AVIANO AB, IT	
Latitude = 46.03 N	Station ID = ICAO_LIPA
Longitude = 12.60 E	Elevation = 384 Feet
Period of Record = 1988 To 2017	Average Pressure = 29.56 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	93	76	112	5.8	SW
0.4% Occurrence	91	75	109	5.3	SW
1.0% Occurrence	90	75	109	5.3	SW
2.0% Occurrence	86	73	102	5.4	SW
Mean Daily Range	15	-	-	-	ENE
97.5% Occurrence	30	29	19	4.2	ENE
99.0% Occurrence	27	26	17	3.9	ENE
99.6% Occurrence	24	23	15	4.2	ENE
Median of Extreme Lows	19	18	11	4.5	ENE

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	81	90	144	5.2	SW
0.4% Occurrence	78	88	129	5.2	SW
1.0% Occurrence	76	85	119	5.1	SW
2.0% Occurrence	75	84	116	5.1	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	147	86	0.95	5	SW
0.4% Occurrence	134	85	0.88	4.9	SW
1.0% Occurrence	126	83	0.83	4.9	SW
2.0% Occurrence	118	81	0.78	5	SW

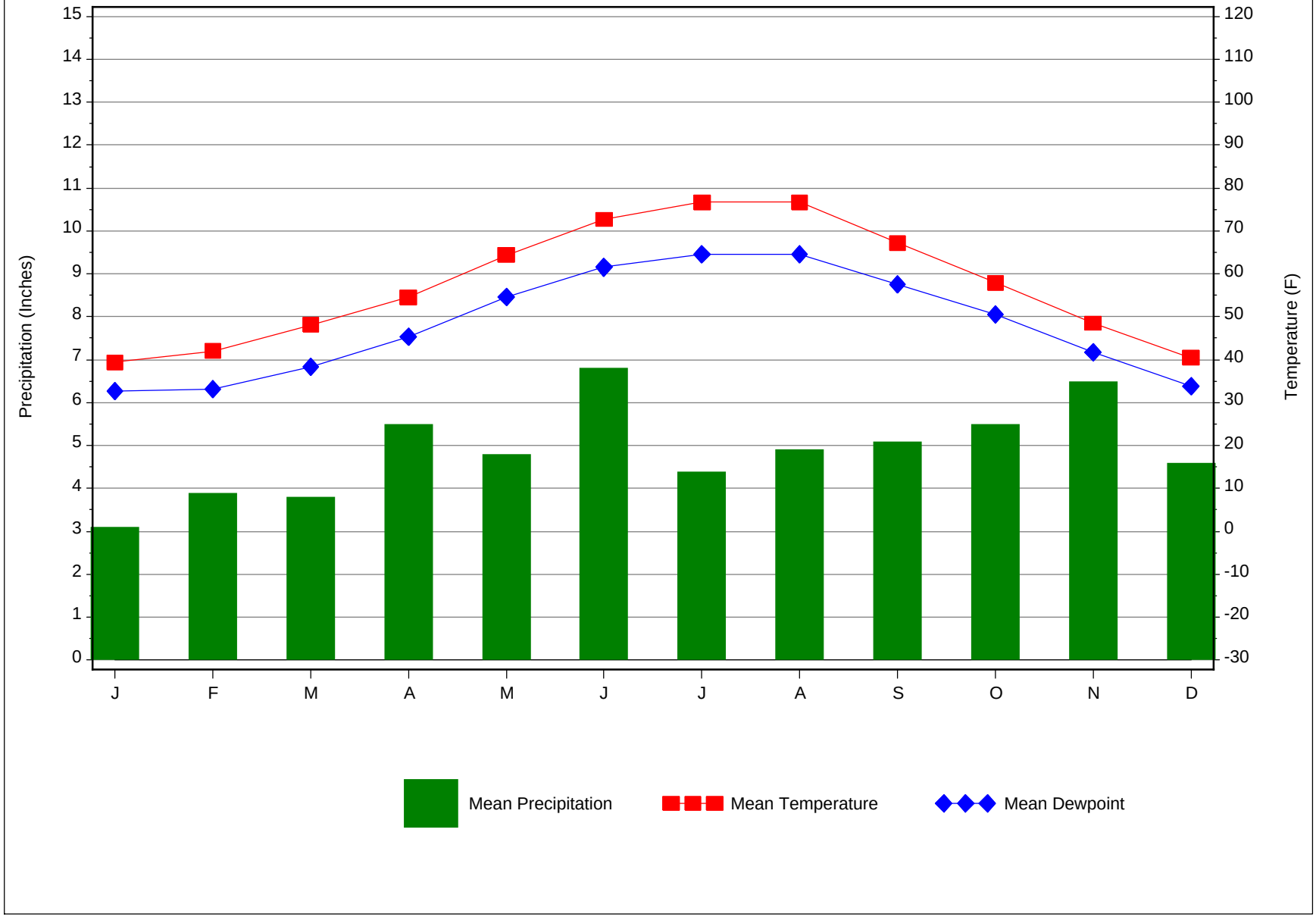
Air Conditioning/ Humid Area Criteria	**Threshold**	**T ≥ 93°F**	**T ≥ 80°F**	**Twb ≥ 73°F**	**Twb ≥ 67°F**
	# of Hours	25	487	267	948

Other Site Data

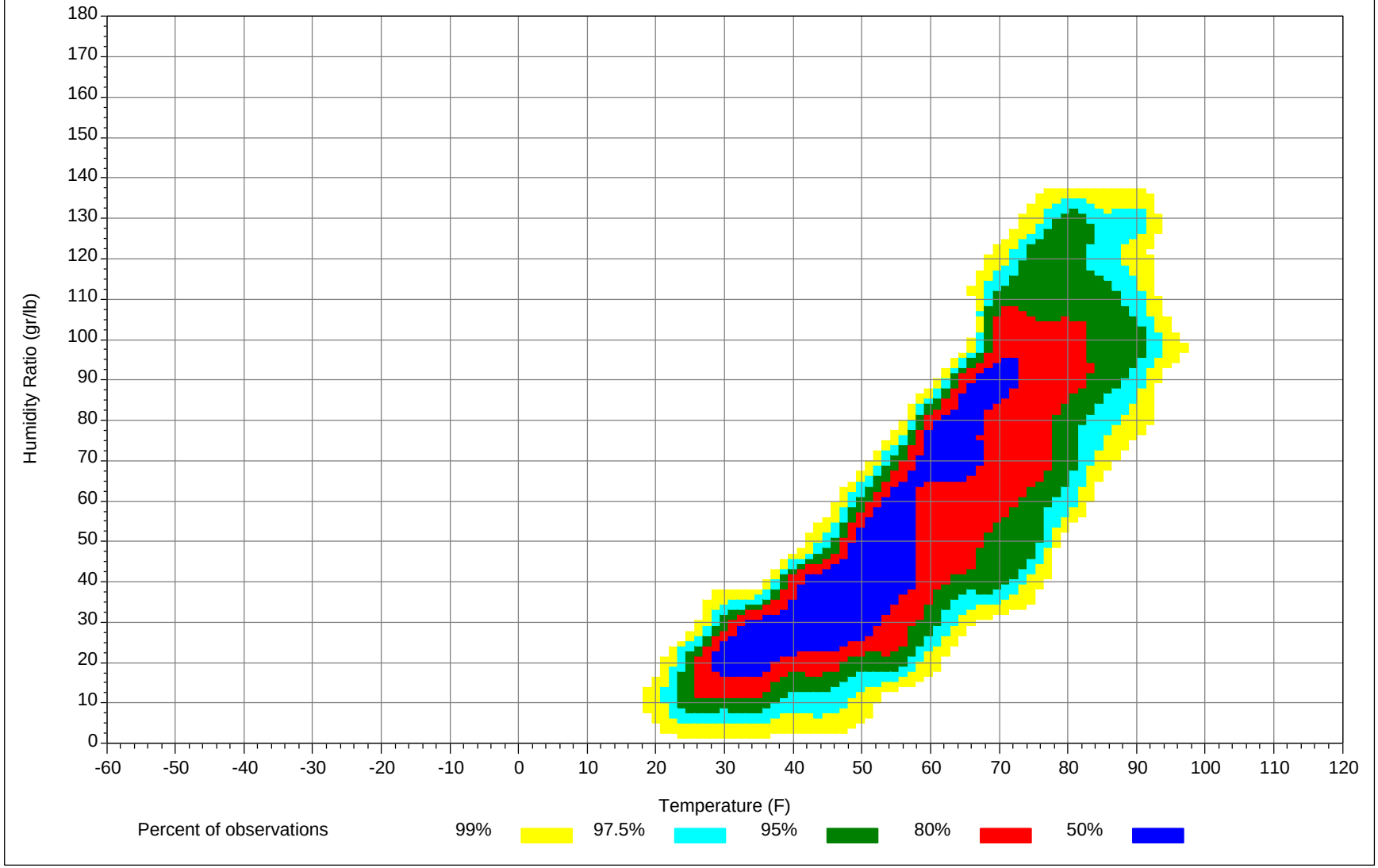
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
8	N/A	N/A	1.3 + 0.6
Ground Water Temperature (°F) 50 Foot Depth*	Frost Depth 50 Year Recurrence (in)	Ground Snow Load 50 Year Recurrence (lb/ft^2)	Average Annual Freeze-Thaw Cycles (#)
59.8	N/A	N/A	38

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

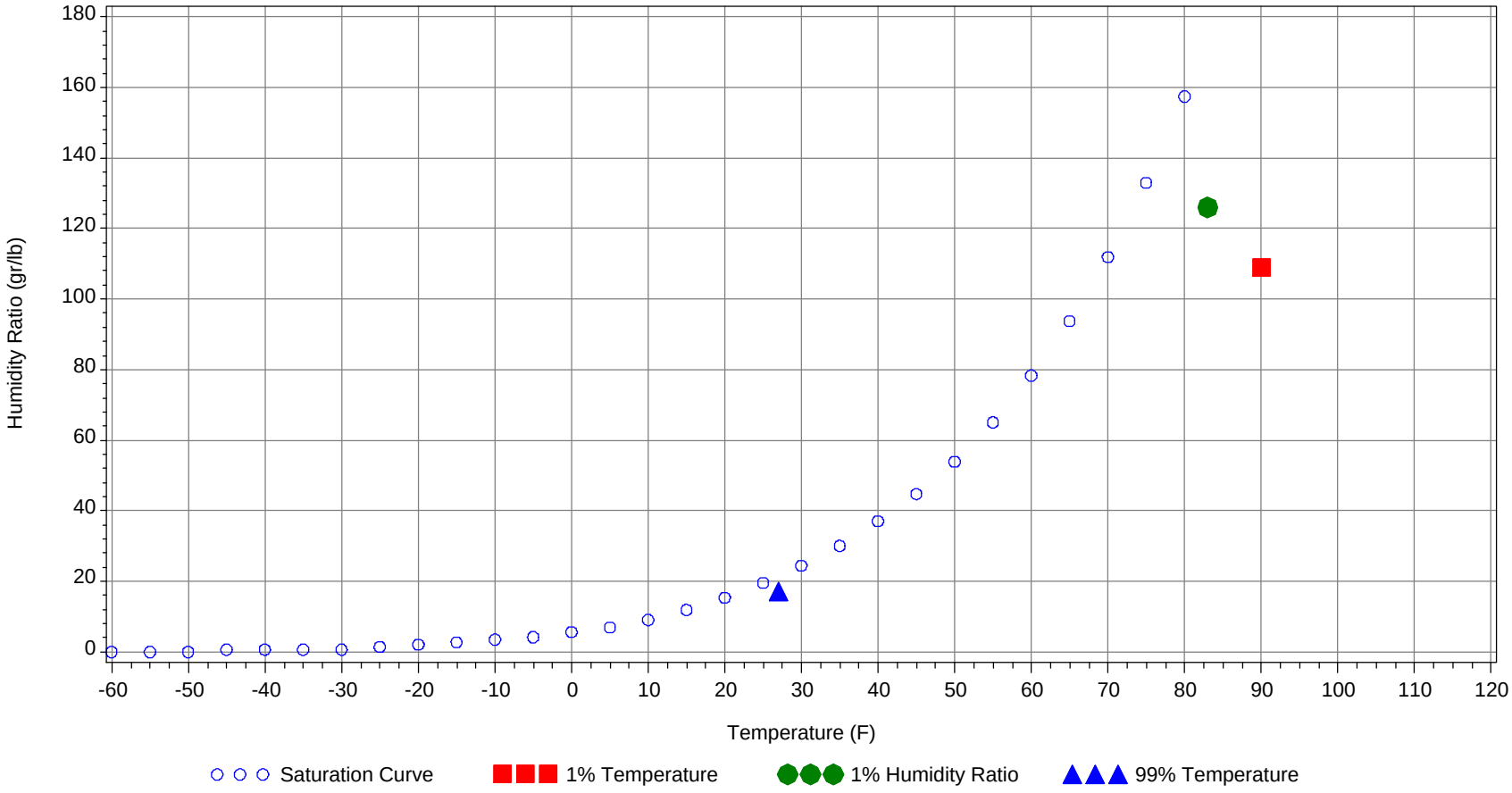
Average Annual Climate



Long Term Psychrometric Summary



Psychrometric Summary of Peak Design Values



	(°F) / (gr/lb)	MCDB (°F)	MCWB (°F)	MCDP (°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
1.0% Dry Bulb	90.0		75		109.0	38.6
99.0% Dry Bulb	27.0				17.0	9.0
1.0% Humidity Ratio	126.0	83.0	76	73.4		39.8

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)**
95/ 99															
90/ 94															
85/ 89															
80/ 84															
75/ 79												0		0	58.7
70/ 74							0	0	0	55.7		4	1	5	56.1
65/ 69							1	0	1	54		10	4	14	54.4
60/ 64		0		0	51.2		4	1	5	50.6	0	31	12	43	52.3
55/ 59		4	1	5	49.4		16	5	21	47.3	3	59	30	92	49.6
50/ 54	3	28	6	37	45.6	2	45	21	68	45.1	29	73	67	169	47.2
45/ 49	23	75	43	141	43	23	69	57	149	42.7	70	45	69	184	43.4
40/ 44	41	59	56	156	39.3	35	40	45	120	38.9	68	17	37	122	39.2
35/ 39	53	50	69	172	35.1	57	34	53	144	34.8	51	8	23	82	34.9
30/ 34	66	24	51	141	30.3	64	12	32	108	30.2	22	1	5	28	30.2
25/ 29	42	7	19	68	25.6	31	3	8	42	25	5	0	0	5	25.5
20/ 24	17	1	2	20	21.3	8	0	1	9	20.7	0	0	0	0	20.3
15/ 19	4	0	0	4	17.3	3	0		3	16.6	0			0	16.5
10/ 14	0			0	13	0			0	12.3					

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)**
95/ 99												0	0	0	74.2
90/ 94							0	0	0	73.1		9	4	13	75.4
85/ 89							3	1	4	70.3	0	19	10	29	73.2
80/ 84		0	0	0	64.8	0	14	6	20	68	4	44	32	80	70.9
75/ 79		4	1	5	61.5	1	42	19	62	64.7	20	64	52	136	67.6
70/ 74	0	23	8	31	59.2	9	66	41	116	62.4	52	63	62	177	65
65/ 69	1	31	14	46	57.2	28	49	50	127	60.5	59	21	35	115	63
60/ 64	7	54	35	96	54.6	78	44	70	192	58.2	70	18	34	122	59.9
55/ 59	32	65	62	159	52.1	80	22	43	145	54.7	28	3	11	42	55.7
50/ 54	74	46	65	185	48.8	41	7	15	63	50.6	5	0	1	6	51.4
45/ 49	73	14	39	126	44.7	12	1	2	15	46.4	0		0	0	48.2
40/ 44	36	2	13	51	40.3	0	0		0	42.6	0			0	43
35/ 39	14	0	3	17	36	0			0	37					
30/ 34	1		0	1	31.4	0			0	32					
25/ 29	0		0	0	24.5										
20/ 24															
15/ 19															
10/ 14															

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)**
95/ 99		2	1	3	76.6		4	1	5	76.9					
90/ 94	0	15	7	22	75.7	0	23	13	36	75.3		0		0	73.3
85/ 89	0	36	22	58	73.4	1	32	18	51	73.3	0	3	1	4	72
80/ 84	8	78	57	143	71.5	8	78	51	137	71.3	0	18	7	25	70.1
75/ 79	44	68	69	181	68.8	36	61	64	161	69.1	1	51	23	75	66.4
70/ 74	84	34	53	171	66.6	77	35	60	172	66.6	13	74	52	139	63.8
65/ 69	57	10	24	91	64	66	9	26	101	64.4	33	47	52	132	61.8
60/ 64	43	4	14	61	60.9	48	5	15	68	60.8	78	34	64	176	59.3
55/ 59	10	0	1	11	56.3	10	0	1	11	55.9	76	11	33	120	55.2
50/ 54	0			0	51.7	1		0	1	50.9	32	1	8	41	50.9
45/ 49						0			0	46	7		1	8	46
40/ 44											0			0	43
35/ 39															
30/ 34															
25/ 29															
20/ 24															
15/ 19															
10/ 14															

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)**
95/ 99															
90/ 94															
85/ 89															
80/ 84		1	0	1	67.8										
75/ 79		7	1	8	64.3		0		0	61.8					
70/ 74		26	7	33	63		1		1	59.1					
65/ 69	2	41	18	61	60.9		2	0	2	57.2					
60/ 64	24	75	58	157	57.9	1	21	4	26	55.9		0		0	50.1
55/ 59	67	64	72	203	53.9	16	62	29	107	53	1	6	0	7	49.4
50/ 54	65	26	54	145	49.6	51	79	65	195	48.9	5	42	10	57	47.1
45/ 49	53	8	27	88	44.5	52	46	63	161	44.1	43	83	51	177	43.6
40/ 44	21	1	7	29	40.5	39	17	35	91	39.5	36	49	48	133	39.4
35/ 39	13	0	3	16	36.4	44	9	30	83	35.7	54	40	67	161	35.2
30/ 34	3	0	0	3	31	26	3	11	40	30.7	54	18	51	123	30.5
25/ 29						11	0	2	13	25.5	39	7	16	62	25.7
20/ 24						1	0		1	20.3	11	1	3	15	21.3
15/ 19											4	0	1	5	17.7
10/ 14											0	0		0	13.7

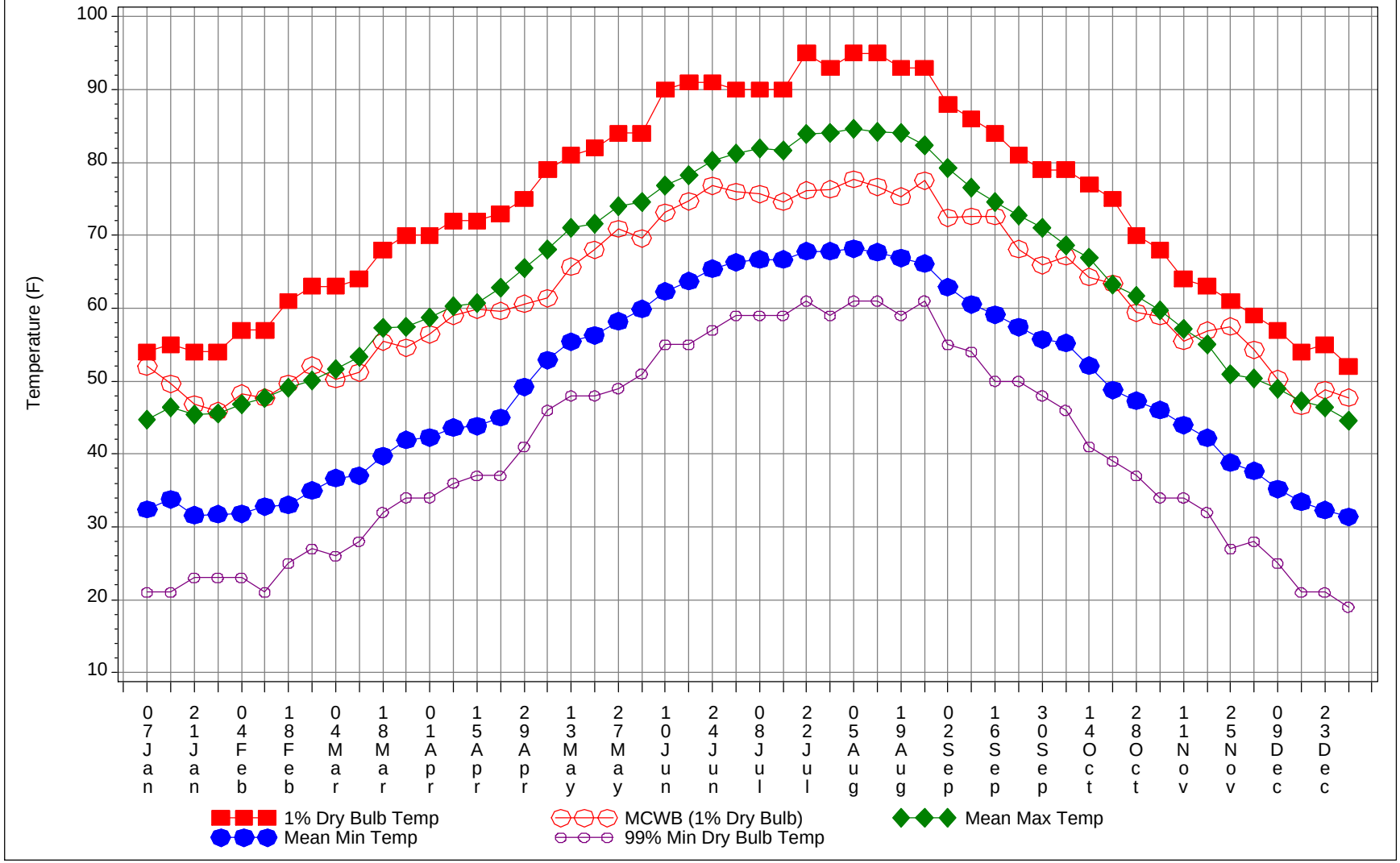
Caution: This summary reflects the typical distribtion of temperature in a typical year. It does not reflect the typical mositure distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

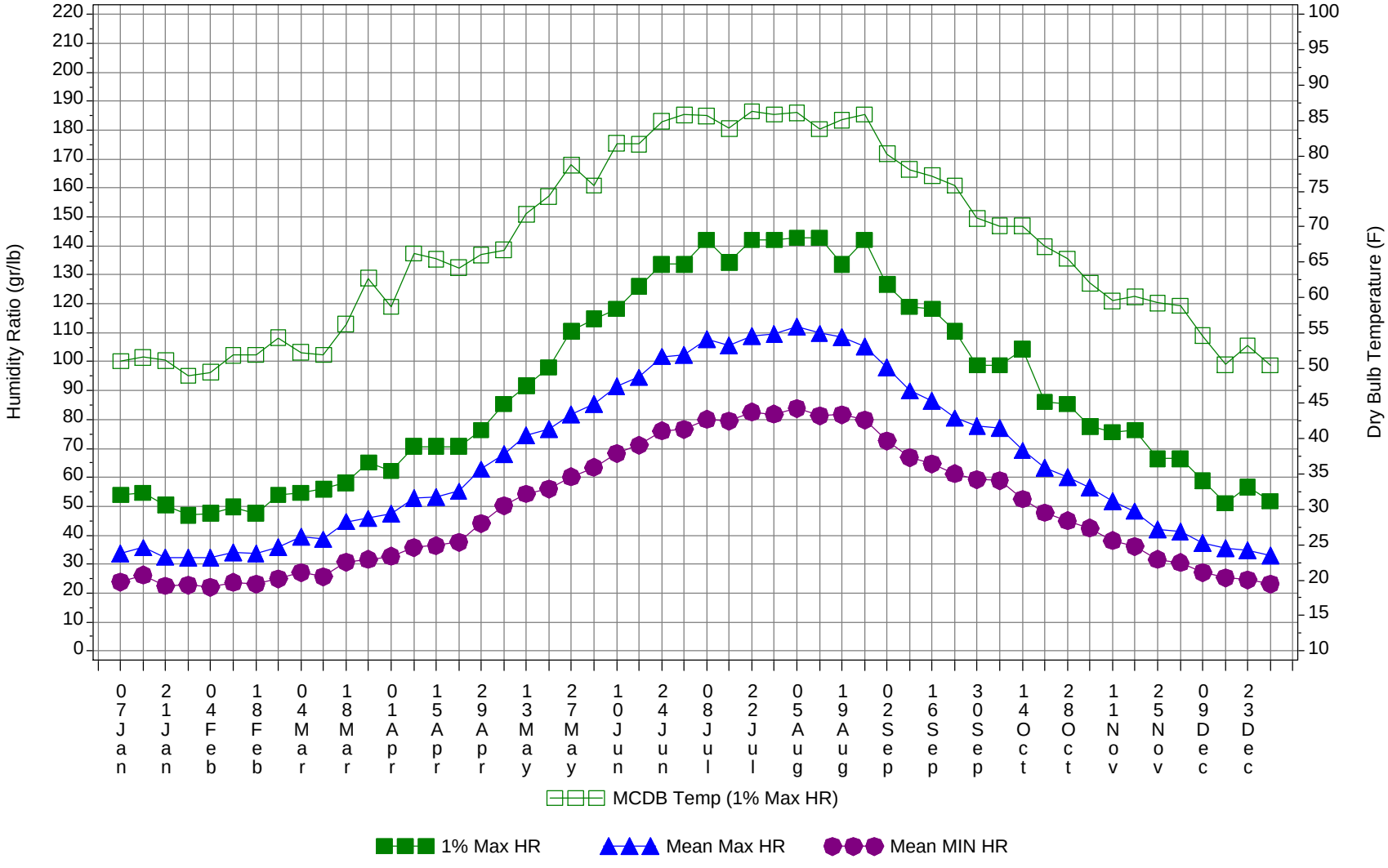
	Annual				
Temperature Range (°F)	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**
95/ 99		6	2	8	76.6
90/ 94	0	46	20	66	75.4
85/ 89	1	92	44	137	73.2
80/ 84	17	232	133	382	71
75/ 79	82	300	207	589	67.6
70/ 74	194	328	265	787	64.4
65/ 69	223	223	220	666	61.4
60/ 64	360	293	314	967	57.8
55/ 59	365	315	307	987	53
50/ 54	376	347	339	1062	48.3
45/ 49	415	338	372	1125	43.7
40/ 44	306	182	248	736	39.4
35/ 39	268	140	249	657	35.2
30/ 34	187	57	148	392	30.4
25/ 29	93	17	44	154	25.5
20/ 24	25	2	6	33	21.1
15/ 19	8	1	1	10	17.3
10/ 14	0	0		0	13

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



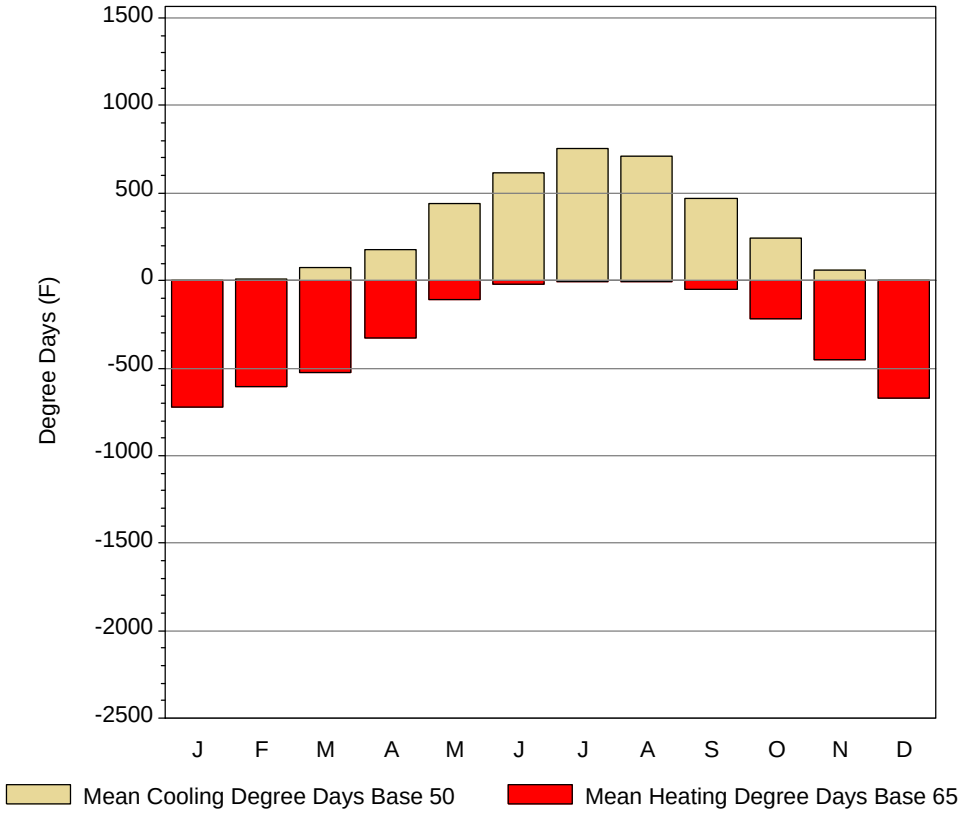
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

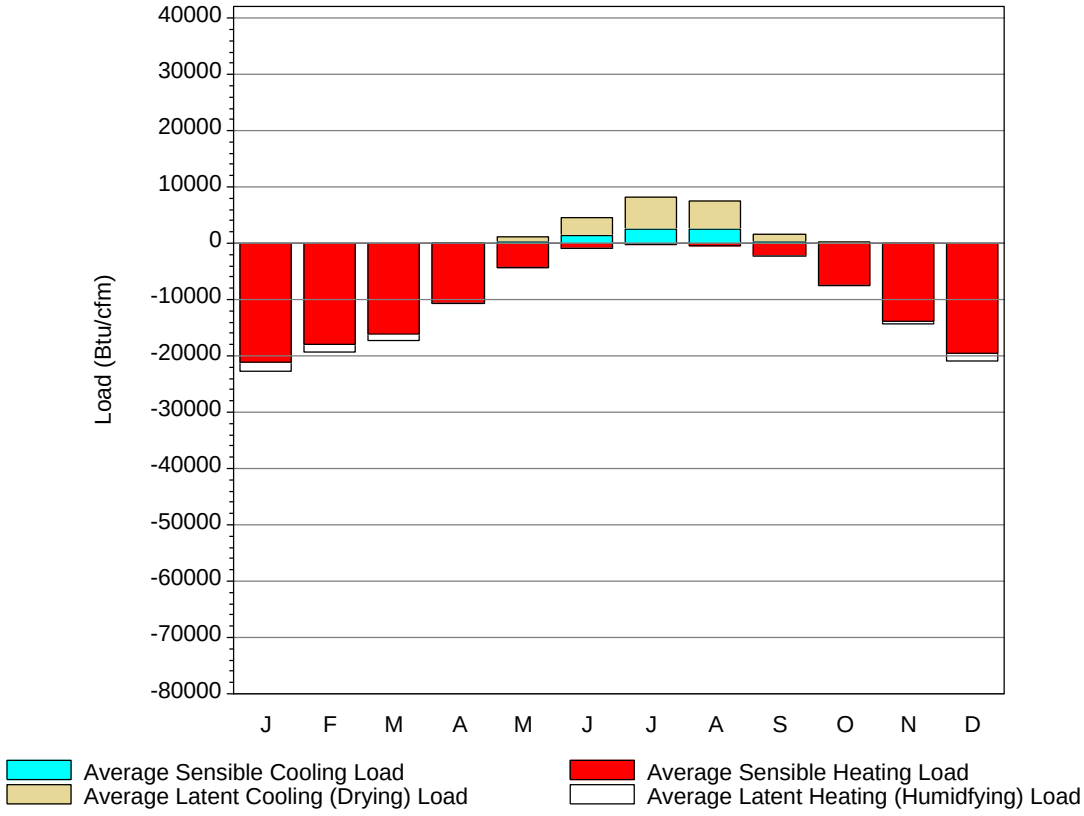
Week Ending	1.0% Temp (°F)	MCWB@ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB@ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	54	52	44.7	32.4	21	53.9	51	33.6	23.9
14-Jan	55	49.6	46.4	33.8	21	54.6	51.5	35.7	26.2
21-Jan	54	46.8	45.4	31.6	23	50.4	51.1	32.4	22.5
28-Jan	54	45.9	45.6	31.7	23	46.9	48.9	32.3	22.7
4-Feb	57	48.3	46.9	31.8	23	47.6	49.4	32.2	22.1
11-Feb	57	47.7	47.7	32.8	21	49.7	51.8	34.2	23.6
18-Feb	61	49.6	49.1	33	25	47.6	51.9	33.7	23.2
25-Feb	63	52.1	50.1	35	27	53.9	54.3	36	25
4-Mar	63	50.3	51.7	36.7	26	54.6	52.2	39.5	27.1
11-Mar	64	51.2	53.4	37	28	56	51.9	38.6	25.7
18-Mar	68	55.4	57.3	39.7	32	58.1	56.2	44.7	30.7
25-Mar	70	54.6	57.5	41.9	34	65.1	62.7	45.8	31.6
1-Apr	70	56.4	58.7	42.3	34	62.3	58.7	47.3	32.7
8-Apr	72	59	60.3	43.6	36	70.7	66.2	52.9	35.7
15-Apr	72	59.8	60.7	43.8	37	70.7	65.4	53.3	36.4
22-Apr	73	59.6	62.8	45	37	70.7	64.2	55.2	37.5
29-Apr	75	60.6	65.5	49.2	41	76.3	66	62.8	44.1
6-May	79	61.4	68	52.9	46	85.4	66.7	68.1	50.3
13-May	81	65.7	71	55.4	48	91.7	71.8	74.6	54.3
20-May	82	68	71.6	56.3	48	98	74.3	76.6	56
27-May	84	70.9	74	58.2	49	110.6	78.7	81.8	60.2
4-Jun	84	69.6	74.6	59.9	51	114.8	75.8	85.5	63.5
10-Jun	90	73.1	76.8	62.3	55	118.3	81.8	91.4	68.3
17-Jun	91	74.7	78.2	63.7	55	126	81.7	94.6	71.1
24-Jun	91	76.8	80.2	65.4	57	133.7	84.9	101.8	76
1-Jul	90	76	81.2	66.3	59	133.7	85.8	102.5	76.6
8-Jul	90	75.7	82	66.7	59	142.1	85.7	107.8	80
15-Jul	90	74.6	81.7	66.7	59	134.4	83.9	105.7	79.5
22-Jul	95	76.2	83.9	67.8	61	142.1	86.3	109	82.5
29-Jul	93	76.3	84.1	67.8	59	142.1	85.9	109.7	81.8
5-Aug	95	77.7	84.6	68.2	61	142.8	86.1	112.1	83.9
12-Aug	95	76.7	84.2	67.7	61	142.8	83.8	109.8	81.3
19-Aug	93	75.3	84	66.9	59	133.7	85.1	108.4	81.7
26-Aug	93	77.5	82.4	66.1	61	142.1	85.9	105.2	79.9
2-Sep	88	72.4	79.2	62.9	55	126.7	80.3	97.9	72.7
9-Sep	86	72.6	76.5	60.5	54	119	78.1	89.9	66.8
16-Sep	84	72.6	74.6	59.1	50	118.3	77.2	86.4	64.7
23-Sep	81	68.1	72.8	57.4	50	110.6	75.8	80.5	61.3
30-Sep	79	65.9	71.1	55.7	48	98.7	71.2	77.8	59.3
7-Oct	79	67.1	68.6	55.2	46	98.7	70.1	77.1	58.9
14-Oct	77	64.3	66.9	52.1	41	104.3	70.1	69.3	52.5
21-Oct	75	63.4	63.2	48.8	39	86.1	67.2	63.4	47.8
28-Oct	70	59.4	61.7	47.3	37	85.4	65.5	60.2	45
4-Nov	68	58.9	59.7	46	34	77.7	62	56.5	42.4
11-Nov	64	55.5	57.2	44	34	75.6	59.5	51.9	38.1
18-Nov	63	56.9	55.1	42.2	32	76.3	60.1	48.3	36.2
25-Nov	61	57.5	50.9	38.8	27	66.5	59.2	42.1	31.6
2-Dec	59	54.3	50.4	37.7	28	66.5	58.8	41.4	30.6
9-Dec	57	50.3	49	35.2	25	58.8	54.6	37.4	27.1
16-Dec	54	46.6	47.3	33.4	21	51.1	50.5	35.5	25.3
23-Dec	55	48.8	46.4	32.3	21	56.7	53.2	34.7	24.5
31-Dec	52	47.7	44.6	31.4	19	51.8	50.4	32.9	23.2

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	2.5	0	725.7
FEB	12.1	0.1	608.5
MAR	73.7	2.3	526.5
APR	180.4	14.4	325.3
MAY	442.2	88.3	109.6
JUN	619.4	223	17.1
JUL	758.5	330	4.5
AUG	711.4	307.4	5
SEP	470.6	107.9	51.8
OCT	239.9	16.9	214.9
NOV	57	0.4	451.6
DEC	4.4	0	670.5
ANN	3572.1	1090.7	3711

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	0	-21010	0	-1597
FEB	0	-17855	0	-1449
MAR	0	-16009	0	-1183
APR	9	-10550	7	-205
MAY	288	-4324	795	-8
JUN	1429	-925	3182	-1
JUL	2597	-306	5506	0
AUG	2510	-339	4909	0
SEP	322	-2345	1385	-1
OCT	15	-7504	258	-57
NOV	0	-13798	1	-526
DEC	0	-19492	0	-1378
ANN	7170	-114457	16043	-6405

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

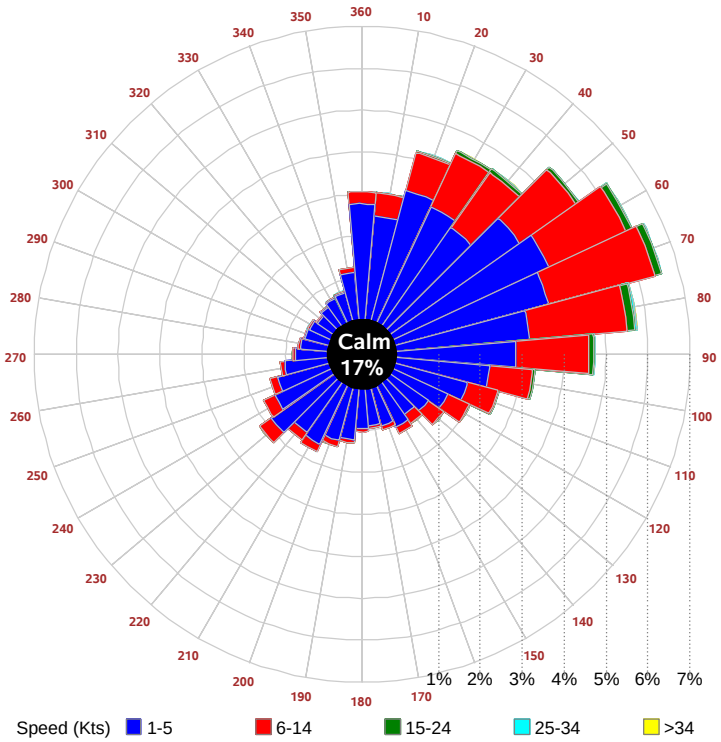
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ.	Global													
	Std.Dev.													
	Minimum													
	Maximum													
	Diffuse													
Clear Day	Global													
NORTH	Global													
	Diffuse													
Clear Day	Global													
EAST	Global												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

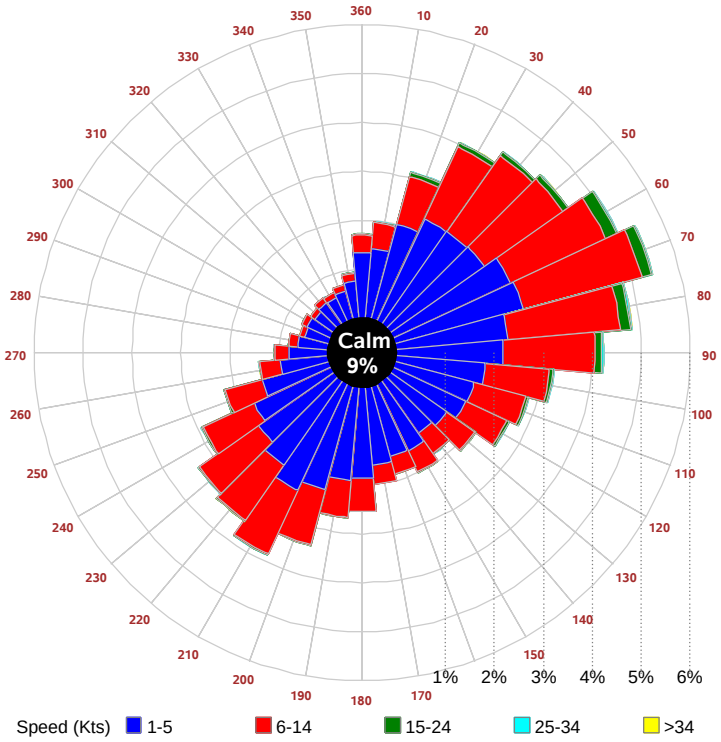
AVERAGE INCIDENT ILLUMINENCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9											
				March					June		
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear										
	M.Cloudy										
NORTH	M.Clear										
	M.Cloudy										
EAST	M.Clear										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

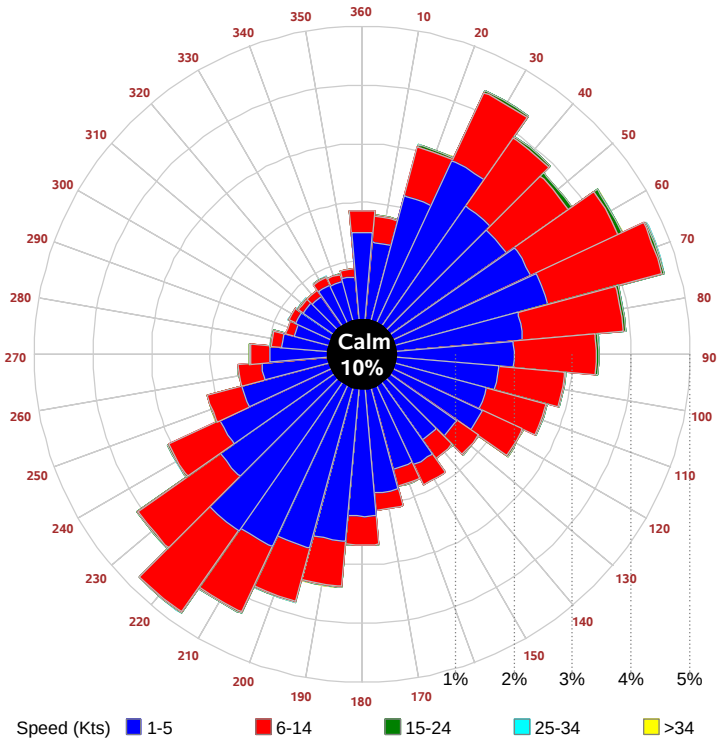
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November