

Table 2.13(d) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Edinburgh (Gogarbank) (2002–2011)

Month	Orientation		Daily mean irradiance (W·m ⁻²) and mean hourly irradiance (W·m ⁻²) for the 21st day of the given month																				
			Mean	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	
January	Normal to beam		272	0	0	0	0	0	0	0	0	0	451	351	505	520	624	0	0	0	0	0	
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	12	0	0	0	0	0	0	0	5	33	38	49	52	47	37	27	11	0	0	0	0
	NE	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	12	0	0	0	0	0	0	4	28	38	49	52	47	37	29	11	0	0	0	0	0
	E	Beam	12	0	0	0	0	0	0	0	0	203	78	0	0	0	0	0	0	0	0	0	0
		Diffuse	15	0	0	0	0	0	0	5	32	89	73	52	47	37	26	11	0	0	0	0	0
	SE	Beam	61	0	0	0	0	0	0	0	0	423	290	338	248	162	0	0	0	0	0	0	0
		Diffuse	28	0	0	0	0	0	0	5	36	146	132	132	105	72	23	11	0	0	0	0	0
	Sunrise: 0824 Sunset: 1624	S	Beam	93	0	0	0	0	0	0	0	394	333	489	488	534	0	0	0	0	0	0	0
			Diffuse	36	0	0	0	0	0	0	5	33	139	144	170	164	162	27	11	0	0	0	0
		SW	Beam	71	0	0	0	0	0	0	0	135	180	354	442	593	0	0	0	0	0	0	0
			Diffuse	30	0	0	0	0	0	0	4	28	72	101	136	153	176	29	11	0	0	0	0
		W	Beam	19	0	0	0	0	0	0	0	0	0	0	11	137	305	0	0	0	0	0	0
			Diffuse	17	0	0	0	0	0	0	5	32	38	49	51	78	107	26	11	0	0	0	0
		NW	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diffuse			12	0	0	0	0	0	0	5	36	38	49	52	47	37	23	11	0	0	0	0	0
	Horiz.	Beam	26	0	0	0	0	0	5	58	82	81	124	117	105	43	0	0	0	0	0	0	
	Horiz.	Diffuse	19	0	0	0	0	0	6	34	66	91	86	78	58	29	18	0	0	0	0	0	
	Horiz.	Global	45	0	0	0	0	0	11	92	147	171	210	195	163	72	18	0	0	0	0	0	
February	Normal to beam		348	0	0	0	0	0	68	150	493	647	639	648	573	612	0	0	0	0	0		
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	25	0	0	0	0	0	1	26	51	69	89	90	94	68	67	33	6	0	0	0	0
	NE	Beam	1	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	26	0	0	0	0	0	1	37	61	69	89	90	94	68	67	35	6	0	0	0	0
	E	Beam	23	0	0	0	0	0	58	103	237	157	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	31	0	0	0	0	0	1	49	92	124	118	90	94	68	67	35	6	0	0	0	0
	SE	Beam	83	0	0	0	0	0	0	66	146	451	519	408	283	121	0	0	0	0	0	0	0
		Diffuse	45	0	0	0	0	0	1	52	105	177	214	181	161	90	67	33	6	0	0	0	0
	Sunrise: 0723 Sunset: 1730	S	Beam	131	0	0	0	0	0	35	103	401	577	585	574	459	410	0	0	0	0	0	0
			Diffuse	59	0	0	0	0	0	1	43	92	165	230	226	245	171	205	33	6	0	0	0
		SW	Beam	104	0	0	0	0	0	0	0	116	297	420	528	528	595	0	0	0	0	0	0
			Diffuse	52	0	0	0	0	0	1	26	51	94	156	184	232	188	270	35	6	0	0	0
		W	Beam	38	0	0	0	0	0	0	0	0	0	0	8	173	288	431	0	0	0	0	0
			Diffuse	35	0	0	0	0	0	1	26	51	69	89	80	130	130	212	35	6	0	0	0
		NW	Beam	1	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0
Diffuse			25	0	0	0	0	0	1	26	51	69	89	90	94	68	64	33	6	0	0	0	0
	Horiz.	Beam	54	0	0	0	0	1	9	37	162	248	256	246	185	144	14	3	0	0	0	0	
	Horiz.	Diffuse	41	0	0	0	0	2	54	104	115	142	141	152	108	116	51	9	0	0	0	0	
	Horiz.	Global	96	0	0	0	0	2	63	141	277	390	397	398	293	260	65	11	0	0	0	0	
March	Normal to beam		413	0	0	0	0	16	139	520	690	729	669	675	708	716	434	71	0	0	0	0	
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	43	0	0	0	0	0	12	64	87	107	133	173	164	132	86	56	25	0	0	0	0
	NE	Beam	3	0	0	0	0	0	8	40	26	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	44	0	0	0	0	0	12	89	86	107	133	173	164	132	86	56	25	0	0	0	0
	E	Beam	40	0	0	0	0	0	15	118	352	320	160	0	0	0	0	0	0	0	0	0	0
		Diffuse	52	0	0	0	0	0	12	114	168	164	150	173	164	132	86	56	25	0	0	0	0
	SE	Beam	100	0	0	0	0	0	13	127	472	583	528	371	233	81	0	0	0	0	0	0	0
		Diffuse	67	0	0	0	0	0	12	116	197	225	249	286	223	134	86	56	25	0	0	0	0
	Sunrise: 0612 Sunset: 1829	S	Beam	151	0	0	0	0	4	61	315	505	587	552	531	493	399	165	13	0	0	0	0
			Diffuse	83	0	0	0	0	12	96	158	207	265	355	335	269	167	99	36	0	0	0	0
		SW	Beam	128	0	0	0	0	0	0	0	130	302	410	518	616	654	389	58	0	0	0	0
			Diffuse	77	0	0	0	0	0	12	64	87	120	189	300	330	309	228	159	49	0	0	0
		W	Beam	66	0	0	0	0	0	0	0	0	0	27	201	379	526	384	69	0	0	0	0
			Diffuse	59	0	0	0	0	0	12	64	87	107	133	154	211	231	197	158	53	0	0	0
		NW	Beam	12	0	0	0	0	0	0	0	0	0	0	0	0	90	155	40	0	0	0	0
Diffuse			46	0	0	0	0	0	12	64	87	107	133	173	164	132	92	96	44	0	0	0	0
	Horiz.	Beam	104	0	0	0	0	3	42	216	345	402	377	364	338	275	115	9	0	0	0	0	
	Horiz.	Diffuse	72	0	0	0	0	23	132	142	159	203	297	279	215	127	98	54	0	0	0	0	
	Horiz.	Global	176	0	0	0	0	26	174	358	504	604	675	643	554	403	213	63	0	0	0	0	

Table continues

Table 2.13(d) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Edinburgh (Gogarbank) (2002–2011)
— continued

Month	Orientation		Daily mean irradiance ($\text{W}\cdot\text{m}^{-2}$) and mean hourly irradiance ($\text{W}\cdot\text{m}^{-2}$) for the 21st day of the given month																				
			Mean	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	
April	Normal to beam		249	0	0	0	0	9	7	20	9	18	714	332	695	667	713	363	426	10	0	0	
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
		Diffuse	61	0	0	0	1	24	43	80	94	109	163	343	188	130	131	86	57	21	0	0	
	NE	Beam	1	0	0	0	0	6	4	6	1	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	62	0	0	0	1	24	43	105	94	109	163	343	188	130	131	86	57	21	0	0	
	E	Beam	7	0	0	0	0	8	7	16	6	8	127	0	0	0	0	0	0	0	0	0	
		Diffuse	64	0	0	0	1	24	43	107	94	142	166	343	188	130	131	86	57	21	0	0	
	SE	Beam	33	0	0	0	0	6	6	16	8	13	433	144	157	0	0	0	0	0	0	0	
		Diffuse	73	0	0	0	1	24	43	107	94	144	244	460	204	130	131	86	57	21	0	0	
	Sunrise: 0450 Sunset: 1933	S	Beam	81	0	0	0	0	0	1	7	5	11	485	229	449	367	291	84	13	0	0	0
			Diffuse	86	0	0	0	1	24	43	105	94	143	257	521	300	194	190	111	59	21	0	0
		SW	Beam	109	0	0	0	0	0	0	0	0	2	253	180	478	521	581	286	299	5	0	0
			Diffuse	92	0	0	0	1	24	43	80	94	141	198	486	310	230	273	168	136	21	0	0
		W	Beam	79	0	0	0	0	0	0	0	0	0	0	25	227	370	530	320	410	10	0	0
			Diffuse	81	0	0	0	1	24	43	80	94	109	163	374	227	195	259	178	165	21	0	0
		NW	Beam	26	0	0	0	0	0	0	0	0	0	0	0	0	2	169	167	281	8	0	0
			Diffuse	67	0	0	0	1	24	43	80	94	109	163	343	188	110	155	135	131	21	0	0
		Horiz.	Beam	97	0	0	0	1	2	3	9	6	12	509	239	479	417	378	149	117	1	0	0
Horiz.		Diffuse	111	0	0	1	2	47	84	173	186	235	246	698	306	194	205	157	99	42	0	0	
Horiz.		Global	208	0	0	1	3	48	86	182	192	247	755	938	786	611	583	305	216	43	0	0	
May	Normal to beam		503	0	0	0	224	348	531	683	775	728	745	760	729	775	761	733	683	572	0	0	
	N	Beam	13	0	0	0	73	44	0	0	0	0	0	0	0	0	0	0	41	150	0	0	
		Diffuse	70	0	0	14	75	91	99	117	131	149	155	155	152	136	120	99	72	83	32	5	
	NE	Beam	47	0	0	0	198	261	304	249	110	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	78	0	0	14	117	159	170	152	126	149	155	155	152	136	120	99	75	51	31	4	
	E	Beam	100	0	0	0	207	325	469	525	467	289	121	0	0	0	0	0	0	0	0	0	
		Diffuse	87	0	0	14	120	180	214	211	193	180	150	155	152	136	120	99	75	51	37	5	
	SE	Beam	122	0	0	0	94	199	358	493	550	467	387	268	111	0	0	0	0	0	0	0	
		Diffuse	87	0	0	14	82	140	185	204	208	216	202	177	147	136	120	99	75	51	38	5	
	Sunrise: 0348 Sunset: 2031	S	Beam	118	0	0	0	0	0	38	172	311	372	426	441	391	343	232	98	0	0	0	0
			Diffuse	80	0	0	14	45	75	100	135	164	196	210	210	203	174	141	101	75	51	32	5
		SW	Beam	140	0	0	0	0	0	0	0	0	59	215	356	442	537	551	510	417	272	0	0
			Diffuse	87	0	0	14	45	75	99	117	131	134	169	194	213	210	202	182	153	113	31	4
		W	Beam	127	0	0	0	0	0	0	0	0	0	62	234	417	547	623	631	534	0	0	0
			Diffuse	88	0	0	14	45	75	99	117	131	149	155	138	172	188	201	205	199	179	37	5
		NW	Beam	67	0	0	0	0	0	0	0	0	0	0	0	0	53	223	371	475	484	0	0
			Diffuse	78	0	0	14	45	75	99	117	131	149	155	155	152	120	139	155	165	166	38	5
		Horiz.	Beam	232	0	0	1	44	116	248	402	534	556	599	616	569	556	476	374	259	138	63	7
Horiz.		Diffuse	95	1	3	23	88	140	164	168	170	204	209	205	208	177	158	135	108	81	36	5	
Horiz.		Global	327	1	3	24	132	255	412	570	704	759	808	821	778	734	634	509	367	219	99	12	
June	Normal to beam		408	0	0	0	71	222	448	620	692	618	780	786	707	546	493	689	406	488	183	0	
	N	Beam	13	0	0	0	26	38	0	0	0	0	0	0	0	0	0	0	30	133	85	0	
		Diffuse	79	0	2	21	68	105	108	125	140	161	157	158	159	159	144	109	102	96	72	14	
	NE	Beam	36	0	0	0	64	171	268	247	126	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	83	0	2	21	80	150	180	165	143	161	157	158	159	159	144	109	95	64	37	14	
	E	Beam	81	0	0	0	64	203	389	473	419	251	140	0	0	0	0	0	0	0	0	0	
		Diffuse	91	0	2	21	80	161	215	218	205	197	152	158	159	159	144	109	95	64	37	15	
	SE	Beam	102	0	0	0	26	117	282	422	466	378	387	264	101	0	0	0	0	0	0	0	
		Diffuse	92	0	2	21	68	132	184	206	215	227	196	174	152	159	144	109	95	64	37	16	
	Sunrise: 0324 Sunset: 2105	S	Beam	95	0	0	0	0	0	10	124	241	284	407	421	351	223	137	78	0	0	0	0
			Diffuse	86	0	2	21	47	83	106	136	167	205	200	203	203	200	171	108	95	64	37	14
		SW	Beam	108	0	0	0	0	0	0	0	0	23	189	331	396	354	338	456	237	222	52	0
			Diffuse	93	0	2	21	47	83	108	125	140	144	161	186	213	234	225	187	164	120	61	14
		W	Beam	100	0	0	0	0	0	0	0	0	0	47	208	278	340	567	365	447	159	0	0
			Diffuse	96	0	2	21	47	83	108	125	140	161	157	135	174	214	226	211	203	182	97	15
		NW	Beam	58	0	0	0	0	0	0	0	0	0	0	0	0	39	143	345	280	410	173	0
			Diffuse	88	0	2	21	47	83	108	125	140	161	157	158	159	153	172	164	177	172	102	16
		Horiz.	Beam	211	0	0	1	16	81	222	381	495	489	650	662	577	413	330	384	175	145	30	11*
Horiz.		Diffuse	116	0	3	34	100	163	188	190	199	245	201	201	222	258	242	156	170	108	75	20*	
Horiz.		Global	327	0	3	35	117	244	410	571	694	734	851	863	799	671	572	539	345	253	105	312*	

* Additional values at 2130: Horiz. Beam = 0; Horiz. Diffuse = 1; Horiz. Global = 1

Table continues

Table 2.13(d) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Edinburgh (Gogarbank) (2002–2011)
— continued

Month	Orientation		Daily mean irradiance ($\text{W}\cdot\text{m}^{-2}$) and mean hourly irradiance ($\text{W}\cdot\text{m}^{-2}$) for the 21st day of the given month																				
			Mean	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	
July	Normal to beam		444	0	0	0	72	525	531	648	115	630	784	770	771	779	774	716	548	235	100	0	
	N	Beam	9	0	0	0	26	84	0	0	0	0	0	0	0	0	0	0	15	54	43	0	
		Diffuse	71	0	0	15	54	83	95	115	148	153	150	154	149	138	121	103	79	85	48	7	
	NE	Beam	45	0	0	0	65	407	321	260	21	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	80	0	0	17	67	168	170	156	185	153	150	154	149	138	121	103	84	60	28	7	
	E	Beam	85	0	0	0	66	491	475	512	73	272	158	0	0	0	0	0	0	0	0	0	
		Diffuse	87	0	0	16	67	190	210	212	203	194	150	154	149	138	121	103	84	60	28	7	
	SE	Beam	104	0	0	0	28	288	350	464	82	413	424	293	143	0	0	0	0	0	0	0	
		Diffuse	87	0	0	15	55	136	178	202	206	226	198	179	147	138	121	103	84	60	28	8	
	Sunrise: 0355 Sunset: 2043	S	Beam	107	0	0	0	0	0	21	144	43	311	441	447	421	358	255	117	0	0	0	0
			Diffuse	81	0	0	15	37	66	91	130	193	203	201	207	198	176	145	108	84	60	28	7
		SW	Beam	129	0	0	0	0	0	0	0	28	200	339	452	531	559	504	345	118	33	0	0
			Diffuse	87	0	0	17	37	66	95	115	148	137	157	187	204	208	201	187	164	106	45	7
		W	Beam	108	0	0	0	0	0	0	0	0	0	32	218	393	535	596	502	221	89	0	0
			Diffuse	86	0	0	16	37	66	95	115	148	153	150	130	161	183	196	205	205	141	64	7
		NW	Beam	51	0	0	0	0	0	0	0	0	0	0	0	25	198	339	366	194	93	0	0
			Diffuse	77	0	0	15	37	66	95	115	148	153	150	154	149	115	134	153	169	132	66	8
		Horiz.	Beam	207	0	0	14	13	164	238	370	78	476	628	626	609	570	497	380	220	62	13	8
Horiz.		Diffuse	102	0	1	21	77	109	155	170	307	230	192	200	193	177	157	142	137	118	58	9	
Horiz.		Global	309	0	1	34	90	273	393	540	385	706	820	826	802	746	654	522	357	181	71	17	
August	Normal to beam		386	0	0	0	332	458	590	727	784	806	818	812	333	134	303	60	27	0	0		
	N	Beam	1	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	
		Diffuse	56	0	0	0	16	57	77	99	114	126	134	135	130	144	120	96	58	29	6	0	
	NE	Beam	33	0	0	0	246	256	204	84	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	63	0	0	0	17	128	146	137	111	126	134	135	130	144	120	96	58	29	7	0	
	E	Beam	92	0	0	0	324	425	481	472	344	159	0	0	0	0	0	0	0	0	0	0	
		Diffuse	74	0	0	0	17	153	194	206	189	165	135	135	130	144	120	96	58	29	7	0	
	SE	Beam	136	0	0	0	212	345	477	584	579	497	366	197	5	0	0	0	0	0	0	0	
		Diffuse	79	0	0	0	16	117	171	204	212	208	195	171	139	151	120	96	58	29	7	0	
	Sunrise: 0452 Sunset: 1940	S	Beam	127	0	0	0	0	62	193	354	475	544	565	529	186	56	74	3	0	0	0	0
			Diffuse	77	0	0	0	16	47	91	135	165	189	203	206	197	208	162	126	74	29	6	0
		SW	Beam	84	0	0	0	0	0	0	0	93	272	432	551	258	109	240	42	15	0	0	0
			Diffuse	72	0	0	0	17	47	77	99	114	119	155	183	201	231	181	180	87	29	7	0
		W	Beam	38	0	0	0	0	0	0	0	0	0	47	250	179	98	265	57	26	0	0	0
			Diffuse	66	0	0	0	17	47	77	99	114	126	134	116	148	206	177	188	91	29	7	0
		NW	Beam	9	0	0	0	0	0	0	0	0	0	0	0	0	29	135	38	21	0	0	0
			Diffuse	60	0	0	0	16	47	77	99	114	126	134	135	130	144	153	145	85	29	7	0
		Horiz.	Beam	151	0	0	0	2	69	159	281	425	521	573	590	564	210	72	127	17	4	2	0
Horiz.		Diffuse	88	0	0	0	27	89	133	156	157	163	168	167	162	270	248	183	124	56	10	0	
Horiz.		Global	239	0	0	0	29	158	292	437	582	684	741	757	726	480	320	310	141	60	12	0	
September	Normal to beam		421	0	0	0	0	290	426	564	656	525	676	676	682	692	701	0	0	0	0		
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	41	0	0	0	0	19	45	71	91	108	116	119	112	98	77	51	58	8	0	0	
	NE	Beam	10	0	0	0	0	133	100	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	44	0	0	0	0	21	88	96	91	108	116	119	112	98	77	51	66	8	0	0	
	E	Beam	55	0	0	0	0	271	345	356	268	83	0	0	0	0	0	0	0	0	0	0	
		Diffuse	54	0	0	0	24	129	162	167	154	126	119	112	98	77	51	72	8	0	0	0	
	SE	Beam	109	0	0	0	0	251	388	505	538	360	342	197	38	0	0	0	0	0	0	0	
		Diffuse	64	0	0	0	22	123	173	202	215	195	179	140	91	77	51	63	8	0	0	0	
	Sunrise: 0553 Sunset: 1819	S	Beam	153	0	0	0	0	84	204	358	492	426	553	519	454	358	233	0	0	0	0	0
			Diffuse	72	0	0	0	19	73	124	167	205	211	228	214	187	148	98	58	8	0	0	0
		SW	Beam	135	0	0	0	0	0	0	2	158	243	440	537	604	633	618	0	0	0	0	0
			Diffuse	68	0	0	0	21	45	71	82	128	166	202	218	222	212	189	66	8	0	0	0
		W	Beam	79	0	0	0	0	0	0	0	0	0	69	241	400	537	640	0	0	0	0	0
			Diffuse	57	0	0	0	24	45	71	91	108	116	116	150	175	190	194	72	8	0	0	0
		NW	Beam	17	0	0	0	0	0	0	0	0	0	0	0	0	127	288	0	0	0	0	0
			Diffuse	44	0	0	0	22	45	71	91	108	116	119	112	98	94	111	63	8	0	0	0
		Horiz.	Beam	110	0	0	0	41	61	144	251	342	296	383	360	315	250	166	43	0	0	0	0
Horiz.		Diffuse	63	0	0	0	3	21	85	124	144	162	188	177	166	145	115	76	81	14	0	0	
Horiz.		Global	173	0	0	0	3	63	146	268	395	504	484	560	526	461	365	243	124	14	0	0	

Table continues

Table 2.13(d) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Edinburgh (Gogarbank) (2002–2011)
— continued

Month	Orientation		Daily mean irradiance ($\text{W}\cdot\text{m}^{-2}$) and mean hourly irradiance ($\text{W}\cdot\text{m}^{-2}$) for the 21st day of the given month																					
			Mean	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030		
October	Normal to beam		334	0	0	0	0	0	0	478	452	547	585	672	732	536	8	0	0	0	0	0		
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	24	0	0	0	0	0	18	39	60	74	81	82	86	58	27	58	1	0	0	0	0	
	NE	Beam	2	0	0	0	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	25	0	0	0	0	0	17	51	60	74	81	82	86	58	27	58	1	0	0	0	0	
	E	Beam	38	0	0	0	0	0	0	370	267	201	70	0	0	0	0	0	0	0	0	0	0	
		Diffuse	33	0	0	0	0	0	20	132	128	116	89	82	86	58	27	58	1	0	0	0	0	
	SE	Beam	103	0	0	0	0	0	0	467	430	475	427	368	244	54	0	0	0	0	0	0	0	
		Diffuse	48	0	0	0	0	0	20	157	172	183	173	154	138	66	27	58	1	0	0	0	0	
	Sunrise: 0655 Sunset: 1701	S	Beam	137	0	0	0	0	0	290	341	471	534	612	626	400	5	0	0	0	0	0	0	
			Diffuse	56	0	0	0	0	0	18	112	148	182	199	210	243	151	27	58	1	0	0	0	0
		SW	Beam	93	0	0	0	0	0	0	53	191	328	498	642	512	8	0	0	0	0	0	0	
			Diffuse	45	0	0	0	0	0	17	39	72	114	150	184	248	179	27	58	1	0	0	0	0
		W	Beam	29	0	0	0	0	0	0	0	0	0	0	92	281	324	6	0	0	0	0	0	0
			Diffuse	30	0	0	0	0	0	20	39	60	74	81	91	148	133	27	58	1	0	0	0	0
		NW	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
			Diffuse	24	0	0	0	0	0	20	39	60	74	81	82	86	58	27	58	1	0	0	0	0
	Horiz.	Beam	55	0	0	0	0	0	26	87	128	193	228	260	256	148	1	0	0	0	0	0	0	
	Horiz.	Diffuse	39	0	0	0	0	2	22	65	104	119	128	123	134	94	54	97	7	0	0	0	0	
	Horiz.	Global	95	0	0	0	0	2	47	153	231	313	355	383	389	242	55	97	7	0	0	0	0	
November	Normal to beam		269	0	0	0	0	0	0	65	382	455	645	529	613	0	0	0	0	0	0	0		
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	12	0	0	0	0	0	10	27	44	50	62	43	29	13	0	0	0	0	0	0	0	
	NE	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	12	0	0	0	0	0	10	27	44	50	62	43	29	15	0	0	0	0	0	0	0	
	E	Beam	9	0	0	0	0	0	0	0	37	136	54	0	0	0	0	0	0	0	0	0	0	
		Diffuse	14	0	0	0	0	0	10	45	81	63	62	43	29	13	0	0	0	0	0	0	0	
	SE	Beam	60	0	0	0	0	0	0	63	343	348	381	204	101	0	0	0	0	0	0	0	0	
		Diffuse	27	0	0	0	0	0	10	53	137	138	170	89	50	11	0	0	0	0	0	0	0	
	Sunrise: 0757 Sunset: 1600	S	Beam	101	0	0	0	0	0	52	348	438	620	481	495	0	0	0	0	0	0	0	0	
			Diffuse	38	0	0	0	0	0	10	49	139	161	243	157	145	13	0	0	0	0	0	0	0
		SW	Beam	83	0	0	0	0	0	0	11	150	271	496	475	599	0	0	0	0	0	0	0	0
			Diffuse	33	0	0	0	0	0	10	37	85	118	205	156	170	15	0	0	0	0	0	0	0
		W	Beam	26	0	0	0	0	0	0	0	0	0	81	192	353	0	0	0	0	0	0	0	0
			Diffuse	18	0	0	0	0	0	10	27	44	50	78	86	111	13	0	0	0	0	0	0	0
		NW	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Diffuse	12	0	0	0	0	0	10	27	44	50	62	43	29	11	0	0	0	0	0	0	0
	Horiz.	Beam	24	0	0	0	0	0	2	9	79	110	155	108	83	24	0	0	0	0	0	0	0	
	Horiz.	Diffuse	20	0	0	0	0	1	2	16	57	78	87	103	70	46	13	3	0	0	0	0	0	
	Horiz.	Global	43	0	0	0	0	1	2	18	66	157	196	258	178	128	37	3	0	0	0	0	0	
December	Normal to beam		187	0	0	0	0	0	0	0	642	347	275	232	0	0	0	0	0	0	0	0		
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	8	0	0	0	0	0	0	0	13	37	38	40	33	29	5	0	0	0	0	0	0	
	NE	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	8	0	0	0	0	0	0	0	13	37	38	40	33	30	5	0	0	0	0	0	0	
	E	Beam	13	0	0	0	0	0	0	0	252	57	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	12	0	0	0	0	0	0	0	13	112	55	40	33	28	5	0	0	0	0	0	0	
	SE	Beam	48	0	0	0	0	0	0	0	591	279	176	103	0	0	0	0	0	0	0	0	0	
		Diffuse	23	0	0	0	0	0	0	0	13	221	117	95	68	27	5	0	0	0	0	0	0	
	Sunset: 0839 Sunset: 1542	S	Beam	59	0	0	0	0	0	0	0	584	337	270	218	0	0	0	0	0	0	0	0	0
			Diffuse	26	0	0	0	0	0	0	0	13	218	133	122	103	29	5	0	0	0	0	0	0
		SW	Beam	35	0	0	0	0	0	0	0	235	198	205	205	0	0	0	0	0	0	0	0	0
			Diffuse	19	0	0	0	0	0	0	0	13	107	95	103	99	30	5	0	0	0	0	0	0
		W	Beam	4	0	0	0	0	0	0	0	0	0	21	72	0	0	0	0	0	0	0	0	0
			Diffuse	10	0	0	0	0	0	0	0	13	37	38	49	59	28	5	0	0	0	0	0	0
		NW	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Diffuse	8	0	0	0	0	0	0	0	13	37	38	40	33	27	5	0	0	0	0	0	0
	Horiz.	Beam	11	0	0	0	0	0	0	1	87	61	50	36	20	2	0	0	0	0	0	0	0	
	Horiz.	Diffuse	14	0	0	0	0	0	1	21	61	70	76	66	40	8	0	0	0	0	0	0	0	
	Horiz.	Global	25	0	0	0	0	0	1	22	148	131	126	101	60	9	0	0	0	0	0	0	0	