Predicted clear day beam and diffuse irradiances (/ W·m^{-2}) on vertical and horizontal surfaces on specified days in northern (N) and southern (S) hemispheres (see notes at foot of table): LATITUDE 10° N/S

Date and times of sunrise/sunset	Orient-ation	Type	Daily mean irradiance (/ W·m^{-2}) and mean hourly irradiance (/ W·m^{-2}) for stated solar time*																		
			Mean	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030
Jan 29 (N) / Jul 3 (S)																					
	Normal to beam		355	—	—	—	254	586	765	861	913	936	936	913	861	765	586	254	—	—	—
Sunrise: 06:13	N (S)	Beam	0	—	—	—	0	0	0	0	0	0	0	0	0	0	0	0	—	—	—
Sunset: 17:47		Diffuse	48	—	—	—	29	67	98	119	132	138	138	132	119	98	67	29	—	—	—
	NE (SE)	Beam	24	—	—	—	108	210	187	86	0	0	0	0	0	0	0	0	—	—	—
		Diffuse	52	—	—	—	43	97	132	145	148	146	139	129	114	93	63	28	—	—	—
	E (E)	Beam	93	—	—	—	238	514	577	498	332	116	0	0	0	0	0	0	—	—	—
		Diffuse	61	—	—	—	61	136	180	187	177	165	151	135	115	93	63	28	—	—	—
	SE (NE)	Beam	132	—	—	—	228	517	628	619	531	394	229	61	0	0	0	0	—	—	—
		Diffuse	67	—	—	—	59	136	188	202	197	186	173	155	133	104	67	28	—	—	—
	S (N)	Beam	153	—	—	—	85	217	312	377	419	440	440	419	377	312	217	84	—	—	—
		Diffuse	69	—	—	—	40	98	145	173	185	190	190	185	173	145	98	40	—	—	—
	SW (NW)	Beam	132	—	—	—	0	0	0	0	61	229	394	531	619	628	517	228	—	—	—
		Diffuse	67	—	—	—	28	67	104	133	155	173	186	197	202	188	136	59	—	—	—
	W (W)	Beam	93	—	—	—	0	0	0	0	0	0	116	332	498	577	514	238	—	—	—
		Diffuse	61	—	—	—	28	63	93	115	135	151	165	177	187	180	136	61	—	—	—
	NW (SW)	Beam	24	—	—	—	0	0	0	0	0	0	0	0	86	187	210	109	—	—	—
		Diffuse	52	—	—	—	28	63	93	114	129	139	146	148	145	132	97	43	—	—	—
	Horiz.	Beam	228	—	—	—	24	178	394	593	740	818	818	740	593	394	178	24	—	—	—
	Horiz.	Diffuse	51	—	—	—	36	79	111	127	133	135	135	133	127	111	79	36	—	—	—
	Horiz.	Global	280	—	—	—	60	257	505	720	873	953	953	873	720	505	257	60	—	—	—
Feb 26(N)	Aug 3(S)																				
	Normal to beam		368	—	—	—	291	622	788	877	926	947	947	926	877	788	622	291	—	—	—
Sunrise: 06:06	N (S)	Beam	0	—	—	—	0	0	0	0	0	0	0	0	0	0	0	0	—	—	—
Sunset: 17:54		Diffuse	53	—	—	—	34	77	108	129	141	145	145	142	129	108	77	34	—	—	—
	NE (SE)	Beam	41	—	—	—	164	304	292	193	42	0	0	0	0	0	0	0	—	—	—
		Diffuse	57	—	—	—	52	115	148	158	159	155	146	136	120	97	68	30	—	—	—
	E (E)	Beam	102	—	—	—	284	567	617	527	350	122	0	0	0	0	0	0	—	—	—
		Diffuse	65	—	—	—	70	152	190	192	180	169	155	139	120	97	69	31	—	—	—
	SE (NE)	Beam	114	—	—	—	238	498	581	553	452	304	131	0	0	0	0	0	—	—	—
		Diffuse	67	—	—	—	62	141	185	195	189	179	169	154	132	104	71	30	—	—	—
	S (N)	Beam	103	—	—	—	52	137	204	255	290	308	307	290	255	204	137	52	—	—	—
		Diffuse	66	—	—	—	41	97	139	164	176	179	179	176	164	139	97	41	—	—	—
	SW (NW)	Beam	114	—	—	—	0	0	0	0	0	131	304	452	553	581	498	238	—	—	—
		Diffuse	67	—	—	—	30	71	104	132	154	169	179	189	195	185	141	62	—	—	—
	W (W)	Beam	102	—	—	—	0	0	0	0	0	0	122	350	527	617	567	284	—	—	—
		Diffuse	65	—	—	—	31	69	97	120	139	155	169	181	192	190	152	70	—	—	—
	NW (SW)	Beam	41	—	—	—	0	0	0	0	0	0	0	43	193	292	304	164	—	—	—
		Diffuse	57	—	—	—	30	68	97	120	136	146	155	159	158	148	115	52	—	—	—
	Horiz.	Beam	253	—	—	—	33	215	445	653	807	887	887	807	653	445	215	33	—	—	—
	Horiz.	Diffuse	53	—	—	—	40	86	115	129	133	134	134	133	129	115	86	40	—	—	—
	Horiz.	Global	306	—	—	—	73	301	560	782	940	1021	1021	940	782	560	301	73	—	—	—
Mar 29 (N) / Sep 3 (S)																					
	Normal to beam		378	—	—	71	335	650	799	881	926	946	946	926	881	799	650	335	71	—	—
Sunrise: 05:58	N (S)	Beam	1	—	—	4	12	0	0	0	0	0	0	0	0	0	0	12	4	—	—
Sunset: 18:02		Diffuse	59	—	—	12	43	91	122	142	152	154	154	152	142	122	91	43	12	—	—
	NE (SE)	Beam	67	—	—	53	243	420	421	329	184	12	0	0	0	0	0	0	0	—	—
		Diffuse	62	—	—	18	67	136	166	173	168	164	148	141	126	102	73	34	9	—	—
	E (E)	Beam	107	—	—	71	332	599	633	535	354	123	0	0	0	0	0	0	0	—	—
		Diffuse	67	—	—	22	80	162	194	194	179	169	152	140	124	100	73	36	10	—	—
	SE (NE)	Beam	85	—	—	47	226	428	474	428	316	163	0	0	0	0	0	0	0	—	—
		Diffuse	65	—	—	17	64	137	172	182	177	170	162	148	129	103	73	34	10	—	—
	S (N)	Beam	26	—	—	0	0	5	38	70	93	107	107	93	70	38	5	0	0	—	—
		Diffuse	62	—	—	11	41	92	127	151	163	169	169	163	151	127	92	41	11	—	—
	SW (NW)	Beam	85	—	—	0	0	0	0	0	0	0	163	316	428	474	428	226	47	—	—
		Diffuse	65	—	—	10	34	73	103	129	148	162	170	177	182	172	137	64	17	—	—
	W (W)	Beam	107	—	—	0	0	0	0	0	0	0	123	354	535	633	599	332	71	—	—
		Diffuse	67	—	—	10	36	73	100	124	140	152	169	179	194	194	162	80	22	—	—
	NW (SW)	Beam	67	—	—	0	0	0	0	0	0	0	12	184	329	421	420	243	53	—	—
		Diffuse	62	—	—	9	34	73	102	126	141	148	164	168	173	166	136	67	18	—	—
	Horiz.	Beam	272	—	—	0	46	251	486	696	851	932	932	851	696	486	251	46	0	—	—
	Horiz.	Diffuse	54	—	—	13	45	91	117	129	131	131	131	131	129	117	91	45	13	—	—
	Horiz.	Global	326	—	—	13	91	342	603	825	982	1063	1063	982	825	603	342	91	13	—	—

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Table continues

Table 2.33(b) Predicted clear day beam and diffuse irradiances (/ W·m^{-2}) on vertical and horizontal surfaces on specified days in northern (N) and southern (S) hemispheres (see notes at foot of table): latitude 10° N/S — *continued*

Date and times of sunrise/sunset	Orient-ation	Type	Daily mean irradiance (/ W·m^{-2}) and mean hourly irradiance (/ W·m^{-2}) for stated solar time*																		
			Mean	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030
Apr 28 (N) / Oct 3 (S)																					
	Normal	to beam	380	—	—	95	380	656	793	870	912	931	931	912	870	793	656	380	95	—	—
Sunrise: 05:50	N (S)	Beam	46	—	—	23	84	116	110	94	78	69	69	78	94	110	116	84	23	—	—
Sunset: 18:10		Diffuse	64	—	—	18	54	103	134	150	160	165	165	160	150	134	103	54	18	—	—
	NE (SE)	Beam	91	—	—	82	317	498	509	430	294	132	0	0	0	0	0	0	0	—	—
		Diffuse	66	—	—	27	80	148	177	180	173	167	158	145	129	106	77	39	13	—	—
	E (E)	Beam	106	—	—	92	365	588	610	513	338	118	0	0	0	0	0	0	0	—	—
		Diffuse	67	—	—	29	88	162	192	189	176	167	149	138	122	101	75	39	14	—	—
	SE (NE)	Beam	59	—	—	49	199	333	354	296	184	34	0	0	0	0	0	0	0	—	—
		Diffuse	62	—	—	21	65	126	158	167	166	163	147	140	124	102	74	38	13	—	—
	S (N)	Beam	0	—	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
		Diffuse	58	—	—	14	42	86	117	138	151	155	155	151	138	117	86	42	14	—	—
	SW (NW)	Beam	59	—	—	0	0	0	0	0	0	0	34	184	296	354	333	199	49	—	—
		Diffuse	62	—	—	13	38	74	102	124	140	147	163	166	167	158	126	65	21	—	—
	W (W)	Beam	106	—	—	0	0	0	0	0	0	0	118	338	513	610	588	365	92	—	—
		Diffuse	67	—	—	14	39	75	101	122	138	149	167	176	189	192	162	88	29	—	—
	NW (SW)	Beam	91	—	—	0	0	0	0	0	0	0	132	294	430	509	498	317	82	—	—
		Diffuse	66	—	—	13	39	77	106	129	145	158	167	173	180	177	148	80	27	—	—
	Horiz.	Beam	274	—	—	2	64	268	495	696	843	921	921	843	696	495	268	64	2	—	—
	Horiz.	Diffuse	54	—	—	17	50	92	117	127	129	129	129	129	127	117	92	50	17	—	—
	Horiz.	Global	328	—	—	19	114	360	612	823	972	1050	1050	972	823	612	360	114	19	—	—
May 29 (N) / Nov 3 (S)																					
	Normal to beam		377	—	—	113	401	653	781	855	895	914	914	895	855	781	653	401	113	—	—
Sunrise: 05:44	N (S)	Beam	94	—	—	42	137	196	207	201	191	186	186	191	201	207	196	137	42	—	—
Sunset: 18:16		Diffuse	67	—	—	21	62	111	141	156	163	167	167	163	156	141	111	62	21	—	—
	NE (SE)	Beam	108	—	—	104	358	536	554	484	361	210	53	0	0	0	0	0	0	—	—
		Diffuse	68	—	—	31	90	154	182	184	175	168	161	147	130	107	79	43	14	—	—
	E (E)	Beam	102	—	—	105	369	561	576	484	319	111	0	0	0	0	0	0	0	—	—
		Diffuse	66	—	—	31	92	158	185	183	172	164	151	136	120	100	74	42	15	—	—
	SE (NE)	Beam	41	—	—	45	164	258	261	200	90	0	0	0	0	0	0	0	0	—	—
		Diffuse	59	—	—	21	65	117	146	156	157	154	143	134	120	100	74	42	15	—	—
	S (N)	Beam	0	—	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
		Diffuse	55	—	—	15	44	81	110	130	142	145	145	142	130	110	81	44	15	—	—
	SW (NW)	Beam	41	—	—	0	0	0	0	0	0	0	0	90	200	261	258	164	45	—	—
		Diffuse	59	—	—	15	42	74	100	120	134	143	154	157	156	146	117	65	21	—	—
	W (W)	Beam	102	—	—	0	0	0	0	0	0	0	111	319	484	576	561	369	105	—	—
		Diffuse	66	—	—	15	42	74	100	120	136	151	164	172	183	185	158	92	31	—	—
	NW (SW)	Beam	108	—	—	0	0	0	0	0	0	53	210	361	484	554	536	358	104	—	—
		Diffuse	68	—	—	14	43	79	107	130	147	161	168	175	184	182	154	90	31	—	—
	Horiz.	Beam	267	—	—	4	74	271	485	676	814	888	888	814	676	485	271	74	4	—	—
	Horiz.	Diffuse	54	—	—	19	53	92	115	125	127	127	127	127	125	115	92	53	19	—	—
	Horiz.	Global	321	—	—	23	127	363	600	801	941	1015	1015	941	801	600	363	127	23	—	—
Jun 21 (N) / Dec 21 (S)																					
	Normal to beam		375	—	—	118	404	649	776	848	888	906	906	888	848	776	649	404	118	—	—
Sunrise: 05:42	N (S)	Beam	105	—	—	47	150	215	228	225	217	212	212	217	225	228	215	150	47	—	—
Sunset: 18:18		Diffuse	68	—	—	22	63	112	141	157	164	166	166	164	157	141	112	63	22	—	—
	NE (SE)	Beam	111	—	—	110	366	541	561	494	374	226	73	0	0	0	0	0	0	—	—
		Diffuse	68	—	—	32	91	154	181	184	176	167	160	147	130	107	79	43	15	—	—
	E (E)	Beam	100	—	—	108	367	550	565	474	312	108	0	0	0	0	0	0	0	—	—
		Diffuse	66	—	—	32	91	155	182	181	171	162	149	136	119	98	74	42	15	—	—
	SE (NE)	Beam	37	—	—	43	154	237	238	176	67	0	0	0	0	0	0	0	0	—	—
		Diffuse	58	—	—	22	64	114	142	153	155	152	141	133	119	98	74	42	15	—	—
	S (N)	Beam	0	—	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
		Diffuse	54	—	—	15	43	80	107	128	140	142	142	140	128	107	80	43	15	—	—
	SW (NW)	Beam	37	—	—	0	0	0	0	0	0	0	0	67	176	238	237	154	43	—	—
		Diffuse	58	—	—	15	42	74	98	119	133	141	152	155	153	142	114	64	22	—	—
	W (W)	Beam	100	—	—	0	0	0	0	0	0	0	108	312	474	565	550	367	108	—	—
		Diffuse	66	—	—	15	42	74	98	119	136	149	162	171	181	182	155	91	32	—	—
	NW (SW)	Beam	111	—	—	0	0	0	0	0	0	73	226	374	494	561	541	366	110	—	—
		Diffuse	68	—	—	15	43	79	107	130	147	160	167	176	184	181	154	91	32	—	—
	Horiz.	Beam	264	—	—	4	76	269	480	666	803	874	874	803	666	480	269	76	4	—	—
	Horiz.	Diffuse	54	—	—	20	53	91	114	124	127	127	127	127	124	114	91	53	20	—	—
	Horiz.	Global	318	—	—	24	129	360	594	790	930	1001	1001	930	790	594	360	129	24	—	—

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Table continues

Table 2.33(b) Predicted clear day beam and diffuse irradiances (/ W·m^{-2}) on vertical and horizontal surfaces on specified days in northern (N) and southern (S) hemispheres (see notes at foot of table): latitude 10° N/S — *continued*

Date and times of sunrise/sunset	Orient-ation	Type	Daily mean irradiance (/ W·m^{-2}) and mean hourly irradiance (/ W·m^{-2}) for stated solar time*																		
			Mean	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030
Jul 4 (N) / Jan 28 (S)																					
	Normal to beam		375	—	—	116	402	649	776	848	889	907	907	889	848	776	649	402	116	—	—
Sunrise: 05:43	N (S)	Beam	101	—	—	45	145	209	221	217	209	203	203	209	217	221	209	145	45	—	—
Sunset: 18:17		Diffuse	67	—	—	21	63	111	141	156	164	166	166	164	156	141	111	63	21	—	—
	NE (SE)	Beam	110	—	—	107	362	538	558	490	369	221	67	0	0	0	0	0	0	—	—
		Diffuse	68	—	—	31	90	154	182	183	175	167	160	147	129	108	79	43	15	—	—
	E (E)	Beam	101	—	—	107	367	552	567	476	313	109	0	0	0	0	0	0	0	—	—
		Diffuse	66	—	—	31	91	156	183	181	171	162	149	135	119	99	74	42	15	—	—
	SE (NE)	Beam	38	—	—	44	157	243	245	183	74	0	0	0	0	0	0	0	0	—	—
		Diffuse	58	—	—	21	64	115	144	153	155	152	141	133	119	99	74	42	15	—	—
	S (N)	Beam	0	—	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
		Diffuse	54	—	—	14	44	80	109	128	140	142	142	140	128	109	80	44	14	—	—
	SW (NW)	Beam	38	—	—	0	0	0	0	0	0	0	0	74	183	245	243	157	44	—	—
		Diffuse	58	—	—	15	42	74	99	119	133	141	152	155	153	144	115	64	21	—	—
	W (W)	Beam	101	—	—	0	0	0	0	0	0	0	109	313	476	567	552	367	107	—	—
		Diffuse	66	—	—	15	42	74	99	119	135	149	162	171	181	183	156	91	31	—	—
	NW (SW)	Beam	110	—	—	0	0	0	0	0	0	67	221	369	490	558	538	362	107	—	—
		Diffuse	68	—	—	15	43	79	108	129	147	160	167	175	183	182	154	90	31	—	—
	Horiz.	Beam	265	—	—	4	75	269	481	668	805	877	877	805	668	481	269	75	4	—	—
	Horiz.	Diffuse	53	—	—	19	53	91	114	124	127	127	127	127	124	114	91	53	19	—	—
	Horiz.	Global	318	—	—	23	128	360	595	792	932	1004	1004	932	792	595	360	128	23	—	—
Aug 4 (N) / Feb 25 (S)																					
	Normal to beam		375	—	—	101	385	649	781	856	897	916	916	897	856	781	649	385	101	—	—
Sunrise: 05:47	N (S)	Beam	65	—	—	30	104	148	149	137	124	116	117	124	137	149	148	104	30	—	—
Sunset: 18:13		Diffuse	65	—	—	18	57	105	135	152	160	164	164	160	152	135	105	57	18	—	—
	NE (SE)	Beam	97	—	—	89	331	510	524	449	320	163	2	0	0	0	0	0	0	—	—
		Diffuse	66	—	—	27	84	149	177	180	172	166	158	145	128	105	77	40	13	—	—
	E (E)	Beam	104	—	—	96	365	573	592	498	328	114	0	0	0	0	0	0	0	—	—
		Diffuse	66	—	—	28	89	159	187	185	172	164	149	136	121	99	74	40	13	—	—
	SE (NE)	Beam	50	—	—	47	184	300	313	255	144	0	0	0	0	0	0	0	0	—	—
		Diffuse	60	—	—	20	65	121	152	161	161	158	144	136	122	100	74	40	13	—	—
	S (N)	Beam	0	—	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
		Diffuse	56	—	—	14	43	83	113	134	146	149	149	146	134	113	83	43	14	—	—
	SW (NW)	Beam	50	—	—	0	0	0	0	0	0	0	0	144	255	313	300	184	47	—	—
		Diffuse	60	—	—	13	40	74	100	122	136	144	158	161	161	152	121	65	20	—	—
	W (W)	Beam	104	—	—	0	0	0	0	0	0	0	114	328	498	592	573	365	96	—	—
		Diffuse	66	—	—	13	40	74	99	121	136	149	164	172	185	187	159	89	28	—	—
	NW (SW)	Beam	97	—	—	0	0	0	0	0	0	1	163	320	449	524	510	331	89	—	—
		Diffuse	66	—	—	13	40	77	105	128	145	158	166	172	180	177	149	84	27	—	—
	Horiz.	Beam	269	—	—	3	67	267	487	683	826	901	901	826	683	487	267	67	3	—	—
	Horiz.	Diffuse	53	—	—	17	51	91	115	125	127	127	127	127	125	115	91	51	17	—	—
	Horiz.	Global	323	—	—	20	118	358	602	808	953	1028	1028	953	808	602	358	118	20	—	—
Sep 4 (N) / Mar 28 (S)																					
	Normal to beam		375	—	—	78	348	645	788	867	910	930	930	910	867	788	645	348	78	—	—
Sunrise: 05:55	N (S)	Beam	7	—	—	10	35	36	14	0	0	0	0	0	0	14	36	35	10	—	—
Sunset: 18:05		Diffuse	60	—	—	14	46	94	124	143	153	156	156	153	143	124	94	46	14	—	—
	NE (SE)	Beam	75	—	—	62	267	444	449	362	221	53	0	0	0	0	0	0	0	—	—
		Diffuse	63	—	—	21	71	139	168	173	168	164	148	141	126	102	74	36	11	—	—
	E (E)	Beam	106	—	—	77	342	591	620	524	345	120	0	0	0	0	0	0	0	—	—
		Diffuse	66	—	—	24	82	161	192	190	176	166	147	138	122	100	73	37	12	—	—
	SE (NE)	Beam	75	—	—	48	217	393	429	379	268	117	0	0	0	0	0	0	0	—	—
		Diffuse	63	—	—	19	64	132	166	175	171	166	156	144	126	102	73	36	11	—	—
	S (N)	Beam	7	—	—	0	0	0	0	12	33	45	45	33	12	0	0	0	0	—	—
		Diffuse	60	—	—	12	41	89	122	145	157	164	164	157	145	122	89	41	12	—	—
	SW (NW)	Beam	75	—	—	0	0	0	0	0	0	0	117	268	379	429	393	217	48	—	—
		Diffuse	63	—	—	11	36	73	102	126	144	156	166	171	175	166	132	64	19	—	—
	W (W)	Beam	106	—	—	0	0	0	0	0	0	0	120	345	524	620	591	342	77	—	—
		Diffuse	66	—	—	12	37	73	100	122	138	147	166	176	190	192	161	82	24	—	—
	NW (SW)	Beam	75	—	—	0	0	0	0	0	0	0	53	221	362	449	444	267	62	—	—
		Diffuse	63	—	—	11	36	74	102	126	141	148	164	168	173	168	139	71	21	—	—
	Horiz.	Beam	271	—	—	1	52	255	486	691	841	921	921	841	691	486	255	52	1	—	—
	Horiz.	Diffuse	53	—	—	14	46	90	116	127	129	128	128	129	127	116	90	46	14	—	—
	Horiz.	Global	324	—	—	15	98	345	602	818	970	1049	1049	970	818	602	345	98	15	—	—

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Table continues

Table 2.33(b) Predicted clear day beam and diffuse irradiances (/ W·m^{-2}) on vertical and horizontal surfaces on specified days in northern (N) and southern (S) hemispheres (see notes at foot of table): latitude 10° N/S — *continued*

Date and times of sunrise/sunset	Orient-ation	Type	Daily mean irradiance (/ W·m^{-2}) and mean hourly irradiance (/ W·m^{-2}) for stated solar time*																		
			Mean	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030
Oct 4 (N) / Apr 28 (S)																					
	Normal to beam		368	—	—	—	302	627	784	870	916	937	937	916	870	784	627	302	—	—	—
Sunrise: 06:03	N (S)	Beam	0	—	—	—	0	0	0	0	0	0	0	0	0	0	0	0	—	—	—
Sunset: 17:57		Diffuse	54	—	—	—	37	81	112	132	144	147	147	144	132	112	81	37	—	—	—
	NE (SE)	Beam	50	—	—	—	190	346	338	243	94	0	0	0	0	0	0	0	—	—	—
		Diffuse	59	—	—	—	57	121	153	162	161	156	145	136	121	98	69	32	—	—	—
	E (E)	Beam	103	—	—	—	298	578	620	528	349	122	0	0	0	0	0	0	—	—	—
		Diffuse	65	—	—	—	73	154	191	191	178	167	154	138	120	98	69	33	—	—	—
	SE (NE)	Beam	103	—	—	—	232	471	539	504	400	250	77	0	0	0	0	0	—	—	—
		Diffuse	65	—	—	—	63	138	179	188	182	173	165	150	129	103	70	31	—	—	—
	S (N)	Beam	74	—	—	—	30	88	142	185	216	231	231	216	185	142	88	30	—	—	—
		Diffuse	64	—	—	—	41	94	133	157	169	173	173	169	157	133	94	41	—	—	—
	SW (NW)	Beam	103	—	—	—	0	0	0	0	0	77	250	400	504	539	471	232	—	—	—
		Diffuse	65	—	—	—	31	70	103	129	150	165	173	182	188	179	138	63	—	—	—
	W (W)	Beam	103	—	—	—	0	0	0	0	0	0	122	349	528	620	578	298	—	—	—
		Diffuse	65	—	—	—	33	69	98	120	138	154	167	178	191	191	154	73	—	—	—
	NW (SW)	Beam	50	—	—	—	0	0	0	0	0	0	0	94	243	338	346	190	—	—	—
		Diffuse	59	—	—	—	32	69	98	121	136	145	156	161	162	153	121	57	—	—	—
	Horiz.	Beam	259	—	—	—	37	227	458	666	819	900	900	819	666	458	227	37	—	—	—
	Horiz.	Diffuse	53	—	—	—	41	87	115	128	131	131	131	131	128	115	87	41	—	—	—
	Horiz.	Global	311	—	—	—	78	314	573	794	950	1031	1031	950	794	573	314	78	—	—	—
Nov 4 (N) / May 29 (S)																					
	Normal to beam		356	—	—	—	263	593	766	859	910	932	932	910	859	766	593	263	—	—	—
Sunrise: 06:11	N (S)	Beam	0	—	—	—	0	0	0	0	0	0	0	0	0	0	0	0	—	—	—
		Diffuse	49	—	—	—	30	69	100	120	134	139	139	134	120	100	69	30	—	—	—
Sunset: 17:49	NE (SE)	Beam	28	—	—	—	124	237	218	117	0	0	0	0	0	0	0	0	—	—	—
		Diffuse	54	—	—	—	45	102	135	148	150	148	141	130	114	93	64	28	—	—	—
	E (E)	Beam	95	—	—	—	250	528	586	504	336	117	0	0	0	0	0	0	—	—	—
		Diffuse	62	—	—	—	63	141	181	187	177	165	152	136	116	93	64	29	—	—	—
	SE (NE)	Beam	125	—	—	—	231	510	611	596	505	365	199	31	0	0	0	0	—	—	—
		Diffuse	66	—	—	—	60	138	185	199	193	182	171	154	131	103	68	28	—	—	—
	S (N)	Beam	137	—	—	—	76	193	278	339	379	399	399	379	339	278	193	76	—	—	—
		Diffuse	67	—	—	—	40	97	142	168	181	185	185	181	168	142	97	40	—	—	—
	SW (NW)	Beam	125	—	—	—	0	0	0	0	31	199	365	505	596	611	510	231	—	—	—
		Diffuse	66	—	—	—	28	68	103	131	154	171	182	193	199	185	138	60	—	—	—
	W (W)	Beam	95	—	—	—	0	0	0	0	0	0	117	336	504	586	528	250	—	—	—
		Diffuse	62	—	—	—	29	64	93	116	136	152	165	177	187	181	141	63	—	—	—
	NW (SW)	Beam	28	—	—	—	0	0	0	0	0	0	0	0	117	218	237	124	—	—	—
		Diffuse	54	—	—	—	28	64	93	114	130	141	148	150	148	135	102	45	—	—	—
	Horiz.	Beam	234	—	—	—	26	188	407	607	756	834	834	756	607	407	188	26	—	—	—
	Horiz.	Diffuse	51	—	—	—	37	81	111	127	132	133	133	132	127	111	81	37	—	—	—
	Horiz.	Global	286	—	—	—	63	269	518	734	888	967	967	888	734	518	269	63	—	—	—
Dec 4 (N) / Jun 3 (S)																					
	Normal to beam		345	—	—	—	234	562	746	845	898	922	922	898	845	746	562	234	—	—	—
Sunrise: 06:17	N (S)	Beam	0	—	—	—	0	0	0	0	0	0	0	0	0	0	0	0	—	—	—
Sunset: 17:43		Diffuse	45	—	—	—	26	61	92	113	127	133	133	127	113	92	61	26	—	—	—
	NE (SE)	Beam	17	—	—	—	85	167	139	38	0	0	0	0	0	0	0	0	—	—	—
		Diffuse	50	—	—	—	37	88	122	137	142	141	135	125	109	88	59	25	—	—	—
	E (E)	Beam	87	—	—	—	213	481	548	476	318	111	0	0	0	0	0	0	—	—	—
		Diffuse	59	—	—	—	54	126	171	181	174	162	148	132	112	88	59	25	—	—	—
	SE (NE)	Beam	137	—	—	—	217	512	636	636	556	426	268	106	0	0	0	0	—	—	—
		Diffuse	66	—	—	—	55	131	184	202	199	188	174	156	131	101	64	26	—	—	—
	S (N)	Beam	170	—	—	—	94	244	352	423	468	491	491	468	423	352	244	93	—	—	—
		Diffuse	69	—	—	—	38	95	145	174	189	194	194	189	174	145	95	38	—	—	—
	SW (NW)	Beam	137	—	—	—	0	0	0	0	106	268	426	556	636	636	512	217	—	—	—
		Diffuse	66	—	—	—	26	64	101	131	156	174	188	199	202	184	131	55	—	—	—
	W (W)	Beam	87	—	—	—	0	0	0	0	0	0	111	318	476	548	481	214	—	—	—
		Diffuse	59	—	—	—	25	59	88	112	132	148	162	174	181	171	126	54	—	—	—
	NW (SW)	Beam	17	—	—	—	0	0	0	0	0	0	0	0	38	139	167	85	—	—	—
		Diffuse	50	—	—	—	25	59	88	109	125	135	141	142	137	122	88	37	—	—	—
	Horiz.	Beam	214	—	—	—	20	159	365	555	697	773	773	697	555	365	159	20	—	—	—
	Horiz.	Diffuse	50	—	—	—	33	75	107	124	132	134	134	132	124	107	75	33	—	—	—
	Horiz.	Global	263	—	—	—	53	234	472	679	829	907	907	829	679	472	234	53	—	—	—

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Notes:

(1) Hourly values in the first and last columns are calculated for a time halfway between sunrise and end of sunrise hour and halfway between beginning of sunset hour and sunset, respectively.

(2) Orientations for southern hemisphere shown in parentheses.

(3) Computed using a Linke turbidity factor of 3.5.

(4) Ground reflected component included in the slope diffuse irradiance values; ground albedo: 0.20.

(5) Altitude: 0 m.

(6) Values corrected to mean solar distance (MSD) in the northern hemisphere, see CIBSE Guide J: *Weather, solar and illuminance data*. Apply MSD ratio adjustment for southern hemisphere.