GHEDI, IT	
Latitude = 45.43 N	Station ID = ICAO_LIPL
Longitude = 10.27 E	Elevation = 333 Feet
Period of Record = 1988 To 2017	Average Pressure = 29.66 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	95	73	90	3.6	***
0.4% Occurrence	91	72	88	3.6	***
1.0% Occurrence	90	72	88	3.6	WSW
2.0% Occurrence	88	71	86	3.8	WSW
Mean Daily Range	17	-	-	-	W
97.5% Occurrence	27	27	19	2.2	W
99.0% Occurrence	23	22	16	1.7	***
99.6% Occurrence	21	21	14	1.7	W
Median of Extreme Lows	18	18	13	1.6	W

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	80	86	143	3.9	***
0.4% Occurrence	77	85	126	3.4	***
1.0% Occurrence	75	83	116	3.6	***
2.0% Occurrence	74	82	112	3.6	***

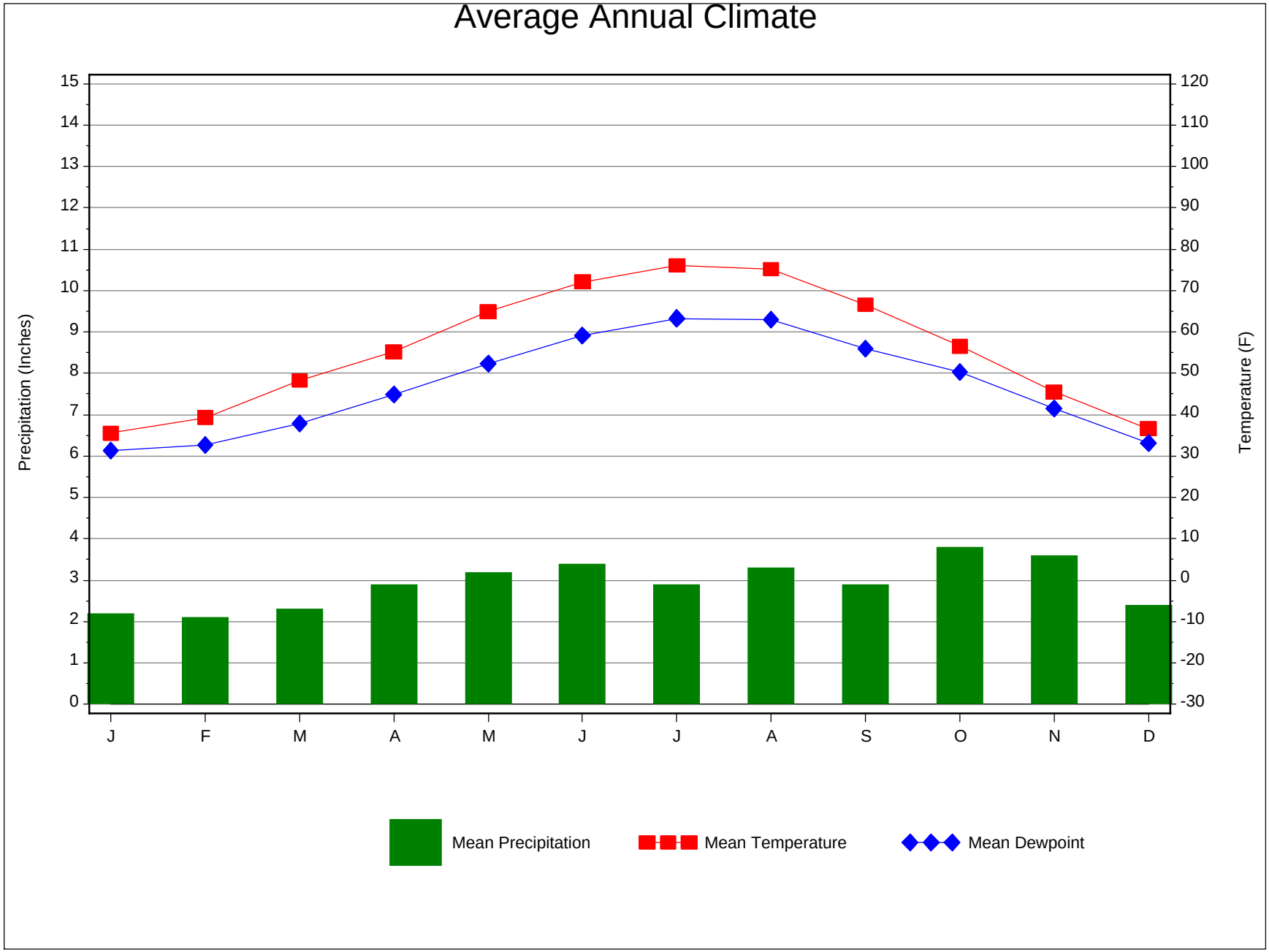
Humidity Ratio (HR)	**Design Value (gr/lb)**	**Dry Bulb Temperature (°F)**	**Vapor Pressure (in. Hg)**	**Wind Speed (mph)**	**Prevailing Direction (NSEW)**
Median of Extreme Highs	146	79	0.96	4	N
0.4% Occurrence	134	82	0.88	3.9	***
1.0% Occurrence	125	81	0.83	3.4	***
2.0% Occurrence	118	78	0.78	3.4	***

Air Conditioning/ Humid Area Criteria	**Threshold**	**T ≥ 93°F**	**T ≥ 80°F**	**Twb ≥ 73°F**	**Twb ≥ 67°F**
	# of Hours	37	731	279	1208

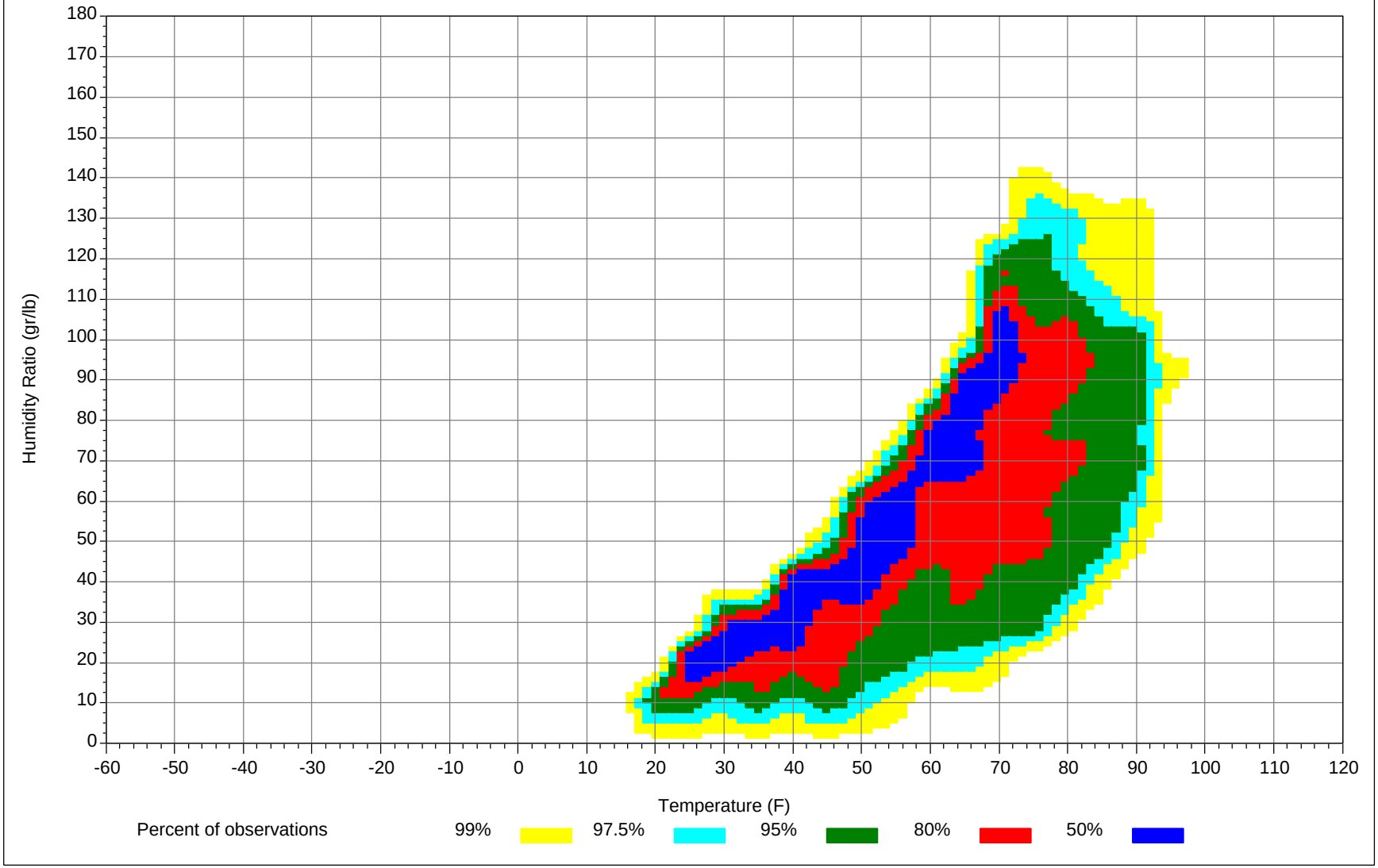
Other Site Data

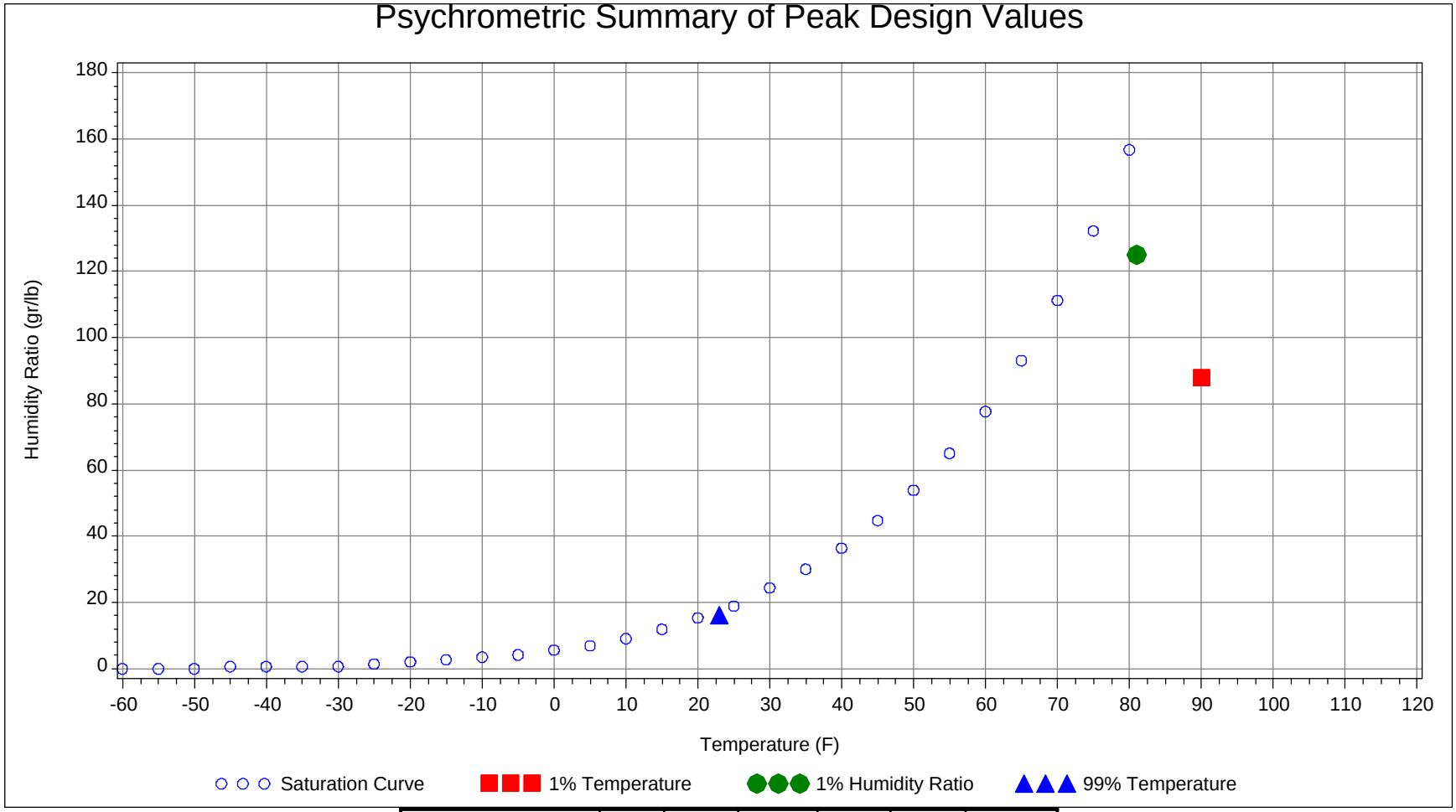
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
7	N/A	N/A	1.8 + 0.8
Ground Water Temperature (°F) 50 Foot Depth*	Frost Depth 50 Year Recurrence (in)	Ground Snow Load 50 Year Recurrence (lb/ft^2)	Average Annual Freeze-Thaw Cycles (#)
58.5	N/A	N/A	49

*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	90.0		72		88.0	35.3
99.0% Dry Bulb	23.0				16.0	8.0
1.0% Humidity Ratio	125.0	81.0	75.4	73.4		39.0

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)**
100/104															
95/ 99															
90/ 94															
85/ 89															
80/ 84												0		0	55
75/ 79												1	0	1	56.4
70/ 74							0	0	0	54.8	0	4	3	7	54.3
65/ 69		0	0	0	56.3		1	0	1	53.4	0	12	7	19	53.1
60/ 64		0	0	0	54.8		3	1	4	49.9	0	33	19	52	51
55/ 59		1	0	1	46.4		13	5	18	46.4	1	58	39	98	48.7
50/ 54	0	11	2	13	44.6	0	34	17	51	44.3	26	60	62	148	47
45/ 49	6	39	20	65	42.6	13	56	45	114	42.5	65	47	63	175	43.8
40/ 44	29	56	44	129	39.8	33	44	52	129	39.6	62	19	31	112	39.9
35/ 39	59	69	80	208	35.9	59	40	57	156	35.8	58	10	18	86	35.9
30/ 34	67	46	65	178	31.2	66	24	34	124	31.1	26	3	4	33	31.2
25/ 29	54	20	31	105	26.5	38	8	10	56	26.4	8	0	0	8	26.6
20/ 24	28	5	6	39	21.9	11	2	2	15	21.9	1	0	0	1	21.7
15/ 19	6	2	0	8	18.4	3	0	1	4	17.9	0			0	18.1
10/ 14	0			0	14	1	0	0	1	11.8					
5/ 9						0			0	8.5					

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)**
100/104															
95/ 99							0	0	0	67		1	1	2	71.9
90/ 94							1	1	2	66.5		12	10	22	70.9
85/ 89		0	0	0	64		5	3	8	64.9		23	16	39	69
80/ 84		1	1	2	58.9	0	21	13	34	63.1	1	55	39	95	67.5
75/ 79		8	5	13	57.9	1	48	31	80	61.2	14	65	50	129	66
70/ 74		24	14	38	56.4	5	62	43	110	60.2	47	46	51	144	65.2
65/ 69	0	31	19	50	54.9	19	46	43	108	59.5	59	21	34	114	63.2
60/ 64	3	56	39	98	53.4	65	40	55	160	58.2	74	13	27	114	60.4
55/ 59	29	59	58	146	52.1	89	19	43	151	55.2	35	4	11	50	55.7
50/ 54	82	44	65	191	49.5	55	5	14	74	51.3	10	0	2	12	51.9
45/ 49	78	14	30	122	45.3	13	0	2	15	46.6	1			1	46.3
40/ 44	31	2	8	41	41	1		0	1	41.8	0			0	43.3
35/ 39	14	1	1	16	36.9	0			0	38					
30/ 34	2	0	0	2	32.2										
25/ 29	0			0	28										
20/ 24															
15/ 19															
10/ 14															
5/ 9															

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)**
100/104		0		0	76.5		0	0	0	71.8					
95/ 99		2	2	4	75.9		5	3	8	72.6					
90/ 94	0	23	16	39	72.9		25	15	40	71.8		1	0	1	67.5
85/ 89	0	49	32	81	70.9	0	44	25	69	70.5		6	3	9	67.6
80/ 84	2	80	52	134	69.2	2	72	44	118	69.1		27	13	40	65.5
75/ 79	28	59	61	148	68.7	20	55	55	130	68.6	0	58	30	88	63.5
70/ 74	92	25	51	168	68	77	30	55	162	67.8	9	66	47	122	62.7
65/ 69	70	7	22	99	65	78	11	32	121	65.1	36	39	50	125	62.5
60/ 64	43	3	11	57	61.3	55	5	15	75	61.5	83	32	60	175	60
55/ 59	12	0	1	13	56.9	15	0	3	18	57.1	73	10	30	113	55.7
50/ 54	1	0		1	52.1	2		0	2	50.9	32	1	6	39	51.4
45/ 49						0			0	47.8	7	0	0	7	46.5
40/ 44											1			1	42.1
35/ 39															
30/ 34															
25/ 29															
20/ 24															
15/ 19															
10/ 14															
5/ 9															

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)**
100/104															
95/ 99															
90/ 94															
85/ 89															
80/ 84		1	0	1	64.1										
75/ 79		7	2	9	63.3										
70/ 74		25	10	35	61.4		0	0	0	67.1					
65/ 69	2	37	19	58	59.6		1	0	1	60.7					
60/ 64	26	66	52	144	58.2	1	10	3	14	56.2		0		0	55.9
55/ 59	66	62	74	202	54.6	11	42	23	76	53.5	0	2	0	2	49.8
50/ 54	70	34	58	162	50.4	40	68	56	164	49.6	3	14	5	22	47.5
45/ 49	52	12	25	89	45.7	56	58	63	177	44.9	17	52	29	98	43.9
40/ 44	19	2	6	27	41.2	41	29	40	110	40.5	33	54	47	134	40.3
35/ 39	9	0	2	11	37.1	42	20	37	99	36.3	57	64	74	195	35.9
30/ 34	2	0	0	2	32.1	35	9	16	60	31.8	61	40	60	161	31.4
25/ 29	0		0	0	25.2	11	2	2	15	26.9	53	17	28	98	26.5
20/ 24	0			0	22.6	2	0		2	22.2	20	4	5	29	21.9
15/ 19						0			0	19	4	1	1	6	18
10/ 14											0	0	0	0	11.9
5/ 9											0	0		0	8.1

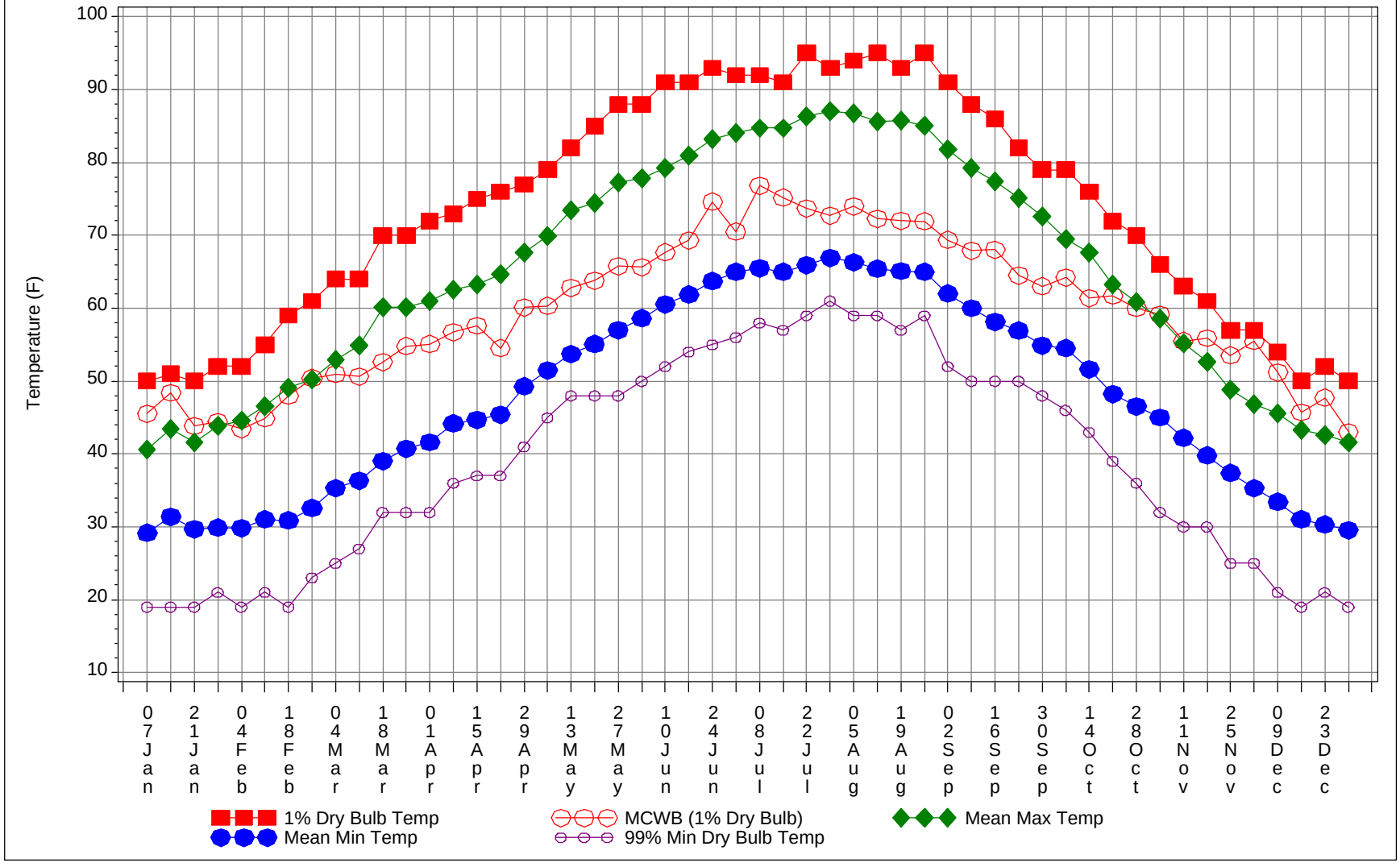
Caution: This summary reflects the typical distribtion of temperature in a typical year. It does not reflect the typical mositure distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

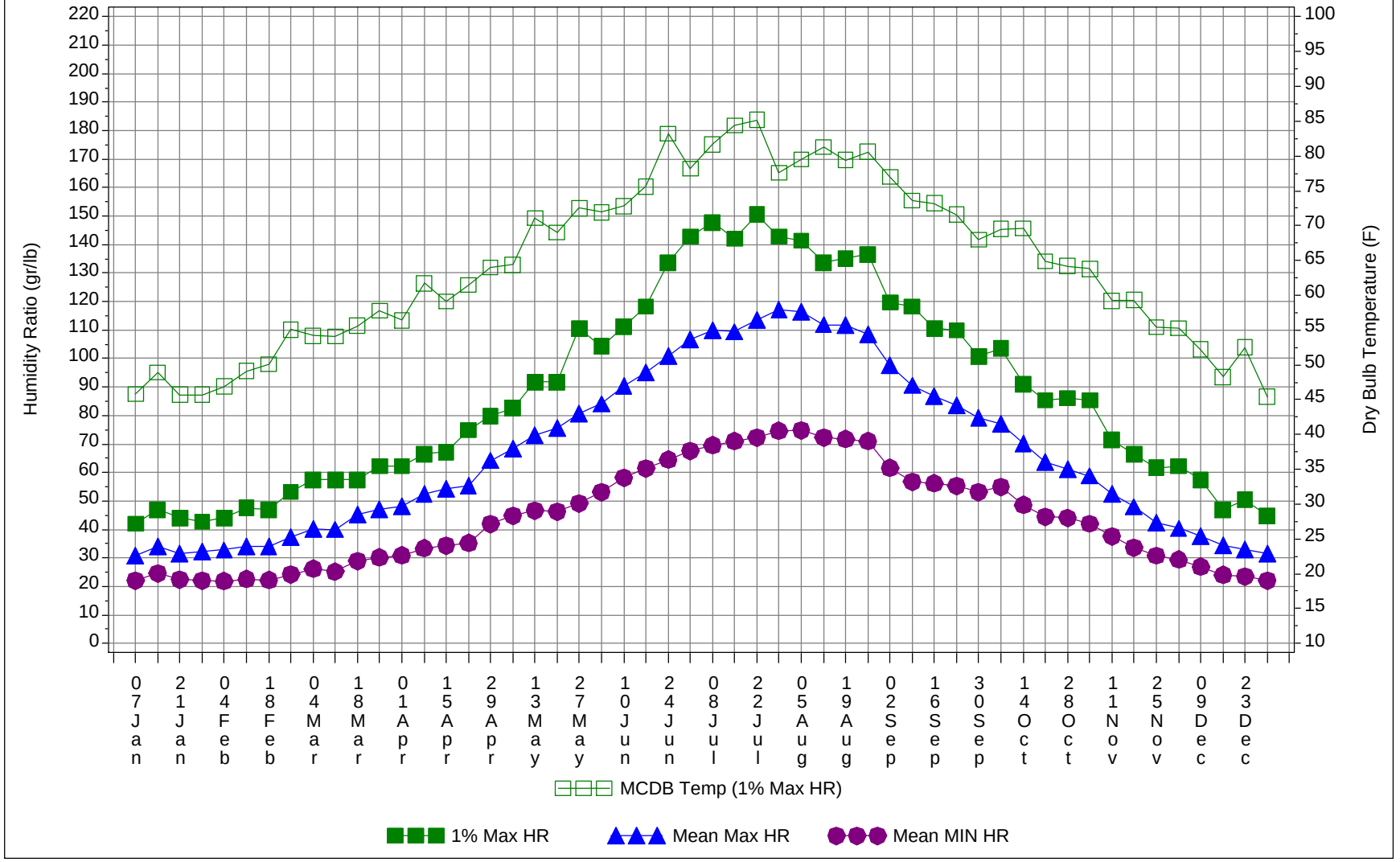
	Annual				
Temperature Range (°F)	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**
100/104		0	0	0	73.3
95/ 99		8	6	14	73.5
90/ 94	0	62	43	105	71.9
85/ 89	0	126	79	205	70
80/ 84	5	256	162	423	67.9
75/ 79	61	303	234	598	66
70/ 74	223	283	273	779	64.4
65/ 69	258	208	226	692	61.8
60/ 64	346	263	282	891	58.3
55/ 59	332	271	289	892	53.6
50/ 54	325	272	288	885	49.1
45/ 49	311	279	278	868	44.3
40/ 44	253	205	228	686	40.1
35/ 39	302	202	269	773	36
30/ 34	261	122	179	562	31.3
25/ 29	166	47	71	284	26.5
20/ 24	62	11	12	85	21.9
15/ 19	14	3	2	19	18.2
10/ 14	1	0	0	1	11.9
5/ 9	0	0		0	8.3

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.

Annual Summary of Temperatures



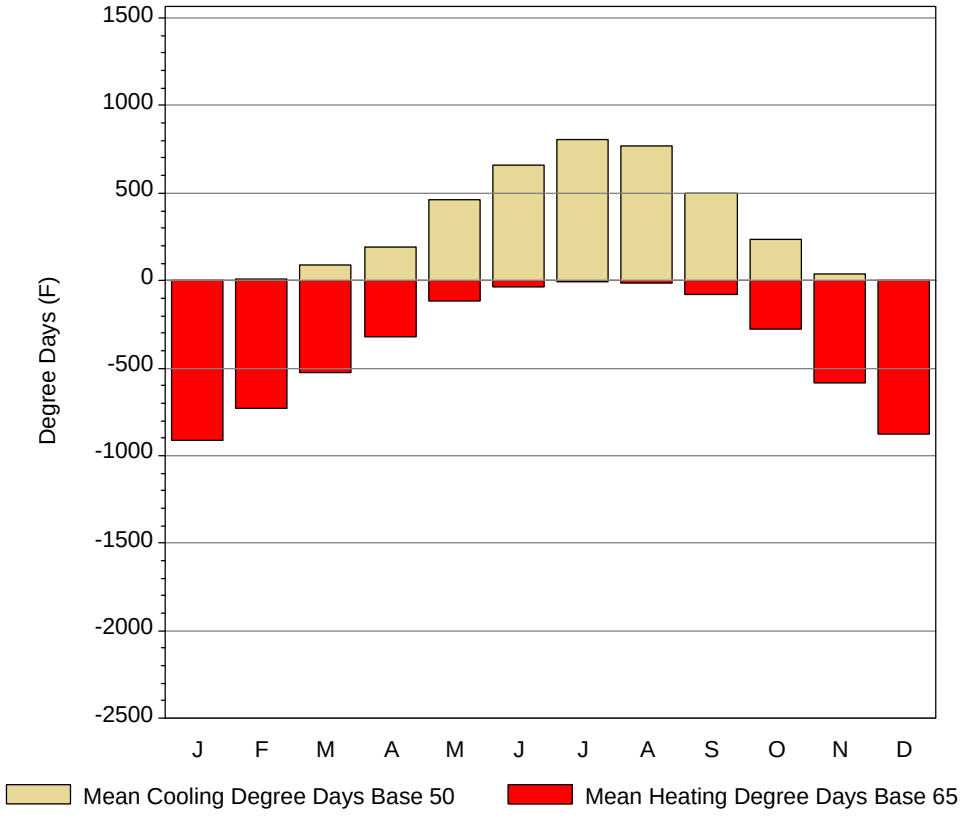
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

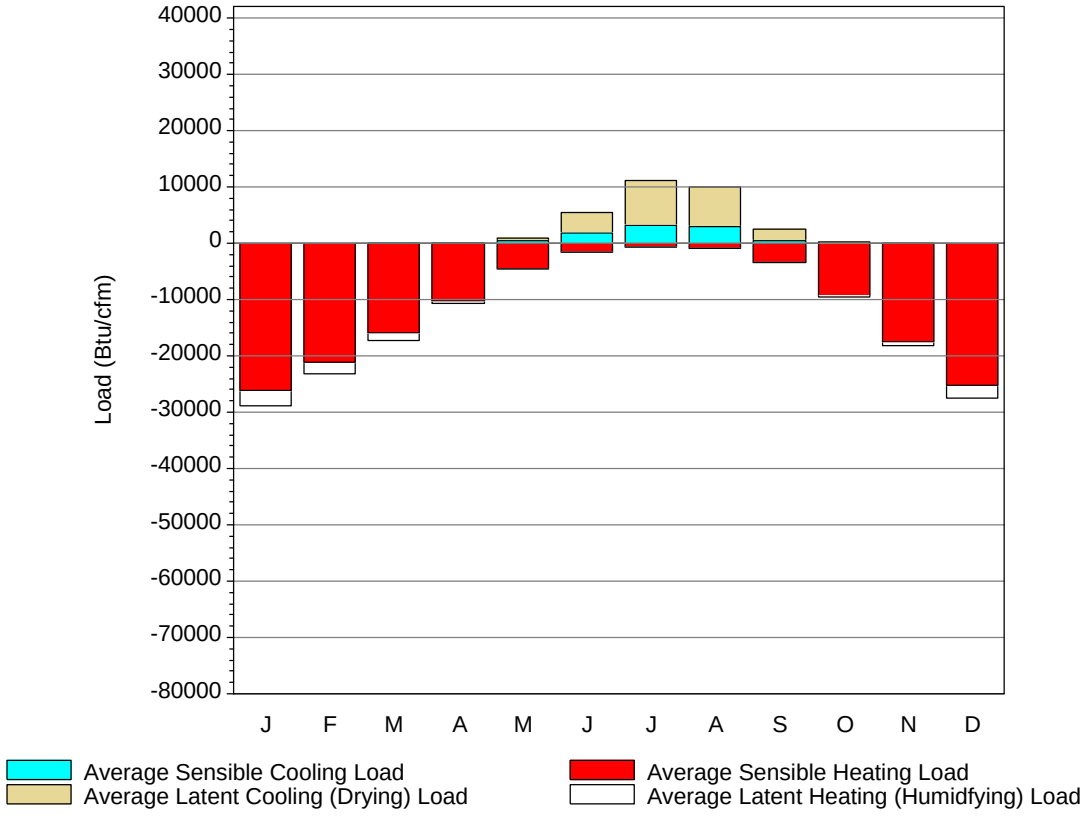
Week Ending	1.0% Temp (°F)	MCWB@ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB@ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	50	45.5	40.6	29.2	19	42	45.8	30.9	22
14-Jan	51	48.4	43.4	31.4	19	46.9	48.9	34	24.5
21-Jan	50	43.8	41.6	29.7	19	44.1	45.7	31.5	22.4
28-Jan	52	44.4	43.8	29.9	21	42.7	45.7	32.2	22.1
4-Feb	52	43.4	44.5	29.8	19	44.1	46.9	32.8	21.9
11-Feb	55	44.9	46.6	31	21	47.6	49.1	34.2	22.6
18-Feb	59	48	49.1	30.9	19	46.9	50.1	34.2	22.2
25-Feb	61	50.4	50.2	32.6	23	53.2	55.1	37.3	24.2
4-Mar	64	51	52.9	35.3	25	57.4	54.2	40.1	26.2
11-Mar	64	50.6	54.9	36.3	27	57.4	54.1	40	25.2
18-Mar	70	52.6	60.1	39	32	57.4	55.6	45.3	28.9
25-Mar	70	54.8	60.2	40.7	32	62.3	57.8	47	30.2
1-Apr	72	55.1	61	41.6	32	62.3	56.4	48.1	30.9
8-Apr	73	56.7	62.5	44.2	36	66.5	61.7	52.4	33.5
15-Apr	75	57.6	63.2	44.7	37	67.2	59.1	54.2	34.3
22-Apr	76	54.5	64.6	45.4	37	74.9	61.5	55.5	35.2
29-Apr	77	60.1	67.7	49.3	41	79.8	64	64.2	41.9
6-May	79	60.3	69.9	51.5	45	82.6	64.4	68.3	44.8
13-May	82	62.8	73.4	53.7	48	91.7	71.1	73.2	46.6
20-May	85	63.8	74.5	55.1	48	91.7	69	75.6	46.3
27-May	88	65.8	77.2	57	48	110.6	72.5	80.6	49.2
4-Jun	88	65.6	77.8	58.6	50	104.3	71.9	84.1	53.2
10-Jun	91	67.7	79.2	60.5	52	111.3	72.8	90.3	58.1
17-Jun	91	69.3	80.9	61.9	54	118.3	75.6	95.2	61.5
24-Jun	93	74.6	83.2	63.7	55	133.7	83.2	100.9	64.5
1-Jul	92	70.5	84.1	65	56	142.8	78.2	106.8	67.6
8-Jul	92	76.8	84.7	65.5	58	147.7	81.7	110	69.6
15-Jul	91	75.2	84.7	65	57	142.1	84.4	109.4	71
22-Jul	95	73.7	86.3	65.9	59	150.5	85.2	113.5	72.2
29-Jul	93	72.7	87	66.9	61	142.8	77.6	117.2	74.7
5-Aug	94	74	86.8	66.3	59	141.4	79.5	116.4	74.8
12-Aug	95	72.3	85.6	65.4	59	133.7	81.3	111.9	72.3
19-Aug	93	72	85.7	65.1	57	135.1	79.4	111.8	71.7
26-Aug	95	71.9	85.1	65	59	136.5	80.6	108.6	71
2-Sep	91	69.4	81.8	62	52	119.7	77	97.6	61.6
9-Sep	88	67.9	79.3	60	50	118.3	73.6	90.6	56.7
16-Sep	86	68	77.4	58.1	50	110.6	73.2	86.9	56.2
23-Sep	82	64.5	75.1	56.9	50	109.9	71.6	83.5	55.3
30-Sep	79	63	72.6	54.9	48	100.8	68	79.2	53.1
7-Oct	79	64.2	69.5	54.5	46	103.6	69.5	77.2	55
14-Oct	76	61.4	67.6	51.6	43	91	69.6	70.2	48.6
21-Oct	72	61.7	63.3	48.2	39	85.4	64.9	63.7	44.4
28-Oct	70	60	60.8	46.5	36	86.1	64.2	61.1	44
4-Nov	66	59.1	58.6	45	32	85.4	63.8	58.8	42
11-Nov	63	55.5	55.2	42.2	30	71.4	59.2	52.5	37.5
18-Nov	61	55.9	52.7	39.8	30	66.5	59.3	48	33.6
25-Nov	57	53.5	48.8	37.4	25	61.6	55.4	42.5	30.8
2-Dec	57	55.5	46.9	35.3	25	62.3	55.3	40.4	29.5
9-Dec	54	51.2	45.6	33.4	21	57.4	52.2	37.7	26.9
16-Dec	50	45.7	43.3	31	19	46.9	48.3	34.4	24
23-Dec	52	47.7	42.6	30.3	21	50.4	52.5	33.1	23.5
31-Dec	50	43	41.6	29.5	19	44.8	45.4	31.5	22.1

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	1	0	913.2
FEB	11.2	0.1	726.2
MAR	86.8	3.8	522.7
APR	193.1	21.1	317.3
MAY	461	111.5	117.9
JUN	659.3	242.3	33.1
JUL	804.1	348.3	9.2
AUG	772.9	321.2	13.3
SEP	495.9	124.1	79.1
OCT	232.3	19	279.9
NOV	40.4	0.2	583.3
DEC	2.1	0	877.6
ANN	3760.1	1191.6	4472.8

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	-26081	0	-2807
FEB	0	-21019	0	-2225
MAR	2	-15894	0	-1348
APR	24	-10282	9	-337
MAY	527	-4477	482	-56
JUN	1889	-1550	3674	-21
JUL	3175	-560	8085	-4
AUG	2925	-776	7142	-2
SEP	585	-3281	1824	-45
OCT	20	-9403	304	-135
NOV	0	-17448	17	-755
DEC	0	-25158	0	-2317
ANN	9147	-135929	21537	-10052

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

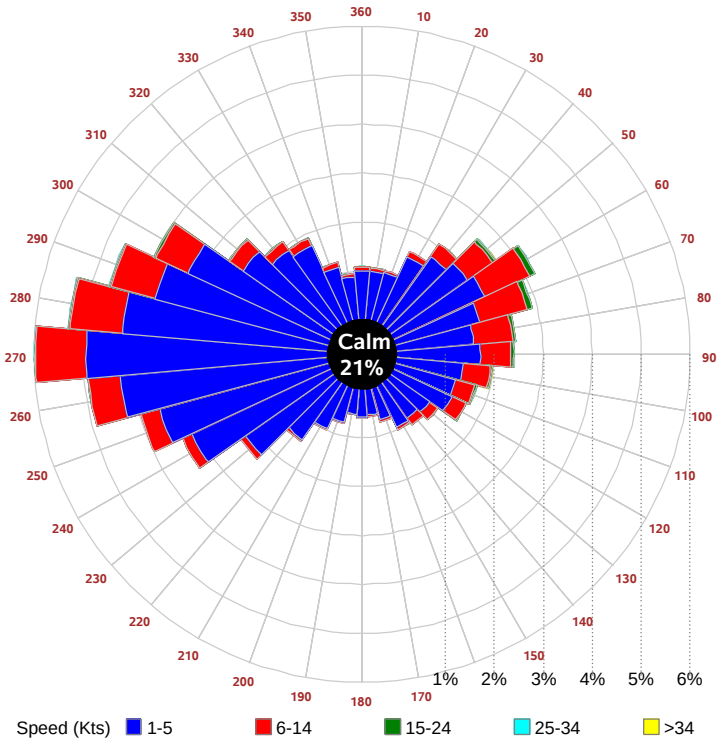
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ.	Global													
	Std.Dev.													
	Minimum													
	Maximum													
	Diffuse													
Clear Day	Global													
NORTH	Global													
	Diffuse													
Clear Day	Global													
EAST	Global												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

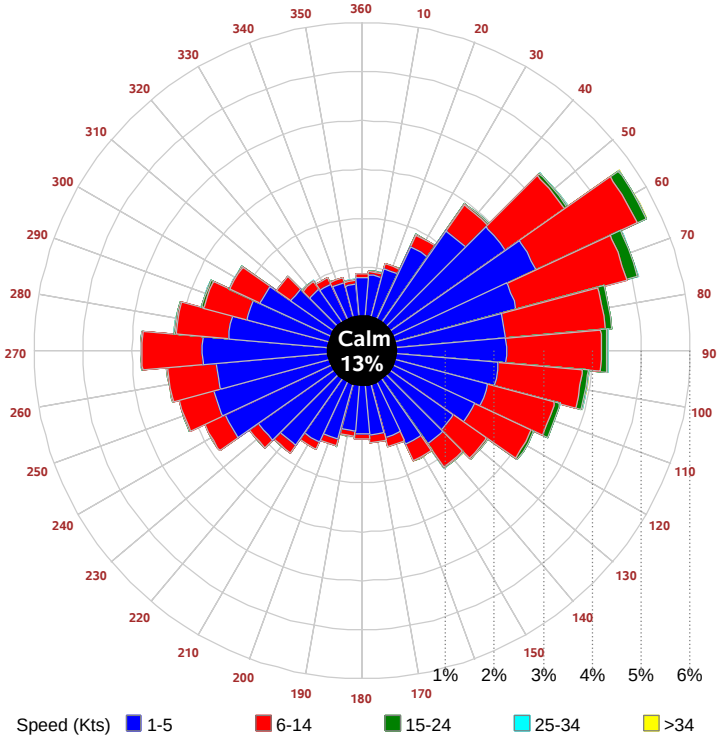
AVERAGE INCIDENT ILLUMINENCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9											
				March					June		
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear										
	M.Cloudy										
NORTH	M.Clear										
	M.Cloudy										
EAST	M.Clear										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

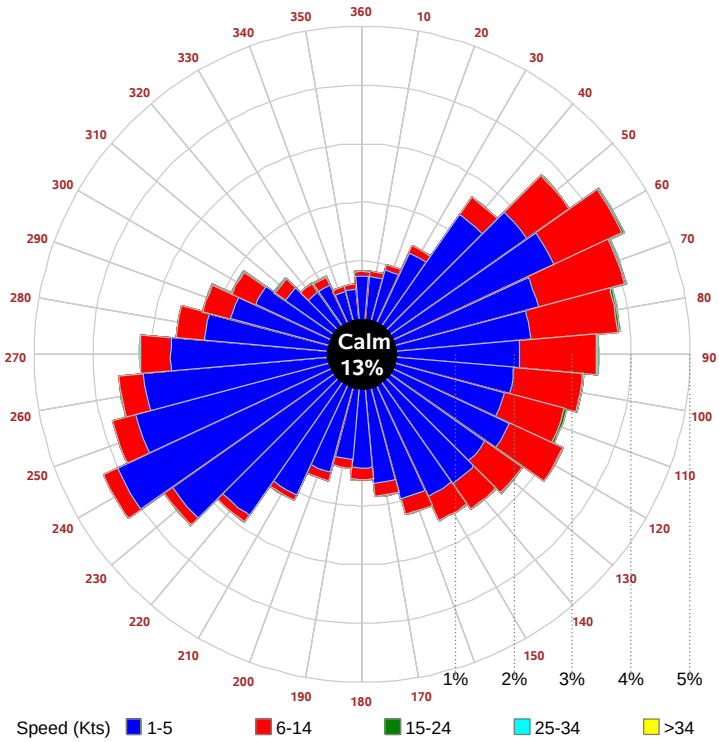
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November