TAMANRASSET, AG	
Latitude = 22.81 N	Station ID = ICAO_DAAT
Longitude = 5.45 E	Elevation = 4518 Feet
Period of Record = 1988 To 2017	Average Pressure = 25.54 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	102	62	36	10.6	VRB
0.4% Occurrence	99	61	35	11.3	VRB
1.0% Occurrence	97	60	35	11.3	VRB
2.0% Occurrence	96	60	36	11.2	VRB
Mean Daily Range	23	-	-	-	E
97.5% Occurrence	44	33	16	4.2	E
99.0% Occurrence	40	30	15	3.2	N
99.6% Occurrence	37	28	14	3	N
Median of Extreme Lows	32	25	12	3.6	N

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	70	86	100	9.8	VRB
0.4% Occurrence	66	84	80	10.1	VRB
1.0% Occurrence	65	85	74	10.1	VRB
2.0% Occurrence	64	86	67	10	VRB

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	108	74	0.62	5.8	ESE
0.4% Occurrence	93	74	0.54	9.3	N
1.0% Occurrence	84	75	0.48	9.3	SSE
2.0% Occurrence	76	76	0.44	9.4	E

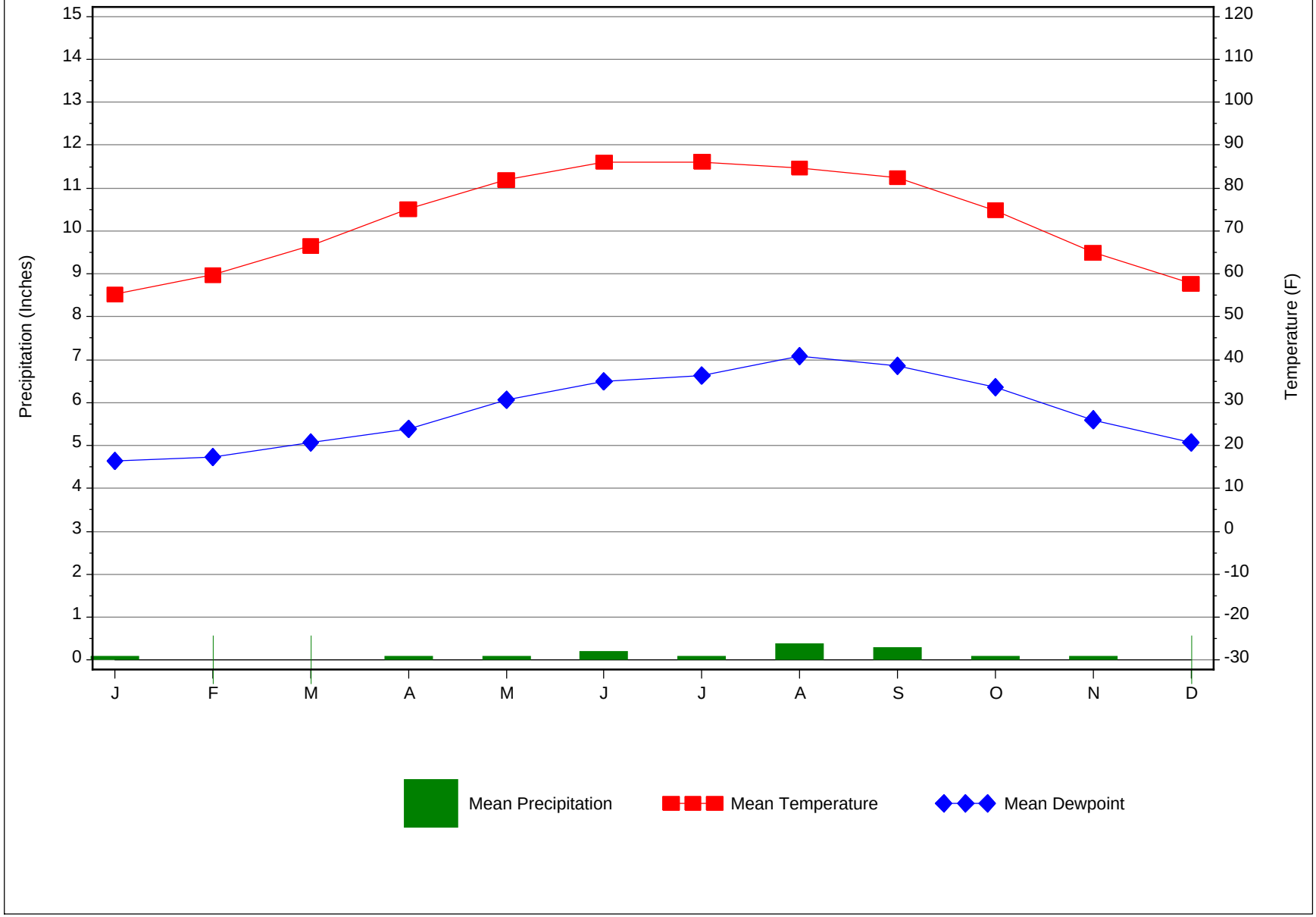
Air Conditioning/ Humid Area Criteria	**Threshold**	**T ≥ 93°F**	**T ≥ 80°F**	**Twb ≥ 73°F**	**Twb ≥ 67°F**
	# of Hours	668	3143	1	33

Other Site Data

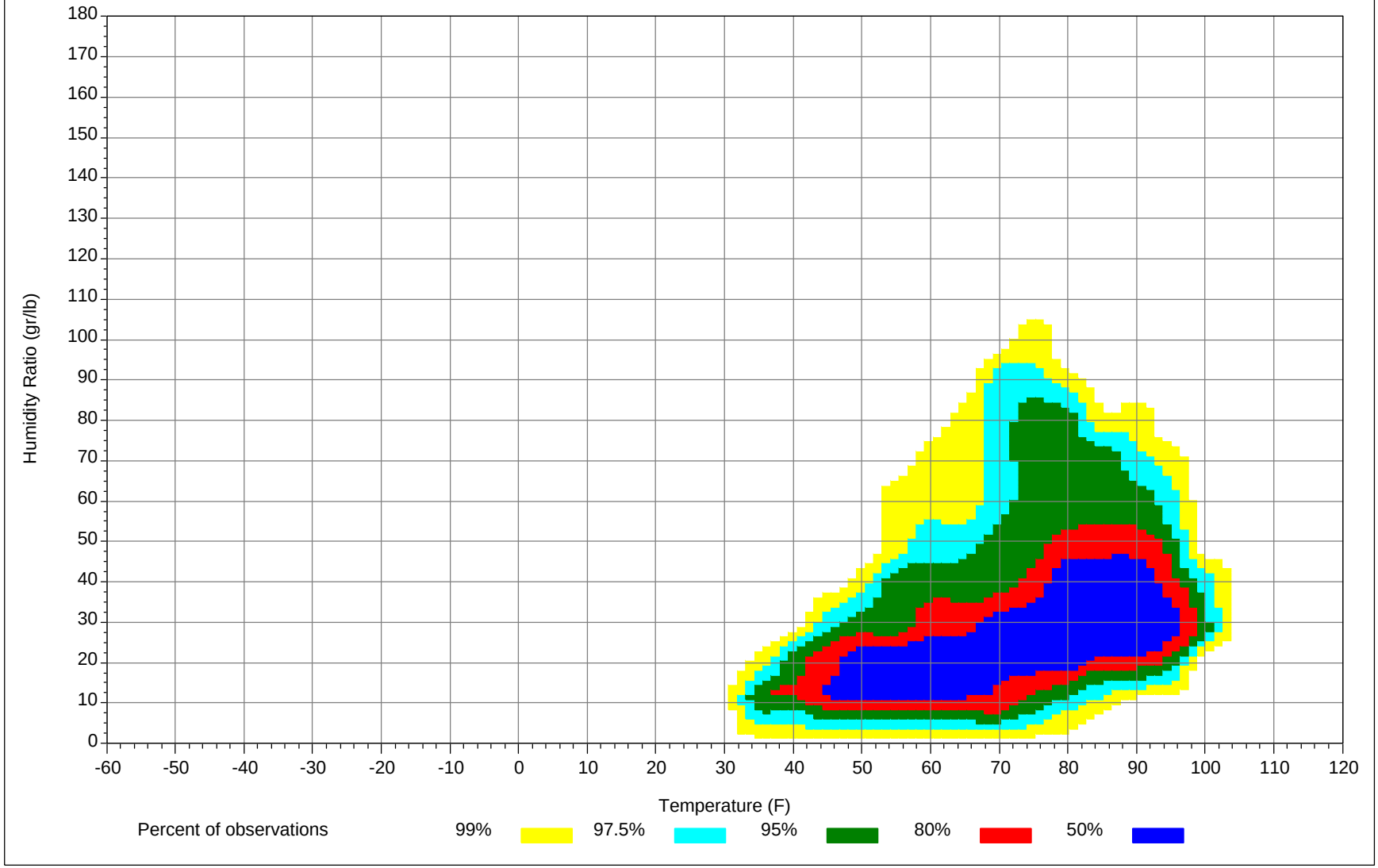
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
10	N/A	N/A	0.0 + 3.9
Ground Water Temperature (°F) 50 Foot Depth*	Frost Depth 50 Year Recurrence (in)	Ground Snow Load 50 Year Recurrence (lb/ft^2)	Average Annual Freeze-Thaw Cycles (#)
75.5	N/A	N/A	1

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

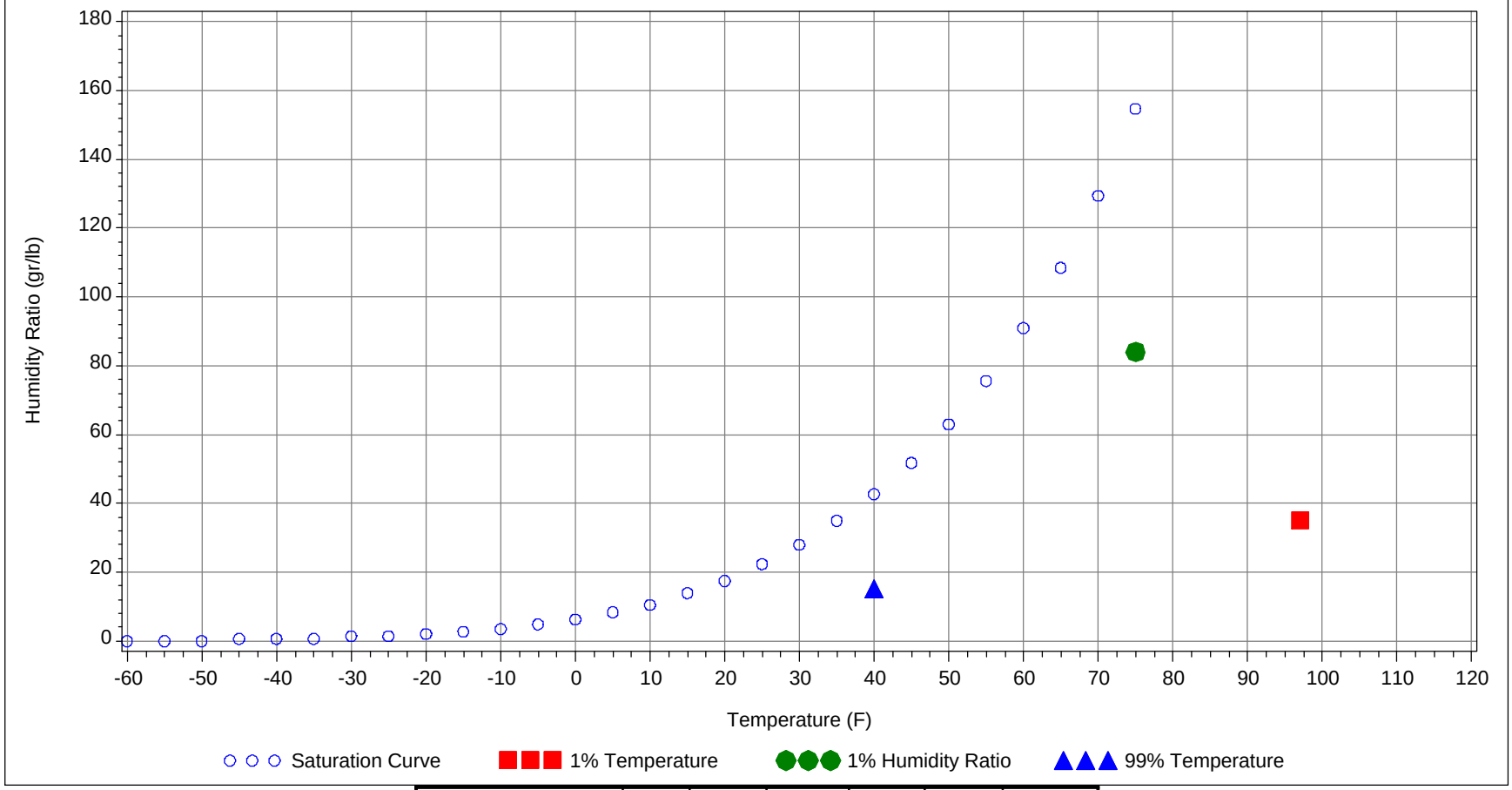
Average Annual Climate



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	97.0		60		35.0	28.9
99.0% Dry Bulb	40.0				15.0	11.9
1.0% Humidity Ratio	84.0	75.0	63.6	57.9		31.2

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)**
105/109															
100/104															
95/ 99													0	0	
90/ 94							0	0	0	55		1	0	1	56.7
85/ 89	0	0		0	53		2	0	2	54.1		10	3	13	54.3
80/ 84	0	2	0	2	51.8		6	2	8	52.6	0	46	21	67	52.2
75/ 79	0	9	3	12	49.8	0	25	10	35	49.5	0	67	43	110	49.8
70/ 74	0	37	13	50	46.7	0	61	32	93	47.1	6	62	56	124	47.8
65/ 69	0	61	27	88	44.8	2	51	39	92	45	20	33	49	102	46
60/ 64	5	61	50	116	42.8	13	42	53	108	43.1	56	20	45	121	43.9
55/ 59	17	40	57	114	40.5	38	23	49	110	40.7	78	8	23	109	41.3
50/ 54	45	24	58	127	37.8	63	10	29	102	37.6	54	1	6	61	38
45/ 49	78	11	30	119	34.7	63	3	8	74	34.6	26	0	1	27	34.8
40/ 44	60	2	7	69	31.5	30	1	1	32	31.4	5	0	0	5	31.5
35/ 39	36	1	2	39	28.7	12	0	0	12	28.2	2		0	2	29.2
30/ 34	7		0	7	25.4	1		0	1	25.1	0			0	26.5
25/ 29	0			0	22.2	0			0	24.5					

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)**
105/109												0		0	64.5
100/104							1	0	1	60.8		8	1	9	61
95/ 99		4	1	5	58	0	34	10	44	59.6	0	76	31	107	59.8
90/ 94	0	33	13	46	56.7	0	97	53	150	57.8	2	102	75	179	58.8
85/ 89	0	57	28	85	54.9	3	64	57	124	56.4	16	39	59	114	57.8
80/ 84	2	75	57	134	52.8	28	38	66	132	54.9	72	12	52	136	56.2
75/ 79	17	46	60	123	50.9	71	11	44	126	52.9	99	3	19	121	54.6
70/ 74	47	19	47	113	48.8	80	2	14	96	50.5	44	1	4	49	53.1
65/ 69	57	5	22	84	46.3	42	0	3	45	47.7	7	0	0	7	53.7
60/ 64	65	1	11	77	43.5	19	0	1	20	45	0			0	55.7
55/ 59	39	0	1	40	40.5	4	0	0	4	41.3					
50/ 54	10	0	0	10	37.4	0			0	38.6					
45/ 49	2	0		2	35.8										
40/ 44		0		0	34										
35/ 39															
30/ 34															
25/ 29															

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)**
105/109		0		0	65.3										
100/104	0	5	1	6	61.4		1	0	1	63.9	0	0		0	64.3
95/ 99	0	73	35	108	60.3	0	49	17	66	61	0	20	3	23	60.5
90/ 94	1	106	80	187	59.2	0	113	68	181	60.3	0	108	42	150	59.8
85/ 89	15	47	63	125	58	8	56	65	129	59.4	1	69	60	130	58.6
80/ 84	84	14	53	151	56.6	71	23	62	156	58.4	32	35	74	141	57.4
75/ 79	106	2	12	120	55	111	5	26	142	57.5	96	7	47	150	56
70/ 74	37	1	4	42	54.9	52	1	9	62	58	86	1	13	100	54.3
65/ 69	4	0	1	5	57.4	6	0	1	7	59.3	22	0	1	23	52
60/ 64	0		0	0	58.4	0			0	53	2		0	2	50
55/ 59											0			0	54
50/ 54															
45/ 49															
40/ 44															
35/ 39															
30/ 34															
25/ 29															

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)**
105/109															
100/104		0		0	63										
95/ 99		0	0	0	59.7										
90/ 94		18	4	22	58.5		0	0	0	56					
85/ 89	0	65	20	85	57		2	0	2	56.1		0		0	52
80/ 84	1	91	57	149	55.4		27	4	31	53.3		2	0	2	51.7
75/ 79	16	52	68	136	53.8	0	83	26	109	51.3		20	4	24	50.1
70/ 74	57	17	59	133	52.1	1	72	48	121	49.2	0	62	19	81	47.7
65/ 69	78	4	29	111	50.1	9	34	51	94	47.5	0	64	32	96	45.9
60/ 64	67	1	11	79	47.4	45	17	62	124	45.4	8	52	55	115	44.1
55/ 59	25	0	1	26	43.5	87	4	38	129	42.8	32	30	65	127	41.7
50/ 54	3	0	0	3	40.3	72	1	9	82	39.5	71	13	49	133	38.8
45/ 49	0	0		0	39.5	23	0	1	24	35.8	77	5	20	102	35.5
40/ 44						4	0	0	4	32.2	39	1	4	44	32.2
35/ 39						1			1	28.2	18	0	0	18	29.2
30/ 34											2		0	2	26
25/ 29															

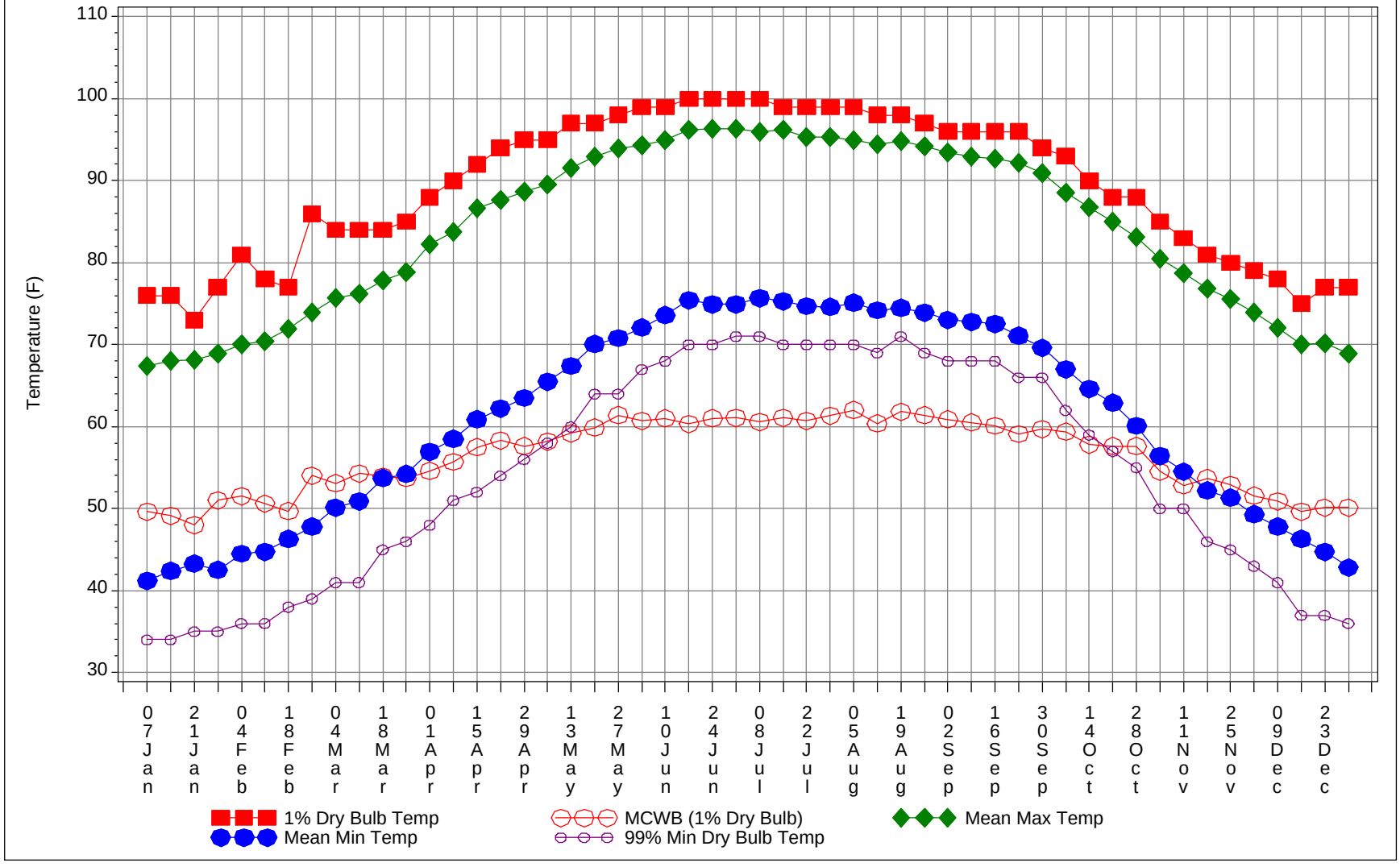
Caution: This summary reflects the typical distribtion of temperature in a typical year. It does not reflect the typical mositure distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

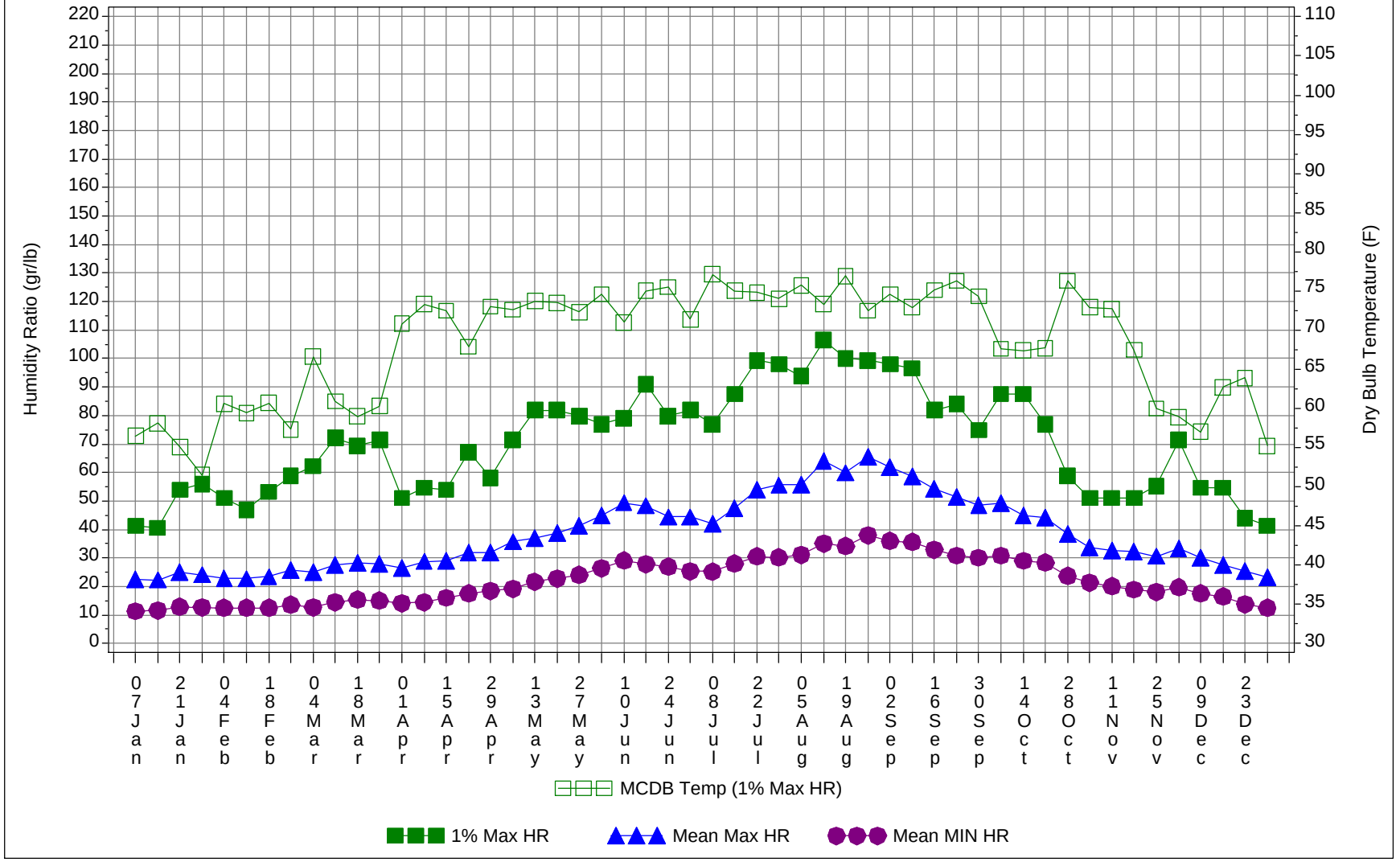
	Annual				
Temperature Range (°F)	**01 To 08 LST**	**09 To 16 LST**	**17 to 00 LST**	**Total Obs**	**MCWB (°F)**
105/109		0		0	65
100/104	0	15	2	17	61.4
95/ 99	0	255	96	351	60.2
90/ 94	4	577	332	913	59.1
85/ 89	44	411	353	808	57.6
80/ 84	290	372	446	1108	55.7
75/ 79	517	329	360	1206	53.5
70/ 74	410	337	319	1066	50.5
65/ 69	248	253	256	757	47.1
60/ 64	282	194	289	765	44.3
55/ 59	320	106	236	662	41.5
50/ 54	319	49	152	520	38.3
45/ 49	268	19	61	348	35
40/ 44	138	3	13	154	31.7
35/ 39	67	1	2	70	28.8
30/ 34	11		0	11	25.5
25/ 29	0			0	22.6

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



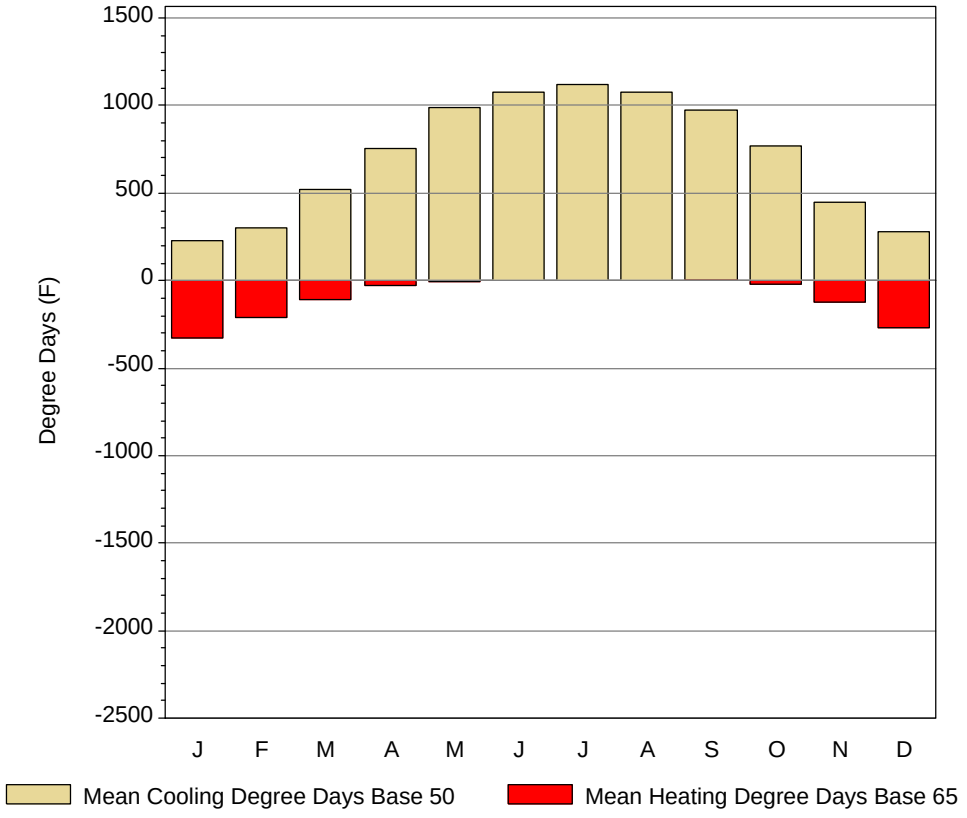
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

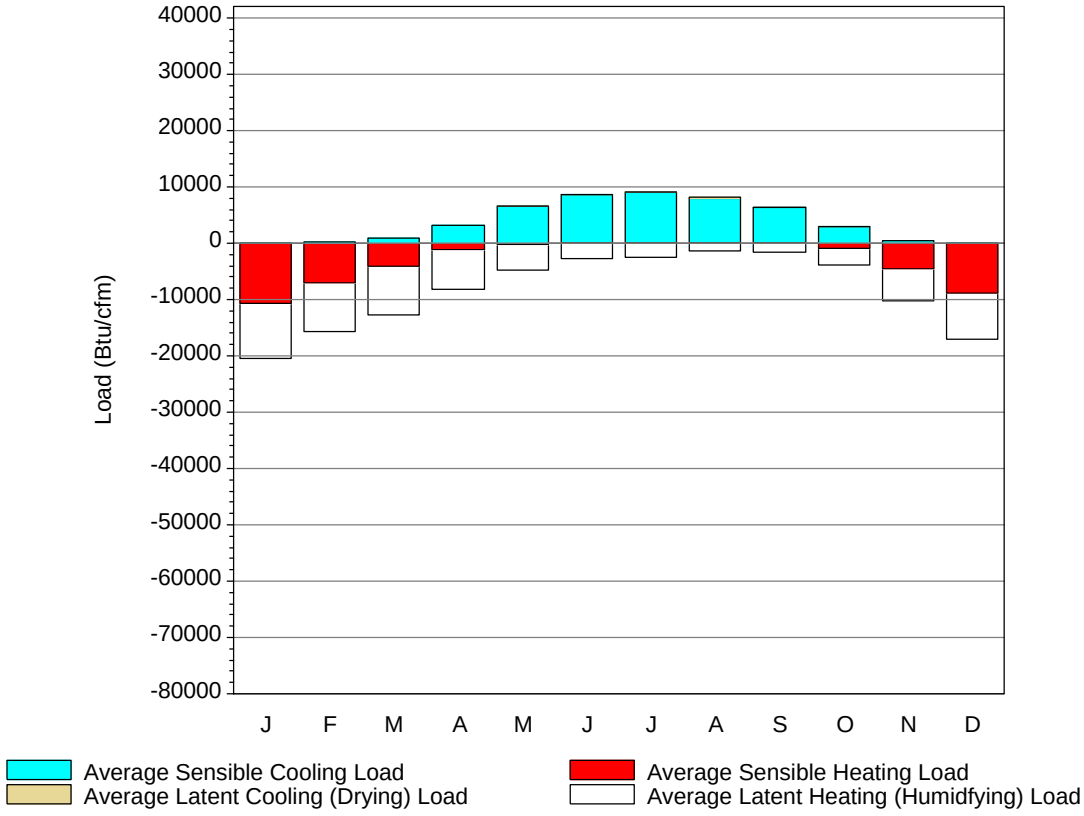
Week Ending	1.0% Temp (°F)	MCWB@ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB@ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	76	49.6	67.4	41.2	34	41.3	56.5	22.6	11.3
14-Jan	76	49.1	68	42.4	34	40.6	58.1	22.3	11.5
21-Jan	73	48	68.1	43.3	35	53.9	55.1	24.9	12.9
28-Jan	77	51	68.9	42.5	35	56	51.5	24.1	12.7
4-Feb	81	51.5	70.1	44.5	36	51.1	60.6	22.9	12.5
11-Feb	78	50.6	70.4	44.7	36	46.9	59.4	22.7	12.4
18-Feb	77	49.7	71.9	46.3	38	53.2	60.7	23.4	12.5
25-Feb	86	54	73.9	47.8	39	58.8	57.3	25.8	13.5
4-Mar	84	53.1	75.7	50.1	41	62.3	66.6	24.9	12.7
11-Mar	84	54.3	76.2	50.9	41	72.1	60.9	27.5	14.4
18-Mar	84	53.9	77.8	53.7	45	69.3	59	28.4	15.3
25-Mar	85	53.7	78.9	54.2	46	71.4	60.3	28	15
1-Apr	88	54.6	82.3	56.9	48	51.1	70.8	26.4	14.1
8-Apr	90	55.7	83.7	58.5	51	54.6	73.3	28.8	14.5
15-Apr	92	57.5	86.6	60.9	52	53.9	72.5	29	16
22-Apr	94	58.3	87.7	62.2	54	67.2	67.9	32	17.6
29-Apr	95	57.6	88.6	63.5	56	58.1	73	31.8	18.4
6-May	95	58.2	89.6	65.5	58	71.4	72.6	35.7	19.1
13-May	97	59.2	91.5	67.4	60	81.9	73.7	37	21.6
20-May	97	59.9	92.9	70.1	64	81.9	73.5	38.7	22.8
27-May	98	61.4	93.9	70.8	64	79.8	72.3	41.4	24
4-Jun	99	60.7	94.3	72.1	67	77	74.6	45	26.3
10-Jun	99	61	95	73.6	68	79.1	71	49.4	29.1
17-Jun	100	60.3	96.2	75.4	70	91	75	48.3	27.8
24-Jun	100	61	96.3	74.9	70	79.8	75.5	44.4	26.9
1-Jul	100	61.1	96.3	74.9	71	81.9	71.4	44.4	25.3
8-Jul	100	60.6	96	75.7	71	77	77.1	42	25.2
15-Jul	99	61.1	96.2	75.3	70	87.5	75	47.4	28
22-Jul	99	60.7	95.3	74.7	70	99.4	74.8	53.8	30.6
29-Jul	99	61.3	95.3	74.6	70	98	74	55.6	30.2
5-Aug	99	62	95	75.1	70	93.8	75.7	55.7	31
12-Aug	98	60.4	94.4	74.2	69	106.4	73.3	64	35.1
19-Aug	98	61.8	94.8	74.5	71	100.1	76.9	59.9	34.2
26-Aug	97	61.4	94.2	73.9	69	99.4	72.5	65.5	38
2-Sep	96	60.9	93.4	73	68	98	74.6	61.9	35.9
9-Sep	96	60.5	92.9	72.8	68	96.6	72.9	58.6	35.6
16-Sep	96	60.1	92.7	72.5	68	81.9	75.1	54.3	32.9
23-Sep	96	59.1	92.2	71.1	66	84	76.3	51.4	30.8
30-Sep	94	59.7	90.9	69.6	66	74.9	74.3	48.6	30.1
7-Oct	93	59.4	88.5	67	62	87.5	67.6	49.3	30.8
14-Oct	90	57.8	86.8	64.6	59	87.5	67.4	44.8	29
21-Oct	88	57.6	85	62.9	57	77	67.7	44.3	28.3
28-Oct	88	57.6	83.1	60.1	55	58.8	76.3	38.4	23.7
4-Nov	85	54.5	80.5	56.4	50	51.1	72.9	33.8	21.4
11-Nov	83	52.8	78.7	54.5	50	51.1	72.7	32.5	20.1
18-Nov	81	53.7	76.8	52.2	46	51.1	67.5	32.3	18.9
25-Nov	80	52.9	75.6	51.3	45	55.3	60	30.6	18.1
2-Dec	79	51.6	73.9	49.3	43	71.4	58.9	33.4	19.7
9-Dec	78	50.9	72.1	47.8	41	54.6	57	30.1	17.5
16-Dec	75	49.6	70	46.3	37	54.6	62.7	27.5	16.5
23-Dec	77	50.1	70.2	44.7	37	44.1	63.9	25.4	13.8
31-Dec	77	50.1	68.9	42.8	36	41.3	55.2	23.1	12.5

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	226.6	28	329.9
FEB	300.6	58.7	210.3
MAR	517.6	157.3	111
APR	752.4	329.8	27.5
MAY	989.5	527.7	3.2
JUN	1080	630	0
JUL	1119.5	654.5	0
AUG	1074.6	609.6	0
SEP	971.9	522.1	0.2
OCT	768.8	321.5	17.7
NOV	450.5	118.8	122.4
DEC	276.7	42.6	268.6
ANN	8528.7	4000.6	1090.8

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	36	-10572	0	-9807
FEB	143	-7003	0	-8747
MAR	878	-4054	0	-8552
APR	3282	-1226	0	-7043
MAY	6607	-205	5	-4608
JUN	8752	-5	13	-2783
JUL	9085	-3	35	-2545
AUG	7996	-3	102	-1295
SEP	6281	-28	22	-1451
OCT	2878	-934	5	-2998
NOV	439	-4457	0	-5795
DEC	50	-8830	0	-8167
ANN	46427	-37320	182	-63791

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

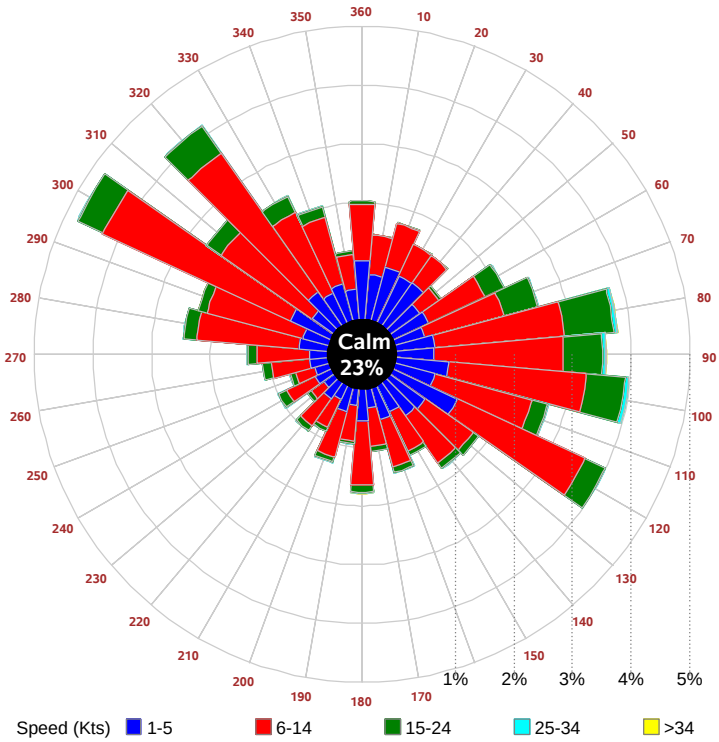
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ.	Global													
	Std.Dev.													
	Minimum													
	Maximum													
	Diffuse													
Clear Day	Global													
NORTH	Global													
	Diffuse													
Clear Day	Global													
EAST	Global												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

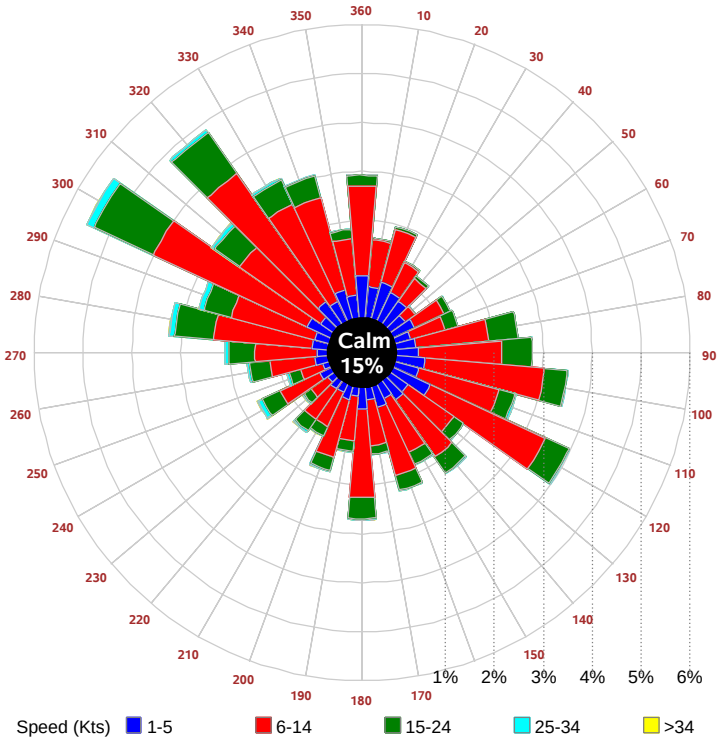
AVERAGE INCIDENT ILLUMINENCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9											
				March					June		
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear										
	M.Cloudy										
NORTH	M.Clear										
	M.Cloudy										
EAST	M.Clear										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

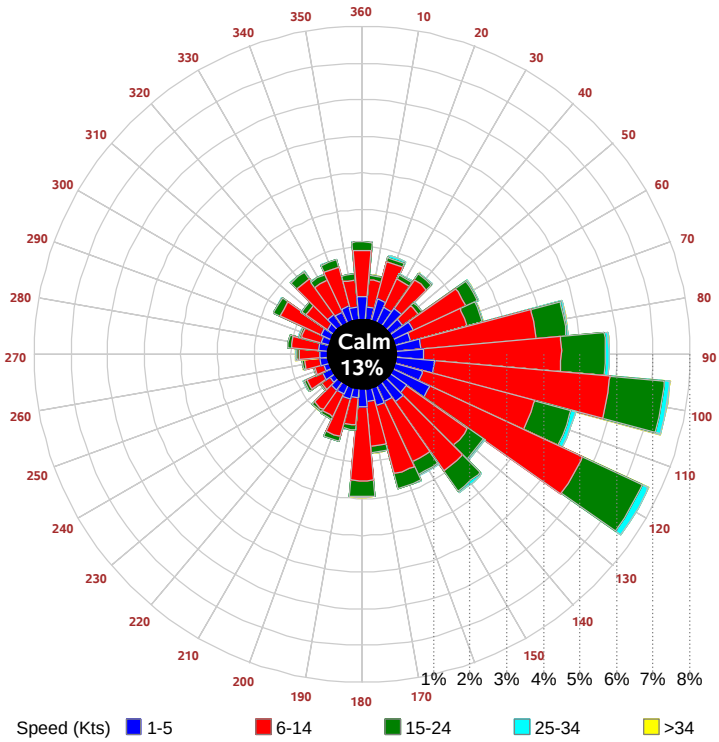
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November