LEON M BA, GB

Latitude = 0.46 N
Longitude = 9.41 E
Period of Record = 1988 To 2017

Station ID = ICAO_FOOL
Elevation = 39 Feet
Average Pressure = 29.82 inches Hg

Design Criteria Data

	Mean Coincident (Average) Values				
Dry Bulb Temperature (T)	**Design Value (°F)**	**Wet Bulb Temperature (°F)**	**Humidity Ratio (gr/lb)**	**Wind Speed (mph)**	**Prevailing Direction (NSEW)**
Median of Extreme Highs	90	81	150	8.2	SW
0.4% Occurrence	89	81	150	7.9	SW
1.0% Occurrence	88	81	147	8.3	SW
2.0% Occurrence	87	80	147	7.8	SW
Mean Daily Range	9	-	-	-	S
97.5% Occurrence	73	72	112	6.2	S
99.0% Occurrence	72	71	111	6.1	SSE
99.6% Occurrence	72	71	111	6.1	SSE
Median of Extreme Lows	68	68	99	5.5	E

Wet Bulb Temperature (T_{wb})	**Design Value (°F)**	**Dry Bulb Temperature (°F)**	**Humidity Ratio (gr/lb)**	**Wind Speed (mph)**	**Prevailing Direction (NSEW)**
Median of Extreme Highs	84	87	168	7.3	SW
0.4% Occurrence	83	86	161	7.1	SW
1.0% Occurrence	82	85	156	7	SW
2.0% Occurrence	82	85	156	7	SW

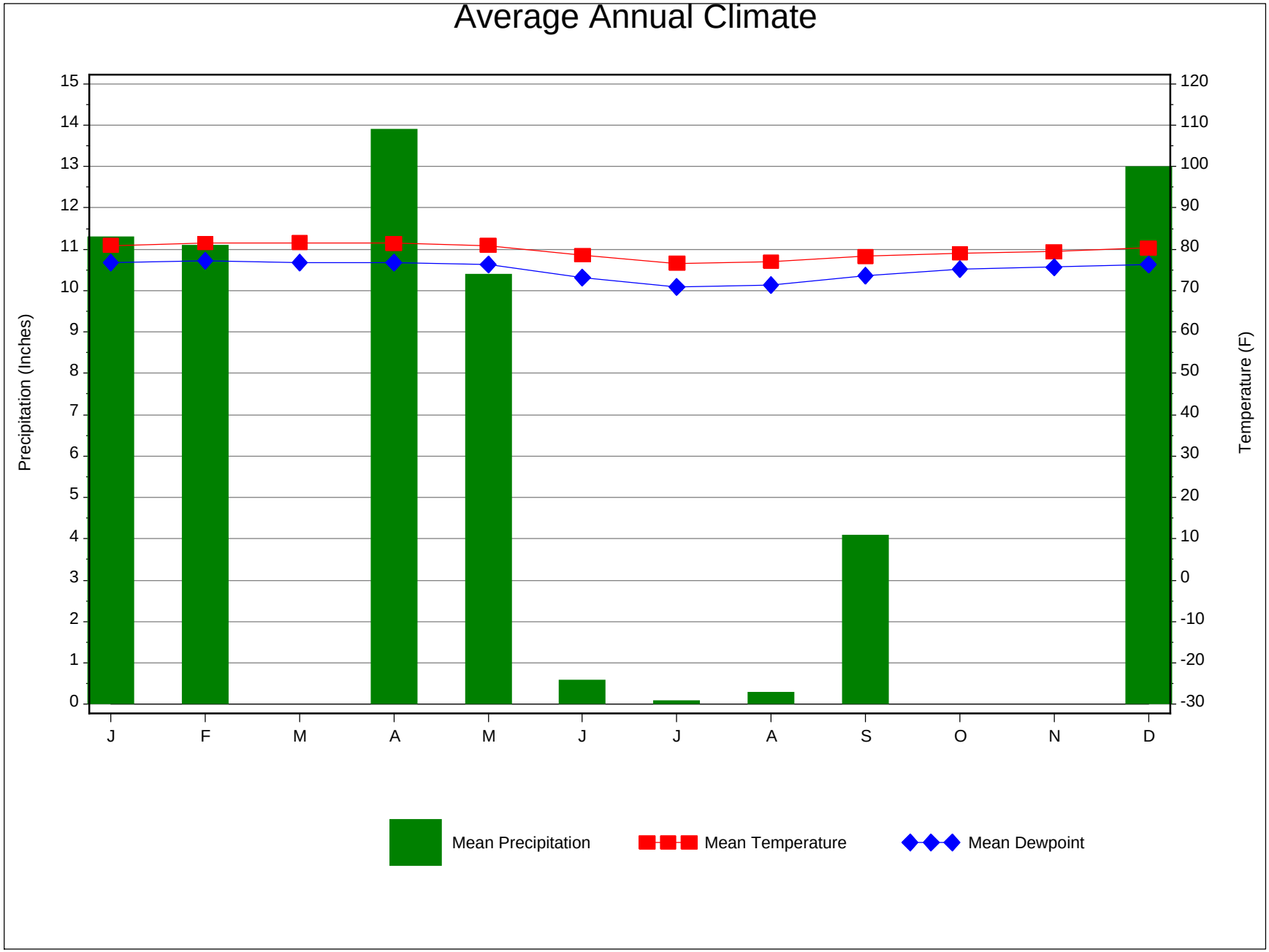
Humidity Ratio (HR)	**Design Value (gr/lb)**	**Dry Bulb Temperature (°F)**	**Vapor Pressure (in. Hg)**	**Wind Speed (mph)**	**Prevailing Direction (NSEW)**
Median of Extreme Highs	171	87	1.12	7.7	SW
0.4% Occurrence	164	86	1.08	9.4	WSW
1.0% Occurrence	160	84	1.05	6.5	SW
2.0% Occurrence	160	84	1.05	6.5	SW

Air Conditioning/ Humid Area Criteria	**Threshold**	**T ≥ 93°F**	**T ≥ 80°F**	**Twb ≥ 73°F**	**Twb ≥ 67°F**
	# of Hours	0	3725	6963	7732

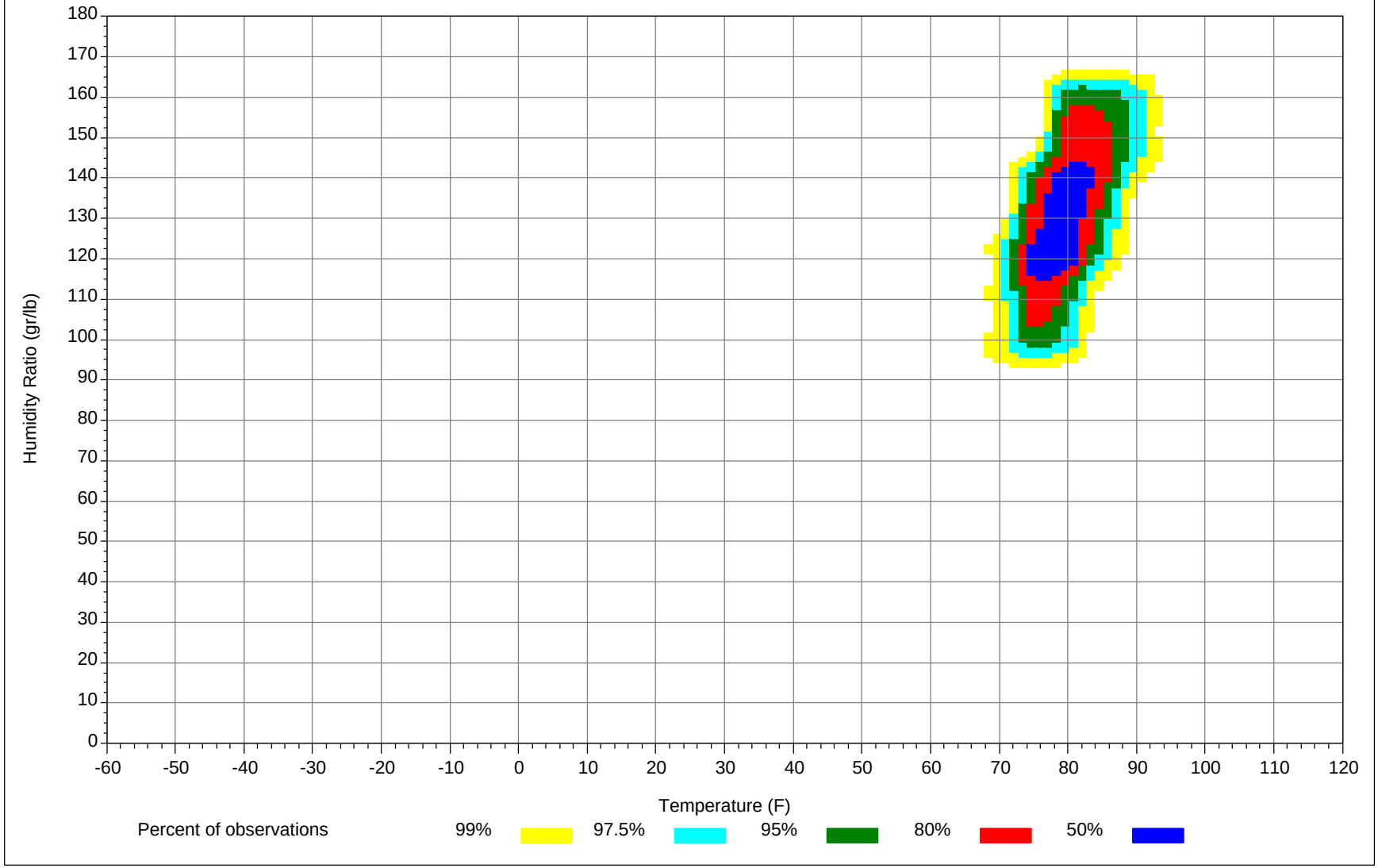
Other Site Data

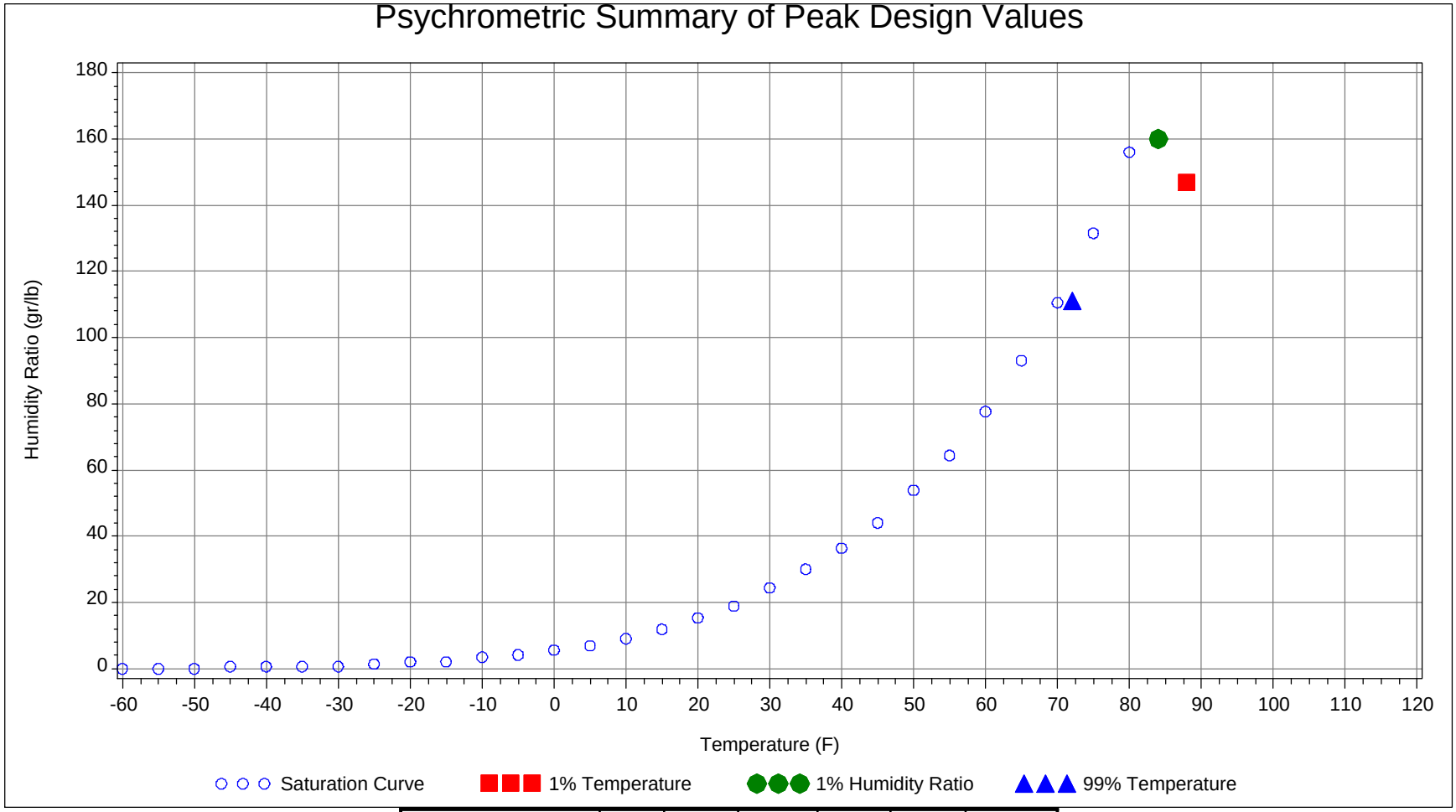
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
10	N/A	N/A	26.1 + 3.7
Ground Water Temperature (°F) 50 Foot Depth*	Frost Depth 50 Year Recurrence (in)	Ground Snow Load 50 Year Recurrence (lb/ft^2)	Average Annual Freeze-Thaw Cycles (#)
82.1	N/A	N/A	0

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


Average Annual Climate
Precipitation (Inches)
Temperature (F)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
J
F
M
A
M
J
J
A
S
O
N
D
Mean Precipitation
Mean Temperature
Mean Dewpoint

Long Term Psychrometric Summary





	(°F) / (gr/lb)	MCDB (°F)	MCWB (°F)	MCDP (°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
1.0% Dry Bulb	88.0		81		147.0	44.7
99.0% Dry Bulb	72.0				111.0	34.5
1.0% Humidity Ratio	160.0	84.0	81.6	80.6		45.2

Dry-Bulb Temperature Hours For An Average Year

	January					February					March				
Temperature Range (°F)	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**
90/ 94		1		1	82.9		4	0	4	82.3		11	0	11	81.9
85/ 89	0	90	8	98	80.1	1	111	22	134	80.2	1	137	35	173	80
80/ 84	71	132	190	393	78.5	79	90	163	332	78.7	81	80	161	322	78.6
75/ 79	161	24	48	233	76.3	127	17	37	181	76.3	145	18	45	208	76
70/ 74	16	1	3	20	72.8	17	2	2	21	72.5	22	2	6	30	72.7
65/ 69		0	0	0	68.5	0	0		0	67.5	0			0	67

Caution: This summary reflects the typical distribtion of temperature in a typical year. It does not reflect the typical mositure 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

	April					May					June				
Temperature Range (°F)	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**
90/ 94		6	0	6	81.9		1		1	82.3					
85/ 89	0	123	25	148	79.9	0	90	9	99	79.8		8	0	8	78.7
80/ 84	75	89	161	325	78.6	73	134	178	385	78.1	11	155	72	238	76.2
75/ 79	145	20	49	214	76.2	160	21	56	237	76	201	75	165	441	74.1
70/ 74	20	2	5	27	72.7	14	1	5	20	72.7	27	2	3	32	71.1
65/ 69						0			0		0			0	66.7

Caution: This summary reflects the typical distribtion of temperature in a typical year. It does not reflect the typical mositure 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

	July					August					September				
Temperature Range (°F)	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**
90/ 94															
85/ 89	0	1		1	77.5	0	1		1	76.4	0	3	0	3	77.1
80/ 84	1	92	14	107	74.6	0	107	9	116	74.6	2	158	36	196	76.1
75/ 79	139	143	218	500	72.7	168	132	229	529	73.1	217	77	199	493	74.6
70/ 74	107	12	16	135	70.4	79	8	10	97	70.9	21	2	5	28	72.3
65/ 69	1		0	1	66.8	1	0	0	1	68	0			0	68

Caution: This summary reflects the typical distribtion of temperature in a typical year. It does not reflect the typical mositure 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

	October					November					December				
Temperature Range (°F)	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**
90/ 94												0		0	81
85/ 89	0	10	0	10	79.3		28	0	28	79.6	0	62	1	63	79.8
80/ 84	14	173	90	277	77.3	28	165	131	324	77.8	58	159	178	395	78.1
75/ 79	209	61	149	419	75.6	175	43	98	316	75.9	165	25	62	252	76
70/ 74	24	4	8	36	72.7	37	4	10	51	72.6	25	2	6	33	72.6
65/ 69	0	0		0	68.3	0	0	0	0	68	0	0		0	67

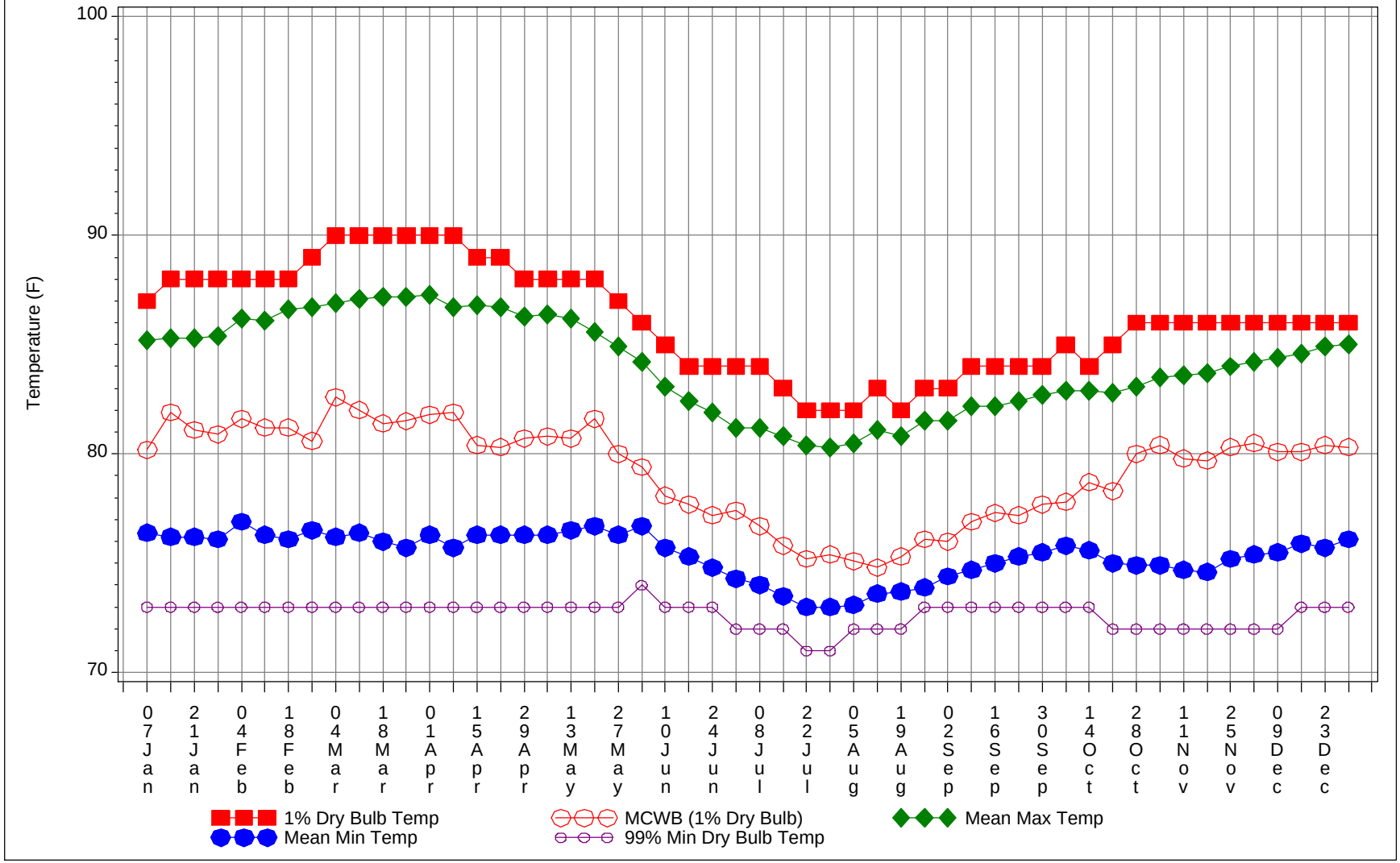
Caution: This summary reflects the typical distribtion of temperature in a typical year. It does not reflect the typical mositure distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

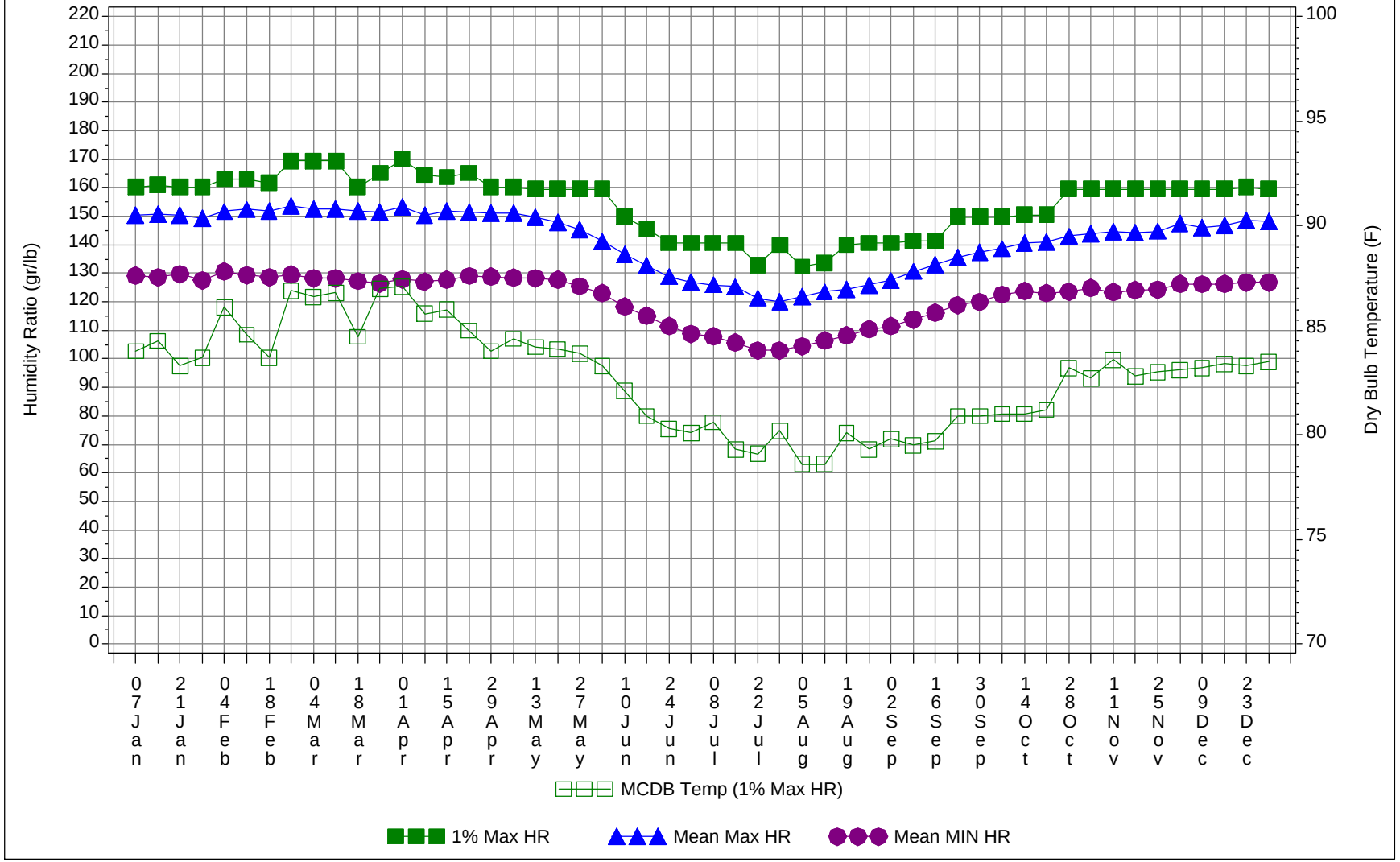
	Annual				
Temperature Range (°F)	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**
90/ 94		23	1	24	82
85/ 89	2	662	102	766	79.9
80/ 84	494	1534	1386	3414	77.7
75/ 79	2010	659	1351	4020	74.8
70/ 74	411	42	80	533	71.6
65/ 69	2	0	0	2	67.4

Caution: This summary reflects the typical distribtion of temperature in a typical year. It does not reflect the typical mositure 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.

Annual Summary of Temperatures



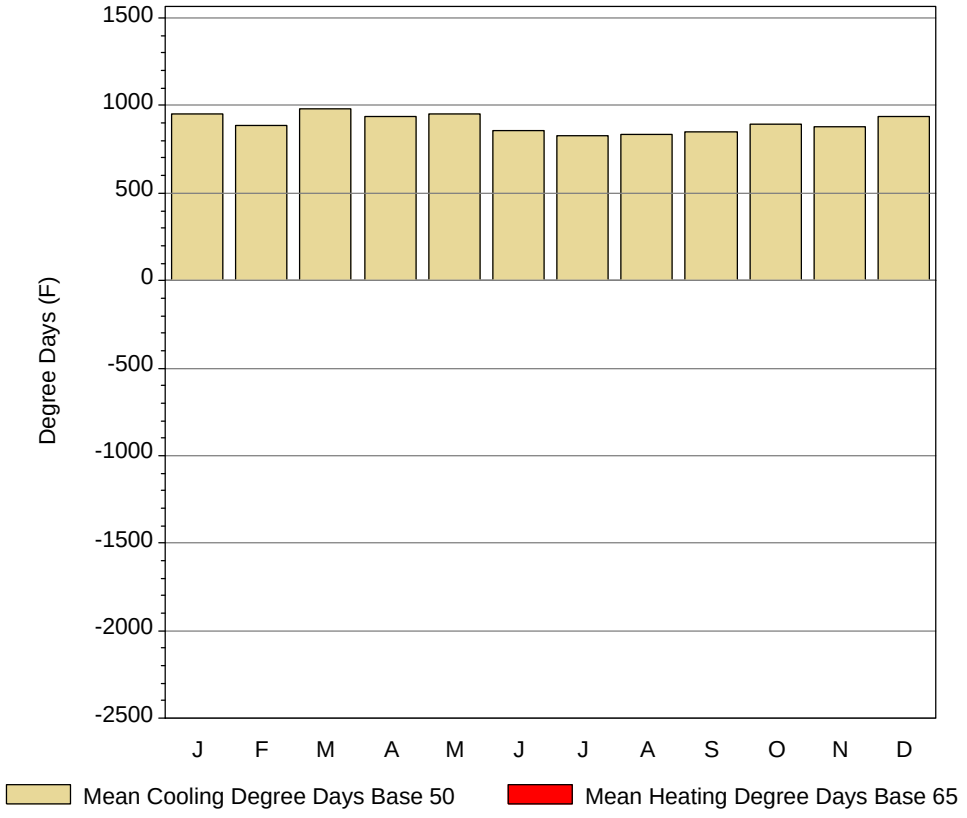
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

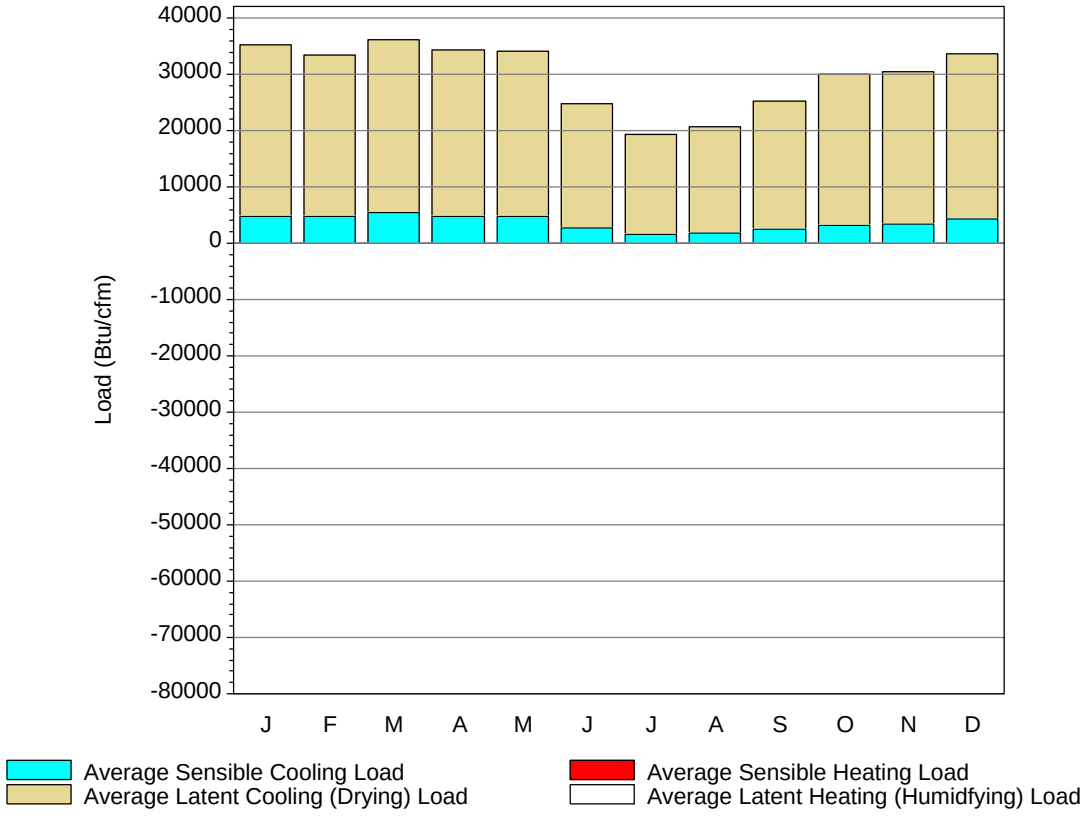
Week Ending	1.0% Temp (°F)	MCWB@ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB@ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	87	80.2	85.2	76.4	73	160.3	84	150.3	129.2
14-Jan	88	81.9	85.3	76.2	73	161	84.5	150.7	128.6
21-Jan	88	81.1	85.3	76.2	73	160.3	83.3	150.5	129.7
28-Jan	88	80.9	85.4	76.1	73	160.3	83.7	149.3	127.5
4-Feb	88	81.6	86.2	76.9	73	163.1	86.1	151.7	130.7
11-Feb	88	81.2	86.1	76.3	73	163.1	84.8	152.4	129.4
18-Feb	88	81.2	86.6	76.1	73	161.7	83.7	151.8	128.6
25-Feb	89	80.6	86.7	76.5	73	169.4	86.9	153.6	129.6
4-Mar	90	82.6	86.9	76.2	73	169.4	86.6	152.7	128.2
11-Mar	90	82	87.1	76.4	73	169.4	86.8	152.5	128.3
18-Mar	90	81.4	87.2	76	73	160.3	84.7	151.9	127.3
25-Mar	90	81.5	87.2	75.7	73	165.2	87	151.6	126.4
1-Apr	90	81.8	87.3	76.3	73	170.1	87.1	153.2	127.9
8-Apr	90	81.9	86.7	75.7	73	164.5	85.8	150.5	127.1
15-Apr	89	80.4	86.8	76.3	73	163.8	86	151.9	127.7
22-Apr	89	80.3	86.7	76.3	73	165.2	85	151.5	129.1
29-Apr	88	80.7	86.3	76.3	73	160.3	84	151.2	128.9
6-May	88	80.8	86.4	76.3	73	160.3	84.6	151.2	128.5
13-May	88	80.7	86.2	76.5	73	159.6	84.2	149.6	128.2
20-May	88	81.6	85.6	76.7	73	159.6	84.1	147.9	127.7
27-May	87	80	84.9	76.3	73	159.6	83.9	145.5	125.5
4-Jun	86	79.4	84.2	76.7	74	159.6	83.3	141.2	123.1
10-Jun	85	78.1	83.1	75.7	73	149.8	82.1	136.7	118.4
17-Jun	84	77.7	82.4	75.3	73	145.6	80.9	132.6	115.1
24-Jun	84	77.2	81.9	74.8	73	140.7	80.3	128.9	111.5
1-Jul	84	77.4	81.2	74.3	72	140.7	80.1	126.8	108.7
8-Jul	84	76.7	81.2	74	72	140.7	80.6	126	107.9
15-Jul	83	75.8	80.8	73.5	72	140.7	79.3	125.3	105.7
22-Jul	82	75.2	80.4	73	71	133	79.1	121.3	102.9
29-Jul	82	75.4	80.3	73	71	140	80.2	120.1	102.9
5-Aug	82	75.1	80.5	73.1	72	132.3	78.6	122	104.4
12-Aug	83	74.8	81.1	73.6	72	133.7	78.6	123.5	106.4
19-Aug	82	75.3	80.8	73.7	72	140	80.1	124.3	108.2
26-Aug	83	76.1	81.5	73.9	73	140.7	79.3	125.9	110.4
2-Sep	83	76	81.5	74.4	73	140.7	79.8	127.5	111.5
9-Sep	84	76.9	82.2	74.7	73	141.4	79.5	130.7	113.8
16-Sep	84	77.3	82.2	75	73	141.4	79.7	133	116.2
23-Sep	84	77.2	82.4	75.3	73	149.8	80.9	135.7	118.8
30-Sep	84	77.7	82.7	75.5	73	149.8	80.9	137.3	119.9
7-Oct	85	77.8	82.9	75.8	73	149.8	81	138.7	122.6
14-Oct	84	78.7	82.9	75.6	73	150.5	81	140.7	123.8
21-Oct	85	78.3	82.8	75	72	150.5	81.2	141.1	123
28-Oct	86	80	83.1	74.9	72	159.6	83.2	143	123.5
4-Nov	86	80.4	83.5	74.9	72	159.6	82.7	143.9	124.9
11-Nov	86	79.8	83.6	74.7	72	159.6	83.6	144.5	123.4
18-Nov	86	79.7	83.7	74.6	72	159.6	82.8	144.4	124.1
25-Nov	86	80.3	84	75.2	72	159.6	83	144.8	124.3
2-Dec	86	80.5	84.2	75.4	72	159.6	83.1	147.4	126.3
9-Dec	86	80.1	84.4	75.5	72	159.6	83.2	146.2	126.2
16-Dec	86	80.1	84.6	75.9	73	159.6	83.4	146.8	126.3
23-Dec	86	80.4	84.9	75.7	73	160.3	83.3	148.7	126.9
31-Dec	86	80.3	85	76.1	73	159.6	83.5	148.2	126.8

Degree Days, Heating and Cooling
(Base 65 F) & Cooling (Base 50F)



Month	Mean Cooling Degree Days (°F) Base 50	Mean Cooling Degree Days (°F) Base 65	Mean Heating Degree Days (°F) Base 65
JAN	954.8	489.8	0
FEB	888.5	464.5	0
MAR	980.1	515.1	0
APR	935	485	0
MAY	955.8	490.8	0
JUN	855.3	405.3	0
JUL	826.1	361.1	0
AUG	835.9	370.9	0
SEP	848.9	398.9	0
OCT	895.6	430.6	0
NOV	877	427	0
DEC	937.8	472.8	0
ANN	10790.8	5311.8	0

Average Ventilation and Infiltration Loads
(Outside Air vs 75F, 60% RH summer; 68F, 30% RH winter)



Month	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	4699	0	30516	0
FEB	4760	0	28621	0
MAR	5373	0	30815	0
APR	4859	0	29597	0
MAY	4725	0	29397	0
JUN	2798	0	21912	0
JUL	1599	0	17706	0
AUG	1766	0	19050	0
SEP	2623	0	22658	0
OCT	3206	0	26757	0
NOV	3410	0	27133	0
DEC	4288	0	29389	0
ANN	44106	0	313551	0

Station Information		Shading Geometry in Dimensionless Units	
City, State, WBAN	N/A	N/A	N/A
Lat, Lon, Elev	N/A	N/A	N/A
Press Stn Type	N/A	N/A	N/A

AVERAGE INCIDENT SOLAR RADIATION
(Btu/sq.ft./day), Percentage Uncertainty = 9

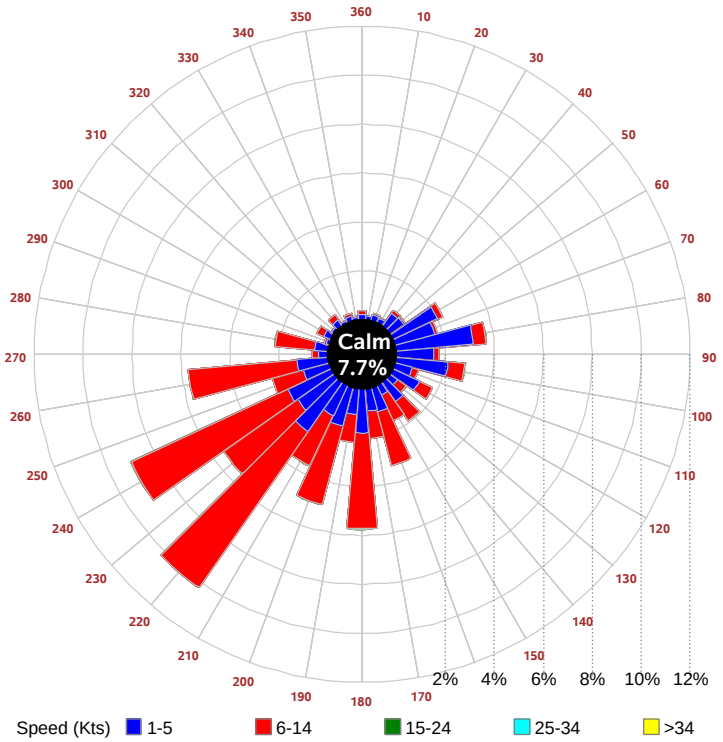
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ.	Global													
	Std.Dev.													
	Minimum													
	Maximum													
	Diffuse													
Clear Day	Global													
NORTH	Global													
	Diffuse													
Clear Day	Global													
EAST	Global													
	Diffuse													
Clear Day	Global													
SOUTH	Global													
	Diffuse													
Clear Day	Global													
WEST	Global													
	Diffuse													
Clear Day	Global													

AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9														
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ.	Unshaded													
NORTH	Unshaded													
	Shaded													
EAST	Unshaded													
	Shaded													
SOUTH	Unshaded													
	Shaded													
WEST	Unshaded													
	Shaded													

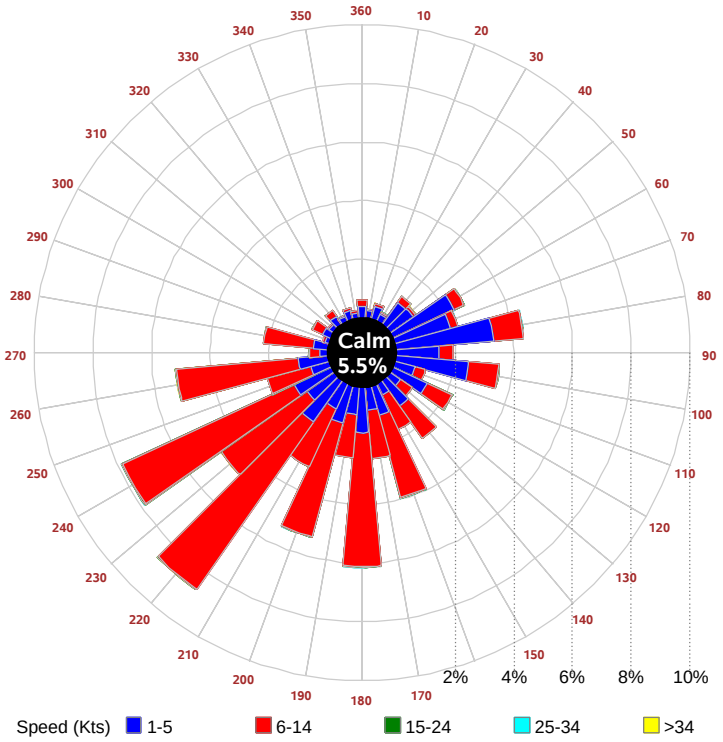
AVERAGE INCIDENT ILLUMINENCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9											
				March					June		
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear										
	M.Cloudy										
NORTH	M.Clear										
	M.Cloudy										
EAST	M.Clear										
	M.Cloudy										
SOUTH	M.Clear										
	M.Cloudy										
WEST	M.Clear										
	M.Cloudy										
M.Clear	(% hrs)										

				Sept					Dec		
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear										
	M.Cloudy										
NORTH	M.Clear										
	M.Cloudy										
EAST	M.Clear										
	M.Cloudy										
SOUTH	M.Clear										
	M.Cloudy										
WEST	M.Clear										
	M.Cloudy										
M.Clear	(% hrs)										

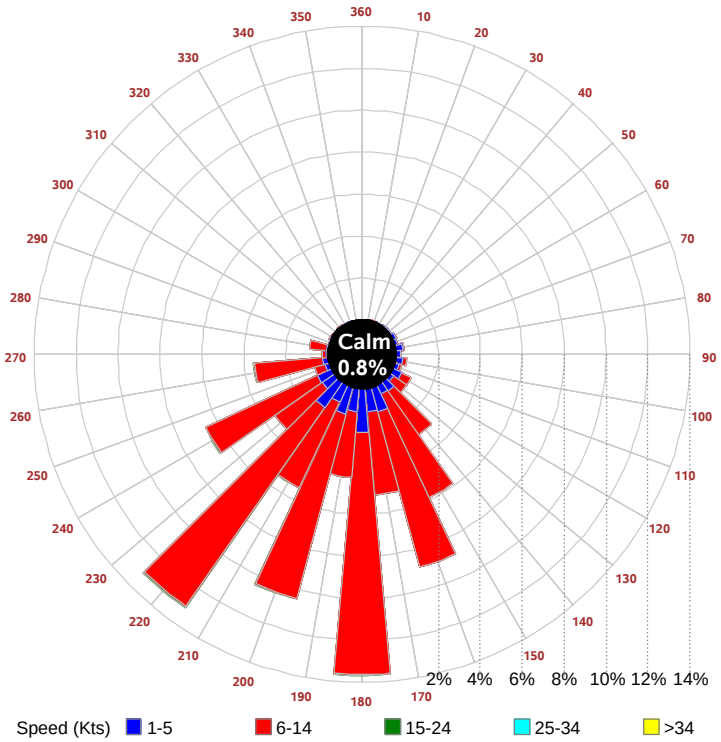
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November