

SOTO CANO AB, HO	Station ID = ICAO_MHSC
Latitude = 14.38 N	Elevation = 2061 Feet
Longitude = 87.62 W	Average Pressure = 27.76 inches Hg
Period of Record = 1988 To 2017	

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	99	72	85	9.4	N
0.4% Occurrence	96	71	85	10	N
1.0% Occurrence	94	71	86	9.9	N
2.0% Occurrence	92	71	87	10	N
Mean Daily Range	19	-	-	-	N
97.5% Occurrence	63	61	81	8.4	N
99.0% Occurrence	61	59	75	7.6	N
99.6% Occurrence	58	56	68	5.9	N
Median of Extreme Lows	54	53	61	4	N

	Design Value (°F)	Dry Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Wet Bulb Temperature (T _{wb})					
Median of Extreme Highs	78	85	143	9.7	N
0.4% Occurrence	79	85	150	9.4	N
1.0% Occurrence	77	85	135	9.6	N
2.0% Occurrence	76	84	129	9.3	N

	Design Value (gr/lb)	Dry Bulb Temperature (°F)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Humidity Ratio (HR)					
Median of Extreme Highs	143	83	0.88	9.4	N
0.4% Occurrence	156	82	0.96	9.9	NNW
1.0% Occurrence	144	82	0.88	9.3	N
2.0% Occurrence	134	80	0.83	8.4	N

Air Conditioning/ Humid Area Criteria	Threshold	T ≥ 93 °F	T ≥ 80 °F	Twb ≥ 73 °F	Twb ≥ 67 °F
	# of Hours	144	2167	784	4839

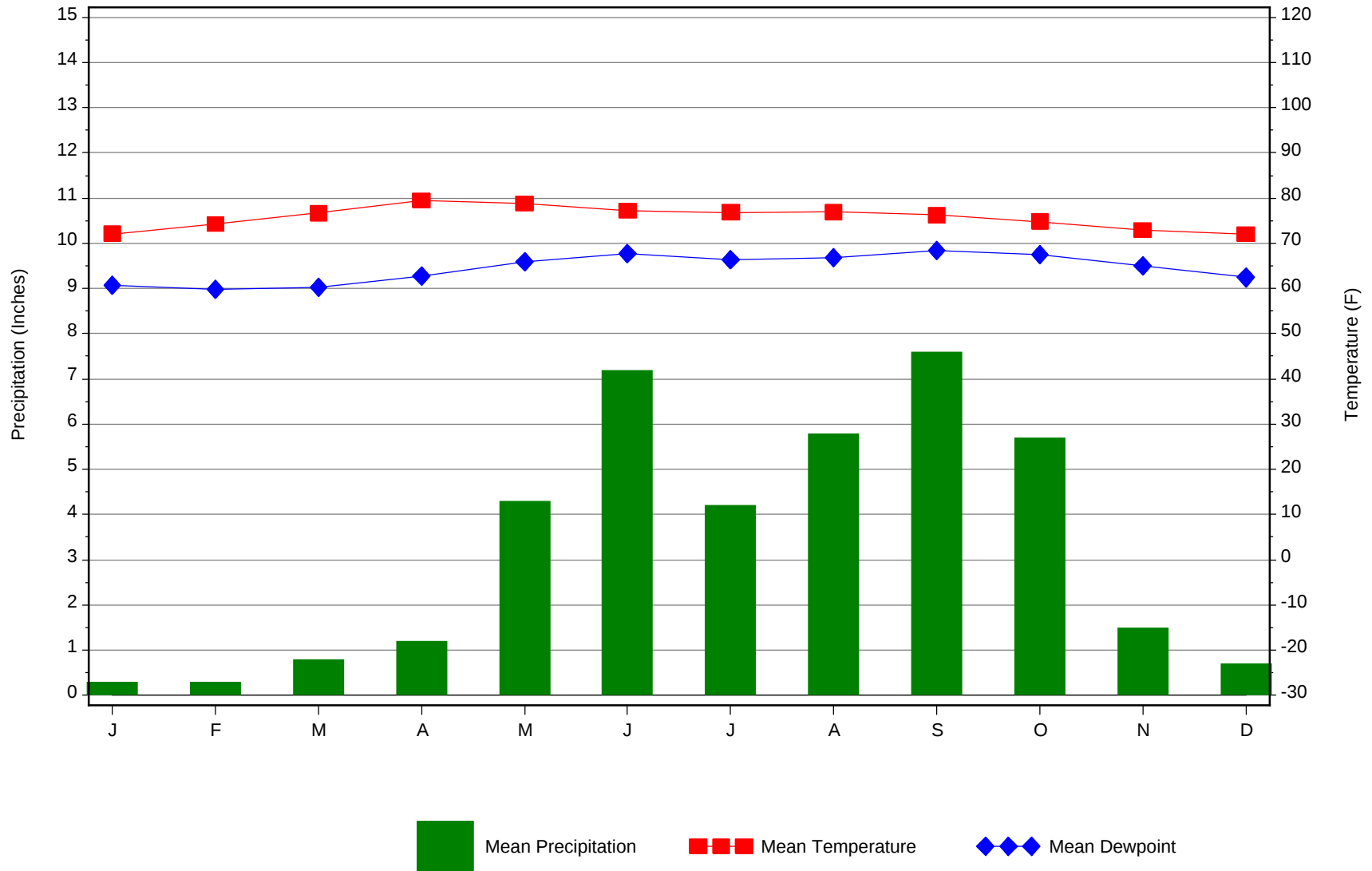
Other Site Data

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	7.9 + 2.5
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 (#)
78.2	N/A	N/A	0

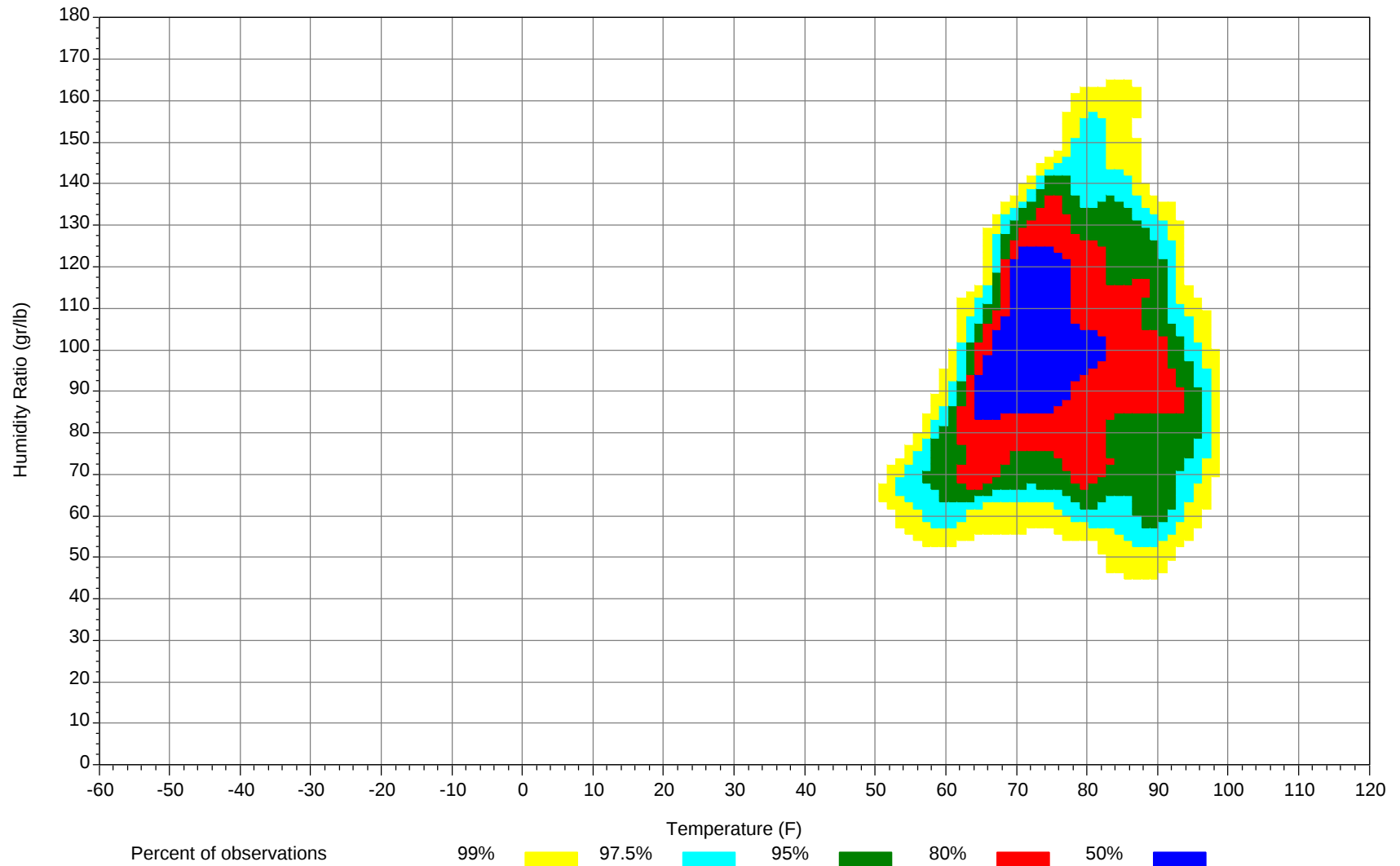
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.



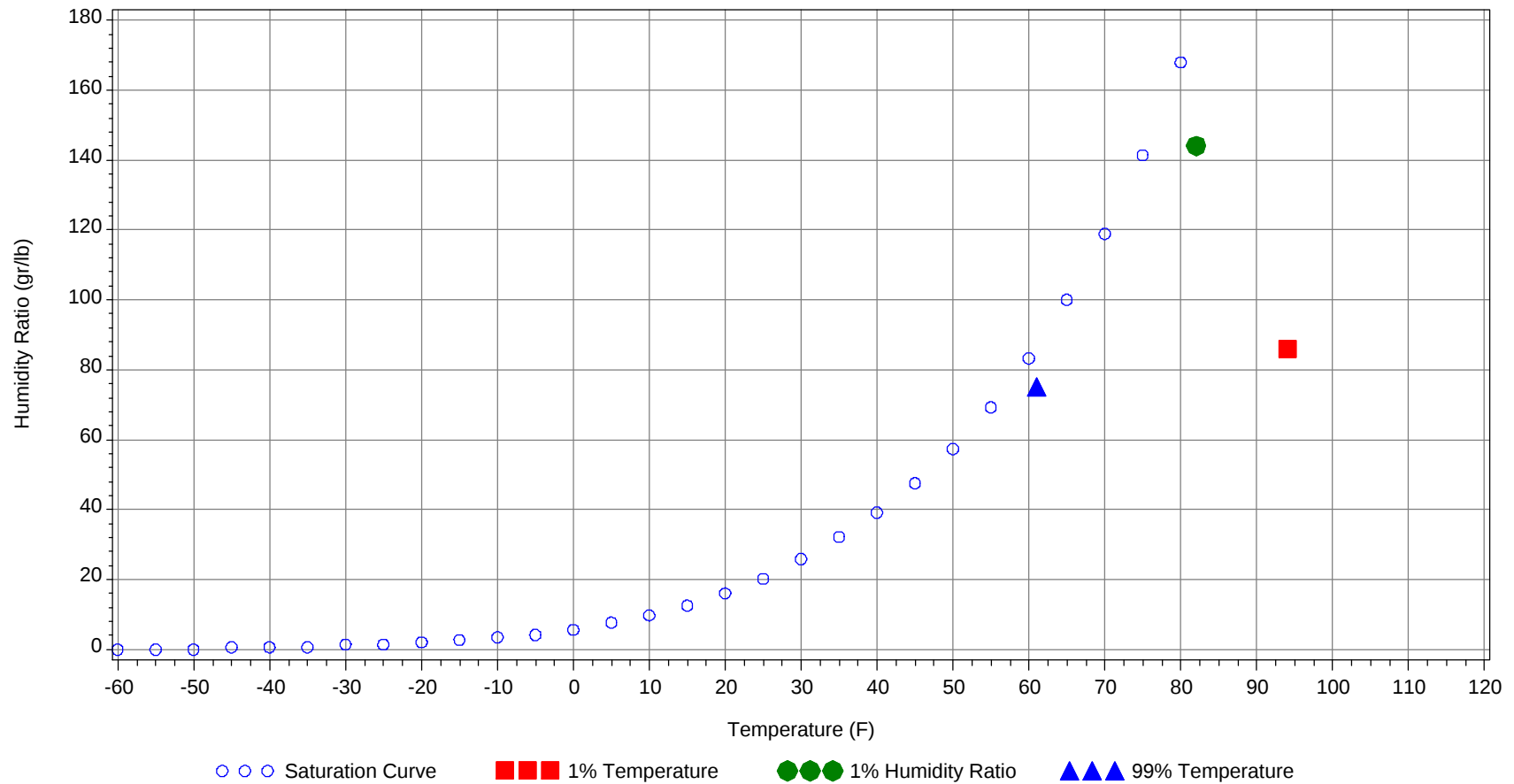
Average Annual Climate



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	94.0		71		86.0	36.2
99.0% Dry Bulb	61.0				75.0	26.2
1.0% Humidity Ratio	144.0	82.0	77.2	75.3		42.3

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	M C W B (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)
100/104							0		0	83		0		0	75.9
95/ 99		0		0	76.8		4	0	4	70.8		17	1	18	69.9
90/ 94		10	0	10	69		32	4	36	68.3		60	9	69	68.4
85/ 89		38	4	42	68		46	10	56	67.1		55	17	72	67.6
80/ 84	0	73	16	89	67.3	0	59	27	86	66.5	1	55	41	97	67
75/ 79	1	63	44	108	66.5	4	48	51	103	66.2	18	38	70	126	67
70/ 74	36	44	90	170	65.4	43	25	75	143	65.1	87	18	72	177	65.7
65/ 69	106	15	62	183	63.7	99	7	41	147	63.4	90	4	25	119	63.5
60/ 64	87	4	27	118	60	67	3	14	84	60.1	45	1	10	56	59.9
55/ 59	17	0	4	21	55.8	9	0	2	11	55.6	6		1	7	55.4
50/ 54	1			1	51.9	1			1	51.4	0			0	51.9
45/ 49	0			0	47										

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture 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	M C W B (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)
100/104		1	0	1	72.6		1	0	1	73.3					
95/ 99	0	30	1	31	70.8		13	0	13	73		3	0	3	75.1
90/ 94	0	81	11	92	69.7		62	7	69	71.5		30	2	32	72.9
85/ 89	0	56	24	80	69.3	0	69	17	86	71		65	9	74	72.7
80/ 84	3	44	54	101	69.1	3	68	51	122	70.7	1	92	33	126	71.8
75/ 79	44	22	86	152	68.7	47	28	95	170	70.1	32	44	85	161	70.8
70/ 74	125	4	53	182	67.3	161	4	66	231	68.8	163	7	96	266	69.5
65/ 69	56	1	9	66	64.1	35	1	10	46	66	43	0	14	57	67.1
60/ 64	10	0	2	12	60.2	2		1	3	62.2	1		0	1	63.5
55/ 59	1		0	1	55.1										
50/ 54															
45/ 49															

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture 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	M C W B (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)
100/104															
95/ 99		1	0	1	73.9		1		1	71.4		1		1	74.9
90/ 94		30	3	33	71.6		35	2	37	71.6		21	1	22	73.1
85/ 89	0	65	11	76	71.4	0	68	10	78	71.7		63	4	67	73.3
80/ 84	0	97	35	132	71	0	91	33	124	71.3	0	89	21	110	72.4
75/ 79	23	47	78	148	70.1	22	46	80	148	70.4	17	55	70	142	71.1
70/ 74	155	8	102	265	68.8	161	6	103	270	69.2	155	10	125	290	69.7
65/ 69	67	0	19	86	66.7	63	0	19	82	66.9	66	0	19	85	67.4
60/ 64	2		0	2	63.2	1		0	1	62.9	2		0	2	63.6
55/ 59															
50/ 54															
45/ 49															

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture 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	M C W B (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)
100/104															
95/ 99		0	0	0	72.8		0		0	79.2		0		0	71.5
90/ 94		11	0	11	73.5		5	0	5	74.1		5	0	5	70.4
85/ 89		41	2	43	73.5		26	0	26	72.7		30	1	31	70
80/ 84	0	96	14	110	72.4	0	82	8	90	71.2	0	72	11	83	68.6
75/ 79	11	76	61	148	70.8	5	80	44	129	69.5	1	80	39	120	67.8
70/ 74	143	20	136	299	69.1	82	38	111	231	67.8	47	45	98	190	66.4
65/ 69	82	3	33	118	66	106	8	61	175	65	115	13	72	200	64.3
60/ 64	12	0	2	14	61.8	40	1	15	56	60.6	69	3	24	96	60.5
55/ 59	0		0	0	58.5	6	0	1	7	56.2	14	0	4	18	55.8
50/ 54						0	0		0	52.7	1		0	1	52.4
45/ 49															

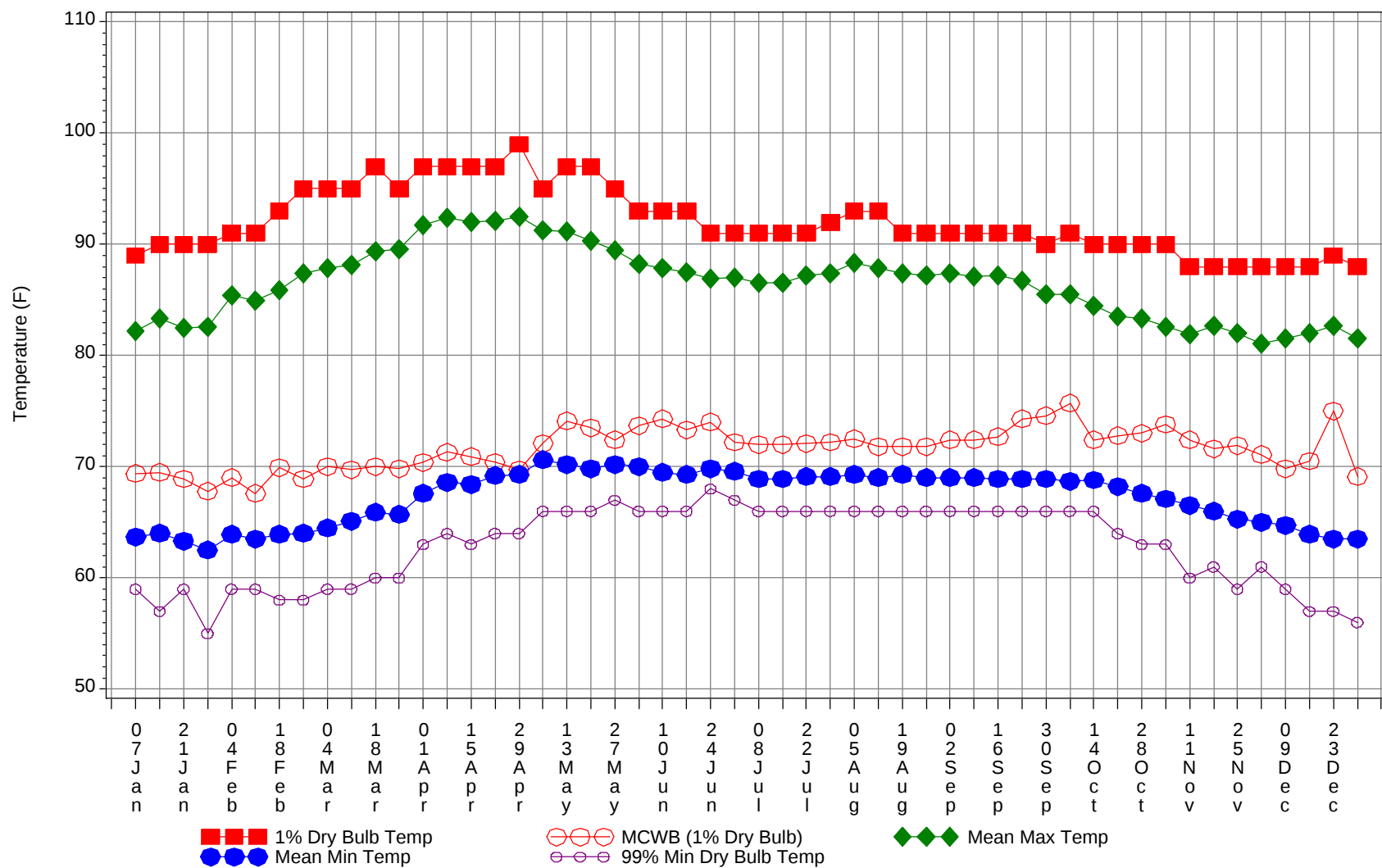
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

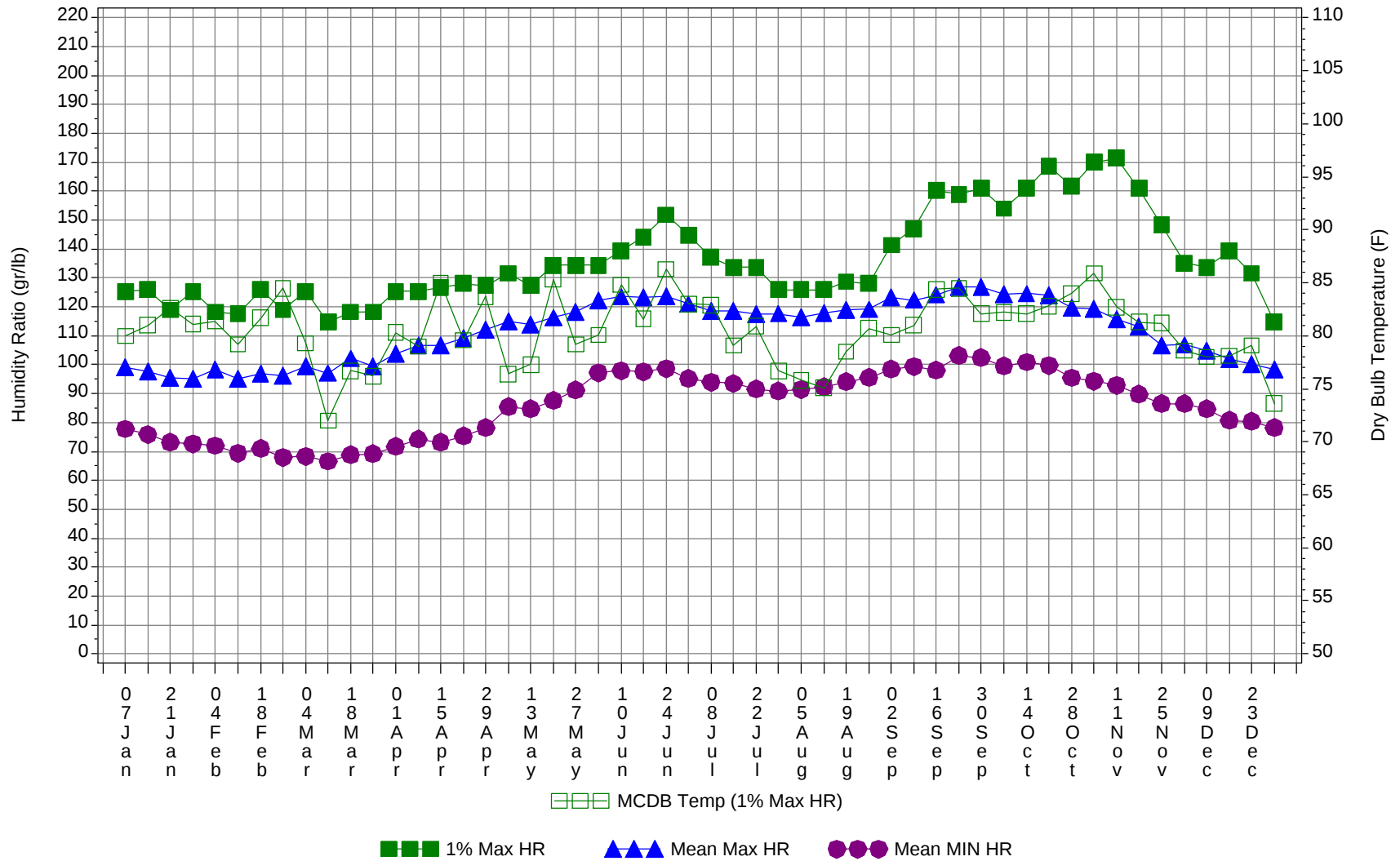
	Annual				
Temperature Range (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)
100/104		3	0	3	73.3
95/ 99	0	70	3	73	71.3
90/ 94	0	380	39	419	70.6
85/ 89	0	624	108	732	70.7
80/ 84	10	921	345	1276	70.2
75/ 79	226	629	805	1660	69.3
70/ 74	1360	229	1129	2718	68.1
65/ 69	928	51	384	1363	64.9
60/ 64	337	14	95	446	60.3
55/ 59	54	1	12	67	55.7
50/ 54	4	0	0	4	52.1
45/ 49	0			0	47

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



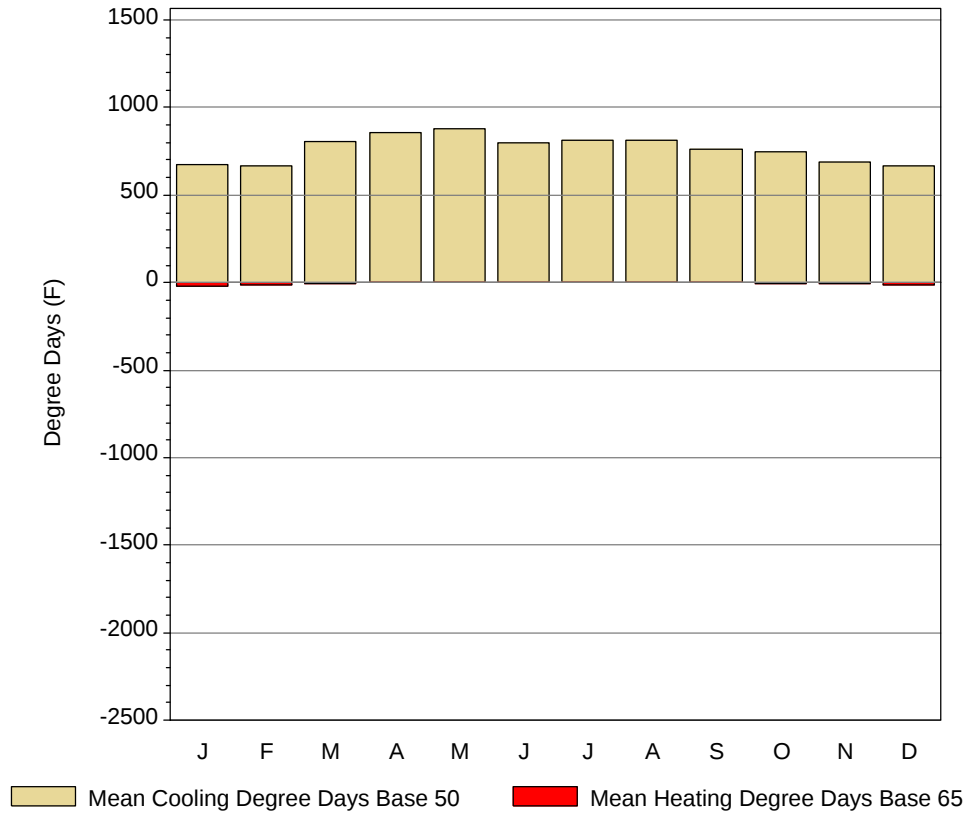
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

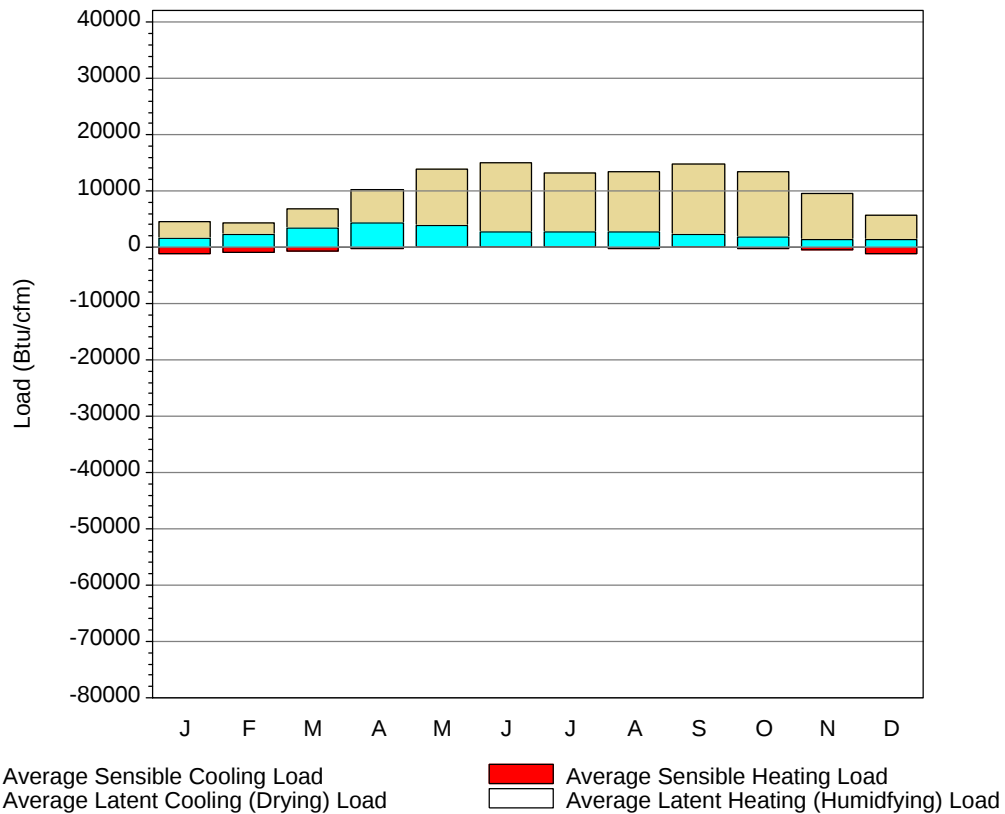
Week Ending	1.0% Temp (° F)	MCWB@ 1% Temp (° F)	Mean Max Temp (° F)	Mean Min Temp (° F)	99% Temp (° F)	1.0% HR (gr/lb)	MCDB@ 1% HR (° F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	89	69.4	82.2	63.7	59	125.3	80	99.1	77.8
14-Jan	90	69.5	83.3	64	57	126	81	97.7	75.8
21-Jan	90	68.9	82.5	63.3	59	119	82.6	95.6	73.2
28-Jan	90	67.8	82.6	62.5	55	125.3	81.1	95	72.7
4-Feb	91	69	85.4	63.9	59	118.3	81.4	98.4	72
11-Feb	91	67.6	84.9	63.5	59	117.6	79.2	95	69.4
18-Feb	93	69.9	85.9	63.9	58	126	81.7	96.9	71
25-Feb	95	68.9	87.4	64	58	119	84.5	96.1	68
4-Mar	95	70	87.9	64.5	59	125.3	79.3	99.4	68.3
11-Mar	95	69.7	88.1	65.1	59	114.8	72	97.1	66.6
18-Mar	97	70	89.4	65.9	60	118.3	76.7	102.2	68.9
25-Mar	95	69.8	89.6	65.7	60	118.3	76.2	99.4	69.2
1-Apr	97	70.4	91.7	67.6	63	125.3	80.3	103.7	71.7
8-Apr	97	71.3	92.4	68.6	64	125.3	79	106.7	74.2
15-Apr	97	70.9	92	68.4	63	126.7	85	106.7	73.2
22-Apr	97	70.4	92.1	69.2	64	128.1	79.6	109.3	75.4
29-Apr	99	69.7	92.5	69.3	64	127.4	83.7	112.1	78.3
6-May	95	72.1	91.3	70.6	66	131.6	76.4	115	85.5
13-May	97	74.1	91.2	70.2	66	127.4	77.3	114	84.7
20-May	97	73.5	90.3	69.8	66	134.4	85.3	116.3	87.7
27-May	95	72.4	89.5	70.2	67	134.4	79.2	118.4	91.2
4-Jun	93	73.7	88.2	70	66	134.4	80.1	122.2	97.2
10-Jun	93	74.3	87.9	69.5	66	139.3	84.8	123.5	97.9
17-Jun	93	73.3	87.5	69.3	66	144.2	81.6	123.3	97.5
24-Jun	91	74	86.9	69.8	68	151.9	86.3	123.7	98.7
1-Jul	91	72.2	87	69.6	67	144.9	83	121	95.2
8-Jul	91	72	86.5	68.9	66	137.2	82.9	118.5	93.9
15-Jul	91	72	86.5	68.9	66	133.7	79.1	118.6	93.5
22-Jul	91	72.1	87.2	69.1	66	133.7	80.9	117.6	91.6
29-Jul	92	72.2	87.4	69.1	66	126	76.7	117.7	90.9
5-Aug	93	72.5	88.3	69.3	66	126	75.8	116.4	91.5
12-Aug	93	71.8	87.9	69	66	126	75.1	117.9	92.4
19-Aug	91	71.8	87.4	69.3	66	128.8	78.5	118.9	94.2
26-Aug	91	71.8	87.2	69	66	128.1	80.7	119.2	95.6
2-Sep	91	72.4	87.4	69	66	141.4	80.1	123.3	98.5
9-Sep	91	72.4	87.1	69	66	147	81	122.4	99.4
16-Sep	91	72.7	87.2	68.9	66	160.3	84.4	124.2	98.1
23-Sep	91	74.3	86.7	68.9	66	158.9	84.5	126.9	103.1
30-Sep	90	74.6	85.5	68.9	66	161	82.1	126.9	102.5
7-Oct	91	75.7	85.5	68.7	66	154	82.2	124.4	99.5
14-Oct	90	72.4	84.5	68.8	66	161	82.1	124.6	100.9
21-Oct	90	72.8	83.5	68.2	64	168.7	82.8	123.9	99.7
28-Oct	90	73	83.3	67.6	63	161.7	84	119.6	95.5
4-Nov	90	73.8	82.6	67.1	63	170.1	85.9	119.4	94.3
11-Nov	88	72.4	81.9	66.5	60	171.5	82.7	115.7	92.8
18-Nov	88	71.6	82.7	66	61	161	81.3	113.3	89.8
25-Nov	88	71.9	82	65.3	59	148.4	81.2	106.8	86.6
2-Dec	88	71.1	81.1	65	61	135.1	78.6	106.9	86.6
9-Dec	88	69.8	81.5	64.7	59	133.7	78	104.9	84.8
16-Dec	88	70.5	82	63.9	57	139.3	78.1	101.9	80.7
23-Dec	89	75	82.7	63.5	57	131.6	79.1	100.3	80.4
31-Dec	88	69.1	81.5	63.5	56	114.8	73.6	98.3	78.3

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	674.6	227.3	17.7
FEB	668.6	256.7	12.1
MAR	804.2	347.3	8.1
APR	858.1	409.9	1.7
MAY	879.9	415.1	0.2
JUN	801.9	352	0.1
JUL	816.1	351.3	0.1
AUG	813.6	349.7	1.1
SEP	764.5	314.8	0.4
OCT	749.6	288.4	3.8
NOV	688	244	6.1
DEC	667.1	218.4	16.3
ANN	9186.2	3774.9	67.7

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	1565	-1115	3051	0
FEB	2242	-812	2159	0
MAR	3419	-560	3348	0
APR	4290	-171	5917	0
MAY	3889	-40	10031	0
JUN	2760	-38	12296	0
JUL	2752	-59	10359	0
AUG	2786	-112	10688	0
SEP	2261	-81	12565	0
OCT	1797	-293	11723	0
NOV	1400	-476	8149	0
DEC	1302	-1020	4466	0
ANN	30463	-4777	94752	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													

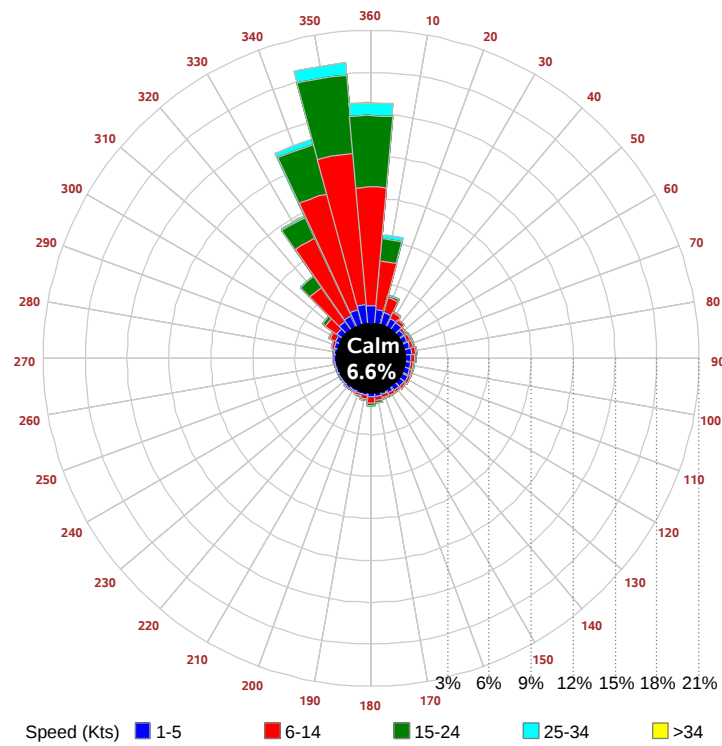
Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995

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													

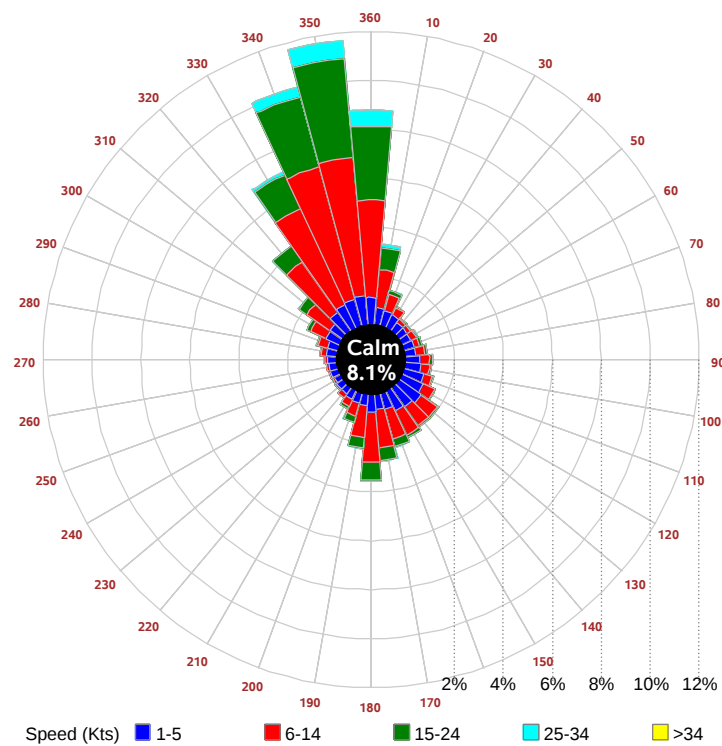
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9												
		March						June				
		9am	11am	1pm	3pm	5pm		9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear											
	M.Cloudy											
NORTH	M.Clear											
	M.Cloudy											
EAST	M.Clear			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

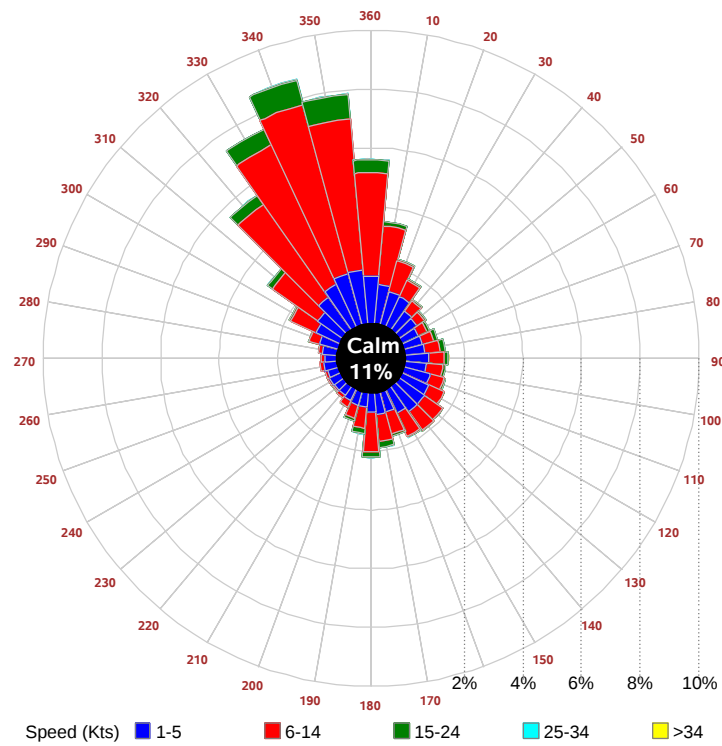
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November

