

Table 5.18(I) Banded weather data: Plymouth

Hour	Dry-bulb / °C	Incident solar irradiation / W·m ⁻²									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
May											
1	12.10	0	0	0	0	0	0	0	0	0	0
2	11.68	0	0	0	0	0	0	0	0	0	0
3	11.62	0	0	0	0	0	0	0	0	0	0
4	11.92	0	0	0	0	0	0	0	0	0	0
5	12.56	18	33	66	38	150	56	146	56	57	36
6	13.49	69	79	57	68	212	102	242	109	131	84
7	14.66	142	128	12	89	224	138	306	156	208	134
8	15.98	215	177	0	102	181	161	309	191	256	178
9	17.37	280	224	0	130	107	174	269	214	273	215
10	18.72	330	266	0	154	19	179	197	224	259	240
11	19.95	362	297	0	172	0	172	104	220	218	250
12	20.97	374	309	0	178	0	178	0	178	153	240
13	21.71	362	297	0	172	0	172	0	172	71	211
14	22.13	330	266	0	155	0	155	0	155	0	155
15	22.19	280	224	0	130	0	130	0	130	0	130
16	21.89	216	177	0	102	0	102	0	102	0	102
17	21.25	143	128	12	90	0	73	0	73	0	73
18	20.31	69	79	58	68	0	43	0	43	0	43
19	19.14	18	33	66	38	0	17	0	17	0	17
20	17.82	0	0	0	0	0	0	0	0	0	0
21	16.44	0	0	0	0	0	0	0	0	0	0
22	15.09	0	0	0	0	0	0	0	0	0	0
23	13.86	0	0	0	0	0	0	0	0	0	0
24	12.84	0	0	0	0	0	0	0	0	0	0

Hour	Dry-bulb / °C	Incident solar irradiation / W·m ⁻²								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	12.10	0	0	0	0	0	0	0	0	0	14.81
2	11.68	0	0	0	0	0	0	0	0	0	29.00
3	11.62	0	0	0	0	0	0	0	0	0	42.20
4	11.92	0	0	0	0	0	0	0	0	0	54.38
5	12.56	0	17	0	17	0	17	0	17	6.42	65.76
6	13.49	0	43	0	43	0	43	0	43	15.48	76.73
7	14.66	0	72	0	72	0	72	0	72	24.95	87.83
8	15.98	53	131	0	102	0	102	0	102	34.49	99.76
9	17.37	117	177	0	130	0	130	0	130	43.66	113.56
10	18.72	170	217	0	154	0	154	0	154	51.77	130.74
11	19.95	204	246	71	211	0	172	0	172	57.71	152.98
12	20.97	216	257	153	240	0	178	0	178	59.98	180.00
13	21.71	204	246	218	250	104	220	0	172	57.73	207.03
14	22.13	170	217	259	240	197	224	19	179	51.8	229.29
15	22.19	117	177	273	215	269	214	107	175	43.69	246.48
16	21.89	53	131	256	179	309	191	181	161	34.54	260.29
17	21.25	0	73	208	134	306	156	225	138	25.01	272.23
18	20.31	0	43	131	84	243	109	212	102	15.55	283.33
19	19.14	0	17	57	36	147	56	151	57	6.51	294.31
20	17.82	0	0	0	0	0	0	0	0	0	305.70
21	16.44	0	0	0	0	0	0	0	0	0	317.87
22	15.09	0	0	0	0	0	0	0	0	0	331.06
23	13.86	0	0	0	0	0	0	0	0	0	345.22
24	12.84	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.49; Diffac = 1.03; Maximum dry-bulb = 22.21 °C; Minimum dry-bulb = 11.60 °C; Adaptive comfort range = 22.2–26.2 °C

Table continues

Table 5.18(l) Banded weather data: Plymouth — *continued*

Hour	Dry-bulb /°C	Incident solar irradiation / W·m ⁻²									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
June											
1	12.87	0	0	0	0	0	0	0	0	0	0
2	12.58	0	0	0	0	0	0	0	0	0	0
3	12.45	0	0	0	0	0	0	0	0	0	0
4	12.48	0	4	1	4	2	6	2	5	0	1
5	12.66	4	45	12	23	26	23	24	23	9	23
6	13.00	13	89	11	67	36	72	40	73	20	69
7	13.46	25	136	4	99	36	106	48	109	31	105
8	14.02	36	184	0	88	29	139	47	144	38	141
9	14.63	45	231	0	110	18	170	41	176	40	176
10	15.26	53	274	0	130	5	197	30	204	38	206
11	15.85	58	306	0	145	0	145	16	223	31	227
12	16.38	60	318	0	151	0	151	0	151	21	233
13	16.80	58	306	0	145	0	145	0	145	9	221
14	17.09	53	274	0	130	0	130	0	130	0	130
15	17.23	45	231	0	110	0	110	0	110	0	110
16	17.20	36	184	0	88	0	88	0	88	0	88
17	17.01	25	136	4	99	0	65	0	65	0	65
18	16.68	13	89	11	67	0	42	0	42	0	42
19	16.22	4	44	12	23	0	21	0	21	0	21
20	15.66	0	4	1	4	0	2	0	2	0	2
21	15.05	0	0	0	0	0	0	0	0	0	0
22	14.42	0	0	0	0	0	0	0	0	0	0
23	13.82	0	0	0	0	0	0	0	0	0	0
24	13.30	0	0	0	0	0	0	0	0	0	0

Hour	Dry-bulb /°C	Incident solar irradiation / W·m ⁻²								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	12.87	0	0	0	0	0	0	0	0	0	14.23
2	12.58	0	0	0	0	0	0	0	0	0	27.92
3	12.45	0	0	0	0	0	0	0	0	0	40.74
4	12.48	0	2	0	2	0	2	0	2	0.77	52.62
5	12.66	0	21	0	21	0	21	0	21	8.9	63.77
6	13.00	0	42	0	42	0	42	0	42	17.83	74.54
7	13.46	0	65	0	65	0	65	0	65	27.24	85.42
8	14.02	6	134	0	88	0	88	0	88	36.8	97.13
9	14.63	15	170	0	110	0	110	0	110	46.07	110.74
10	15.26	23	202	0	130	0	130	0	130	54.42	127.97
11	15.85	28	226	9	221	0	145	0	145	60.66	151.01
12	16.38	30	236	21	233	0	151	0	151	63.09	180.00
13	16.80	28	226	31	227	16	223	0	145	60.66	208.99
14	17.09	23	202	38	206	30	204	5	197	54.42	232.03
15	17.23	15	170	40	176	41	176	18	170	46.07	249.25
16	17.20	6	134	38	141	47	144	29	139	36.8	262.87
17	17.01	0	65	31	105	48	109	36	106	27.24	274.58
18	16.68	0	42	20	69	40	73	36	72	17.83	285.46
19	16.22	0	21	9	23	24	23	26	23	8.9	296.23
20	15.66	0	2	0	1	2	5	2	6	0.77	307.38
21	15.05	0	0	0	0	0	0	0	0	0	319.26
22	14.42	0	0	0	0	0	0	0	0	0	332.08
23	13.82	0	0	0	0	0	0	0	0	0	345.77
24	13.30	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.07; Diffac = 1.00; Maximum dry-bulb = 17.24 °C; Minimum dry-bulb = 12.44 °C; Adaptive comfort range = 21.7–25.7 °C

Table continues

Table 5.18(I) Banded weather data: Plymouth — *continued*

Hour	Dry-bulb / °C	Incident solar irradiation / W·m ⁻²									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
July											
1	14.88	0	0	0	0	0	0	0	0	0	0
2	14.68	0	0	0	0	0	0	0	0	0	0
3	14.80	0	0	0	0	0	0	0	0	0	0
4	15.24	0	0	0	0	0	0	0	0	0	0
5	15.96	25	27	92	36	211	58	206	57	81	34
6	16.91	96	65	80	61	299	102	343	110	186	81
7	18.03	200	106	15	76	318	134	435	156	297	130
8	19.25	304	147	0	97	256	150	440	186	366	172
9	20.47	396	186	0	125	151	155	383	203	391	205
10	21.62	468	222	0	148	26	151	281	205	372	225
11	22.62	514	247	0	164	0	164	149	193	313	229
12	23.40	530	257	0	170	0	170	0	170	220	215
13	23.91	514	247	0	164	0	164	0	164	103	183
14	24.11	468	221	0	148	0	148	0	148	0	148
15	23.99	396	186	0	125	0	125	0	125	0	125
16	23.56	304	147	0	97	0	97	0	97	0	97
17	22.84	200	106	14	76	0	68	0	68	0	68
18	21.89	95	65	79	60	0	39	0	39	0	39
19	20.76	24	26	91	36	0	14	0	14	0	14
20	19.55	0	0	0	0	0	0	0	0	0	0
21	18.32	0	0	0	0	0	0	0	0	0	0
22	17.17	0	0	0	0	0	0	0	0	0	0
23	16.17	0	0	0	0	0	0	0	0	0	0
24	15.39	0	0	0	0	0	0	0	0	0	0

Hour	Dry-bulb / °C	Incident solar irradiation / W·m ⁻²								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	14.88	0	0	0	0	0	0	0	0	0	14.85
2	14.68	0	0	0	0	0	0	0	0	0	29.07
3	14.80	0	0	0	0	0	0	0	0	0	42.31
4	15.24	0	0	0	0	0	0	0	0	0	54.52
5	15.96	0	15	0	15	0	15	0	15	6.2	65.93
6	16.91	0	39	0	39	0	39	0	39	15.25	76.94
7	18.03	0	68	0	68	0	68	0	68	24.72	88.07
8	19.25	78	115	0	97	0	97	0	97	34.25	100.03
9	20.47	170	159	0	125	0	125	0	125	43.38	113.86
10	21.62	245	198	0	148	0	148	0	148	51.46	131.04
11	22.62	294	225	103	183	0	164	0	164	57.35	153.19
12	23.40	311	235	220	215	0	165	0	170	59.58	180.00
13	23.91	294	225	313	229	149	193	0	164	57.33	206.80
14	24.11	245	198	372	225	281	205	26	151	51.43	228.93
15	23.99	170	159	391	204	383	203	151	155	43.34	246.10
16	23.56	78	115	367	172	440	186	256	150	34.2	259.91
17	22.84	0	68	297	130	435	156	317	134	24.66	271.87
18	21.89	0	39	186	80	342	110	297	101	15.18	282.99
19	20.76	0	14	80	34	204	57	209	58	6.11	293.99
20	19.55	0	0	0	0	0	0	0	0	0	305.40
21	18.32	0	0	0	0	0	0	0	0	0	317.62
22	17.17	0	0	0	0	0	0	0	0	0	330.87
23	16.17	0	0	0	0	0	0	0	0	0	345.12
24	15.39	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.69; Diffac = 0.86; Maximum dry-bulb = 24.11 °C; Minimum dry-bulb = 14.68 °C; Adaptive comfort range = 23.2–27.2 °C

Table continues

Table 5.18(I) Banded weather data: Plymouth — *continued*

Hour	Dry-bulb /°C	Incident solar irradiation / W·m ⁻²									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
August											
1	17.70	0	0	0	0	0	0	0	0	0	0
2	17.38	0	0	0	0	0	0	0	0	0	0
3	17.18	0	0	0	0	0	0	0	0	0	0
4	17.12	0	0	0	0	0	0	0	0	0	0
5	17.19	0	0	0	0	0	0	0	0	0	0
6	17.39	4	45	3	23	20	23	26	23	16	23
7	17.70	13	95	0	45	26	75	41	78	31	76
8	18.11	24	145	0	68	22	109	45	115	41	114
9	18.59	34	191	0	91	12	140	40	147	46	148
10	19.11	42	231	0	109	0	109	30	173	44	177
11	19.62	47	258	0	123	0	123	16	189	38	195
12	20.10	49	269	0	127	0	127	0	127	28	200
13	20.51	47	258	0	122	0	122	0	122	16	189
14	20.82	42	230	0	109	0	109	0	109	2	166
15	21.02	34	191	0	90	0	90	0	90	0	90
16	21.08	24	144	0	68	0	68	0	68	0	68
17	21.02	13	94	0	44	0	44	0	44	0	44
18	20.82	4	44	3	22	0	20	0	20	0	20
19	20.50	0	0	0	0	0	0	0	0	0	0
20	20.09	0	0	0	0	0	0	0	0	0	0
21	19.61	0	0	0	0	0	0	0	0	0	0
22	19.10	0	0	0	0	0	0	0	0	0	0
23	18.58	0	0	0	0	0	0	0	0	0	0
24	18.11	0	0	0	0	0	0	0	0	0	0

Hour	Dry-bulb /°C	Incident solar irradiation / W·m ⁻²								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	17.70	0	0	0	0	0	0	0	0	0	16.60
2	17.38	0	0	0	0	0	0	0	0	0	32.30
3	17.18	0	0	0	0	0	0	0	0	0	46.61
4	17.12	0	0	0	0	0	0	0	0	0	59.56
5	17.19	0	0	0	0	0	0	0	0	0	71.51
6	17.39	0	21	0	21	0	21	0	21	8.41	82.96
7	17.70	3	69	0	45	0	45	0	45	17.96	94.49
8	18.11	14	107	0	68	0	68	0	68	27.34	106.82
9	18.59	24	143	0	91	0	91	0	91	36.07	120.79
10	19.11	33	174	2	166	0	109	0	109	43.49	137.41
11	19.62	38	195	16	189	0	123	0	123	48.65	157.38
12	20.10	40	203	28	200	0	192	0	127	50.52	180.00
13	20.51	38	195	38	195	16	189	0	122	48.62	202.61
14	20.82	33	174	44	176	30	173	0	109	43.44	222.56
15	21.02	24	143	46	148	40	147	11	140	36	239.15
16	21.08	14	107	41	113	45	114	22	109	27.25	253.10
17	21.02	3	69	31	75	40	77	26	74	17.85	265.41
18	20.82	0	20	16	22	26	22	20	22	8.28	276.93
19	20.50	0	0	0	0	0	0	0	0	0	288.36
20	20.09	0	0	0	0	0	0	0	0	0	300.31
21	19.61	0	0	0	0	0	0	0	0	0	313.26
22	19.10	0	0	0	0	0	0	0	0	0	327.59
23	18.58	0	0	0	0	0	0	0	0	0	343.33
24	18.11	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.07; Diffac = 1.06; Maximum dry-bulb = 21.08 °C; Minimum dry-bulb = 17.12 °C; Adaptive comfort range = 23.0–27.0 °C

Table continues

Table 5.18(I) Banded weather data: Plymouth — *continued*

Hour	Dry-bulb /°C	Incident solar irradiation / W·m ⁻²									
		Horizontal		N		NE		E		SE	
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse
September											
1	12.78	0	0	0	0	0	0	0	0	0	0
2	12.61	0	0	0	0	0	0	0	0	0	0
3	12.65	0	0	0	0	0	0	0	0	0	0
4	12.88	0	0	0	0	0	0	0	0	0	0
5	13.31	0	0	0	0	0	0	0	0	0	0
6	13.89	0	1	0	0	0	1	1	1	0	1
7	14.60	8	46	0	22	25	38	44	42	37	40
8	15.37	23	89	0	43	24	69	62	76	63	77
9	16.16	39	128	0	62	10	94	60	104	75	107
10	16.92	51	160	0	78	0	78	46	124	76	131
11	17.58	59	181	0	89	0	89	25	135	68	144
12	18.12	62	189	0	92	0	92	0	92	53	147
13	18.48	59	181	0	88	0	88	0	88	33	137
14	18.66	51	159	0	78	0	78	0	78	11	117
15	18.62	38	127	0	62	0	62	0	62	0	62
16	18.38	23	88	0	42	0	42	0	42	0	42
17	17.96	7	45	0	21	0	21	0	21	0	21
18	17.37	0	0	0	0	0	0	0	0	0	0
19	16.67	0	0	0	0	0	0	0	0	0	0
20	15.90	0	0	0	0	0	0	0	0	0	0
21	15.11	0	0	0	0	0	0	0	0	0	0
22	14.35	0	0	0	0	0	0	0	0	0	0
23	13.68	0	0	0	0	0	0	0	0	0	0
24	13.15	0	0	0	0	0	0	0	0	0	0
Hour	Dry-bulb /°C	Incident solar irradiation / W·m ⁻²								Altitude	Azimuth
		S		SW		W		NW			
		Direct	Diffuse	Direct	Diffuse	Direct	Diffuse	Direct	Diffuse		
1	12.78	0	0	0	0	0	0	0	0	0	19.13
2	12.61	0	0	0	0	0	0	0	0	0	36.77
3	12.65	0	0	0	0	0	0	0	0	0	52.29
4	12.88	0	0	0	0	0	0	0	0	0	65.92
5	13.31	0	0	0	0	0	0	0	0	0	78.24
6	13.89	0	0	0	0	0	0	0	0	0.11	89.91
7	14.60	9	35	0	22	0	22	0	22	9.61	101.57
8	15.37	27	69	0	43	0	43	0	43	18.7	113.90
9	16.16	46	101	0	62	0	62	0	62	26.91	127.54
10	16.92	61	128	11	117	0	78	0	78	33.62	143.10
11	17.58	71	145	33	137	0	89	0	89	38.12	160.79
12	18.12	75	151	53	147	0	135	0	92	39.7	180.00
13	18.48	71	145	68	144	25	135	0	88	38.08	199.20
14	18.66	62	127	76	130	46	124	0	78	33.56	216.87
15	18.62	46	101	75	107	60	104	10	93	26.82	232.41
16	18.38	27	69	63	76	62	76	24	68	18.59	246.02
17	17.96	9	34	37	40	44	41	24	37	9.48	258.32
18	17.37	0	0	0	0	0	0	0	0	0	269.97
19	16.67	0	0	0	0	0	0	0	0	0	281.62
20	15.90	0	0	0	0	0	0	0	0	0	293.92
21	15.11	0	0	0	0	0	0	0	0	0	307.54
22	14.35	0	0	0	0	0	0	0	0	0	323.08
23	13.68	0	0	0	0	0	0	0	0	0	340.78
24	13.15	0	0	0	0	0	0	0	0	0	360.00

Dirfac = 0.12; Diffac = 0.95; Maximum dry-bulb = 18.67 °C; Minimum dry-bulb = 12.6 °C; Adaptive comfort range = 22.2–26.2 °C