TOBIN

Rooaunalaghta Green Energy Project

Appendix 10-1

Shadow Flicker Modelling Report

ROOAUNALAGHTA
Green Energy

BUILT ON KNOWLEDGE

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Calculated:
28/08/2026 15:23/3.6.377

SHADOW - Main Result

Calculation: 11981_Rooaunalagtha_Shadow_Flicker_20260828

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) []

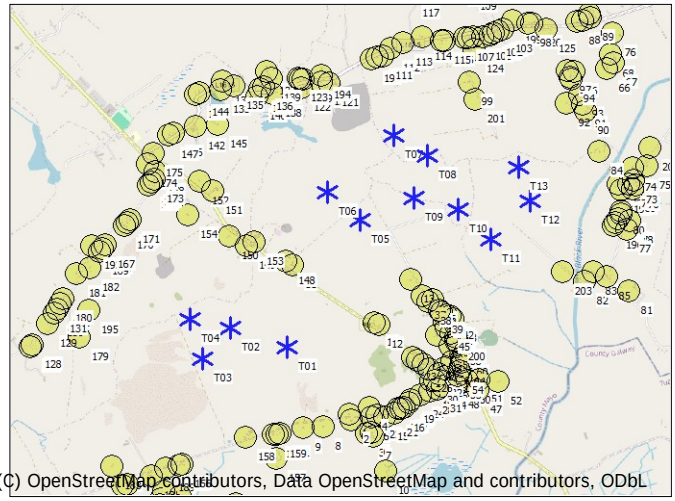
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.87	2.47	3.95	5.99	6.26	5.55	4.51	3.80	3.54	2.92	2.23	1.52

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
481	315	410	521	696	680	938	1,596	792	1,068	789	474	8,760

Line-of-sight calculation has been deactivated. This means that sheltering from obstacles, areas or hills are not taken into account.

All coordinates are in
Irish ITM-IRENET95 (IE), geocentric, GRS80



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:60,000
Existing WTG
Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
T01	523,647	750,010	35.7	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T02	523,199	750,168	49.1	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T03	522,973	749,924	43.0	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T04	522,876	750,243	58.5	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T05	524,247	751,004	40.0	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T06	523,987	751,232	43.4	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T07	524,525	751,670	41.3	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T08	524,788	751,502	40.7	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T09	524,675	751,173	31.2	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T10	525,024	751,075	31.2	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T11	525,287	750,834	34.7	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T12	525,604	751,129	41.4	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4
T13	525,514	751,396	51.2	VESTAS V136-4.5 4500 136.0 !O! h...	Yes	VESTAS	V136-4.5-4,500	4,500	136.0	82.0	1,804	10.4

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
1	524,138	749,464	28.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
2	524,152	749,418	27.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
3	524,267	749,308	22.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
4	524,300	749,515	27.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
5	524,310	749,434	25.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
6	524,312	749,314	22.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
7	524,324	749,282	22.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
8	523,927	749,369	28.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
9	523,768	749,363	24.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
10	524,426	749,010	17.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
11	523,706	750,649	52.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
12	524,386	750,168	40.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
13	524,645	750,521	32.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
14	524,346	750,186	41.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
15	524,418	749,440	24.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
16	524,551	749,498	26.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
17	524,574	749,508	26.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
18	524,614	749,543	26.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
19	524,629	749,564	27.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
20	524,532	749,502	26.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
21	524,494	749,464	25.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

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Calculated:
28/08/2026 15:23/3.6.377

TOBIN

SHADOW - Main Result

Calculation: 11981_Rooaunalagtha_Shadow_Flicker_20260828

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
22	524,362	749,449	25.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
23	524,652	749,904	35.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
24	524,708	749,604	28.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
25	524,736	749,847	34.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
26	524,776	749,813	33.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
27	524,686	749,882	35.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
28	524,782	749,637	28.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
29	524,795	749,717	31.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
30	524,826	749,717	30.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
31	524,847	749,656	29.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
32	524,851	749,773	31.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
33	524,859	749,722	30.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
34	524,886	749,670	29.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
35	524,897	749,817	30.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
36	524,894	749,747	30.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
37	524,732	750,389	32.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
38	524,781	750,344	32.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
39	524,867	750,274	30.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
40	524,881	750,263	29.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
41	524,924	750,240	29.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
42	524,950	750,228	28.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
43	524,973	750,205	27.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
44	524,907	750,183	29.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
45	524,923	750,141	28.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
46	524,817	750,359	31.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
47	525,161	749,636	21.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
48	524,993	749,681	26.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
49	525,049	749,714	25.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
50	525,083	749,716	25.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
51	525,178	749,722	22.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
52	525,323	749,701	19.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
53	525,007	749,751	27.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
54	525,024	749,795	27.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
55	525,030	749,737	26.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
56	524,949	749,994	29.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
57	524,992	750,032	28.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
58	525,010	750,018	27.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
59	524,962	750,086	28.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
60	525,059	749,940	27.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
61	524,964	749,866	29.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
62	525,038	749,893	27.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
63	524,842	750,075	31.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
64	525,036	749,860	28.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
65	525,030	749,830	28.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
66	526,230	752,169	36.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
67	526,288	752,208	36.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
68	526,264	752,287	37.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
69	526,416	751,210	30.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
70	526,449	751,240	30.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
71	526,391	751,250	30.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
72	526,304	751,250	29.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
73	526,429	751,282	30.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
74	526,420	751,377	28.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
75	526,536	751,395	29.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
76	526,275	752,449	38.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
77	526,366	750,892	34.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
78	526,394	750,965	34.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
79	526,322	751,014	33.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
80	526,332	751,041	33.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
81	526,380	750,401	33.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
82	526,033	750,486	23.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
83	526,099	750,560	26.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
84	526,159	751,511	25.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
85	526,204	750,526	29.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

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SHADOW - Main Result

Calculation: 11981_Rooaunalagtha_Shadow_Flicker_20260828

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
86	525,994	752,543	36.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
87	526,049	752,555	37.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
88	526,099	752,605	37.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
89	526,104	752,577	38.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
90	526,056	751,836	32.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
91	526,035	751,889	33.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
92	525,905	751,900	36.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
93	526,008	751,965	33.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
94	525,943	752,085	37.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
95	525,936	752,108	38.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
96	525,967	752,148	37.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
97	525,916	752,159	38.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
98	525,610	752,538	32.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
99	525,131	752,075	41.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
100	525,250	752,434	33.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
101	525,311	752,455	32.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
102	525,335	752,465	31.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
103	525,407	752,490	31.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
104	525,366	752,482	31.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
105	525,167	752,438	32.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
106	525,136	752,433	32.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
107	525,103	752,431	32.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
108	525,037	752,883	49.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
109	525,132	752,837	44.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
110	524,404	752,288	44.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
111	524,457	752,298	44.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
112	524,513	752,359	44.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
113	524,616	752,395	42.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
114	524,762	752,445	42.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
115	524,922	752,410	35.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
116	524,947	752,415	35.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
117	524,671	752,788	53.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
118	523,789	752,117	38.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
119	523,813	752,122	39.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
120	523,959	752,092	39.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
121	524,015	752,089	41.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
122	523,795	752,056	39.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
123	523,776	752,130	38.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
124	525,178	752,337	37.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
125	525,748	752,483	36.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
126	525,638	752,540	32.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
127	521,607	750,037	23.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
128	521,626	750,049	23.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
129	521,748	750,223	28.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
130	521,807	750,297	32.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
131	521,826	750,330	32.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
132	521,849	750,379	32.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
133	523,155	752,051	33.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
134	523,172	752,119	37.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
135	523,268	752,078	39.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
136	523,501	752,067	39.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
137	523,526	752,191	40.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
138	523,567	752,006	37.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
139	523,563	752,135	40.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
140	523,440	751,990	37.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
141	523,465	752,049	39.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
142	522,953	751,764	38.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
143	522,960	752,013	34.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
144	522,985	752,031	34.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
145	523,127	751,777	32.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
146	522,774	751,718	36.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
147	522,736	751,698	35.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
148	523,656	750,684	53.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
149	523,342	750,811	53.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

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SHADOW - Main Result

Calculation: 11981_Rooaunalagtha_Shadow_Flicker_20260828

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
150	523,204	750,890	53.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
151	523,084	751,248	47.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
152	522,974	751,334	44.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
153	523,406	750,840	52.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
154	522,878	751,068	51.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
155	522,778	749,079	17.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
156	522,801	749,090	18.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
157	523,549	749,121	16.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
158	523,304	749,291	21.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
159	523,561	749,310	17.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
160	523,527	749,315	18.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
161	523,584	749,323	17.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
162	523,031	748,656	15.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
163	523,037	748,687	16.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
164	522,927	748,741	15.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
165	523,221	748,768	14.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
166	522,778	748,838	13.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
167	522,213	750,839	36.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
168	522,192	750,809	37.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
169	522,171	750,788	36.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
170	522,369	750,991	40.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
171	522,420	751,033	41.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
172	522,595	751,327	36.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
173	522,615	751,351	35.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
174	522,562	751,468	31.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
175	522,608	751,552	33.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
176	522,572	751,304	36.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
177	522,394	751,009	41.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
178	522,620	751,412	33.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
179	522,000	750,111	42.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
180	521,873	750,416	32.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
181	521,985	750,614	32.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
182	522,094	750,660	37.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
183	522,240	749,082	22.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
184	522,366	748,937	21.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
185	522,552	749,004	21.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
186	522,618	748,773	14.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
187	522,629	748,821	14.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
188	522,647	748,876	14.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
189	522,670	749,064	20.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
190	522,327	748,929	22.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
191	523,087	748,653	15.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
192	522,115	750,831	32.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
193	524,363	752,272	43.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
194	523,964	752,148	39.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
195	522,084	750,320	45.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
196	526,268	750,922	33.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
197	526,276	750,951	33.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
198	526,326	751,204	30.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
199	525,488	752,561	31.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
200	524,994	750,060	27.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
201	525,177	751,937	46.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
202	526,303	750,976	33.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
203	525,854	750,562	22.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
204	526,568	751,534	29.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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Calculated:
28/08/2026 15:23/3.6.377

SHADOW - Main Result

Calculation: 11981_Rooaunalagtha_Shadow_Flicker_20260828

Calculation Results

Shadow receptor

No.	Shadow, worst case: Shadow hours per year [h/year]	Shadow, worst case: Shadow days per year [days/year]	Shadow, worst case: Max shadow hours per day [h/day]	Shadow, expected values: Shadow hours per year [h/year]
1	39:43	114	0:31	7:57
2	34:50	109	0:29	6:58
3	27:23	100	0:25	5:30
4	49:06	124	0:37	9:53
5	36:37	115	0:26	7:22
6	29:14	102	0:26	5:51
7	26:33	99	0:24	5:19
8	32:28	83	0:31	6:31
9	22:23	58	0:32	4:27
10	10:29	54	0:19	2:05
11	115:55	271	0:48	20:58
12	40:52	116	0:43	8:04
13	98:24	178	1:04	20:04
14	51:47	135	0:47	10:12
15	41:51	119	0:32	8:26
16	42:07	120	0:32	8:29
17	38:03	122	0:32	7:41
18	25:16	86	0:31	5:10
19	22:39	80	0:30	4:36
20	43:48	120	0:33	8:49
21	45:57	123	0:34	9:15
22	42:24	118	0:33	8:32
23	18:25	54	0:36	3:53
24	16:25	63	0:28	3:18
25	14:54	52	0:32	3:07
26	11:12	35	0:30	2:20
27	16:58	52	0:34	3:34
28	10:42	38	0:26	2:09
29	10:01	36	0:27	2:02
30	9:27	34	0:27	1:55
31	8:50	34	0:24	1:47
32	9:18	32	0:27	1:55
33	8:45	32	0:26	1:47
34	8:09	33	0:24	1:38
35	9:02	32	0:26	1:54
36	8:24	30	0:26	1:43
37	17:07	84	0:27	3:16
38	12:15	51	0:25	2:19
39	10:36	48	0:23	2:01
40	10:21	47	0:23	1:58
41	9:36	45	0:22	1:50
42	9:16	44	0:22	1:46
43	9:04	42	0:21	1:44
44	10:06	44	0:23	1:56
45	9:49	43	0:23	1:54
46	11:26	51	0:24	2:09
47	4:45	24	0:18	0:58
48	6:20	28	0:21	1:17
49	5:31	27	0:20	1:08
50	5:14	26	0:19	1:05
51	4:23	22	0:18	0:55
52	3:21	20	0:15	0:42
53	5:55	28	0:20	1:14
54	5:44	28	0:20	1:13
55	5:44	27	0:20	1:11
56	9:28	37	0:25	1:57
57	8:47	36	0:23	1:45
58	5:46	26	0:21	1:07
59	9:22	39	0:22	1:50
60	5:13	25	0:20	1:05
61	8:23	32	0:24	1:48
62	5:31	26	0:21	1:11

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28/08/2026 15:23/3.6.377

SHADOW - Main Result

Calculation: 11981_Rooaunalagtha_Shadow_Flicker_20260828

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
63	11:39	43	0:25	2:18
64	5:32	26	0:20	1:12
65	5:38	26	0:20	1:13
66	42:39	117	0:45	6:32
67	34:12	96	0:42	5:11
68	34:21	83	0:38	5:01
69	52:54	132	0:48	10:31
70	48:18	123	0:46	9:34
71	56:32	132	0:49	11:10
72	73:17	152	0:55	14:24
73	50:38	125	0:44	10:01
74	54:27	122	0:48	10:39
75	38:38	104	0:41	7:30
76	11:59	54	0:20	1:43
77	85:57	193	0:48	17:12
78	77:24	193	0:48	15:43
79	96:36	212	0:53	19:38
80	84:12	186	0:48	17:13
81	16:24	51	0:31	3:18
82	72:19	106	0:56	14:29
83	51:43	126	0:53	10:23
84	103:24	165	1:05	19:01
85	39:53	121	0:43	7:59
86	9:13	55	0:18	1:30
87	7:51	50	0:17	1:17
88	4:17	27	0:16	0:41
89	4:14	26	0:16	0:40
90	101:51	175	0:55	16:15
91	92:45	168	1:00	14:41
92	108:43	165	1:18	17:07
93	86:55	158	1:07	13:35
94	66:37	140	1:01	10:01
95	60:40	134	0:59	9:03
96	53:01	127	0:55	7:51
97	44:31	123	0:53	6:37
98	22:41	80	0:24	3:19
99	132:01	132	1:56	19:40
100	31:49	77	0:39	4:44
101	25:23	80	0:34	3:50
102	22:24	80	0:30	3:24
103	19:23	78	0:28	2:57
104	19:42	77	0:29	3:01
105	40:07	68	0:47	5:50
106	42:20	66	0:50	6:07
107	43:17	64	0:53	6:11
108	0:00	0	0:00	0:00
109	0:00	0	0:00	0:00
110	31:19	90	0:50	4:20
111	18:49	84	0:23	2:44
112	19:46	78	0:24	2:48
113	22:23	64	0:25	3:04
114	12:46	40	0:23	1:40
115	30:49	42	1:07	4:10
116	30:44	44	1:02	4:11
117	0:00	0	0:00	0:00
118	40:53	132	0:38	6:18
119	43:51	132	0:39	6:43
120	66:53	134	0:48	10:11
121	69:51	132	0:54	10:39
122	40:11	125	0:39	6:23
123	38:50	130	0:37	5:59
124	36:41	86	0:41	5:32
125	23:43	92	0:23	3:34

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SHADOW - Main Result

Calculation: 11981_Rooaunalagtha_Shadow_Flicker_20260828

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
126	23:30	80	0:25	3:26
127	21:02	77	0:25	4:23
128	21:34	76	0:25	4:30
129	23:06	77	0:28	4:38
130	23:18	75	0:30	4:29
131	23:28	75	0:30	4:25
132	23:41	75	0:30	4:18
133	27:13	112	0:29	4:18
134	30:35	119	0:30	4:35
135	39:33	121	0:35	5:50
136	39:56	108	0:46	5:53
137	15:36	67	0:27	2:29
138	52:55	128	0:54	7:54
139	19:57	82	0:29	3:12
140	59:48	133	0:48	8:51
141	47:36	116	0:48	6:57
142	15:46	64	0:27	2:40
143	13:13	58	0:25	2:10
144	13:56	58	0:25	2:16
145	28:44	103	0:32	4:54
146	11:53	55	0:23	2:02
147	11:24	55	0:22	1:59
148	150:52	268	0:57	27:19
149	111:47	228	0:55	19:49
150	82:51	173	0:43	15:30
151	29:02	106	0:34	5:55
152	20:16	82	0:30	3:52
153	108:32	231	0:45	19:33
154	22:15	111	0:25	4:12
155	0:00	0	0:00	0:00
156	0:00	0	0:00	0:00
157	0:00	0	0:00	0:00
158	0:00	0	0:00	0:00
159	0:00	0	0:00	0:00
160	0:00	0	0:00	0:00
161	0:00	0	0:00	0:00
162	0:00	0	0:00	0:00
163	0:00	0	0:00	0:00
164	0:00	0	0:00	0:00
165	0:00	0	0:00	0:00
166	0:00	0	0:00	0:00
167	67:46	116	0:59	10:12
168	63:50	120	0:59	9:43
169	59:22	124	0:59	9:09
170	62:18	110	0:54	9:11
171	58:17	103	0:54	8:25
172	14:39	72	0:20	2:22
173	12:26	65	0:20	2:06
174	7:43	41	0:20	1:25
175	7:57	40	0:21	1:26
176	16:35	79	0:20	2:36
177	61:14	109	0:54	8:56
178	8:42	45	0:21	1:37
179	44:07	112	0:36	9:05
180	24:04	74	0:31	4:17
181	30:31	81	0:41	5:12
182	40:26	94	0:50	6:37
183	11:42	54	0:18	2:26
184	0:00	0	0:00	0:00
185	0:00	0	0:00	0:00
186	0:00	0	0:00	0:00
187	0:00	0	0:00	0:00
188	0:00	0	0:00	0:00

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SHADOW - Main Result

Calculation: 11981_Rooaunalagtha_Shadow_Flicker_20260828

...continued from previous page

No.	Shadow, worst case Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow, expected values Shadow hours per year [h/year]
189	0:00	0	0:00	0:00
190	0:00	0	0:00	0:00
191	0:00	0	0:00	0:00
192	51:59	122	0:55	8:02
193	48:55	98	1:09	6:39
194	58:44	128	0:50	8:53
195	40:43	106	0:40	7:38
196	105:30	200	0:56	21:05
197	109:00	206	0:59	21:50
198	69:27	155	0:54	13:45
199	15:12	67	0:25	2:20
200	8:42	38	0:21	1:43
201	191:43	163	1:51	29:33
202	105:35	208	0:58	21:20
203	101:51	124	1:13	20:23
204	36:48	98	0:37	6:45

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
T01	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (1)	200:34	38:06
T02	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (2)	268:27	46:39
T03	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (3)	220:44	38:18
T04	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (4)	361:46	61:06
T05	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (5)	195:46	35:08
T06	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (6)	263:50	45:18
T07	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (7)	324:21	52:56
T08	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (8)	276:03	45:36
T09	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (9)	156:35	27:01
T10	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (10)	153:16	27:40
T11	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (11)	256:08	49:52
T12	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (12)	283:08	51:16
T13	VESTAS V136-4.5 4500 136.0 !O! hub: 82.0 m (TOT: 150.0 m) (13)	458:30	78:33

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.