

**Table 5.18(e)** Banded weather data: Glasgow

Hour	Dry-bulb / °C	Incident solar irradiation / W·m <sup>-2</sup>									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
<b>May</b>											
1	9.12	0	0	0	0	0	0	0	0	0	0
2	8.23	0	0	0	0	0	0	0	0	0	0
3	7.75	0	0	0	0	0	0	0	0	0	0
4	7.71	1	7	16	6	27	10	22	9	4	2
5	8.11	26	46	69	48	161	69	159	68	63	47
6	8.92	78	88	53	73	217	110	254	119	142	93
7	10.09	143	132	0	74	215	140	306	161	218	140
8	11.54	207	176	0	101	164	157	305	191	267	182
9	13.17	263	218	0	126	87	166	265	210	287	215
10	14.86	307	254	0	147	0	147	194	216	276	237
11	16.51	335	280	0	161	0	161	102	208	237	244
12	18.00	345	289	0	166	0	166	0	166	174	233
13	19.23	335	280	0	161	0	161	0	161	93	206
14	20.12	307	254	0	147	0	147	0	147	2	167
15	20.60	263	218	0	126	0	126	0	126	0	126
16	20.64	207	176	0	101	0	101	0	101	0	101
17	20.24	143	132	0	75	0	75	0	75	0	75
18	19.43	78	88	53	73	0	48	0	48	0	48
19	18.26	27	46	70	48	0	24	0	24	0	24
20	16.81	1	8	17	7	0	4	0	4	0	4
21	15.19	0	0	0	0	0	0	0	0	0	0
22	13.49	0	0	0	0	0	0	0	0	0	0
23	11.84	0	0	0	0	0	0	0	0	0	0
24	10.35	0	0	0	0	0	0	0	0	0	0

Hour	Dry-bulb / °C	Incident solar irradiation / W·m <sup>-2</sup>								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	9.12	0	0	0	0	0	0	0	0	0	14.42
2	8.23	0	0	0	0	0	0	0	0	0	28.42
3	7.75	0	0	0	0	0	0	0	0	0	41.75
4	7.71	0	3	0	3	0	3	0	3	1.34	54.36
5	8.11	0	23	0	23	0	23	0	23	8.66	66.43
6	8.92	0	48	0	48	0	48	0	48	16.67	78.29
7	10.09	2	90	0	74	0	74	0	74	25.04	90.41
8	11.54	73	135	0	101	0	101	0	101	33.38	103.41
9	13.17	141	179	0	126	0	126	0	126	41.25	118.11
10	14.86	197	217	3	167	0	147	0	147	47.99	135.52
11	16.51	234	243	93	206	0	161	0	161	52.72	156.38
12	18.00	246	253	174	233	0	187	0	166	54.46	180.00
13	19.23	234	243	237	244	102	209	0	161	52.73	203.63
14	20.12	197	217	276	237	194	216	0	147	48.02	224.50
15	20.60	141	179	287	215	265	210	87	166	41.29	241.92
16	20.64	72	135	267	182	305	191	165	157	33.44	256.64
17	20.24	2	90	218	140	306	161	215	140	25.1	269.65
18	19.43	0	48	143	93	255	119	218	111	16.75	281.77
19	18.26	0	24	63	47	160	69	162	69	8.75	293.64
20	16.81	0	4	5	3	24	9	29	11	1.46	305.71
21	15.19	0	0	0	0	0	0	0	0	0	318.31
22	13.49	0	0	0	0	0	0	0	0	0	331.62
23	11.84	0	0	0	0	0	0	0	0	0	345.61
24	10.35	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.49; Diffac = 1.06; Maximum dry-bulb = 20.68 °C; Minimum dry-bulb = 7.67 °C; Adaptive comfort range = 21.5–25.5 °C

*Table continues*

**Table 5.18(e)** Banded weather data: Glasgow — *continued*

Hour	Dry-bulb /°C	Incident solar irradiation / W·m <sup>-2</sup>									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
<b>June</b>											
1	11.82	0	0	0	0	0	0	0	0	0	0
2	11.03	0	0	0	0	0	0	0	0	0	0
3	10.55	0	0	0	0	0	0	0	0	0	0
4	10.41	3	22	23	21	37	32	30	26	5	7
5	10.63	18	61	39	52	85	63	82	62	30	50
6	11.18	44	103	29	80	107	98	121	102	65	88
7	12.03	73	148	4	105	101	129	139	138	95	127
8	13.12	101	193	0	98	78	154	137	169	116	164
9	14.37	126	237	0	121	43	176	118	195	123	196
10	15.71	145	275	0	140	3	191	86	213	118	222
11	17.04	157	302	0	153	0	153	45	221	101	236
12	18.26	162	312	0	158	0	158	0	158	73	235
13	19.31	157	302	0	153	0	153	0	153	37	218
14	20.09	145	275	0	140	0	140	0	140	0	140
15	20.57	126	237	0	121	0	121	0	121	0	121
16	20.71	101	193	0	98	0	98	0	98	0	98
17	20.49	73	148	4	105	0	75	0	75	0	75
18	19.94	43	103	29	80	0	51	0	51	0	51
19	19.10	18	61	39	52	0	29	0	29	0	29
20	18.01	3	22	23	21	0	10	0	10	0	10
21	16.75	0	0	0	0	0	0	0	0	0	0
22	15.41	0	0	0	0	0	0	0	0	0	0
23	14.08	0	0	0	0	0	0	0	0	0	0
24	12.86	0	0	0	0	0	0	0	0	0	0

Hour	Dry-bulb /°C	Incident solar irradiation / W·m <sup>-2</sup>								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	11.82	0	0	0	0	0	0	0	0	0	13.94
2	11.03	0	0	0	0	0	0	0	0	0	27.51
3	10.55	0	0	0	0	0	0	0	0	0	40.48
4	10.41	0	10	0	10	0	10	0	10	4.12	52.81
5	10.63	0	29	0	29	0	29	0	29	11.3	64.66
6	11.18	0	51	0	51	0	51	0	51	19.22	76.33
7	12.03	0	75	0	75	0	75	0	75	27.55	88.28
8	13.12	27	142	0	98	0	98	0	98	35.92	101.15
9	14.37	57	179	0	121	0	121	0	121	43.89	115.82
10	15.71	81	212	0	140	0	140	0	140	50.81	133.45
11	17.04	97	235	37	218	0	153	0	153	55.74	155.05
12	18.26	103	243	73	235	0	215	0	158	57.57	180.00
13	19.31	97	235	101	236	45	221	0	153	55.74	204.95
14	20.09	81	212	118	222	86	213	3	191	50.81	226.55
15	20.57	57	179	123	196	118	195	43	176	43.89	244.18
16	20.71	27	142	116	164	137	169	78	154	35.92	258.85
17	20.49	0	75	95	127	139	138	101	129	27.55	271.72
18	19.94	0	51	65	88	121	102	107	98	19.22	283.67
19	19.10	0	29	30	50	82	62	85	63	11.3	295.34
20	18.01	0	10	5	7	30	26	37	32	4.12	307.19
21	16.75	0	0	0	0	0	0	0	0	0	319.52
22	15.41	0	0	0	0	0	0	0	0	0	332.49
23	14.08	0	0	0	0	0	0	0	0	0	346.06
24	12.86	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.22; Diffac = 1.08; Maximum dry-bulb = 20.71 °C; Minimum dry-bulb = 10.41 °C; Adaptive comfort range = 21.7–25.7 °C

*Table continues*

**Table 5.18(e)** Banded weather data: Glasgow — *continued*

Hour	Dry-bulb / °C	Incident solar irradiation / W·m <sup>-2</sup>									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
<b>July</b>											
1	14.09	0	0	0	0	0	0	0	0	0	0
2	13.25	0	0	0	0	0	0	0	0	0	0
3	12.70	0	0	0	0	0	0	0	0	0	0
4	12.49	0	6	9	5	15	9	12	7	3	2
5	12.63	17	45	46	42	107	56	106	56	42	41
6	13.10	51	87	35	69	144	94	169	100	95	83
7	13.87	94	131	0	69	143	125	205	139	146	125
8	14.90	137	176	0	94	110	147	205	170	180	164
9	16.11	175	217	0	117	58	163	178	193	193	197
10	17.42	205	253	0	136	0	136	130	205	186	220
11	18.75	223	279	0	149	0	149	69	206	160	231
12	19.99	230	288	0	154	0	154	0	154	118	225
13	21.06	223	279	0	149	0	149	0	149	63	205
14	21.90	205	253	0	136	0	136	0	136	3	172
15	22.45	175	217	0	117	0	117	0	117	0	117
16	22.66	137	175	0	94	0	94	0	94	0	94
17	22.52	94	131	0	69	0	69	0	69	0	69
18	22.05	51	86	34	69	0	44	0	44	0	44
19	21.27	17	44	45	42	0	22	0	22	0	22
20	20.25	0	5	8	5	0	2	0	2	0	2
21	19.03	0	0	0	0	0	0	0	0	0	0
22	17.72	0	0	0	0	0	0	0	0	0	0
23	16.40	0	0	0	0	0	0	0	0	0	0
24	15.16	0	0	0	0	0	0	0	0	0	0

Hour	Dry-bulb / °C	Incident solar irradiation / W·m <sup>-2</sup>								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	14.09	0	0	0	0	0	0	0	0	0	14.45
2	13.25	0	0	0	0	0	0	0	0	0	28.49
3	12.70	0	0	0	0	0	0	0	0	0	41.84
4	12.49	0	3	0	3	0	3	0	3	1.12	54.48
5	12.63	0	22	0	22	0	22	0	22	8.43	66.58
6	13.10	0	45	0	45	0	45	0	45	16.43	78.47
7	13.87	2	91	0	69	0	69	0	69	24.79	90.61
8	14.90	50	133	0	94	0	94	0	94	33.11	103.63
9	16.11	96	172	0	117	0	117	0	117	40.95	118.35
10	17.42	134	206	2	172	0	136	0	136	47.66	135.75
11	18.75	158	230	63	205	0	149	0	149	52.35	156.53
12	19.99	167	239	118	225	0	194	0	154	54.06	180.00
13	21.06	158	230	160	231	69	206	0	149	52.33	203.47
14	21.90	134	206	187	220	130	205	0	136	47.63	224.23
15	22.45	96	172	194	197	178	193	58	163	40.91	241.61
16	22.66	50	132	180	164	205	170	110	147	33.06	256.32
17	22.52	2	91	146	125	204	139	143	124	24.72	269.33
18	22.05	0	44	95	83	169	100	144	94	16.35	281.47
19	21.27	0	22	42	41	105	56	107	56	8.32	293.35
20	20.25	0	2	2	2	11	6	13	8	1	305.45
21	19.03	0	0	0	0	0	0	0	0	0	318.09
22	17.72	0	0	0	0	0	0	0	0	0	331.46
23	16.40	0	0	0	0	0	0	0	0	0	345.52
24	15.16	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.33; Diffac = 1.06; Maximum dry-bulb = 22.86 °C; Minimum dry-bulb = 12.49 °C; Adaptive comfort range = 22.5–26.5 °C

*Table continues*

**Table 5.18(e)** Banded weather data: Glasgow — *continued*

Hour	Dry-bulb /°C	Incident solar irradiation / W·m <sup>-2</sup>									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
<b>August</b>											
1	16.52	0	0	0	0	0	0	0	0	0	0
2	16.13	0	0	0	0	0	0	0	0	0	0
3	16.04	0	0	0	0	0	0	0	0	0	0
4	16.25	0	0	0	0	0	0	0	0	0	0
5	16.76	0	5	3	3	7	6	8	7	4	3
6	17.52	13	51	9	38	66	52	84	56	53	49
7	18.48	40	97	0	48	79	88	126	99	99	93
8	19.59	70	143	0	72	63	116	138	135	132	133
9	20.76	98	185	0	94	29	136	124	161	147	167
10	21.91	119	221	0	112	0	112	92	177	145	191
11	22.97	133	244	0	125	0	125	49	182	127	203
12	23.86	137	253	0	129	0	129	0	129	97	201
13	24.52	133	244	0	125	0	125	0	125	58	184
14	24.91	119	220	0	112	0	112	0	112	14	157
15	25.00	97	185	0	94	0	94	0	94	0	94
16	24.79	70	143	0	72	0	72	0	72	0	72
17	24.29	39	97	0	48	0	48	0	48	0	48
18	23.52	13	50	9	38	0	24	0	24	0	24
19	22.56	0	4	2	2	0	2	0	2	0	2
20	21.46	0	0	0	0	0	0	0	0	0	0
21	20.29	0	0	0	0	0	0	0	0	0	0
22	19.14	0	0	0	0	0	0	0	0	0	0
23	18.08	0	0	0	0	0	0	0	0	0	0
24	17.19	0	0	0	0	0	0	0	0	0	0

  

Hour	Dry-bulb /°C	Incident solar irradiation / W·m <sup>-2</sup>								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	16.52	0	0	0	0	0	0	0	0	0	15.89
2	16.13	0	0	0	0	0	0	0	0	0	31.19
3	16.04	0	0	0	0	0	0	0	0	0	45.52
4	16.25	0	0	0	0	0	0	0	0	0	58.88
5	16.76	0	2	0	2	0	2	0	2	0.86	71.51
6	17.52	0	24	0	24	0	24	0	24	9.05	83.80
7	18.48	14	72	0	48	0	48	0	48	17.44	96.25
8	19.59	49	112	0	72	0	72	0	72	25.62	109.43
9	20.76	84	150	0	94	0	94	0	94	33.11	124.01
10	21.91	112	182	14	157	0	112	0	112	39.32	140.61
11	22.97	131	204	58	184	0	125	0	125	43.51	159.48
12	23.86	137	211	97	201	0	175	0	129	45	180.00
13	24.52	131	204	127	203	49	182	0	125	43.48	200.51
14	24.91	112	182	145	190	92	177	0	112	39.27	219.37
15	25.00	84	150	147	166	124	160	28	136	33.04	235.94
16	24.79	49	112	132	133	138	134	63	116	25.52	250.50
17	24.29	14	72	99	92	125	99	79	88	17.32	263.67
18	23.52	0	24	53	48	83	56	65	51	8.91	276.10
19	22.56	0	2	3	3	6	5	6	5	0.69	288.38
20	21.46	0	0	0	0	0	0	0	0	0	301.00
21	20.29	0	0	0	0	0	0	0	0	0	314.37
22	19.14	0	0	0	0	0	0	0	0	0	328.72
23	18.08	0	0	0	0	0	0	0	0	0	344.05
24	17.19	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.23; Diffac = 1.12; Maximum dry-bulb = 25.01 °C; Minimum dry-bulb = 16.03 °C; Adaptive comfort range = 23.4–27.4 °C

*Table continues*

Table 5.18(e) Banded weather data: Glasgow — *continued*

Hour	Dry-bulb /°C	Incident solar irradiation / W·m <sup>-2</sup>									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
<b>September</b>											
1	11.48	0	0	0	0	0	0	0	0	0	0
2	11.32	0	0	0	0	0	0	0	0	0	0
3	11.36	0	0	0	0	0	0	0	0	0	0
4	11.59	0	0	0	0	0	0	0	0	0	0
5	12.00	0	0	0	0	0	0	0	0	0	0
6	12.56	0	1	0	0	1	1	1	1	1	1
7	13.23	15	53	0	25	53	51	96	63	83	59
8	13.96	43	102	0	51	49	84	133	106	139	108
9	14.72	75	146	0	74	16	105	132	137	171	147
10	15.44	100	181	0	93	0	93	103	153	176	173
11	16.07	116	205	0	105	0	105	55	156	160	185
12	16.58	122	213	0	109	0	109	0	109	127	181
13	16.92	116	204	0	105	0	105	0	105	82	163
14	17.08	100	181	0	92	0	92	0	92	31	133
15	17.05	74	145	0	74	0	74	0	74	0	74
16	16.82	43	101	0	50	0	50	0	50	0	50
17	16.41	14	52	0	25	0	25	0	25	0	25
18	15.85	0	0	0	0	0	0	0	0	0	0
19	15.18	0	0	0	0	0	0	0	0	0	0
20	14.44	0	0	0	0	0	0	0	0	0	0
21	13.69	0	0	0	0	0	0	0	0	0	0
22	12.97	0	0	0	0	0	0	0	0	0	0
23	12.34	0	0	0	0	0	0	0	0	0	0
24	11.83	0	0	0	0	0	0	0	0	0	0

Hour	Dry-bulb /°C	Incident solar irradiation / W·m <sup>-2</sup>								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	11.48	0	0	0	0	0	0	0	0	0	17.89
2	11.32	0	0	0	0	0	0	0	0	0	34.82
3	11.36	0	0	0	0	0	0	0	0	0	50.29
4	11.59	0	0	0	0	0	0	0	0	0	64.36
5	12.00	0	0	0	0	0	0	0	0	0	77.40
6	12.56	0	0	0	0	0	0	0	0	0.12	89.92
7	13.23	21	43	0	25	0	25	0	25	8.46	102.43
8	13.96	63	88	0	51	0	51	0	51	16.39	115.48
9	14.72	109	130	0	74	0	74	0	74	23.46	129.57
10	15.44	147	165	31	133	0	93	0	93	29.15	145.07
11	16.07	171	188	82	163	0	105	0	105	32.88	162.05
12	16.58	179	196	127	181	0	146	0	109	34.18	180.00
13	16.92	171	188	160	185	55	156	0	105	32.85	197.94
14	17.08	147	165	176	173	102	153	0	92	29.09	214.90
15	17.05	109	130	171	147	132	136	16	105	23.38	230.38
16	16.82	63	87	138	107	132	106	49	84	16.28	244.45
17	16.41	21	42	82	58	95	62	52	51	8.32	257.48
18	15.85	0	0	0	0	0	0	0	0	0	269.97
19	15.18	0	0	0	0	0	0	0	0	0	282.47
20	14.44	0	0	0	0	0	0	0	0	0	295.50
21	13.69	0	0	0	0	0	0	0	0	0	309.57
22	12.97	0	0	0	0	0	0	0	0	0	325.06
23	12.34	0	0	0	0	0	0	0	0	0	342.04
24	11.83	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.28; Diffac = 1.25; Maximum dry-bulb = 17.09 °C; Minimum dry-bulb = 11.31 °C; Adaptive comfort range = 21.5–25.5 °C