

SINGAPORE/PAYALEBAR SR	
Latitude = 1.37 N	WMO No. 486940
Longitude = 103.92 E	Elevation = 105 Feet
Period of Record = 1949 TO 1983	Average Pressure = 29.72 inches Hg

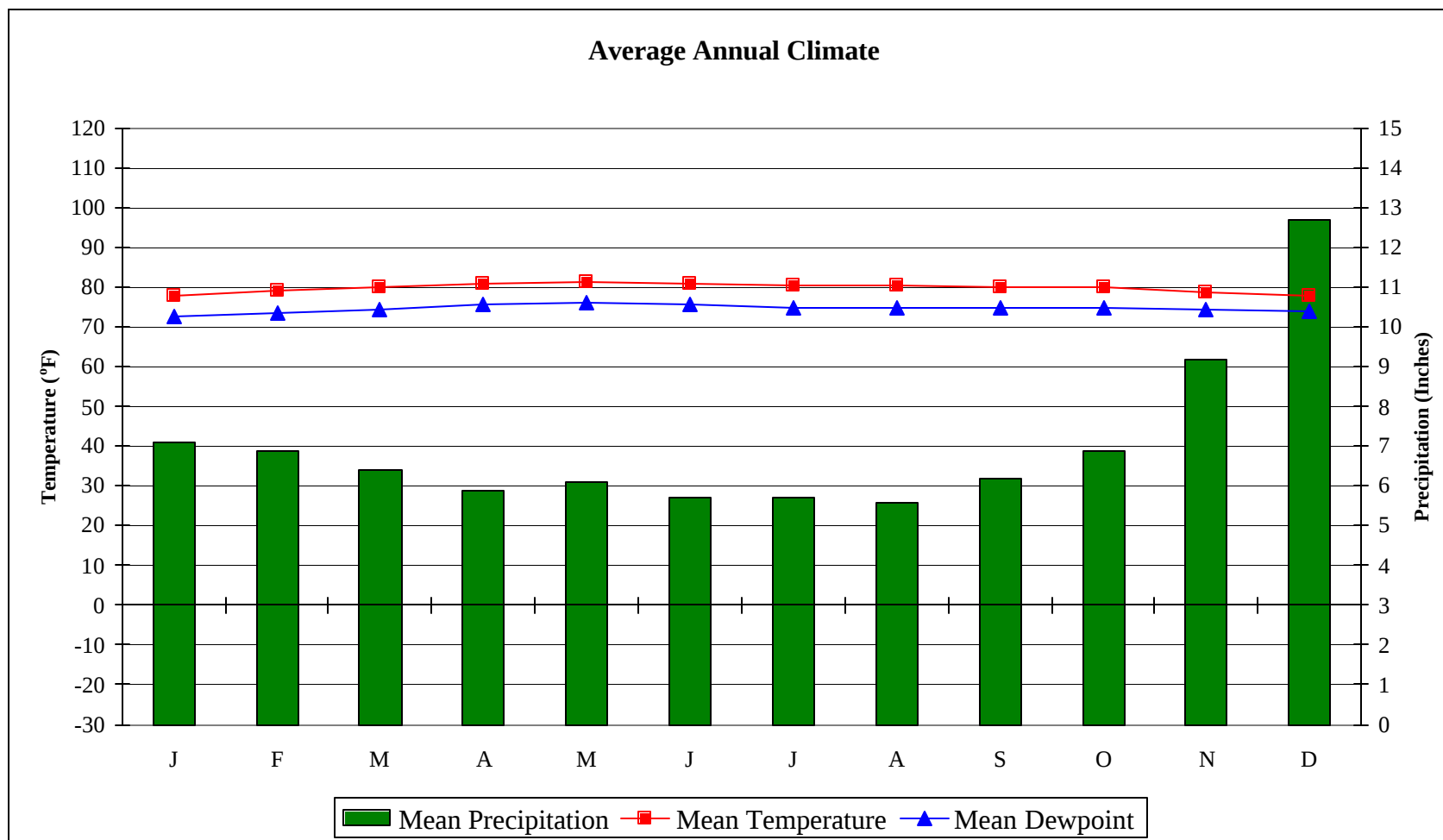
Design Criteria Data

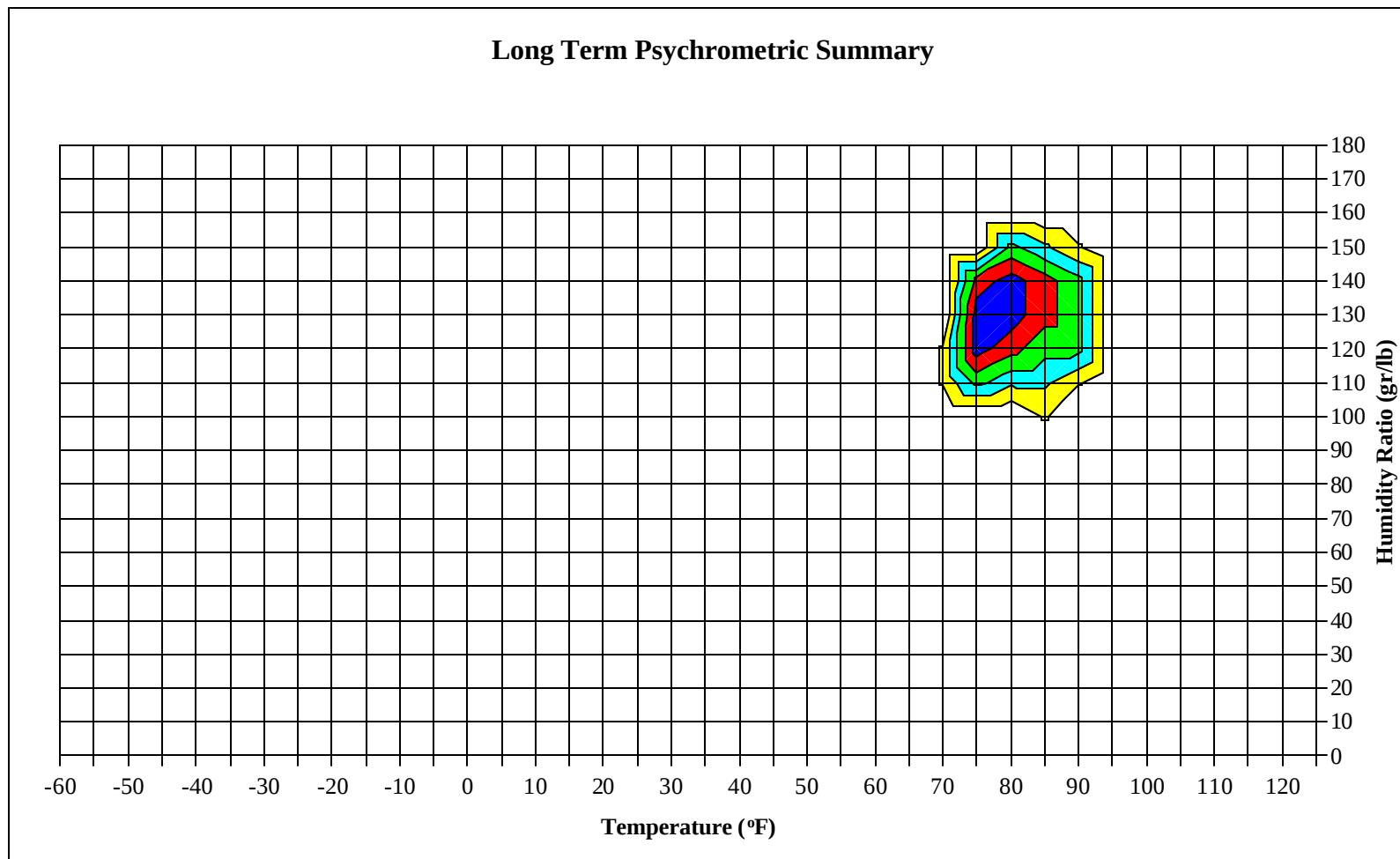
	Design Value	Mean Coincident (Average) Values			
		Wet Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Dry Bulb Temperature (T)	(°F)				
Median of Extreme Highs	92	79	126	8.1	E
0.4% Occurrence	91	79	129	7.6	S
1.0% Occurrence	90	78	129	7.6	S
2.0% Occurrence	90	78	129	7.6	S
Mean Daily Range	9	-	-	-	-
97.5% Occurrence	73	72	118	4.4	MISSING
99.0% Occurrence	73	72	118	4.4	MISSING
99.6% Occurrence	72	72	116	4.4	MISSING
Median of Extreme Lows	70	70	107	5.7	MISSING
	Design Value	Mean Coincident (Average) Values			
		Dry Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Wet Bulb Temperature (T_{wb})	(°F)				
Median of Extreme Highs	83	88	155	6.2	ESE
0.4% Occurrence	81	87	146	5.8	S
1.0% Occurrence	80	86	142	5.7	S
2.0% Occurrence	80	86	142	5.7	S
	Design Value	Mean Coincident (Average) Values			
		Dry Bulb Temperature (°F)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Humidity Ratio (HR)	(gr/lb)				
Median of Extreme Highs	162	86	1.07	7.4	MISSING
0.4% Occurrence	151	83	0.99	4.0	MISSING
1.0% Occurrence	151	83	0.99	3.9	MISSING
2.0% Occurrence	151	83	0.99	3.9	MISSING
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		8	3949	8271	8608

Other Site Data

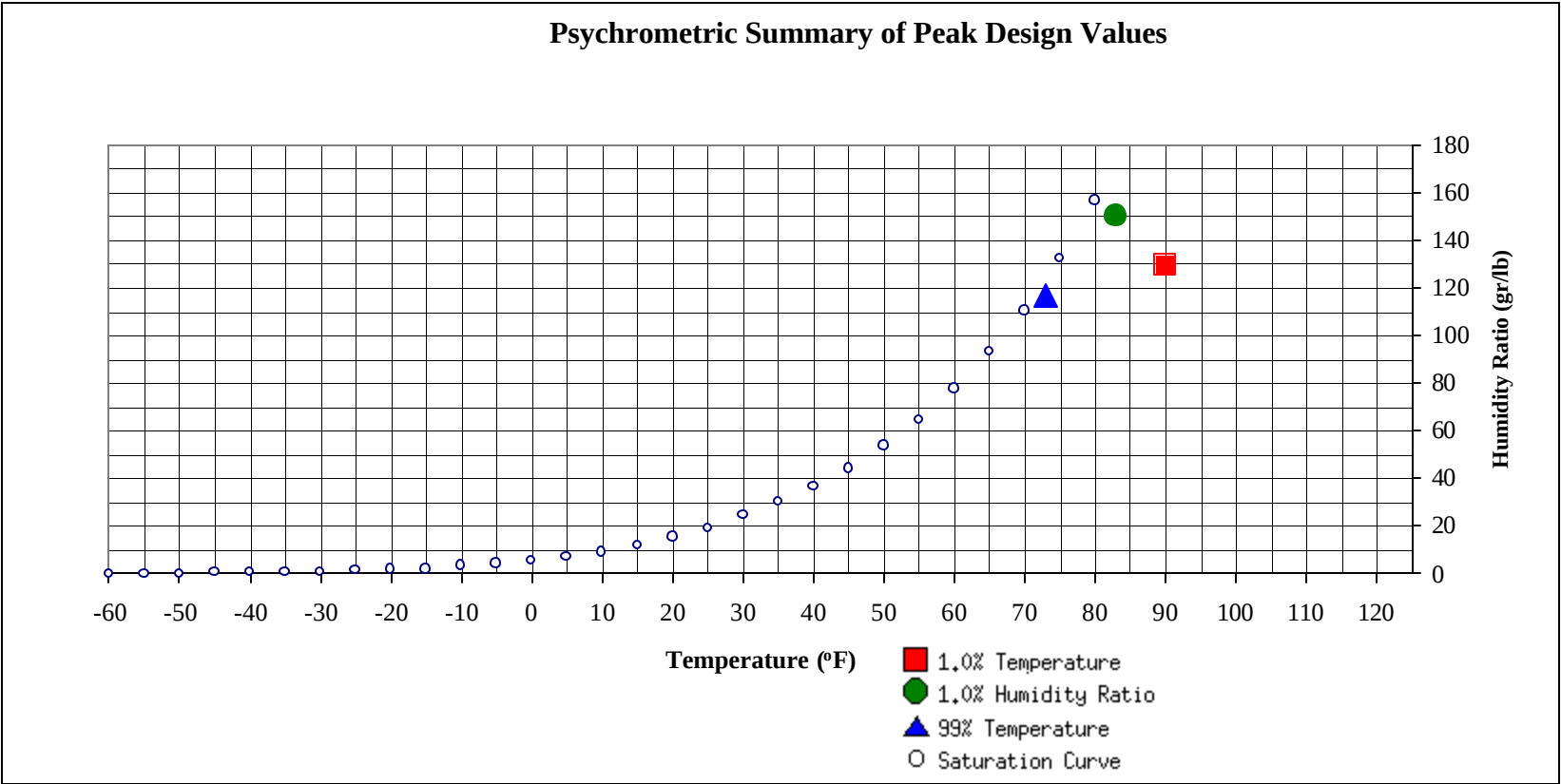
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
10	N/A	N/A	11.5 + 4.2
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
82.4	N/A	N/A	0

*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.





- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations



99% Dry Bulb	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
	73	116.6	35.7		150.5	82.9	79.9	78.8	43.5

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	90	129.8	78.6	42.0

Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1949 TO 1983

Temperature Range (°F)	January					February					March				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
100 / 104															
95 / 99												1	0	1	78.4
90 / 94		2	0	2	76.7	0	12	1	13	77.5		28	4	32	78.1
85 / 89		63	6	69	76.5	0	80	11	91	76.8	0	103	16	119	77.8
80 / 84	0	128	50	178	75.6	1	95	69	165	76.2	3	89	98	190	76.9
75 / 79	142	49	171	361	74.3	165	35	134	334	74.8	211	25	125	361	75.4
70 / 74	106	6	21	133	71.9	58	2	9	69	72.2	34	2	5	41	72.5
65 / 69	0			0	67.0	0		0	0	67.5					

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1949 TO 1983

Temperature Range (°F)	April					May					June				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
100 / 104															
95 / 99		0		0	78.8		0	0	0	79.8		0		0	79.8
90 / 94		31	4	35	79.0	0	34	3	37	79.4		23	2	25	79.1
85 / 89	0	104	16	120	78.7	0	116	20	136	79.1	0	115	23	139	78.7
80 / 84	11	77	115	203	77.9	36	76	142	253	78.2	43	74	138	255	77.9
75 / 79	219	26	104	349	76.1	206	21	81	308	76.4	183	24	75	282	76.1
70 / 74	10	1	2	13	72.7	6	2	2	10	72.7	14	3	2	19	72.6
65 / 69						0			0	68.0					

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1949 TO 1983

Temperature Range (°F)	July					August					September				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
100 / 104															
95 / 99			0	0	78.0		0		0	81.0					
90 / 94	0	13	1	14	78.5	0	7	1	8	78.3		6	0	6	78.4
85 / 89	0	103	18	121	78.1	0	107	17	124	78.0	0	101	13	114	77.8
80 / 84	41	99	138	277	77.4	31	99	140	270	77.3	14	99	122	234	77.2
75 / 79	178	30	87	295	75.7	189	32	85	306	75.7	198	32	101	331	75.7
70 / 74	29	4	4	37	72.6	28	4	5	37	72.6	28	3	4	35	72.6
65 / 69												0		0	

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1949 TO 1983

Temperature Range (°F)	October					November					December				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
100 / 104		0		0	83.0										
95 / 99		0		0	80.0			0	0	82.0					
90 / 94		17	1	18	77.9	0	4	0	4	78.4		0	0	0	78.4
85 / 89	0	104	11	115	77.8	0	74	6	80	77.8	0	54	2	56	77.4
80 / 84	7	94	105	206	77.3	2	112	59	173	77.2	0	130	43	173	76.7
75 / 79	215	31	128	374	75.7	197	46	165	408	75.4	176	58	186	419	74.9
70 / 74	26	2	3	31	72.7	41	4	10	55	72.7	72	6	17	95	72.5
65 / 69															

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

SINGAPORE/PAYALEBAR SR

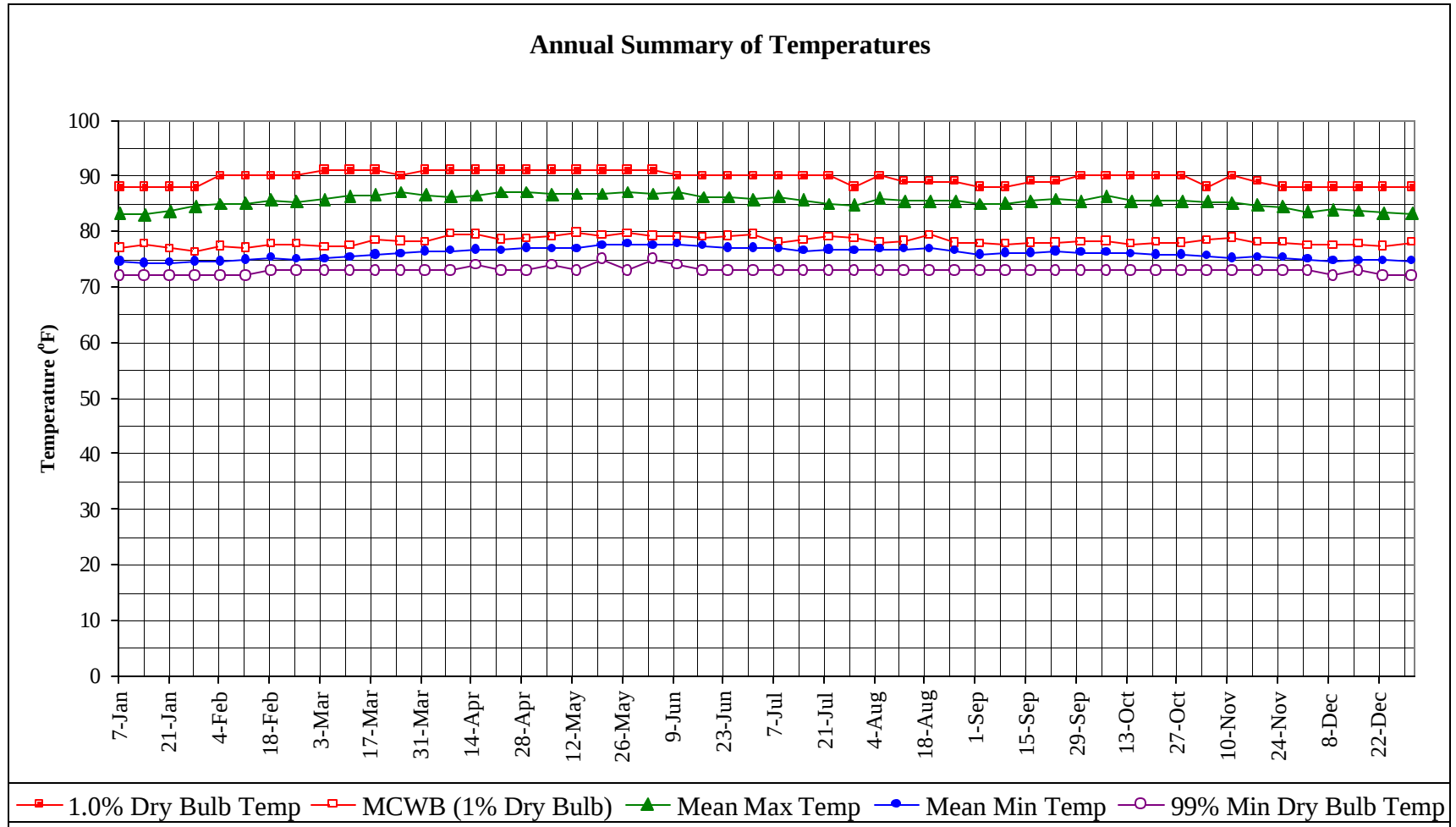
WMO No. 486940

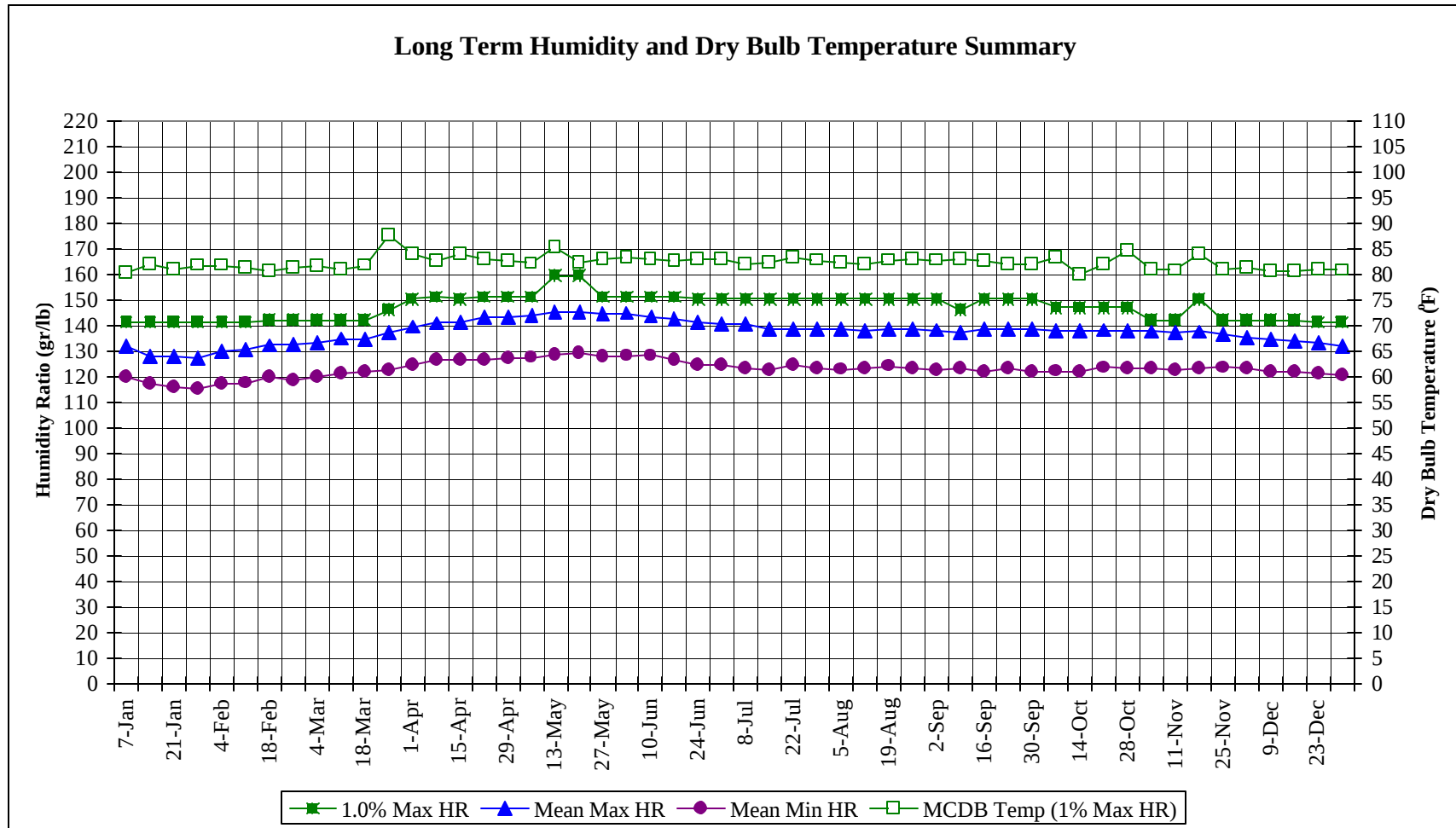
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1949 TO 1983

Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104	0			0	83.0
95 / 99	2			0	2 79.3
90 / 94	1	180	20	201	78.6
85 / 89	3	1125	160	1288	78.0
80 / 84	188	1169	1217	2574	77.2
75 / 79	2276	406	1441	4123	75.5
70 / 74	452	39	82	573	72.4
65 / 69	0	0	0	0	67.5

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.



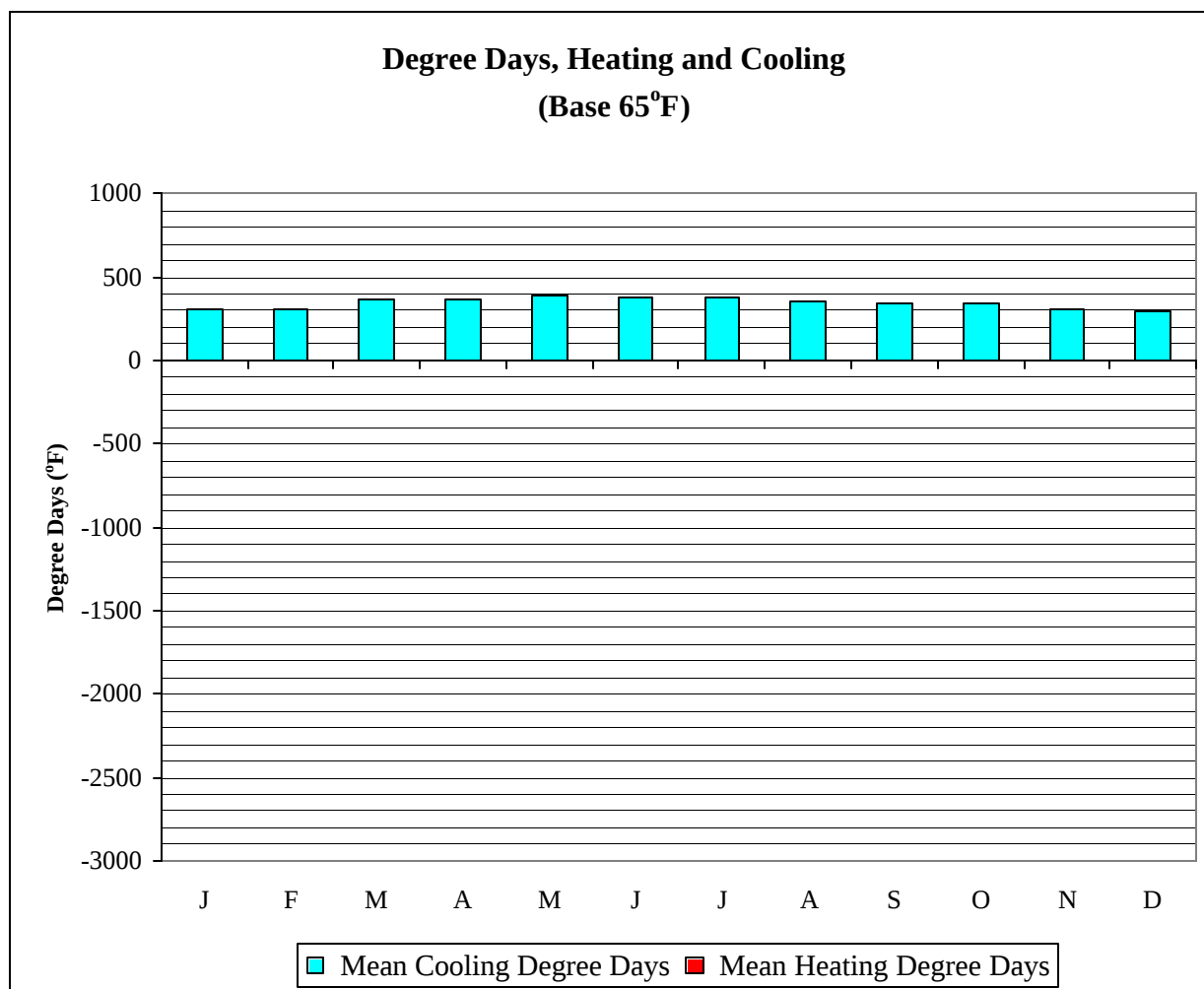


SINGAPORE/PAYALEBAR SR

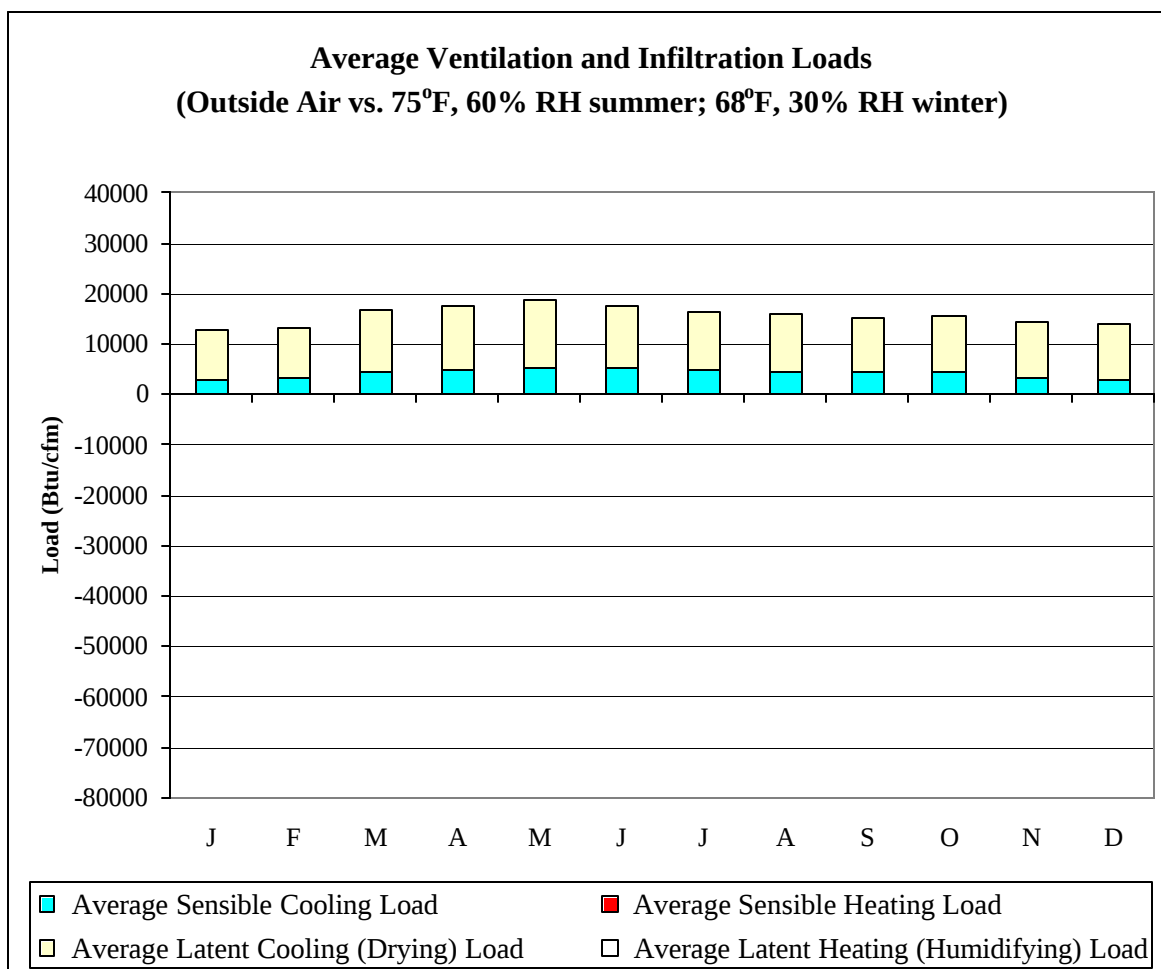
WMO No. 486940

Long Term Dry Bulb Temperature and Humidity Summary

Week	1.0%	MCWB @	Mean Max	Mean Min	99%	1.0%	MCDB @	Mean Max	Mean Min
Ending	Temp (°F)	1% Temp (°F)	Temp (°F)	Temp (°F)	Temp (°F)	HR (gr/lb)	1% HR (°F)	HR (gr/lb)	HR (gr/lb)
7-Jan	88.0	77.1	83.2	74.6	72.0	141.4	80.4	132.2	119.8
14-Jan	88.0	77.7	83.0	74.2	72.0	141.4	81.9	128.2	117.5
21-Jan	88.0	76.9	83.6	74.4	72.0	141.4	81.1	128.2	116.2
28-Jan	88.0	76.4	84.5	74.6	72.0	141.4	81.8	127.3	115.4
4-Feb	90.0	77.3	84.9	74.6	72.0	141.4	81.8	130.0	117.2
11-Feb	90.0	77.0	85.0	74.9	72.0	141.4	81.5	130.7	117.6
18-Feb	90.0	77.7	85.7	75.4	73.0	142.1	80.7	132.4	120.1
25-Feb	90.0	77.7	85.4	75.0	73.0	142.1	81.3	132.5	118.6
4-Mar	91.0	77.2	85.8	75.1	73.0	142.1	81.7	133.6	119.8
11-Mar	91.0	77.4	86.4	75.5	73.0	142.1	81.1	134.9	121.4
18-Mar	91.0	78.5	86.5	75.8	73.0	142.1	81.8	134.8	121.9
25-Mar	90.0	78.3	87.1	76.0	73.0	146.3	87.6	137.6	122.6
1-Apr	91.0	78.1	86.6	76.4	73.0	150.5	83.9	139.6	124.8
8-Apr	91.0	79.6	86.3	76.5	73.0	151.2	82.5	141.0	126.9
15-Apr	91.0	79.5	86.5	76.7	74.0	150.5	84.0	141.6	126.9
22-Apr	91.0	78.5	87.0	76.7	73.0	151.2	83.0	143.4	126.7
29-Apr	91.0	78.8	87.0	77.0	73.0	151.2	82.8	143.2	127.3
6-May	91.0	79.1	86.7	76.9	74.0	151.2	82.2	144.1	127.7
13-May	91.0	79.7	86.8	76.9	73.0	159.6	85.3	145.2	128.7
20-May	91.0	79.2	86.8	77.5	75.0	159.6	82.3	145.4	129.1
27-May	91.0	79.7	87.0	77.7	73.0	151.2	83.1	144.7	128.0
3-Jun	91.0	79.2	86.8	77.6	75.0	151.2	83.2	145.0	128.3
10-Jun	90.0	79.0	87.0	77.7	74.0	151.2	83.0	143.6	128.4
17-Jun	90.0	79.0	86.1	77.4	73.0	151.2	82.8	142.5	126.8
24-Jun	90.0	79.2	86.2	77.0	73.0	150.5	83.0	141.4	124.7
1-Jul	90.0	79.5	85.7	77.0	73.0	150.5	83.1	140.8	125.0
8-Jul	90.0	78.0	86.3	76.9	73.0	150.5	82.1	140.6	123.6
15-Jul	90.0	78.5	85.6	76.5	73.0	150.5	82.3	138.5	122.8
22-Jul	90.0	79.1	85.0	76.7	73.0	150.5	83.2	138.3	124.7
29-Jul	88.0	78.7	84.8	76.6	73.0	150.5	82.8	138.8	123.5
5-Aug	90.0	78.0	85.9	76.8	73.0	150.5	82.3	138.6	123.0
12-Aug	89.0	78.3	85.4	76.8	73.0	150.5	82.0	137.9	123.3
19-Aug	89.0	79.3	85.4	76.9	73.0	150.5	82.8	138.9	124.3
26-Aug	89.0	77.9	85.4	76.5	73.0	150.5	83.1	138.5	123.5
2-Sep	88.0	77.8	84.9	75.8	73.0	150.5	82.8	138.3	122.4
9-Sep	88.0	77.8	85.0	76.1	73.0	146.3	82.9	137.6	123.0
16-Sep	89.0	77.9	85.5	76.0	73.0	150.5	82.7	138.6	122.3
23-Sep	89.0	77.9	85.8	76.4	73.0	150.5	82.1	138.5	123.6
30-Sep	90.0	78.2	85.5	76.3	73.0	150.5	81.9	138.6	122.2
7-Oct	90.0	78.2	86.3	76.2	73.0	147.0	83.3	138.1	122.3
14-Oct	90.0	77.7	85.5	76.0	73.0	147.0	79.9	138.1	122.0
21-Oct	90.0	78.0	85.5	75.8	73.0	147.0	82.0	138.2	123.6
28-Oct	90.0	78.0	85.5	75.8	73.0	147.0	84.8	138.2	123.2
4-Nov	88.0	78.5	85.3	75.6	73.0	142.1	80.9	137.7	123.5
11-Nov	90.0	78.8	85.1	75.3	73.0	142.1	80.8	137.4	122.7
18-Nov	89.0	78.1	84.7	75.4	73.0	150.5	84.1	137.7	123.1
25-Nov	88.0	78.1	84.4	75.3	73.0	142.1	81.0	136.7	123.7
2-Dec	88.0	77.5	83.5	75.0	73.0	142.1	81.3	135.4	123.1
9-Dec	88.0	77.5	84.0	74.7	72.0	142.1	80.8	134.7	122.2
16-Dec	88.0	77.7	83.8	74.8	73.0	142.1	80.7	134.2	121.9
23-Dec	88.0	77.4	83.3	74.8	72.0	141.4	81.0	133.0	121.1
31-Dec	88.0	78.1	83.2	74.7	72.0	141.4	80.9	132.1	120.7



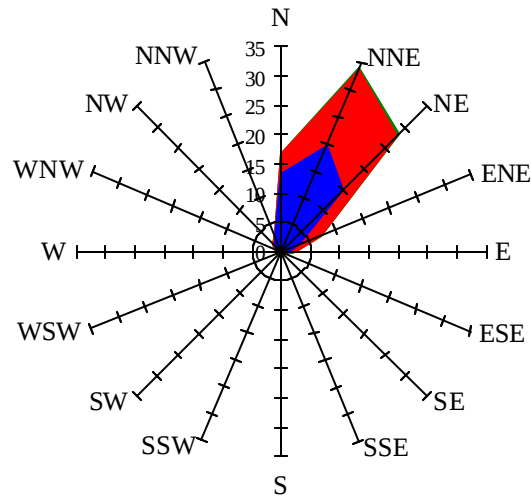
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	304	0
FEB	304	0
MAR	365	0
APR	366	0
MAY	390	0
JUN	379	0
JUL	373	0
AUG	360	0
SEP	337	0
OCT	340	0
NOV	302	0
DEC	295	0
ANN	4113	0



	Average Sensible Cooling Load (Btu/cfm)	Average Sensible Heating Load (Btu/cfm)	Average Latent Cooling Load (Btu/cfm)	Average Latent Heating Load (Btu/cfm)
JAN	3014	0	9793	0
FEB	3302	0	9890	0
MAR	4510	0	12090	0
APR	4784	0	12836	0
MAY	5276	0	13659	0
JUN	5091	0	12335	0
JUL	4693	0	11609	0
AUG	4490	0	11519	0
SEP	4258	0	10977	0
OCT	4232	0	11314	0
NOV	3435	0	10990	0
DEC	3014	0	10741	0
ANN	50099	0	137753	0

Wind Summary - December, January, and February

Labels of Percent Frequency on North Axis

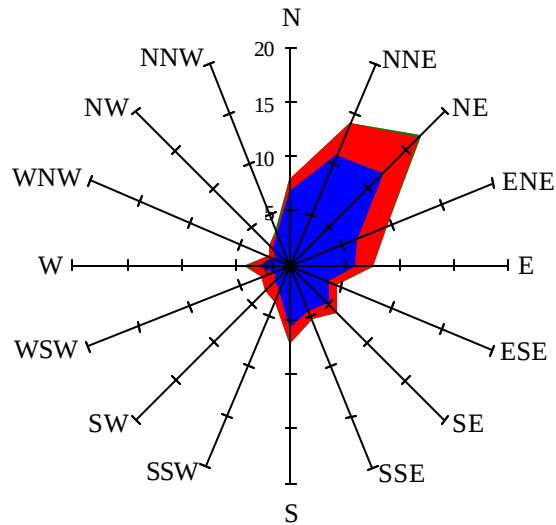


 >34 Knots
 25-34 Knots
 15-24 Knots
 6-14 Knots
 1-5 Knots

Percent Calm = .

Wind Summary - March, April, and May

Labels of Percent Frequency on North Axis

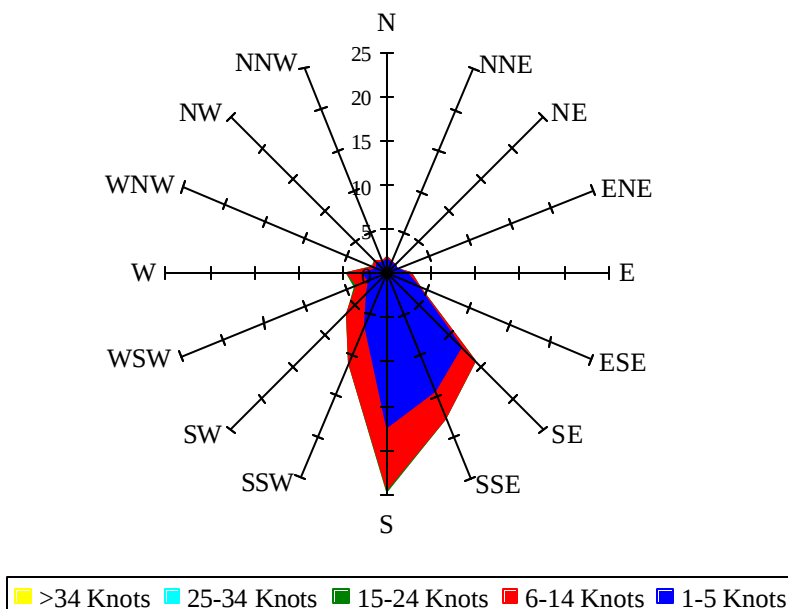


 >34 Knots
 25-34 Knots
 15-24 Knots
 6-14 Knots
 1-5 Knots

Percent Calm = .

Wind Summary - June, July, and August

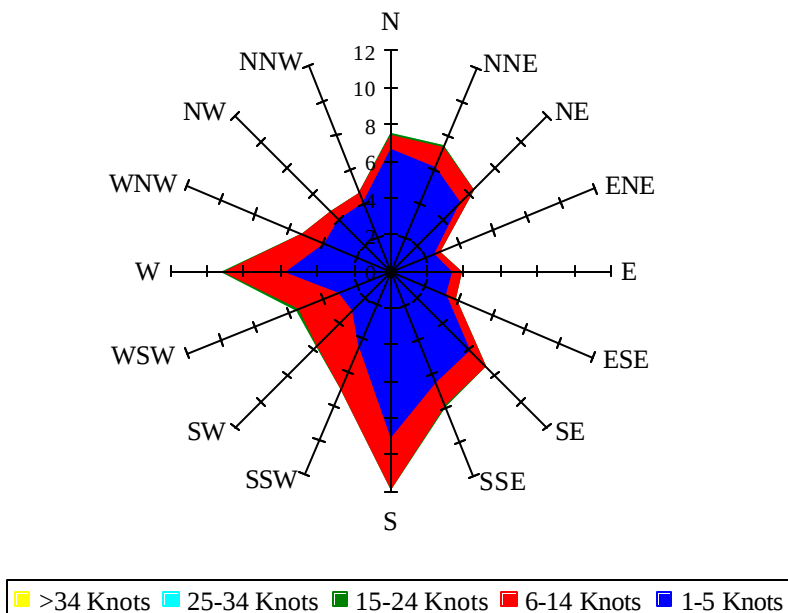
Labels of Percent Frequency on North Axis



Percent Calm = .

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = .