

Table 2.13(b) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Birmingham (Edgbaston) (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		353	0	0	0	0	0	0	0	0	328	648	794	610	414	384	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	15	0	0	0	0	0	0	0	10	35	51	67	65	62	48	31	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	15	0	0	0	0	0	0	0	10	35	51	67	65	62	48	31	0	0	0	0	0	
	E	Beam	27	0	0	0	0	0	0	0	207	279	159	0	0	0	0	0	0	0	0	0	0	
		Diffuse	21	0	0	0	0	0	0	0	10	100	109	91	65	62	48	31	0	0	0	0	0	
	SE	Beam	93	0	0	0	0	0	0	0	323	596	638	391	184	88	0	0	0	0	0	0	0	
		Diffuse	37	0	0	0	0	0	0	0	10	134	182	204	150	114	74	30	0	0	0	0	0	
	Sunrise: 0801 Sunset: 1635	S	Beam	118	0	0	0	0	0	0	0	249	564	743	580	379	320	0	0	0	0	0	0	
			Diffuse	44	0	0	0	0	0	0	0	10	112	174	229	195	169	141	31	0	0	0	0	0
		SW	Beam	75	0	0	0	0	0	0	0	29	201	413	430	352	364	0	0	0	0	0	0	
			Diffuse	33	0	0	0	0	0	0	0	10	46	91	151	160	161	154	31	0	0	0	0	0
		W	Beam	14	0	0	0	0	0	0	0	0	0	0	0	27	118	195	0	0	0	0	0	0
			Diffuse	19	0	0	0	0	0	0	0	10	35	51	67	64	95	105	31	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	15	0	0	0	0	0	0	0	10	35	51	67	65	62	48	30	0	0	0	0	0
	Horiz.	Beam	34	0	0	0	0	0	0	1	51	155	230	185	114	82	5	0	0	0	0	0	0	
	Horiz.	Diffuse	25	0	0	0	0	0	0	16	66	78	96	101	110	87	49	0	0	0	0	0	0	
	Horiz.	Global	59	0	0	0	0	0	0	17	116	233	327	286	225	169	54	0	0	0	0	0	0	
February	Normal to beam		371	0	0	0	0	0	0	253	80	286	607	483	690	759	793	135	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	31	0	0	0	0	0	12	39	62	87	93	99	146	107	62	30	3	0	0	0	0	
	NE	Beam	2	0	0	0	0	0	0	55	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	32	0	0	0	0	0	12	61	62	87	93	99	146	107	62	30	3	0	0	0	0	
	E	Beam	22	0	0	0	0	0	0	211	54	131	133	0	0	0	0	0	0	0	0	0	0	
		Diffuse	38	0	0	0	0	0	12	110	94	134	114	99	146	107	62	30	3	0	0	0	0	
	SE	Beam	73	0	0	0	0	0	0	243	77	255	468	291	276	133	0	0	0	0	0	0	0	
		Diffuse	51	0	0	0	0	0	12	120	102	173	193	171	238	130	62	30	3	0	0	0	0	
	Sunrise: 0709 Sunset: 1733	S	Beam	130	0	0	0	0	0	0	133	55	229	529	430	591	585	508	64	0	0	0	0	0
			Diffuse	69	0	0	0	0	0	12	85	95	165	208	208	372	285	173	57	3	0	0	0	0
		SW	Beam	117	0	0	0	0	0	0	1	69	280	317	559	694	763	128	0	0	0	0	0	0
			Diffuse	65	0	0	0	0	0	12	39	77	115	149	178	359	323	236	78	3	0	0	0	0
		W	Beam	54	0	0	0	0	0	0	0	0	0	0	18	200	397	572	117	0	0	0	0	0
			Diffuse	45	0	0	0	0	0	12	39	62	87	93	98	205	221	189	74	3	0	0	0	0
		NW	Beam	3	0	0	0	0	0	0	0	0	0	0	0	0	0	45	38	0	0	0	0	0
			Diffuse	32	0	0	0	0	0	12	39	62	87	93	99	146	107	60	48	3	0	0	0	0
	Horiz.	Beam	61	0	0	0	0	0	2	44	24	110	267	219	296	276	209	18	0	0	0	0	0	
	Horiz.	Diffuse	54	0	0	0	0	1	18	77	131	167	145	168	256	174	90	62	4	0	0	0	0	
	Horiz.	Global	115	0	0	0	0	1	21	121	155	277	412	388	551	450	299	80	5	0	0	0	0	
March	Normal to beam		474	0	0	0	0	0	13	216	316	793	842	908	911	864	771	507	17	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	39	0	0	0	0	0	34	77	105	110	119	122	116	101	81	60	22	0	0	0	0	
	NE	Beam	3	0	0	0	0	0	6	60	15	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	41	0	0	0	0	0	34	107	115	110	119	122	116	101	81	60	22	0	0	0	0	
	E	Beam	38	0	0	0	0	0	12	179	208	351	164	0	0	0	0	0	0	0	0	0	0	
		Diffuse	47	0	0	0	0	0	34	146	176	156	124	122	116	101	81	60	22	0	0	0	0	
	SE	Beam	105	0	0	0	0	0	11	194	280	646	578	464	275	62	0	0	0	0	0	0	0	
		Diffuse	57	0	0	0	0	0	34	151	198	212	200	175	137	91	81	60	22	0	0	0	0	
	Sunrise: 0606 Sunset: 1823	S	Beam	169	0	0	0	0	0	3	95	188	562	653	716	682	567	401	176	3	0	0	0	0
			Diffuse	67	0	0	0	0	0	34	118	169	196	213	218	208	181	145	103	22	0	0	0	0
		SW	Beam	151	0	0	0	0	0	0	0	0	150	346	548	689	740	693	446	14	0	0	0	0
			Diffuse	63	0	0	0	0	0	34	77	105	117	157	189	209	212	203	175	22	0	0	0	0
		W	Beam	78	0	0	0	0	0	0	0	0	0	0	59	293	480	579	455	17	0	0	0	0
			Diffuse	51	0	0	0	0	0	34	77	105	110	119	105	140	165	180	177	22	0	0	0	0
		NW	Beam	14	0	0	0	0	0	0	0	0	0	0	0	0	0	126	197	10	0	0	0	0
			Diffuse	42	0	0	0	0	0	34	77	105	110	119	122	116	101	91	108	22	0	0	0	0
	Horiz.	Beam	131	0	0	0	0	0	3	73	145	435	505	554	528	440	312	139	2	0	0	0	0	
	Horiz.	Diffuse	57	0	0	0	0	0	68	154	198	145	150	145	138	125	110	100	44	0	0	0	0	
	Horiz.	Global	188	0	0	0	0	0	70	227	344	580	656	700	666	565	422	239	46	0	0	0	0	

Table continues

Table 2.13(b) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Birmingham (Edgbaston) (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		467	0	0	0	0	490	755	812	210	139	972	902	833	810	683	460	409	0	0	0	
	N	Beam	1	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0	2	0	0	0	
		Diffuse	58	0	0	0	18	52	74	100	140	154	160	149	141	127	109	89	57	29	0	0	
	NE	Beam	44	0	0	0	0	354	408	267	21	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	67	0	0	0	18	141	141	129	165	154	160	149	141	127	109	89	57	30	0	0	
	E	Beam	89	0	0	0	0	477	690	643	130	55	150	0	0	0	0	0	0	0	0	0	
		Diffuse	77	0	0	0	18	174	197	199	201	201	147	149	141	127	109	89	57	31	0	0	
	SE	Beam	118	0	0	0	0	321	568	643	162	96	545	346	146	0	0	0	0	0	0	0	
		Diffuse	79	0	0	0	18	132	173	199	211	214	221	175	138	127	109	89	57	30	0	0	
	Sunrise: 0453 Sunset: 1919	S	Beam	125	0	0	0	0	113	266	100	80	621	581	497	405	247	87	0	0	0	0	
			Diffuse	77	0	0	0	18	49	83	129	191	209	235	215	201	176	145	109	57	29	0	0
		SW	Beam	132	0	0	0	0	0	0	0	18	333	475	557	615	541	352	277	0	0	0	
			Diffuse	81	0	0	0	18	49	74	100	140	189	181	197	212	215	209	182	137	30	0	0
		W	Beam	90	0	0	0	0	0	0	0	0	0	0	91	291	465	518	411	395	0	0	0
			Diffuse	74	0	0	0	18	49	74	100	140	154	160	131	164	187	204	199	171	31	0	0
		NW	Beam	31	0	0	0	0	0	0	0	0	0	0	0	42	192	229	281	0	0	0	
			Diffuse	64	0	0	0	18	49	74	100	140	154	160	149	141	109	133	148	138	30	0	0
		Horiz.	Beam	178	0	0	0	3	111	285	418	132	98	733	684	602	526	370	189	107	10	0	0
Horiz.		Diffuse	88	0	0	2	29	82	101	128	278	316	190	177	176	162	158	154	102	46	1	0	
Horiz.		Global	265	0	0	2	32	193	386	546	410	414	923	861	778	688	528	342	209	56	1	0	
May	Normal to beam		476	0	0	0	349	510	603	670	711	744	749	749	741	643	585	604	537	369	0	0	
	N	Beam	14	0	0	0	112	65	0	0	0	0	0	0	0	0	0	0	54	109	0	0	
		Diffuse	76	0	0	15	82	88	104	127	147	160	167	168	162	155	137	108	87	85	22	0	
	NE	Beam	58	0	0	0	308	382	346	248	108	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	85	0	0	17	147	178	164	144	160	167	168	162	155	137	108	80	49	22	0	0	
	E	Beam	110	0	0	0	324	476	527	506	416	279	105	0	0	0	0	0	0	0	0	0	
		Diffuse	94	0	0	17	152	204	223	224	211	187	157	168	162	155	137	108	80	49	24	0	
	SE	Beam	120	0	0	0	150	291	398	467	480	445	352	224	73	0	0	0	0	0	0	0	
		Diffuse	92	0	0	15	94	151	191	215	225	222	208	182	147	155	137	108	80	49	25	0	
	Sunrise: 0359 Sunset: 2008	S	Beam	100	0	0	0	0	37	155	264	350	393	396	357	249	148	52	0	0	0	0	
			Diffuse	83	0	0	15	44	75	99	143	178	202	216	217	205	191	158	107	80	49	22	0
		SW	Beam	114	0	0	0	0	0	0	0	50	204	335	432	429	408	404	314	166	0	0	
			Diffuse	92	0	0	17	44	75	104	127	147	140	178	205	221	235	226	196	158	104	22	0
		W	Beam	103	0	0	0	0	0	0	0	0	0	79	254	358	429	519	498	344	0	0	
			Diffuse	94	0	0	17	44	75	104	127	147	160	167	152	184	217	231	225	209	161	24	0
		NW	Beam	55	0	0	0	0	0	0	0	0	0	0	0	77	199	330	391	320	0	0	
			Diffuse	84	0	0	15	44	75	104	127	147	160	167	168	162	150	171	177	179	153	25	0
		Horiz.	Beam	223	0	0	16	66	173	291	411	513	594	629	631	598	472	369	304	194	78	20	0
Horiz.		Diffuse	107	0	2	20	83	128	163	189	209	220	229	230	223	235	218	170	132	91	30	2	
Horiz.		Global	331	0	2	36	149	300	454	600	722	814	858	861	821	708	588	474	326	169	50	2	
June	Normal to beam		475	0	0	0	251	509	654	776	865	780	877	845	302	576	780	624	446	248	24	0	
	N	Beam	13	0	0	0	92	90	0	0	0	0	0	0	0	0	0	0	52	76	12	0	
		Diffuse	79	0	0	25	89	100	105	124	138	160	160	164	197	166	131	116	105	95	25	0	
	NE	Beam	62	0	0	0	225	393	394	315	166	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	87	0	0	27	135	185	181	160	136	160	160	164	197	166	131	116	93	62	25	0	
	E	Beam	116	0	0	0	226	465	563	583	508	301	138	0	0	0	0	0	0	0	0	0	
		Diffuse	95	0	0	26	136	205	221	212	192	186	147	164	197	166	131	116	93	62	25	0	
	SE	Beam	122	0	0	0	95	265	402	509	553	443	392	239	27	0	0	0	0	0	0	0	
		Diffuse	93	0	0	25	90	149	183	198	200	213	188	170	217	166	131	116	93	62	25	0	
	Sunrise: 0340 Sunset: 2038	S	Beam	88	0	0	0	0	5	137	274	326	416	408	133	203	175	40	0	0	0	0	
			Diffuse	83	0	0	25	52	81	90	126	154	191	192	199	253	199	138	109	93	62	25	0
		SW	Beam	98	0	0	0	0	0	0	0	18	197	337	162	359	512	395	248	106	6	0	
			Diffuse	92	0	0	27	52	81	105	124	138	131	157	187	262	240	203	196	164	106	25	0
		W	Beam	91	0	0	0	0	0	0	0	0	0	69	96	304	550	519	403	227	20	0	
			Diffuse	95	0	0	26	52	81	105	124	138	160	160	141	240	225	210	226	210	148	25	0
		NW	Beam	51	0	0	0	0	0	0	0	0	0	0	0	71	265	339	322	214	23	0	
			Diffuse	86	0	0	25	52	81	105	124	138	160	160	164	197	165	156	182	186	143	25	0
		Horiz.	Beam	237	0	0	12	55	186	332	495	644	642	759	737	254	445	526	343	184	66	3	0
Horiz.		Diffuse	112	0	3	38	101	137	158	163	162	209	184	197	376	266	171	178	164	123	48	1	
Horiz.		Global	348	0	3	50	156	323	490	658	806	851	943	934	630	711	697	522	347	188	51	1	

Table continues

Table 2.13(b) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Birmingham (Edgbaston) (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		468	0	0	0	102	342	526	692	779	846	607	715	810	798	716	568	274	179	0	0	
	N	Beam	7	0	0	0	36	56	0	0	0	0	0	0	0	0	0	0	19	47	0	0	
		Diffuse	73	0	0	5	59	94	102	121	138	148	178	170	156	145	131	114	104	81	14	0	
	NE	Beam	46	0	0	0	92	265	319	281	148	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	81	0	0	5	78	163	181	163	139	148	178	170	156	145	131	114	91	55	14	0	
	E	Beam	98	0	0	0	94	320	465	538	479	348	109	0	0	0	0	0	0	0	0	0	
		Diffuse	89	0	0	5	79	181	222	220	203	176	181	170	156	145	131	114	91	55	14	0	
	SE	Beam	114	0	0	0	41	187	340	479	530	518	298	234	106	0	0	0	0	0	0	0	
		Diffuse	89	0	0	5	60	138	187	207	213	205	229	190	144	145	131	114	91	55	14	0	
	Sunrise: 0406 Sunset: 2021	S	Beam	103	0	0	0	0	15	140	270	384	313	378	396	322	197	64	0	0	0	0	
			Diffuse	81	0	0	5	38	74	97	132	163	183	232	221	197	175	150	118	91	55	14	0
		SW	Beam	107	0	0	0	0	0	0	0	26	144	300	455	523	497	383	164	85	0	0	
			Diffuse	87	0	0	5	38	74	102	121	138	121	190	204	207	213	214	202	154	94	14	0
		W	Beam	88	0	0	0	0	0	0	0	0	0	46	247	418	506	478	252	167	0	0	
			Diffuse	87	0	0	5	38	74	102	121	138	148	178	150	169	193	216	227	185	123	14	0
		NW	Beam	38	0	0	0	0	0	0	0	0	0	0	0	68	218	292	192	152	0	0	
			Diffuse	79	0	0	5	38	74	102	121	138	148	178	170	156	128	154	178	164	118	14	0
		Horiz.	Beam	221	0	0	0	17	109	244	413	552	669	508	605	662	599	466	299	106	43	1	0
Horiz.		Diffuse	105	0	2	9	79	139	170	176	181	179	278	241	198	185	185	184	176	112	24	0	
Horiz.		Global	325	0	2	9	96	247	414	589	733	848	786	846	859	785	652	484	282	155	24	0	
August	Normal to beam		426	0	0	0	0	475	477	617	344	547	889	663	676	734	694	578	117	0	0		
	N	Beam	1	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	61	0	0	0	19	55	84	108	147	156	140	159	151	132	114	91	62	37	11	0	
	NE	Beam	36	0	0	0	0	349	265	214	41	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	71	0	0	0	22	149	157	147	164	156	140	159	151	132	114	91	62	39	11	0	
	E	Beam	83	0	0	0	0	462	439	495	217	228	154	0	0	0	0	0	0	0	0	0	
		Diffuse	81	0	0	0	23	183	207	217	222	202	135	159	151	132	114	91	62	42	11	0	
	SE	Beam	112	0	0	0	0	305	355	487	266	383	508	264	130	0	0	0	0	0	0	0	
		Diffuse	85	0	0	0	20	136	183	215	238	244	191	196	156	132	114	91	62	40	11	0	
	Sunrise: 0456 Sunset: 1926	S	Beam	120	0	0	0	0	64	193	159	313	564	427	407	374	259	117	1	0	0	0	
			Diffuse	82	0	0	0	19	49	97	142	203	225	200	234	220	187	152	111	75	37	11	0
		SW	Beam	115	0	0	0	0	0	0	0	60	290	340	446	554	549	445	80	0	0	0	
			Diffuse	82	0	0	0	22	49	84	108	147	156	156	214	229	225	217	197	103	39	11	0
		W	Beam	76	0	0	0	0	0	0	0	0	0	54	224	409	518	511	112	0	0	0	
			Diffuse	76	0	0	0	23	49	84	108	147	156	140	147	178	194	210	215	114	42	11	0
		NW	Beam	24	0	0	0	0	0	0	0	0	0	0	0	25	183	279	78	0	0	0	
			Diffuse	65	0	0	0	20	49	84	108	147	156	140	159	151	113	135	154	102	40	11	0
		Horiz.	Beam	169	0	0	0	35	103	176	313	214	386	669	504	492	481	382	243	32	27	0	0
Horiz.		Diffuse	95	0	0	1	22	86	145	169	275	257	161	238	224	185	165	147	129	55	18	0	
Horiz.		Global	264	0	0	1	57	189	321	482	488	643	830	742	715	666	547	390	160	81	18	0	
September	Normal to beam		436	0	0	0	0	0	499	587	629	639	626	670	665	650	616	525	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	42	0	0	0	0	24	52	79	101	117	126	125	116	101	79	52	26	0	0	0	
	NE	Beam	15	0	0	0	0	0	223	133	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	45	0	0	0	0	27	108	102	101	117	126	125	116	101	79	52	29	0	0	0	
	E	Beam	68	0	0	0	0	0	462	467	384	247	84	0	0	0	0	0	0	0	0	0	
		Diffuse	56	0	0	0	0	31	172	184	177	157	129	125	116	101	79	52	32	0	0	0	
	SE	Beam	121	0	0	0	0	0	431	527	548	502	405	310	164	9	0	0	0	0	0	0	
		Diffuse	66	0	0	0	0	28	163	198	215	216	204	174	135	88	79	52	28	0	0	0	
	Sunrise: 0548 Sunset: 1813	S	Beam	151	0	0	0	0	147	278	391	464	489	523	484	407	296	158	0	0	0	0	
			Diffuse	72	0	0	0	0	24	87	138	178	207	223	221	206	178	138	88	26	0	0	0
		SW	Beam	124	0	0	0	0	0	0	0	4	154	286	430	521	566	554	454	0	0	0	0
			Diffuse	66	0	0	0	0	27	52	79	89	136	176	201	215	214	199	166	29	0	0	0
		W	Beam	71	0	0	0	0	0	0	0	0	0	85	253	394	488	485	0	0	0	0	
			Diffuse	56	0	0	0	0	31	52	79	101	117	126	124	155	175	183	174	32	0	0	0
		NW	Beam	15	0	0	0	0	0	0	0	0	0	0	0	0	136	231	0	0	0	0	
			Diffuse	45	0	0	0	0	28	52	79	101	117	126	125	116	101	100	108	28	0	0	0
		Horiz.	Beam	123	0	0	0	0	55	120	221	308	364	383	409	380	319	234	127	41	0	0	0
Horiz.		Diffuse	63	0	0	1	4	27	87	125	154	177	193	183	172	151	121	85	33	4	0	0	
Horiz.		Global	187	0	0	1	4	82	207	346	462	541	576	593	552	470	355	212	74	4	0	0	

Table continues

Table 2.13(b) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Birmingham (Edgbaston) (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		369	0	0	0	0	0	0	424	399	712	732	679	636	523	324	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	27	0	0	0	0	1	32	53	77	85	92	92	84	69	46	13	0	0	0	0	0	
	NE	Beam	2	0	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	27	0	0	0	0	1	31	65	77	85	92	92	84	69	46	13	0	0	0	0	0	
	E	Beam	36	0	0	0	0	0	0	322	228	246	70	0	0	0	0	0	0	0	0	0	0	
		Diffuse	35	0	0	0	0	1	34	145	144	123	90	92	84	69	46	13	0	0	0	0	0	
	SE	Beam	102	0	0	0	0	0	0	410	371	598	510	346	187	34	0	0	0	0	0	0	0	
		Diffuse	49	0	0	0	0	1	34	170	186	198	182	155	116	72	46	13	0	0	0	0	0	
	Sunrise: 0639 Sunset: 1705	S	Beam	145	0	0	0	0	0	257	297	599	650	599	523	374	184	0	0	0	0	0	0	
			Diffuse	59	0	0	0	0	1	32	126	165	198	211	210	194	162	105	13	0	0	0	0	0
		SW	Beam	107	0	0	0	0	0	0	49	250	410	500	552	495	313	0	0	0	0	0	0	
			Diffuse	50	0	0	0	0	1	31	53	91	124	161	189	201	194	146	13	0	0	0	0	0
		W	Beam	40	0	0	0	0	0	0	0	0	0	0	109	258	326	259	0	0	0	0	0	0
			Diffuse	36	0	0	0	0	1	34	53	77	85	92	102	133	149	129	13	0	0	0	0	0
		NW	Beam	2	0	0	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0	0	0	0
			Diffuse	28	0	0	0	0	1	34	53	77	85	92	92	84	69	65	13	0	0	0	0	0
		Horiz.	Beam	69	0	0	0	0	2	21	99	136	295	329	301	253	165	65	1	0	0	0	0	0
Diffuse			42	0	0	0	0	1	46	93	139	122	129	136	128	115	87	21	0	0	0	0	0	
Global			112	0	0	0	0	2	67	193	275	416	457	437	381	280	152	22	0	0	0	0	0	
November	Normal to beam		295	0	0	0	0	0	0	471	501	334	380	518	742	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	16	0	0	0	0	0	5	29	42	58	68	66	55	37	21	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	16	0	0	0	0	0	5	28	42	58	68	66	55	37	24	0	0	0	0	0	0	
	E	Beam	19	0	0	0	0	0	0	260	168	32	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	21	0	0	0	0	0	5	29	111	98	80	66	55	37	22	0	0	0	0	0	0	
	SE	Beam	68	0	0	0	0	0	0	454	439	247	214	185	102	0	0	0	0	0	0	0	0	
		Diffuse	34	0	0	0	0	0	5	31	163	169	145	129	98	53	19	0	0	0	0	0	0	
	Sunrise: 0735 Sunset: 1611	S	Beam	106	0	0	0	0	0	0	382	453	318	359	460	583	0	0	0	0	0	0	0	0
			Diffuse	43	0	0	0	0	0	5	29	144	173	166	171	169	160	21	0	0	0	0	0	0
		SW	Beam	82	0	0	0	0	0	0	87	202	202	294	466	723	0	0	0	0	0	0	0	0
			Diffuse	36	0	0	0	0	0	5	28	64	107	131	152	171	191	24	0	0	0	0	0	0
		W	Beam	29	0	0	0	0	0	0	0	0	0	57	199	440	0	0	0	0	0	0	0	0
			Diffuse	22	0	0	0	0	0	5	29	42	58	68	83	102	128	22	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	16	0	0	0	0	0	5	31	42	58	68	66	55	37	19	0	0	0	0	0	0
		Horiz.	Beam	31	0	0	0	0	0	19	91	133	100	112	131	129	41	0	0	0	0	0	0	0
Diffuse			26	0	0	0	0	0	8	41	73	97	126	120	91	54	21	1	0	0	0	0	0	
Global			58	0	0	0	0	0	8	61	164	230	226	232	222	183	62	1	0	0	0	0	0	
December	Normal to beam		269	0	0	0	0	0	0	0	572	552	540	468	15	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	11	0	0	0	0	0	0	7	41	42	51	52	46	26	8	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	11	0	0	0	0	0	0	7	35	42	51	52	46	26	8	0	0	0	0	0	0	
	E	Beam	12	0	0	0	0	0	0	0	213	79	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	14	0	0	0	0	0	0	7	38	91	67	52	46	26	8	0	0	0	0	0	0	
	SE	Beam	62	0	0	0	0	0	0	0	518	431	333	196	3	0	0	0	0	0	0	0	0	
		Diffuse	27	0	0	0	0	0	0	8	45	166	155	132	97	26	8	0	0	0	0	0	0	
	Sunrise: 0812 Sunset: 1559	S	Beam	84	0	0	0	0	0	0	0	519	531	522	432	13	0	0	0	0	0	0	0	0
			Diffuse	32	0	0	0	0	0	0	7	41	166	180	180	161	26	8	0	0	0	0	0	0
		SW	Beam	57	0	0	0	0	0	0	0	216	319	406	414	15	0	0	0	0	0	0	0	0
			Diffuse	25	0	0	0	0	0	0	7	35	91	127	151	156	26	8	0	0	0	0	0	0
		W	Beam	9	0	0	0	0	0	0	0	0	0	52	154	8	0	0	0	0	0	0	0	0
			Diffuse	13	0	0	0	0	0	0	7	38	42	51	61	85	26	8	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	0	8	45	42	51	52	46	26	8	0	0	0	0	0	0
		Horiz.	Beam	23	0	0	0	0	0	3	86	112	131	130	97	2	0	0	0	0	0	0	0	0
Diffuse			18	0	0	0	0	0	1	11	37	68	84	86	79	52	13	0	0	0	0	0	0	
Global			41	0	0	0	0	0	1	14	123	179	214	216	175	54	13	0	0	0	0	0	0	