MIDDLETON ISLAND, AK	
Latitude = 59.45 N	Station ID = ICAO_PAMD
Longitude =146.31 W	Elevation = 89 Feet
Period of Record = 1988 To 2017	Average Pressure = 29.69 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	65	58	59	7.8	W
0.4% Occurrence	63	56	57	8.2	W
1.0% Occurrence	61	55	54	8.7	W
2.0% Occurrence	59	53	51	9.2	W
Mean Daily Range	5	-	-	-	NE
97.5% Occurrence	27	24	13	15.1	NE
99.0% Occurrence	23	19	9	16.2	NE
99.6% Occurrence	19	16	8	16.2	NNE
Median of Extreme Lows	18	16	8	15.9	NNE

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	59	63	65	8.4	W
0.4% Occurrence	58	62	64	8.6	W
1.0% Occurrence	57	60	62	9.2	W
2.0% Occurrence	55	57	59	10.1	E

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	65	60	0.44	9.8	E
0.4% Occurrence	66	60	0.44	10.1	E
1.0% Occurrence	62	57	0.41	11.7	E
2.0% Occurrence	61	57	0.41	9.7	E

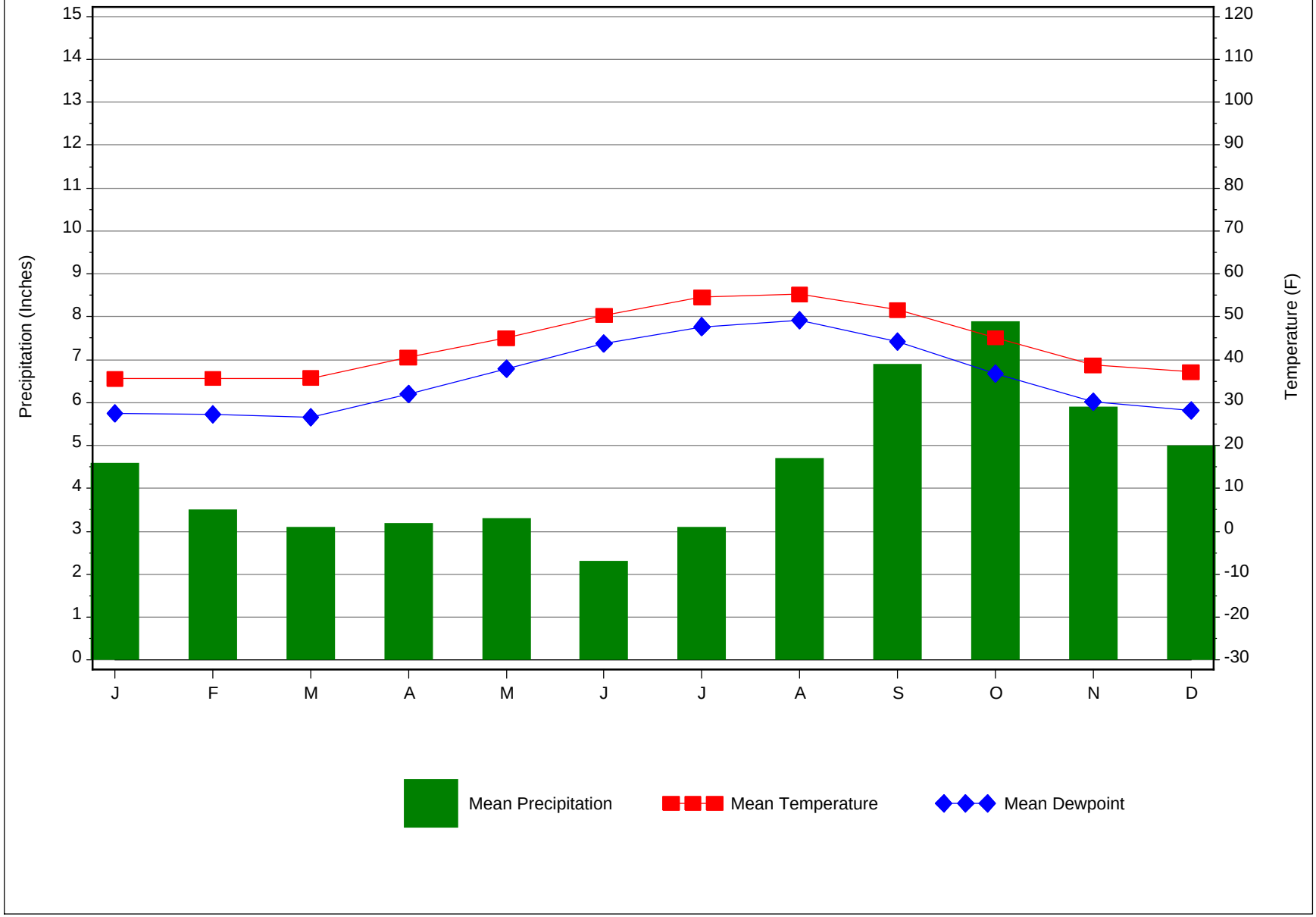
Air Conditioning/ Humid Area Criteria	**Threshold**	**T ≥ 93°F**	**T ≥ 80°F**	**Twb ≥ 73°F**	**Twb ≥ 67°F**
	# of Hours	0	0	0	0

Other Site Data

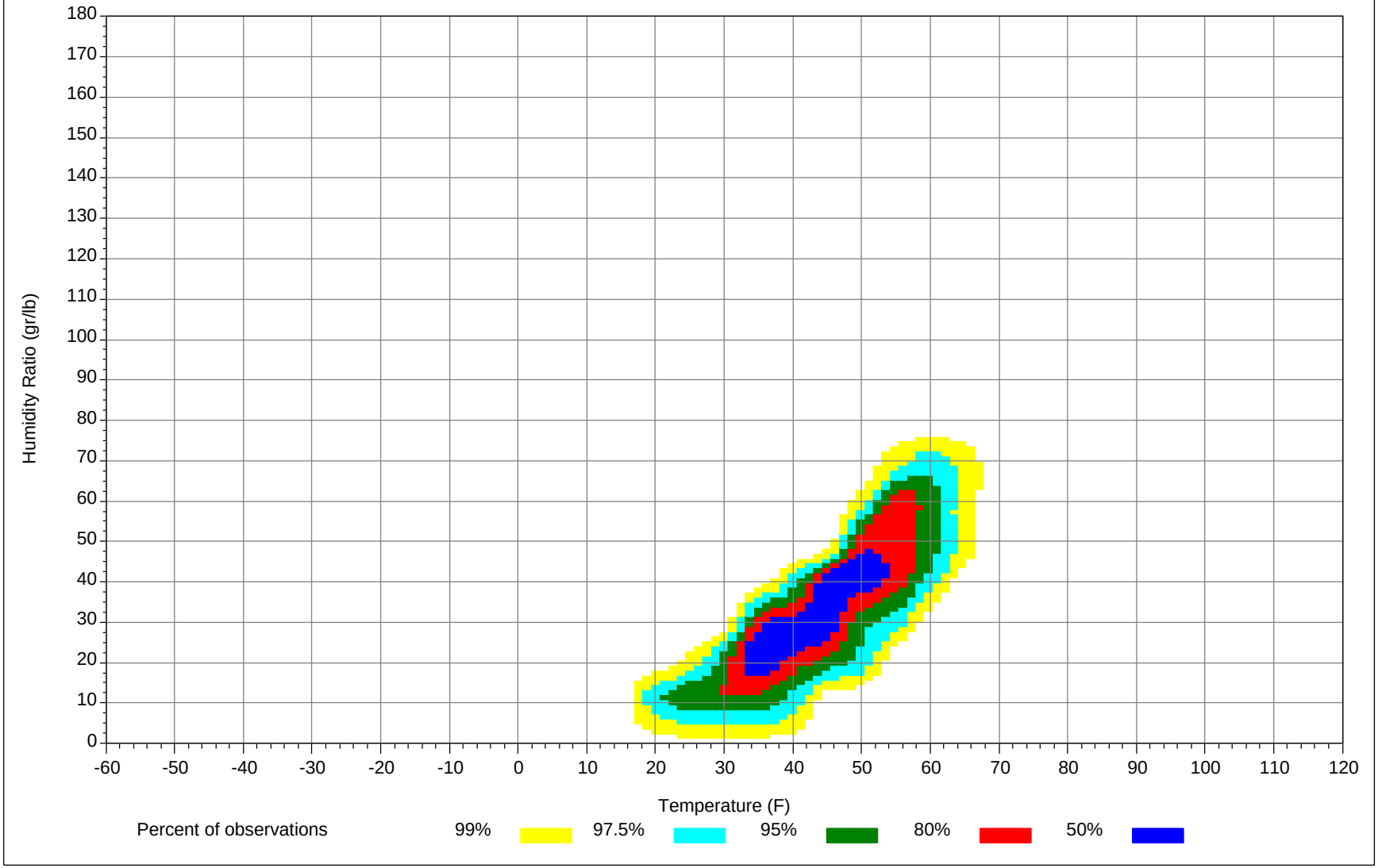
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
5	1	130	0.0 + 0.0
Ground Water Temperature (°F) 50 Foot Depth*	Frost Depth 50 Year Recurrence (in)	Ground Snow Load 50 Year Recurrence (lb/ft^2)	Average Annual Freeze-Thaw Cycles (#)
46.4	22	30	22

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

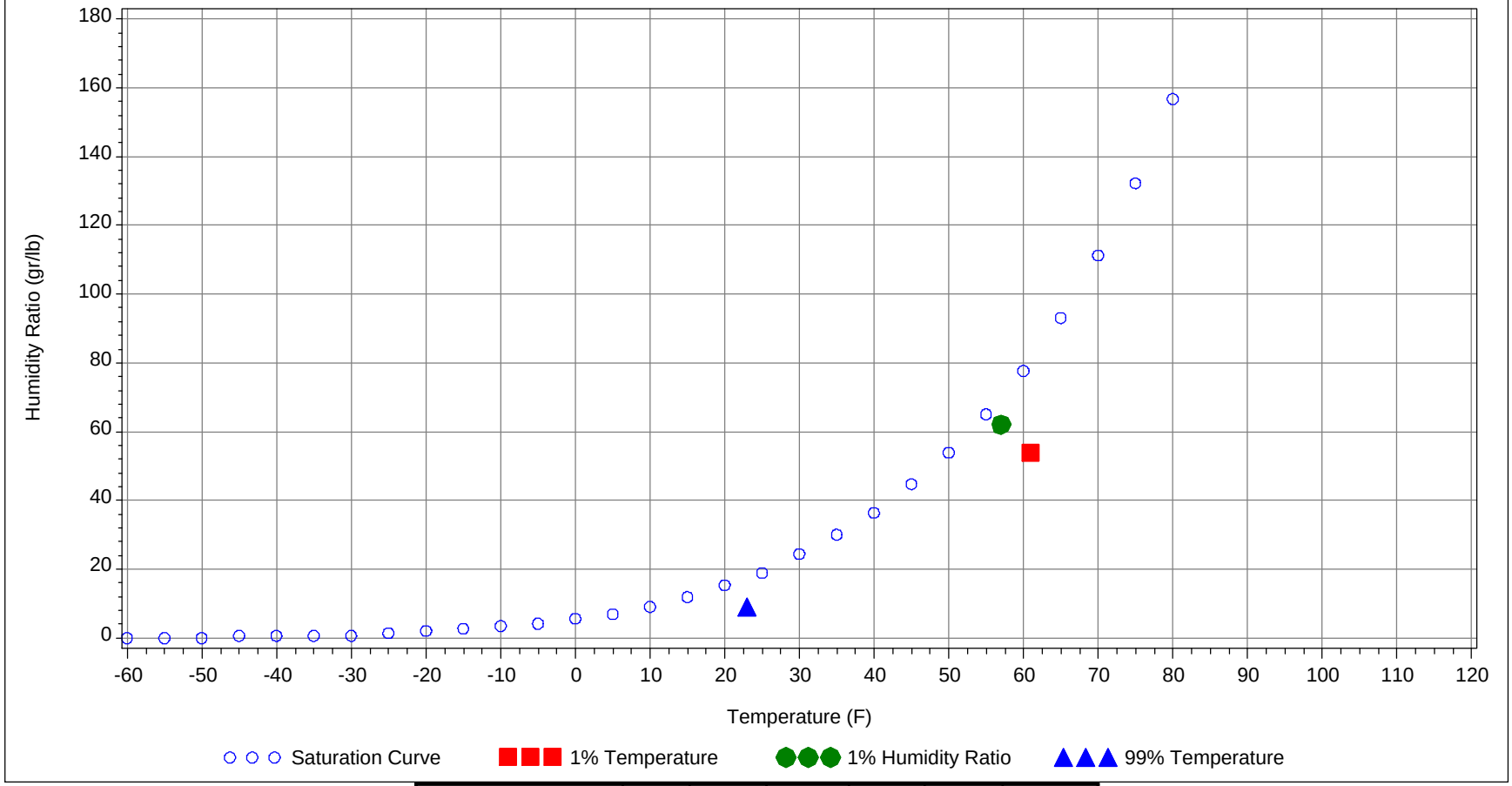
Average Annual Climate



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	61.0		55		54.0	23.5
99.0% Dry Bulb	23.0				9.0	7.0
1.0% Humidity Ratio	62.0	57.0	55	53.6		23.3

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)**
70/ 74															
65/ 69															
60/ 64															
55/ 59		0		0		0		0	0	48					
50/ 54		0		0	45	0	0	0	0	45					
45/ 49	6	6	4	16	42.7	2	4	2	8	42.1	1	10	3	14	41.8
40/ 44	50	53	48	151	39.1	30	50	33	113	38.6	27	60	36	123	37.9
35/ 39	102	106	104	312	34.9	114	104	114	332	34.8	119	112	121	352	34.2
30/ 34	49	42	48	139	29	42	37	41	120	29.2	66	44	58	168	29
25/ 29	29	30	29	88	23.6	24	21	24	69	23.3	27	18	23	68	23.5
20/ 24	7	6	8	21	19.4	9	7	7	23	18.8	6	4	5	15	18.8
15/ 19	4	3	4	11	15.6	3	2	3	8	15.3	2	1	2	5	15.6
10/ 14	0	1	0	1	9.8						0		0	0	10.4
5/ 9	0	0	0	0	6										
0/ 4	0	0	0	0	1.3										

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)**
70/ 74		0	0	0	56							0	0	0	62
65/ 69		0	0	0	53.3		0		0	51.6		0	0	0	56.8
60/ 64	0	0	0	0	51.6	0	1	1	2	50.2	0	10	3	13	54.8
55/ 59	0	1	1	2	47.7	1	12	4	17	49.3	10	50	24	84	51.2
50/ 54	1	5	2	8	44.6	11	48	24	83	46.3	77	121	102	300	48.2
45/ 49	12	69	27	108	41.2	99	133	116	348	42.9	142	58	106	306	44.8
40/ 44	77	96	91	264	38.3	103	46	83	232	39.5	11	1	5	17	41
35/ 39	128	62	104	294	35	31	4	17	52	36.3					
30/ 34	19	6	14	39	29.4	1	0	0	1	30.6					
25/ 29	2	1	1	4	23.3	0	0	0	0	26.3					
20/ 24	0		0	0	20.2	1	2	1	4	21					
15/ 19						2	1	2	5	18.5					
10/ 14															
5/ 9															
0/ 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.

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)**
70/ 74		1	0	1	59.9		2	0	2	62		0		0	57
65/ 69	0	5	1	6	57.8	0	5	1	6	59.2		0		0	53.5
60/ 64	4	36	14	54	55.9	4	33	13	50	55.9	0	9	1	10	54.3
55/ 59	58	125	89	272	52.5	87	153	113	353	52.4	23	69	33	125	51.6
50/ 54	163	81	134	378	49.5	151	55	117	323	49.9	130	131	131	392	48.5
45/ 49	22	1	10	33	45.6	6	0	3	9	44.8	80	29	70	179	43.3
40/ 44						0	0		0		6	2	4	12	37.2
35/ 39						0	0		0	37	1	0	1	2	36.9
30/ 34							0		0	34					
25/ 29															
20/ 24															
15/ 19															
10/ 14															
5/ 9															
0/ 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.

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)**
70/ 74															
65/ 69							0	0	0	49	0			0	52
60/ 64							0	0	0		0	0		0	50.9
55/ 59	0	2	0	2	49.1		0	0	0	47	0	0		0	49
50/ 54	17	45	20	82	46.5	1	1	1	3	45.2	0	0	0	0	46.1
45/ 49	136	142	138	416	42.9	41	50	40	131	42.5	11	10	10	31	42.8
40/ 44	62	42	60	164	37.9	64	69	64	197	38.3	58	64	61	183	38.5
35/ 39	30	16	27	73	33.6	83	77	83	243	33.9	113	112	112	337	34.4
30/ 34	3	1	2	6	28.9	32	28	34	94	28.2	46	45	46	137	28.6
25/ 29	0	0	0	0	24	15	12	13	40	23.3	17	14	16	47	23.8
20/ 24						3	3	3	9	18.3	2	2	2	6	17.5
15/ 19						1	1	2	4	15.4	1	1	1	3	15.6
10/ 14						0	0	0	0	11.2		0		0	
5/ 9															
0/ 4															

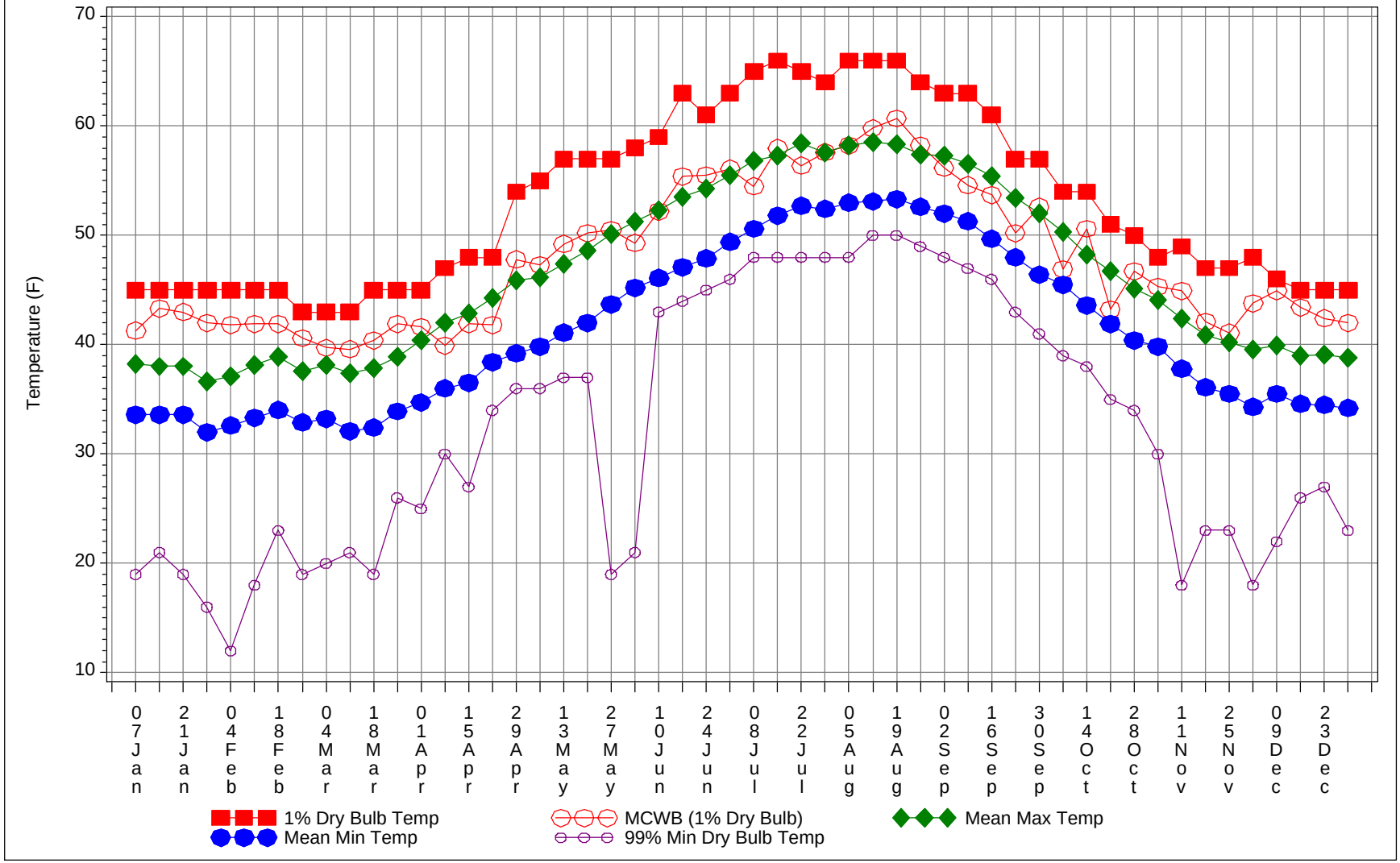
Caution: This summary reflects the typical distribtion of temperature in a typical year. It does not reflect the typical mositure distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

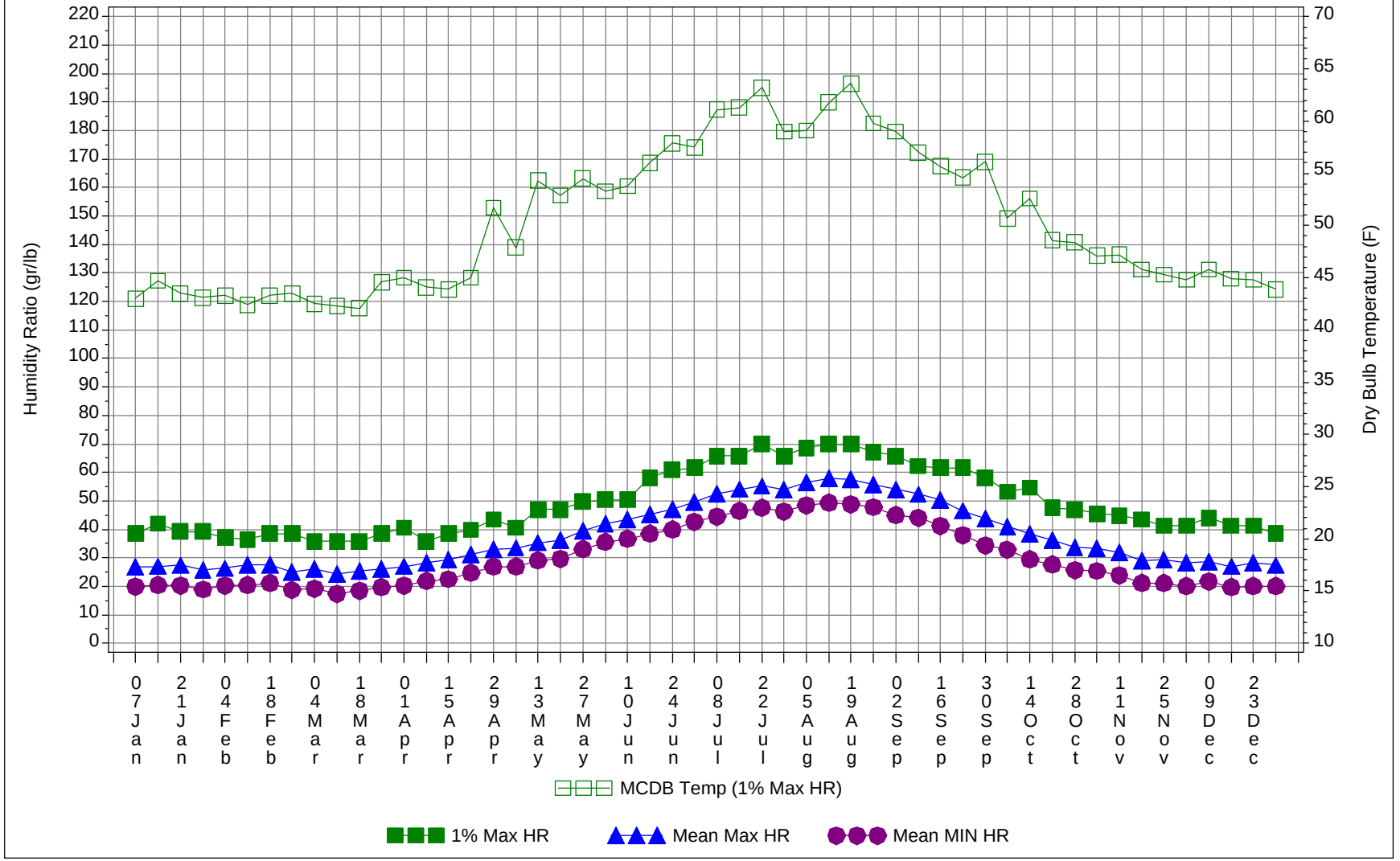
	Annual				
Temperature Range (°F)	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**
70/ 74		3	1	4	61.1
65/ 69	0	11	3	14	58
60/ 64	9	88	31	128	55.5
55/ 59	179	408	263	850	52.1
50/ 54	550	489	532	1571	48.7
45/ 49	572	527	544	1643	43.2
40/ 44	495	485	491	1471	38.6
35/ 39	712	585	674	1971	34.5
30/ 34	251	198	239	688	28.9
25/ 29	109	93	102	304	23.5
20/ 24	28	24	26	78	18.8
15/ 19	14	8	13	35	15.6
10/ 14	1	1	1	3	10.4
5/ 9	0	0	0	0	6
0/ 4	0	0	0	0	1.3

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



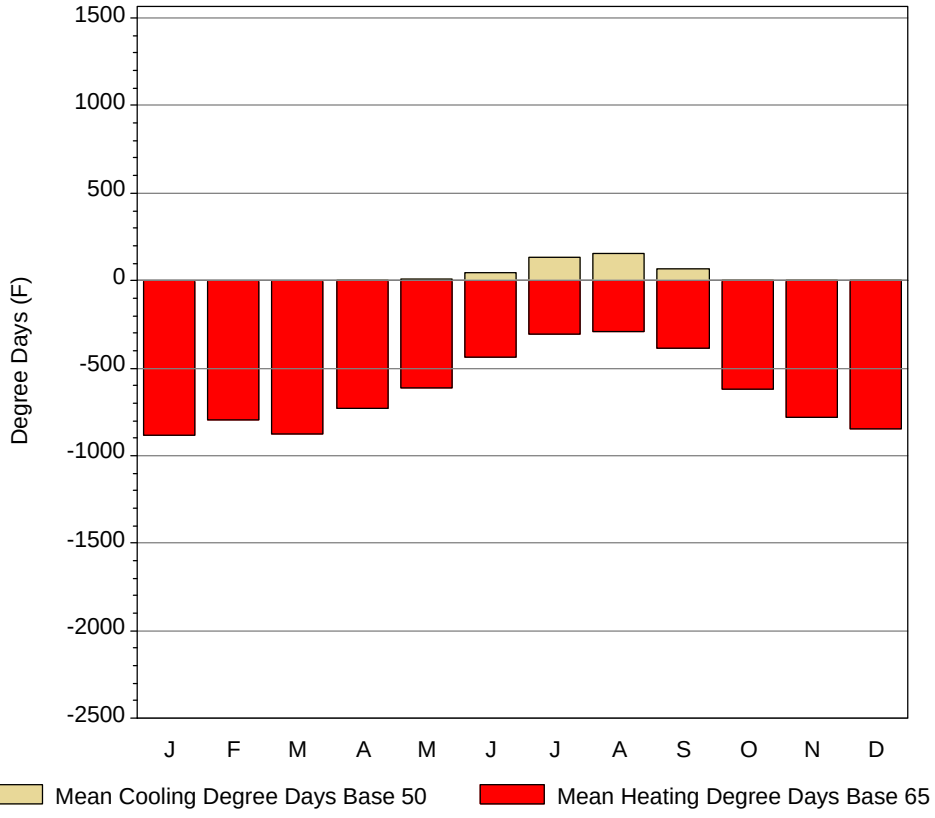
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

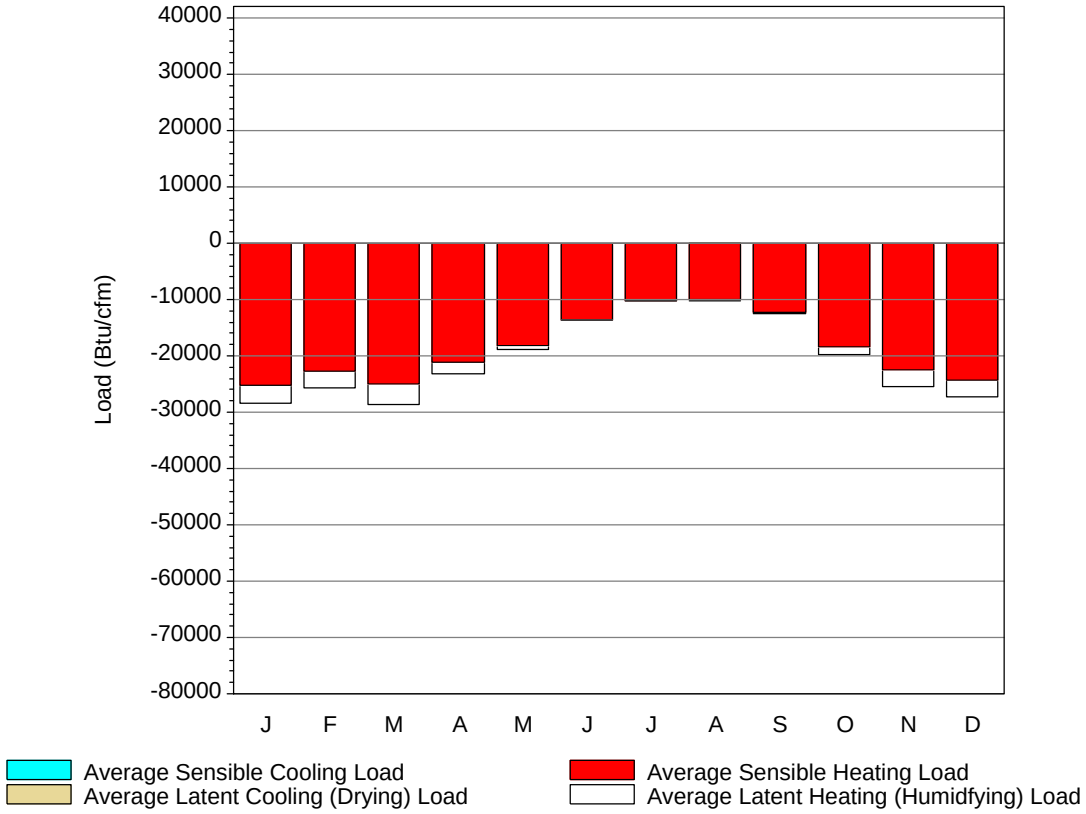
Week Ending	1.0% Temp (°F)	MCWB@ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB@ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	45	41.3	38.2	33.6	19	38.5	43	26.9	19.9
14-Jan	45	43.3	38	33.6	21	42	44.7	27	20.4
21-Jan	45	43	38	33.6	19	39.2	43.5	27.4	20.3
28-Jan	45	42	36.6	32	16	39.2	43.1	25.8	18.9
4-Feb	45	41.8	37.1	32.6	12	37.1	43.3	26.3	20.2
11-Feb	45	41.9	38.1	33.3	18	36.4	42.4	27.6	20.4
18-Feb	45	41.9	38.9	34	23	38.5	43.3	27.7	21.1
25-Feb	43	40.6	37.6	32.9	19	38.5	43.5	25	18.7
4-Mar	43	39.7	38.1	33.2	20	35.7	42.5	26	19.2
11-Mar	43	39.6	37.4	32.1	21	35.7	42.3	24.3	17.3
18-Mar	45	40.4	37.9	32.4	19	35.7	42.1	25.4	18.4
25-Mar	45	41.9	38.9	33.9	26	38.5	44.6	26	19.7
1-Apr	45	41.6	40.4	34.7	25	40.6	45	27	20.2
8-Apr	47	39.9	42	36	30	35.7	44.1	28.2	21.9
15-Apr	48	41.9	42.9	36.5	27	38.5	43.9	29.5	22.5
22-Apr	48	41.8	44.3	38.4	34	39.9	45	31.2	24.7
29-Apr	54	47.8	45.9	39.2	36	43.4	51.7	33.1	26.9
6-May	55	47.3	46.2	39.8	36	40.6	47.9	33.5	27
13-May	57	49.2	47.4	41.1	37	46.9	54.3	35.3	29.1
20-May	57	50.2	48.6	42	37	46.9	52.9	36.2	29.7
27-May	57	50.5	50.1	43.7	19	49.7	54.5	39.4	33
4-Jun	58	49.3	51.3	45.2	21	50.4	53.3	42.1	35.6
10-Jun	59	52.2	52.3	46.1	43	50.4	53.8	43.4	36.7
17-Jun	63	55.4	53.5	47.1	44	58.1	56	45.3	38.5
24-Jun	61	55.5	54.3	47.9	45	60.9	57.9	47	39.9
1-Jul	63	56.1	55.5	49.4	46	61.6	57.5	49.6	42.7
8-Jul	65	54.5	56.8	50.6	48	65.8	61.1	52.4	44.4
15-Jul	66	58	57.3	51.8	48	65.8	61.3	54.1	46.4
22-Jul	65	56.4	58.4	52.7	48	70	63.2	55.2	47.6
29-Jul	64	57.6	57.6	52.4	48	65.8	59	53.9	46.3
5-Aug	66	58.2	58.2	53	48	68.6	59.1	56.4	48.5
12-Aug	66	59.8	58.5	53.1	50	70	61.8	57.8	49.4
19-Aug	66	60.7	58.3	53.3	50	70	63.6	57.6	48.8
26-Aug	64	58.2	57.4	52.6	49	67.2	59.8	55.7	47.8
2-Sep	63	56.2	57.3	52	48	65.8	59	54	45
9-Sep	63	54.6	56.5	51.3	47	62.3	57	52.3	44
16-Sep	61	53.7	55.4	49.7	46	61.6	55.7	50.2	41.2
23-Sep	57	50.2	53.4	48	43	61.6	54.6	46.5	38
30-Sep	57	52.6	52	46.4	41	58.1	56.1	43.7	34.3
7-Oct	54	46.9	50.3	45.5	39	53.2	50.7	41	32.8
14-Oct	54	50.6	48.2	43.6	38	54.6	52.6	38.3	29.5
21-Oct	51	43.2	46.7	41.9	35	47.6	48.6	36.2	27.7
28-Oct	50	46.7	45.1	40.4	34	46.9	48.4	33.7	25.6
4-Nov	48	45.3	44.1	39.8	30	45.5	47.1	33.4	25.4
11-Nov	49	44.9	42.4	37.8	18	44.8	47.2	31.9	23.8
18-Nov	47	42.1	40.9	36.1	23	43.4	45.8	29.1	21.2
25-Nov	47	41.1	40.2	35.5	23	41.3	45.3	29.5	21.1
2-Dec	48	43.8	39.6	34.3	18	41.3	44.8	28.2	20
9-Dec	46	44.9	39.9	35.5	22	44.1	45.8	28.6	21.7
16-Dec	45	43.4	39	34.6	26	41.3	44.9	27	19.7
23-Dec	45	42.4	39.1	34.5	27	41.3	44.8	28.3	20.1
31-Dec	45	42	38.8	34.2	23	38.5	43.9	27.4	20

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	0	0	885.4
FEB	0	0	792
MAR	0	0	874.8
APR	1.1	0	728
MAY	9.6	0	611.2
JUN	46.5	0	435.1
JUL	130.7	0.5	305.8
AUG	156.2	0.7	292.2
SEP	65.7	0	384.5
OCT	3.3	0	619.1
NOV	0.2	0	780.3
DEC	0.2	0	847.4
ANN	413.5	1.2	7555.8

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	-25282	0	-3124
FEB	0	-22623	0	-2947
MAR	0	-24990	0	-3587
APR	0	-21168	0	-1884
MAY	0	-18186	0	-553
JUN	0	-13569	0	-5
JUL	0	-10161	0	-126
AUG	0	-9870	1	-322
SEP	0	-12183	0	-365
OCT	0	-18438	0	-1247
NOV	0	-22541	0	-2889
DEC	0	-24318	0	-2992
ANN	0	-223329	1	-20041

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

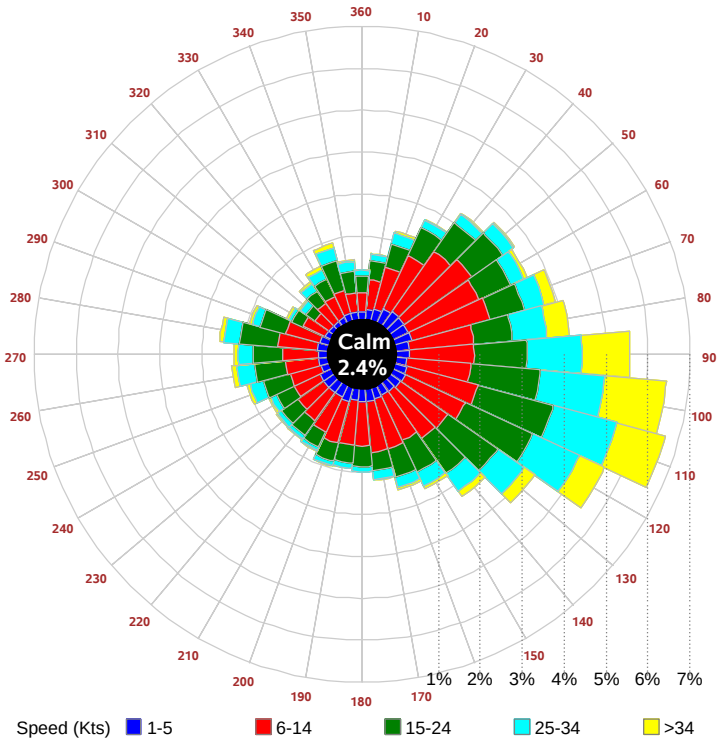
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ.	Global													
	Std.Dev.													
	Minimum													
	Maximum													
	Diffuse													
Clear Day	Global													
NORTH	Global													
	Diffuse													
Clear Day	Global													
EAST	Global												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

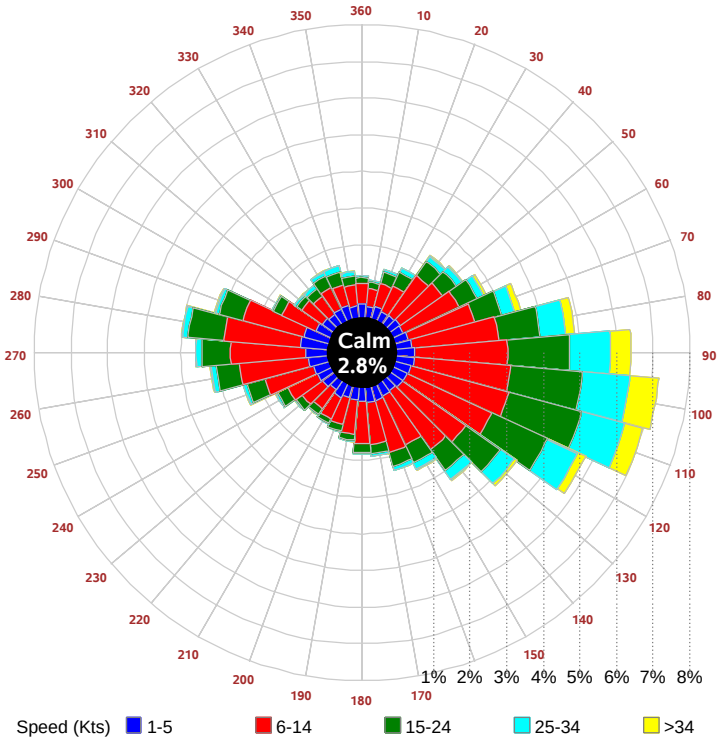
AVERAGE INCIDENT ILLUMINENCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9											
				March					June		
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear										
	M.Cloudy										
NORTH	M.Clear										
	M.Cloudy										
EAST	M.Clear										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

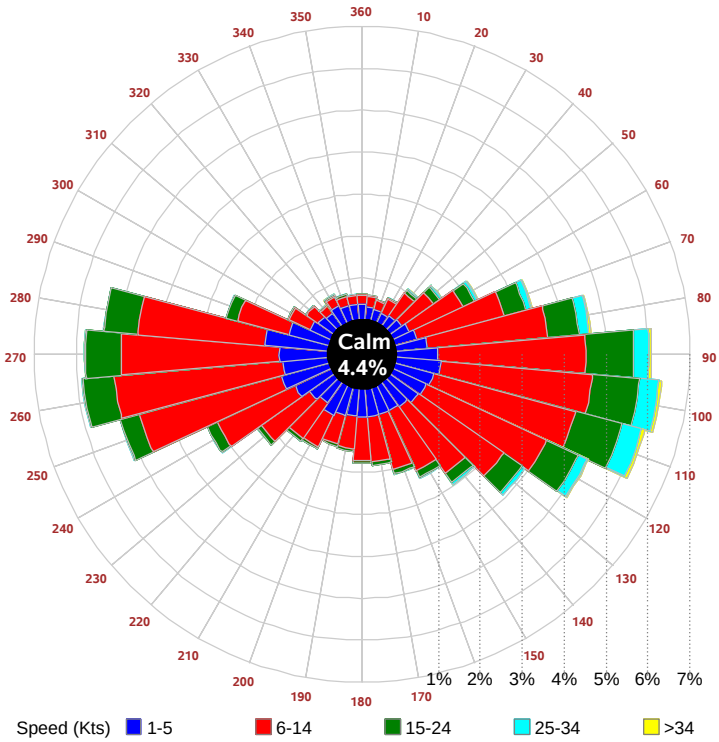
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November