	05:56	06:12	06:41	07:12	07:43	07:19	07:47
	17:29	18:07	18:38	20:11	20:42	21:02	20:55	20:20	19:30	18:41	17:06	17:02
21	07:47	07:15	06:31	06:41	06:06	05:56	06:13	06:42	07:13	07:44	07:20	07:48
	17:30	18:08	18:40	20:12	20:43	21:02	20:54	20:18	19:28	18:40	17:05	17:02
22	07:46	07:13	06:29	06:40	06:05	05:56	06:14	06:43	07:14	07:45	07:21	07:48
	17:32	18:09	18:41	20:13	20:44	21:02	20:53	20:17	19:26	18:38	17:05	17:03
23	07:46	07:12	06:27	06:38	06:04	05:56	06:14	06:44	07:15	07:46	07:23	07:49
	17:33	18:11	18:42	20:14	20:44	21:03	20:53	20:15	19:24	18:37	17:04	17:03
24	07:45	07:10	06:26	06:37	06:03	05:56	06:15	06:45	07:16	07:47	07:24	07:49
	17:34	18:12	18:43	20:15	20:45	21:03	20:52	20:14	19:23	18:35	17:04	17:04
25	07:44	07:09	06:24	06:35	06:03	05:57	06:16	06:46	07:17	07:48	07:25	07:50
	17:35	18:13	18:44	20:16	20:46	21:03	20:51	20:12	19:21	17:34	17:03	17:05
26	07:44	07:07	06:22	06:34	06:02	05:57	06:17	06:47	07:18	07:49	07:26	07:50
	17:36	18:14	18:45	20:17	20:47	21:03	20:50	20:11	19:19	17:32	17:03	17:05
27	07:43	07:06	06:21	06:32	06:01	05:57	06:18	06:48	07:19	07:50	07:27	07:50
	17:38	18:15	18:46	20:19	20:48	21:03	20:49	20:09	19:18	17:31	17:02	17:06
28	07:42	07:04	06:19	06:31	06:01	05:58	06:19	06:49	07:20	07:51	07:28	07:51
	17:39	18:16	18:47	20:20	20:49	21:03	20:48	20:08	19:16	17:30	17:02	17:06
29	07:41		07:17	06:30	06:00	05:58	06:20	06:50	07:21	07:52	07:29	07:51
	17:40		19:48	20:21	20:50	21:03	20:47	20:06	19:14	17:29	17:01	17:07
30	07:40		07:16	06:28	06:00	05:59	06:21	06:51	07:22	07:53	07:30	07:51
	17:41		19:49	20:22	20:50	21:03	20:46	20:04	19:13	17:27	17:01	17:08
31	07:39		07:14		05:59		06:22	06:52		06:56		07:51
	17:42		19:50		20:51		20:45	20:03		17:26		17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	345	298	289
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

Sa Correda Rev2

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26/01/2022 12:51 / 7

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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar

Calculation: Sa Correda beniShadow receptor: E - RB05

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52	07:39	07:03	07:12	06:27	05:58	05:59	06:23	06:53	07:23	06:57	07:31
	17:10	17:44	18:17	19:51	20:23	20:52	21:03	20:44	20:01	19:11	17:25	17:01
2	07:52	07:38	07:01	07:11	06:26	05:58	06:00	06:24	06:54	07:24	06:58	07:32
	17:11	17:45	18:19	19:52	20:24	20:53	21:03	20:43	20:00	19:09	17:23	17:00
3	07:52	07:37	07:00	07:09	06:24	05:58	06:00	06:25	06:55	07:25	06:59	07:33
	17:11	17:46	18:20	19:53	20:25	20:53	21:03	20:42	19:58	19:08	17:22	17:00
4	07:52	07:36	06:58	07:08	06:23	05:57	06:01	06:26	06:56	07:26	07:00	07:34
	17:12	17:47	18:21	19:54	20:26	20:54	21:02	20:41	19:56	19:06	17:21	17:00
5	07:52	07:35	06:57	07:06	06:22	05:57	06:01	06:27	06:57	07:27	07:01	07:35
	17:13	17:49	18:22	19:55	20:27	20:55	21:02	20:40	19:55	19:04	17:20	17:00
6	07:52	07:33	06:55	07:04	06:21	05:57	06:02	06:28	06:58	07:28	07:03	07:36
	17:14	17:50	18:23	19:56	20:28	20:55	21:02	20:38	19:53	19:03	17:19	17:00
7	07:52	07:32	06:54	07:03	06:20	05:56	06:02	06:29	06:59	07:29	07:04	07:37
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8	07:52	07:31	06:52	07:01	06:18	05:56	06:03	06:30	07:00	07:30	07:05	07:38
	17:16	17:52	18:25	19:59	20:30	20:57	21:01	20:36	19:50	19:00	17:17	16:59
9	07:52	07:30	06:50	06:59	06:17	05:56	06:04	06:30	07:01	07:31	07:06	07:39
	17:17	17:54	18:27	20:00	20:31	20:57	21:01	20:35	19:48	18:58	17:16	16:59
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	17:18	17:55	18:28	20:01	20:32	20:58	21:01	20:33	19:46	18:56	17:15	17:00
11	07:51	07:28	06:47	06:56	06:15	05:55	06:05	06:32	07:03	07:33	07:09	07:41
	17:19	17:56	18:29	20:02	20:33	20:58	21:00	20:32	19:45	18:55	17:14	17:00
12	07:51	07:27	06:46	06:55	06:14	05:55	06:06	06:33	07:04	07:34	07:10	07:42
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	17:21	17:59	18:31	20:04	20:35	20:59	20:59	20:30	19:41	18:52	17:12	17:00
14	07:50	07:24	06:42	06:52	06:12	05:55	06:07	06:35	07:06	07:36	07:12	07:43
	17:22	18:00	18:32	20:05	20:36	21:00	20:59	20:28	19:40	18:50	17:11	17:00
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	17:23	18:01	18:33	20:06	20:37	21:00	20:58	20:27	19:38	18:48	17:10	17:00
16	07:50	07:21	06:39	06:48	06:10	05:55	06:09	06:37	07:08	07:39	07:14	07:45
	17:25	18:02	18:34	20:07	20:38	21:01	20:58	20:25	19:36	18:47	17:09	17:00
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	17:26	18:03	18:35	20:08	20:39	21:01	20:57	20:24	19:35	18:45	17:08	17:01
18	07:49	07:19	06:36	06:45	06:08	05:55	06:10	06:39	07:10	07:41	07:17	07:46
	17:27	18:05	18:36	20:09	20:40	21:01	20:56	20:23	19:33	18:44	17:08	17:01
19	07:48	07:17	06:34	06:44	06:07	05:55	06:11	06:40	07:11	07:42	07:18	07:47
	17:28	18:06	18:37	20:10	20:41	21:02	20:56	20:21	19:31	18:42	17:07	17:01
20	07:48	07:16	06:32	06:42	06:06	05:56	06:12	06:41	07:12	07:43	07:19	07:47
	17:29	18:07	18:38	20:11	20:42	21:02	20:55	20:20	19:30	18:41	17:06	17:02
21	07:47	07:15	06:31	06:41	06:06	05:56	06:13	06:42	07:13	07:44	07:20	07:48
	17:30	18:08	18:40	20:12	20:43	21:02	20:54	20:18	19:28	18:39	17:05	17:02
22	07:46	07:13	06:29	06:39	06:05	05:56	06:14	06:43	07:14	07:45	07:21	07:48
	17:32	18:09	18:41	20:13	20:44	21:02	20:53	20:17	19:26	18:38	17:05	17:03
23	07:46	07:12	06:27	06:38	06:04	05:56	06:14	06:44	07:15	07:46	07:23	07:49
	17:33	18:11	18:42	20:14	20:44	21:03	20:53	20:15	19:24	18:37	17:04	17:03
24	07:45	07:10	06:26	06:37	06:03	05:56	06:15	06:45	07:16	07:47	07:24	07:49
	17:34	18:12	18:43	20:15	20:45	21:03	20:52	20:14	19:23	18:35	17:04	17:04
25	07:44	07:09	06:24	06:35	06:03	05:57	06:16	06:46	07:17	07:48	07:25	07:50
	17:35	18:13	18:44	20:16	20:46	21:03	20:51	20:12	19:21	17:34	17:03	17:04
26	07:44	07:07	06:22	06:34	06:02	05:57	06:17	06:47	07:18	07:49	07:26	07:50
	17:36	18:14	18:45	20:17	20:47	21:03	20:50	20:11	19:19	17:32	17:03	17:05
27	07:43	07:06	06:21	06:32	06:01	05:57	06:18	06:48	07:19	07:50	07:27	07:50
	17:38	18:15	18:46	20:18	20:48	21:03	20:49	20:09	19:18	17:31	17:02	17:06
28	07:42	07:04	06:19	06:31	06:01	05:58	06:19	06:49	07:20	07:51	07:28	07:51
	17:39	18:16	18:47	20:20	20:49	21:03	20:48	20:08	19:16	17:30	17:02	17:06
29	07:41		07:17	06:30	06:00	05:58	06:20	06:50	07:21	07:52	07:29	07:51
	17:40		19:48	20:21	20:50	21:03	20:47	20:06	19:14	17:28	17:01	17:07
30	07:40		07:16	06:28	05:59	05:59	06:21	06:51	07:22	07:53	07:30	07:51
	17:41		19:49	20:22	20:50	21:03	20:46	20:04	19:13	17:27	17:01	17:08
31	07:39		07:14		05:59		06:22	06:52		07:54	07:31	07:51
	17:42		19:50		20:51		20:45	20:03		17:26	17:00	17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	345	298	289
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

Sa Correda Rev2

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26/01/2022 12:51 / 8

Licensed user:

Ing. Bruno Manca
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+390702358125
BrunoManca / ingbrunomanca@gmail.com
Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar

Calculation: Sa Correda beniShadow receptor: F - RB06

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
3,85 4,78 5,80 6,92 8,25 9,91 10,91 9,92 8,15 6,40 4,83 3,92

Operational time

N NNE NE ENE E ESE SE SSE S SSW SW WSW W WNW NW NNW Sum
350 372 406 451 293 316 135 192 496 654 575 406 496 744 564 382 6.832
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:51	07:38	07:03	07:12	06:27	05:59	05:59	06:23	06:53	07:23	06:57	07:31
	17:10	17:44	18:17	19:51	20:23	20:52	21:03	20:44	20:01	19:11	17:25	17:01
2	07:52	07:37	07:01	07:11	06:26	05:58	06:00	06:24	06:54	07:24	06:58	07:32
	17:11	17:45	18:19	19:52	20:24	20:52	21:02	20:43	20:00	19:09	17:24	17:01
3	07:52	07:36	07:00	07:09	06:25	05:58	06:00	06:25	06:55	07:25	06:59	07:33
	17:12	17:46	18:20	19:53	20:25	20:53	21:02	20:42	19:58	19:08	17:22	17:00
4	07:52	07:35	06:58	07:08	06:23	05:57	06:01	06:26	06:56	07:26	07:00	07:34
	17:12	17:48	18:21	19:54	20:26	20:54	21:02	20:40	19:56	19:06	17:21	17:00
5	07:52	07:34	06:57	07:06	06:22	05:57	06:01	06:27	06:57	07:27	07:01	07:35
	17:13	17:49	18:22	19:55	20:27	20:54	21:02	20:39	19:55	19:04	17:20	17:00
6	07:52	07:33	06:55	07:04	06:21	05:57	06:02	06:28	06:58	07:28	07:02	07:36
	17:14	17:50	18:23	19:56	20:28	20:55	21:02	20:38	19:53	19:03	17:19	17:00
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	17:15	17:51	18:24	19:57	20:29	20:56	21:01	20:37	19:51	19:01	17:18	17:00
8	07:52	07:31	06:52	07:01	06:19	05:56	06:03	06:30	07:00	07:30	07:05	07:38
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9	07:51	07:30	06:50	07:00	06:17	05:56	06:04	06:31	07:01	07:31	07:06	07:39
	17:17	17:54	18:27	19:59	20:31	20:57	21:01	20:35	19:48	18:58	17:16	17:00
10	07:51	07:29	06:49	06:58	06:16	05:56	06:04	06:32	07:02	07:32	07:07	07:40
	17:18	17:55	18:28	20:01	20:32	20:58	21:00	20:33	19:46	18:56	17:15	17:00
11	07:51	07:28	06:47	06:56	06:15	05:56	06:05	06:33	07:03	07:33	07:08	07:40
	17:19	17:56	18:29	20:02	20:33	20:58	21:00	20:32	19:45	18:55	17:14	17:00
12	07:51	07:26	06:46	06:55	06:14	05:56	06:06	06:34	07:04	07:34	07:10	07:41
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	17:22	18:00	18:32	20:05	20:36	20:59	20:58	20:28	19:40	18:50	17:11	17:00
15	07:50	07:23	06:41	06:50	06:11	05:55	06:08	06:37	07:07	07:37	07:13	07:44
	17:24	18:01	18:33	20:06	20:37	21:00	20:58	20:27	19:38	18:48	17:10	17:00
16	07:49	07:21	06:39	06:49	06:10	05:55	06:09	06:37	07:08	07:38	07:14	07:44
	17:25	18:02	18:34	20:07	20:38	21:00	20:57	20:25	19:36	18:47	17:09	17:01
17	07:49	07:20	06:37	06:47	06:09	05:55	06:10	06:38	07:09	07:40	07:15	07:45
	17:26	18:03	18:35	20:08	20:39	21:01	20:57	20:24	19:35	18:45	17:08	17:01
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	17:27	18:05	18:36	20:09	20:40	21:01	20:56	20:22	19:33	18:44	17:08	17:01
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	17:28	18:06	18:37	20:10	20:41	21:01	20:55	20:21	19:31	18:42	17:07	17:02
20	07:47	07:16	06:32	06:43	06:07	05:56	06:12	06:41	07:12	07:43	07:19	07:47
	17:29	18:07	18:38	20:11	20:41	21:02	20:55	20:20	19:29	18:41	17:06	17:02
21	07:47	07:15	06:31	06:41	06:06	05:56	06:13	06:42	07:13	07:44	07:20	07:47
	17:30	18:08	18:39	20:12	20:42	21:02	20:54	20:18	19:28	18:40	17:06	17:03
22	07:46	07:13	06:29	06:40	06:05	05:56	06:14	06:43	07:14	07:45	07:21	07:48
	17:32	18:09	18:41	20:13	20:43	21:02	20:53	20:17	19:26	18:38	17:05	17:03
23	07:46	07:12	06:27	06:38	06:04	05:56	06:15	06:44	07:15	07:46	07:22	07:48
	17:33	18:11	18:42	20:14	20:44	21:02	20:52	20:15	19:24	18:37	17:04	17:04
24	07:45	07:10	06:26	06:37	06:03	05:57	06:16	06:45	07:16	07:47	07:23	07:49
	17:34	18:12	18:43	20:15	20:45	21:02	20:51	20:14	19:23	18:35	17:04	17:04
25	07:44	07:09	06:24	06:35	06:03	05:57	06:16	06:46	07:17	07:48	07:25	07:49
	17:35	18:13	18:44	20:16	20:46	21:03	20:51	20:12	19:21	17:34	17:03	17:05
26	07:43	07:07	06:22	06:34	06:02	05:57	06:17	06:47	07:18	07:49	07:26	07:50
	17:36	18:14	18:45	20:17	20:47	21:03	20:50	20:11	19:19	17:33	17:03	17:05
27	07:43	07:06	06:21	06:32	06:01	05:58	06:18	06:48	07:19	07:50	07:27	07:50
	17:38	18:15	18:46	20:18	20:48	21:03	20:49	20:09	19:18	17:31	17:02	17:06
28	07:42	07:04	06:19	06:31	06:01	05:58	06:19	06:49	07:20	07:51	07:28	07:50
	17:39	18:16	18:47	20:19	20:49	21:03	20:48	20:07	19:16	17:30	17:02	17:07
29	07:41		07:17	06:30	06:00	05:58	06:20	06:50	07:21	07:52	07:29	07:51
	17:40		19:48	20:20	20:49	21:03	20:47	20:06	19:14	17:29	17:01	17:07
30	07:40		07:16	06:28	06:00	05:59	06:21	06:51	07:22	07:53	07:30	07:51
	17:41		19:49	20:21	20:50	21:03	20:46	20:04	19:13	17:27	17:01	17:08
31	07:39		07:14		05:59		06:22	06:52		07:54	07:31	07:51
	17:43		19:50		20:51		20:45	20:03		17:26		17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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

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

Project:

Sa Corredda Rev2

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26/01/2022 12:51 / 9

Licensed user:

Ing. Bruno Manca
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+390702358125
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Calculated:
25/01/2022 13:38/2.8.579

SHADOW - Calendar

Calculation: Sa Corredda beniShadow receptor: G - RB07

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [ALGHERO]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3,85	4,78	5,80	6,92	8,25	9,91	10,91	9,92	8,15	6,40	4,83	3,92

Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Sum
350	372	406	451	293	316	135	192	496	654	575	406	496	744	564	382	6.832

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:52 17:10	07:38 17:44	07:03 18:17	17:53 (13) 07:12	06:27 05:58	05:59 05:58	06:23 21:03	06:53 20:44	19:37 (14) 20:01	07:23 19:11	18:28 (13) 17:25	06:57 17:01
2	07:52 17:11	07:37 17:45	07:01 18:19	17:51 (13) 07:11	06:26 05:57	05:59 05:59	06:24 21:02	06:54 20:43	19:37 (14) 19:59	07:24 19:09	18:27 (13) 17:23	06:58 17:00
3	07:52 17:11	07:36 17:46	07:00 18:20	17:50 (13) 07:09	06:24 05:58	06:00 05:53	06:25 21:02	06:55 20:42	19:38 (14) 19:58	07:25 19:08	18:25 (13) 17:22	06:59 17:00
4	07:52 17:12	07:35 17:47	06:58 18:21	17:49 (13) 07:07	06:23 05:57	06:01 06:01	06:26 21:02	06:56 20:41	19:39 (14) 19:56	07:26 19:06	18:24 (13) 17:21	07:00 17:00
5	07:52 17:13	07:34 17:49	06:57 18:22	17:47 (13) 07:06	06:22 05:57	06:01 06:01	06:27 21:02	06:57 20:39	19:40 19:55	07:27 19:04	18:24 (13) 17:20	07:01 17:00
6	07:52 17:14	07:33 17:50	06:55 18:23	17:47 (13) 07:04	06:21 05:57	06:02 06:02	06:28 21:02	06:58 20:38	19:41 19:53	07:28 19:03	18:23 (13) 17:19	07:02 17:00
7	07:52 17:15	07:32 17:51	06:53 18:24	17:47 (13) 07:03	06:20 05:56	06:02 06:02	06:28 21:01	06:59 20:37	19:42 19:51	07:29 19:01	18:23 (13) 17:18	07:04 17:00
8	07:52 17:16	07:31 17:52	06:52 18:25	17:47 (13) 07:01	06:18 05:56	06:03 06:03	06:29 21:01	07:00 20:36	19:43 19:50	07:30 18:59	18:23 (13) 17:17	07:05 16:59
9	07:51 17:17	07:30 17:54	06:50 18:26	17:47 (13) 06:59	06:17 05:56	06:04 06:04	06:30 21:01	07:01 20:35	19:44 19:48	07:31 18:58	18:23 (13) 17:16	07:06 16:59
10	07:51 17:18	07:29 17:55	06:49 18:28	17:47 (13) 06:58	19:38 (14) 20:01	06:16 20:32	06:31 21:00	07:02 20:33	19:45 19:46	07:32 18:56	18:23 (13) 17:15	07:07 16:59
11	07:51 17:19	07:28 17:56	06:47 18:29	17:48 (13) 20:02	19:38 (14) 20:33	06:15 20:58	06:32 21:00	07:03 20:32	19:46 19:45	07:33 18:55	18:33 (13) 17:14	07:08 17:00
12	07:51 17:20	07:26 17:57	06:45 18:30	17:48 (13) 20:03	19:37 (14) 20:34	06:14 20:59	06:33 20:59	07:04 20:29	19:47 19:41	07:34 18:53	18:32 (13) 17:13	07:10 17:00
13	07:51 17:21	07:25 17:58	06:44 18:31	17:49 (13) 20:04	19:37 (14) 20:35	06:13 20:59	06:34 20:59	07:05 20:29	19:48 19:41	07:35 18:51	18:27 (13) 17:12	07:11 17:00
14	07:50 17:22	07:24 18:00	06:42 18:32	17:51 (13) 20:05	19:36 (14) 20:36	06:12 21:00	06:35 20:58	07:06 20:28	19:49 19:40	07:36 18:50	18:28 (13) 17:12	07:12 17:00
15	07:50 17:23	07:23 18:01	06:41 18:33	17:55 (13) 20:06	19:37 (14) 20:37	06:11 21:00	06:36 20:58	07:07 20:27	19:50 19:38	07:37 18:48	18:28 (13) 17:10	07:13 17:00
16	07:49 17:23	07:21 18:02	06:39 18:34	17:59 (13) 20:06	19:36 (14) 20:38	06:10 21:00	06:37 20:57	07:08 20:25	19:39 19:36	07:38 18:47	18:28 (13) 17:09	07:14 17:00
17	07:49 17:26	07:20 18:03	06:37 18:35	19:37 (14) 20:08	19:37 (14) 20:39	06:09 21:01	06:38 20:57	07:09 20:24	19:37 19:35	07:40 18:45	18:28 (13) 17:08	07:15 17:01
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24	07:45 17:34	07:10 18:12	06:26 18:43	19:49 (14) 20:15	19:45 (14) 20:45	06:03 21:02	06:45 20:52	07:16 20:14	19:41 (14) 19:51 (14)	07:16 19:23	18:28 (13) 17:04	07:24 17:04
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27	07:43 17:38	07:06 18:15	06:21 18:46	19:49 (14) 20:18	19:44 (14) 20:48	06:05 21:03	06:48 20:49	07:19 20:09	19:38 (14) 19:47 (14)	07:19 19:18	18:28 (13) 17:02	07:27 17:06
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29	07:41 17:40	07:03 18:17	06:17 18:48	19:49 (14) 20:20	19:44 (14) 20:49	06:07 21:03	06:50 20:47	07:21 20:06	19:37 (14) 19:44 (14)	07:21 19:14	18:33 (13) 17:01	07:29 17:07
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31	07:39 17:42	07:01 18:19	06:14 18:50	19:49 (14) 20:21	19:44 (14) 20:51	06:09 21:03	06:52 20:45	07:23 20:03	19:37 (14) 19:41 (14)	07:23 17:26	18:30 (13) 17:01	07:31 17:09
Potential sun hours	298	298	370	398	448	451	458	427	375	346	299	289
Total, worst case			200	98				95	29		179	
Sun reduction			0.49	0.52				0.72	0.65		0.57	
Oper. time red.			0.78	0.78				0.78	0.78		0.78	
Wind dir. red.			0.64	0.61				0.61	0.63		0.64	
Total reduction			0.24	0.25				0.34	0.32		0.29	
Total, real			49	24				32	9		51	

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

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