

SPARREVOHN LRRS, AK

Latitude = 61.10 N

Longitude = 155.57 W

Period of Record = 1988 To 2017

Station ID = ICAO_PASV

Elevation = 1583 Feet

Average Pressure = 28.04 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	76	59	53	6.8	NW
0.4% Occurrence	72	57	51	6.9	NNW
1.0% Occurrence	68	55	49	7.1	VRB
2.0% Occurrence	65	54	48	7.2	NNW
Mean Daily Range	12	-	-	-	NNW
97.5% Occurrence	-16	-16	2	4.4	NNW
99.0% Occurrence	-22	-22	1	2.8	NNW
99.6% Occurrence	-27	-27	1	2.1	N
Median of Extreme Lows	-30	-30	1	1.9	S

	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	62	72	70	6.5	S
0.4% Occurrence	60	69	65	5.8	NW
1.0% Occurrence	57	65	59	5.9	NW
2.0% Occurrence	56	63	58	6	S

	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	74	64	0.47	4.9	SSW
0.4% Occurrence	69	62	0.44	5.1	S
1.0% Occurrence	64	60	0.41	5	S
2.0% Occurrence	61	58	0.39	4.9	S

Air Conditioning/ Humid Area Criteria	Threshold	T ≥ 93 °F	T ≥ 80 °F	Twb ≥ 73 °F	Twb ≥ 67 °F
	# of Hours	0	8	14	12

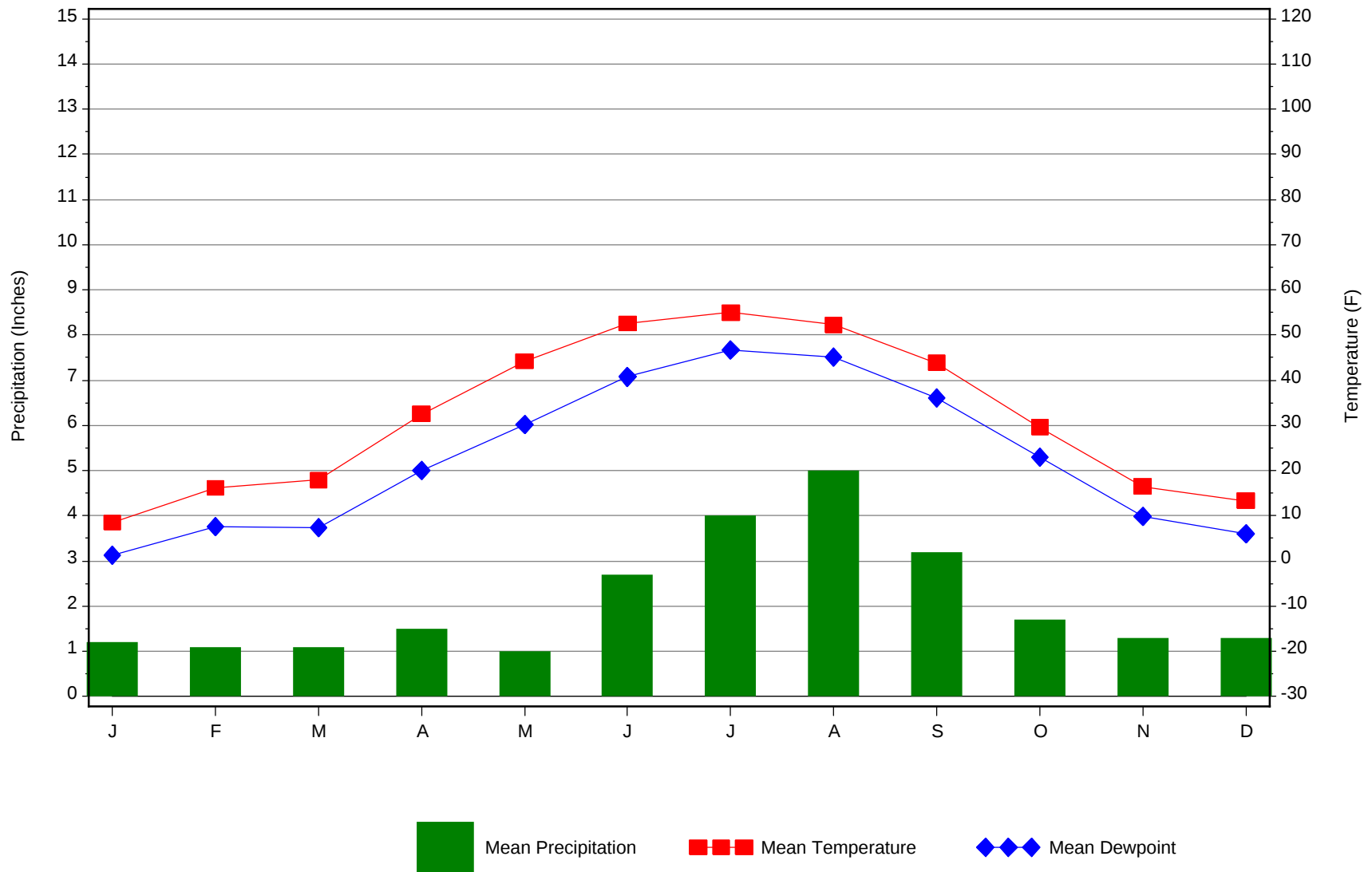
Other Site Data

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
3	0.8	100	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 (#)
34.8	N/A	N/A	55

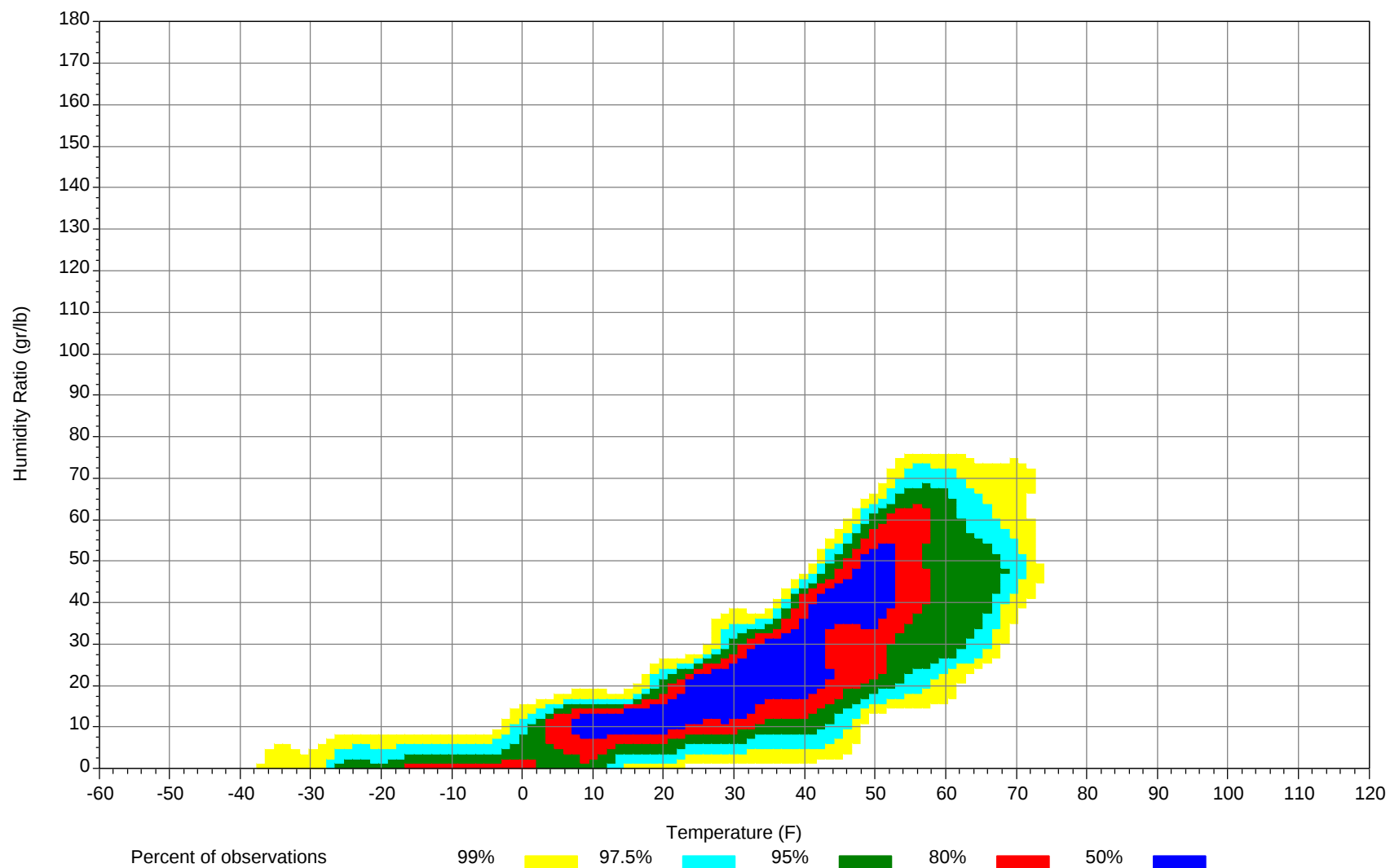
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.



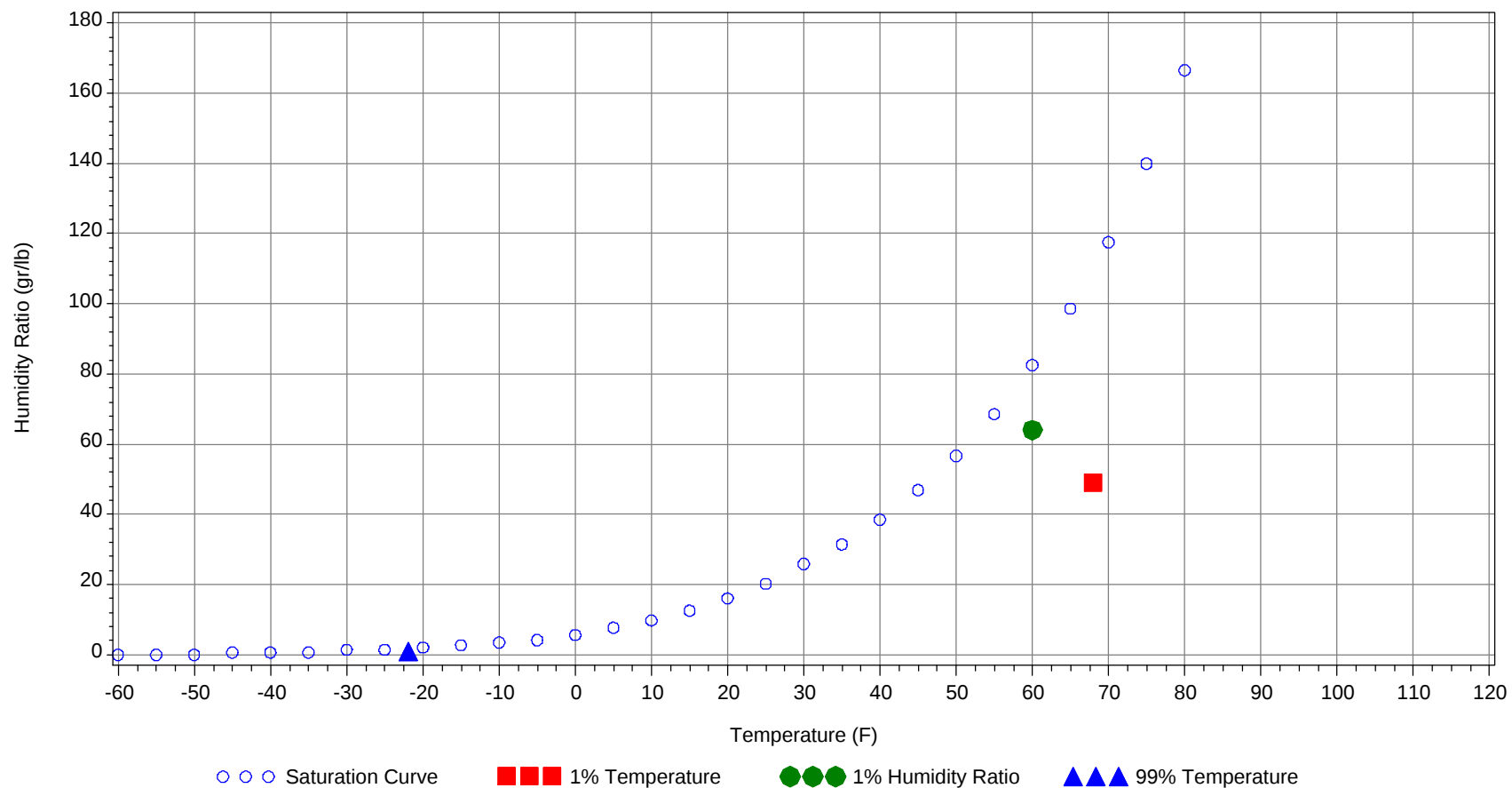
Average Annual Climate



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	68.0		55		49.0	24.0
99.0% Dry Bulb	-22.0				1.0	-5.1
1.0% Humidity Ratio	64.0	60.0	55.8	53.5		24.3

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)
80/ 84															
75/ 79															
70/ 74															
65/ 69															
60/ 64															
55/ 59	0	0		0	43.5										
50/ 54	1	1	0	2	40.1	0	0	0	0	39.1		0	0	0	39.3
45/ 49	2	3	2	7	38.7	1	2	1	4	38	0	1	0	1	37.2
40/ 44	7	7	7	21	35	6	10	7	23	34.8	1	13	6	20	33.7
35/ 39	18	22	21	61	31.7	21	30	27	78	31.3	16	32	25	73	31.2
30/ 34	26	24	25	75	28.8	38	38	36	112	28.4	35	36	37	108	28.2
25/ 29	24	23	23	70	25	27	23	27	77	24.7	29	28	33	90	24.1
20/ 24	13	13	14	40	20.5	21	20	19	60	20.2	23	26	25	74	19.3
15/ 19	15	13	12	40	15.8	17	17	20	54	15.8	28	26	32	86	14.9
10/ 14	15	17	15	47	10.7	13	13	14	40	10.8	25	23	24	72	10.3
5/ 9	17	17	19	53	6	13	11	12	36	6	24	18	18	60	5.4
0/ 4	17	18	19	54	1	12	12	12	36	0.8	20	17	19	56	0.6
-5/ -1	15	17	12	44	-3.5	9	10	11	30	-3.6	13	10	11	34	-3.7
-10/ -6	16	18	19	53	-7.9	14	13	13	40	-8	15	10	10	35	-7.9
-15/-11	14	14	16	44	-12.6	11	9	10	30	-12.8	9	4	4	17	-12.5
-20/-16	17	17	16	50	-17.6	11	8	8	27	-17.3	6	3	2	11	-16.8
-25/-21	14	13	14	41	-22.4	6	4	3	13	-22.2	1	0	0	1	-21.9
-30/-26	11	7	8	26	-26.9	3	2	2	7	-26.5	1			1	-25.8
-35/-31	4	2	3	9	-32	1	1	1	3	-32.1					
-40/-36	2	2	2	6	-36.4	1	1	0	2	-36.9					
-45/-41	0	0	1	1	-40.1	0	0	0	0	-41.6					
-50/-46	0	1	0	1											
-55/-51	0		0	0											

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)
80/ 84												0	0	0	60.5
75/ 79							0	0	0	52.7		3	2	5	57.9
70/ 74							3	3	6	51.7	0	8	6	14	55.9
65/ 69						0	8	6	14	50.3	1	17	14	32	53.2
60/ 64		0	0	0	47.9	1	15	12	28	47.9	5	42	32	79	51.1
55/ 59		2	1	3	43.8	4	27	22	53	45.2	19	61	52	132	48.8
50/ 54	0	8	5	13	39.7	14	46	38	98	42.7	56	62	65	183	46.8
45/ 49	2	30	17	49	37.2	35	60	55	150	40.2	85	36	54	175	43.8
40/ 44	16	49	40	105	34.7	64	44	50	158	37.4	61	10	13	84	40.5
35/ 39	54	55	59	168	32.1	73	26	37	136	34.1	11	2	2	15	36.5
30/ 34	60	41	50	151	28.8	36	13	16	65	30	1	0	0	1	32.3
25/ 29	44	23	31	98	24.3	14	5	6	25	24.8					
20/ 24	26	11	14	51	19.9	4	1	1	6	20					
15/ 19	14	10	10	34	15	2	0	1	3	15.1					
10/ 14	9	6	7	22	10.1	0	1	0	1	9.2					
5/ 9	8	3	3	14	5.5	1	0	0	1	5.7					
0/ 4	4	2	2	8	0.8	0			0	2.4					
-5/ -1	2	1	0	3	-3.4										
-10/ -6	1	0	0	1	-7.4										
-15/-11															
-20/-16															
-25/-21															
-30/-26															
-35/-31															
-40/-36															
-45/-41															
-50/-46															
-55/-51															

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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)
80/ 84		0	0	0	62.7	0	0	0	0	69.6					
75/ 79		3	3	6	60.2	0	2	1	3	65					
70/ 74	0	13	10	23	58.2	0	5	4	9	59.5		0		0	51
65/ 69	2	24	20	46	56.1	1	12	9	22	57	0	2	1	3	53.4
60/ 64	11	50	38	99	54	6	34	26	66	54.2	0	7	4	11	51.7
55/ 59	35	68	67	170	51.8	27	63	55	145	51.6	4	23	14	41	48.4
50/ 54	102	62	75	239	49.3	72	76	84	232	48.8	16	52	42	110	46.3
45/ 49	83	25	31	139	45.6	98	45	54	197	45.2	69	62	71	202	43.5
40/ 44	15	2	3	20	41.8	31	10	12	53	40.7	63	43	48	154	39.8
35/ 39	0			0	38.5	10	2	2	14	36	40	26	31	97	35
30/ 34						2	0	0	2	31.5	25	18	21	64	29.9
25/ 29						0		0	0	27	16	5	6	27	25.5
20/ 24											3	1	2	6	20.8
15/ 19											1	0	1	2	15.5
10/ 14											1	0	0	1	11.2
5/ 9															
0/ 4															
-5/ -1															
-10/ -6															
-15/-11															
-20/-16															
-25/-21															
-30/-26															
-35/-31															
-40/-36															
-45/-41															
-50/-46															
-55/-51															

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Dry-Bulb Temperature Hours For An Average Year

Temperature Range (°F)	October					November					December				
	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)
80/ 84															
75/ 79															
70/ 74															
65/ 69															
60/ 64	0	1	0	1	55.9										
55/ 59	1	1	1	3	46.7										
50/ 54	3	6	4	13	43.6	0	1	1	2	39	0	0	0	0	38.2
45/ 49	12	19	15	46	40.6	3	4	2	9	37.8	2	2	2	6	37.8
40/ 44	19	31	27	77	37.9	8	11	10	29	35.8	7	8	7	22	34.2
35/ 39	38	43	41	122	34.6	17	17	18	52	33	19	20	20	59	31.8
30/ 34	45	43	44	132	30.1	28	28	25	81	29.8	30	29	29	88	28.8
25/ 29	39	34	38	111	25.2	24	26	26	76	25.2	29	31	30	90	25.1
20/ 24	31	27	30	88	20.7	23	24	26	73	20.5	17	18	18	53	20.3
15/ 19	29	22	23	74	16	25	28	25	78	15.9	18	19	18	55	15.8
10/ 14	16	13	15	44	11	21	22	22	65	10.9	19	17	19	55	10.8
5/ 9	9	5	7	21	6.2	23	25	23	71	5.9	21	19	19	59	6
0/ 4	3	2	2	7	1.5	24	21	23	68	1	20	20	21	61	1.2
-5/ -1	2	0	1	3	-3.3	15	13	12	40	-3.4	14	14	13	41	-3.5
-10/ -6	1	0	0	1	-6	17	13	16	46	-7.8	18	20	18	56	-7.8
-15/-11	0	0		0	-11.3	6	4	4	14	-12.3	14	12	14	40	-12.7
-20/-16						4	4	4	12	-17	11	11	11	33	-17.2
-25/-21						1	0	1	2	-21.5	6	5	8	19	-22.1
-30/-26						0		0	0	-25.6	1	1	1	3	-26.3
-35/-31											1	0	0	1	-31.5
-40/-36											0	0	0	0	-37.2
-45/-41															
-50/-46															
-55/-51															

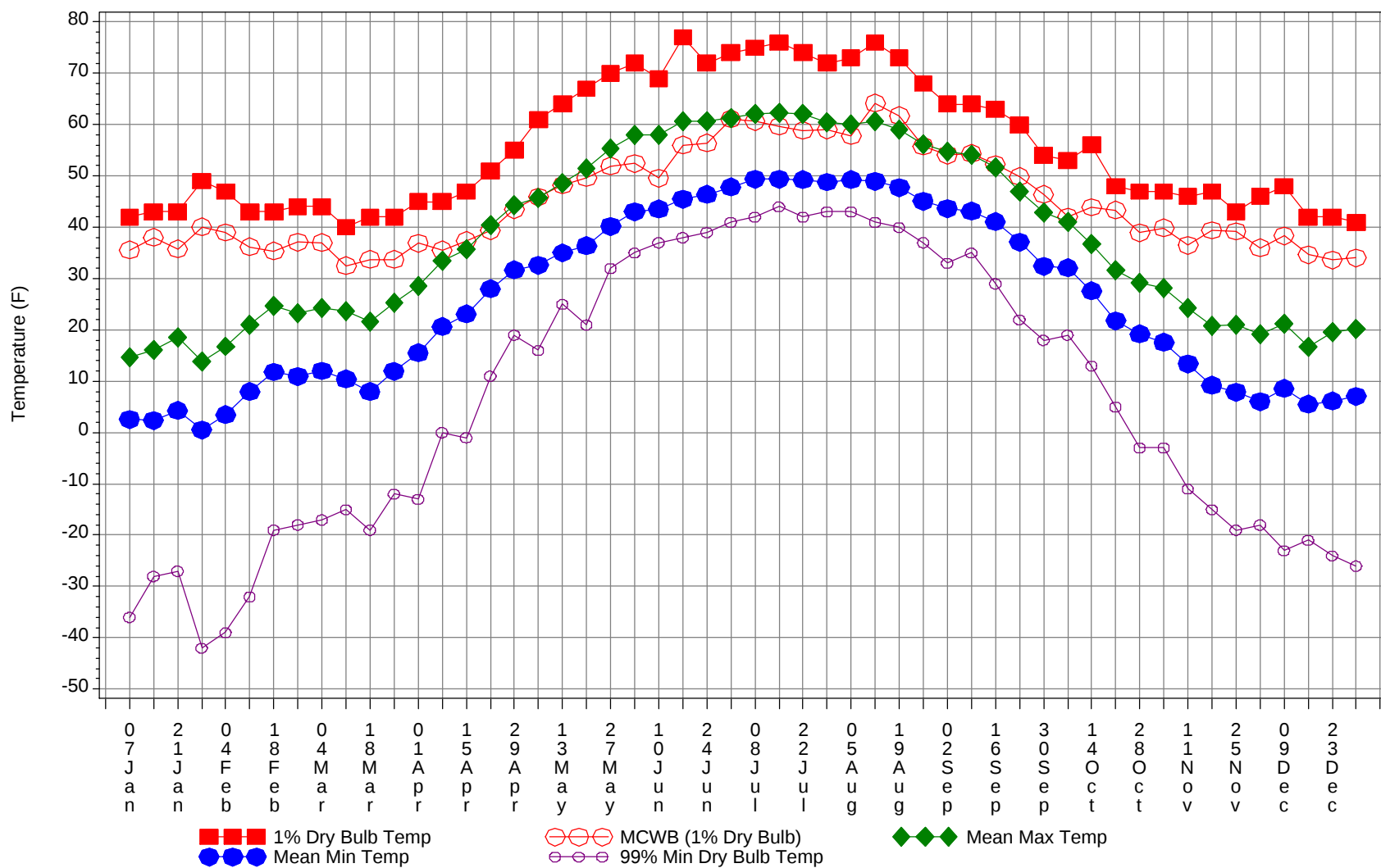
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Dry-Bulb Temperature Hours For An Average Year

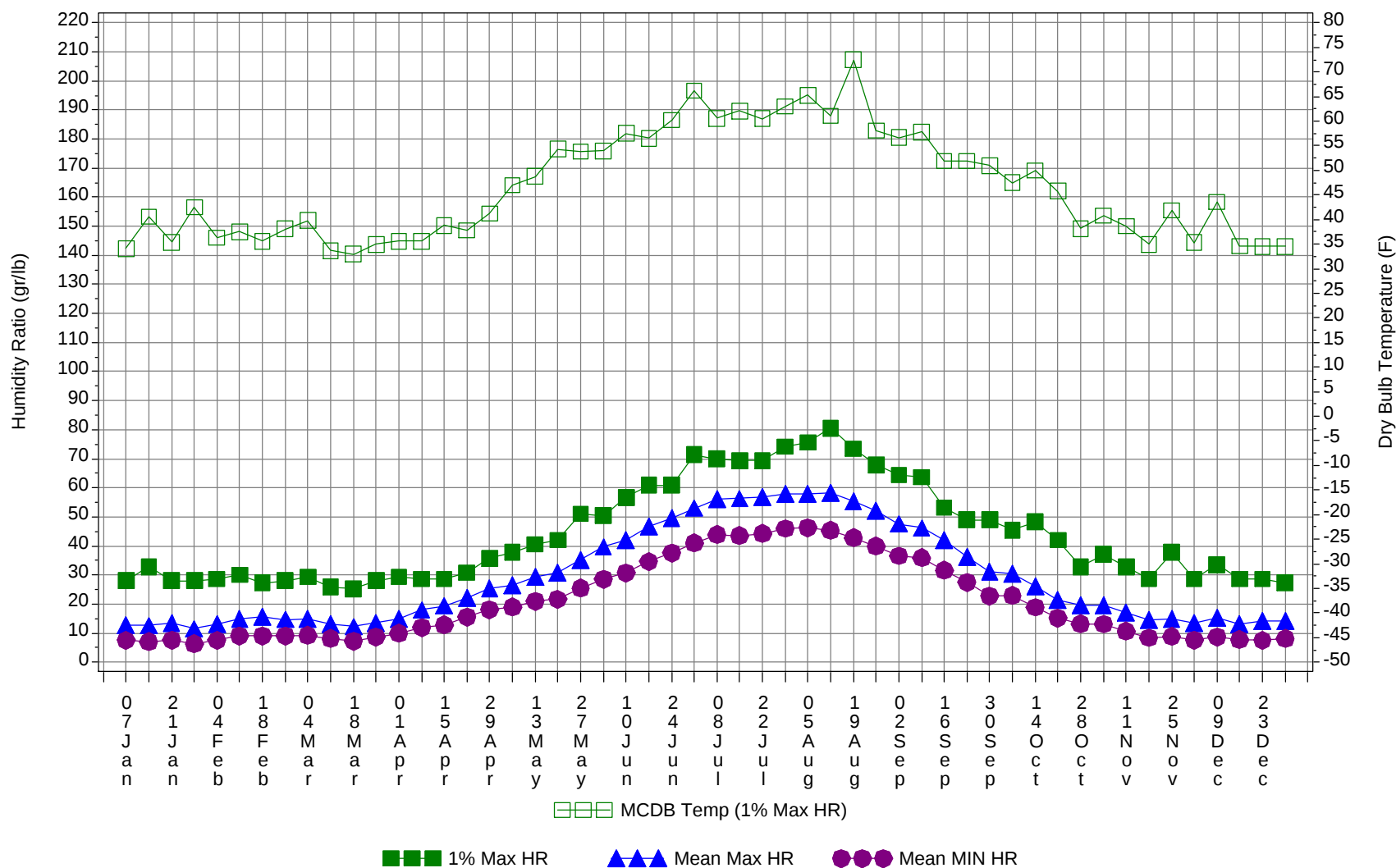
	Annual				
Temperature Range (° F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (° F)
80/ 84	0	1	1	2	64.9
75/ 79	0	8	7	15	60.2
70/ 74	0	30	24	54	57.1
65/ 69	4	63	51	118	54.7
60/ 64	23	151	113	287	52.6
55/ 59	93	251	216	560	50.1
50/ 54	272	322	320	914	47.3
45/ 49	403	296	313	1012	43.1
40/ 44	306	240	235	781	37.9
35/ 39	318	273	282	873	33.1
30/ 34	325	267	283	875	29.2
25/ 29	243	196	218	657	24.8
20/ 24	159	140	147	446	20.2
15/ 19	146	133	139	418	15.6
10/ 14	117	109	114	340	10.7
5/ 9	114	96	98	308	5.9
0/ 4	98	90	95	283	1
-5/ -1	67	63	59	189	-3.5
-10/ -6	80	72	75	227	-7.9
-15/-11	52	42	47	141	-12.7
-20/-16	48	40	39	127	-17.3
-25/-21	27	22	25	74	-22.2
-30/-26	14	9	10	33	-26.8
-35/-31	5	4	5	14	-32
-40/-36	3	2	2	7	-36.6
-45/-41	1	0	1	2	-41.1
-50/-46	0	1	0	1	
-55/-51	0		0	0	

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Annual Summary of Temperatures



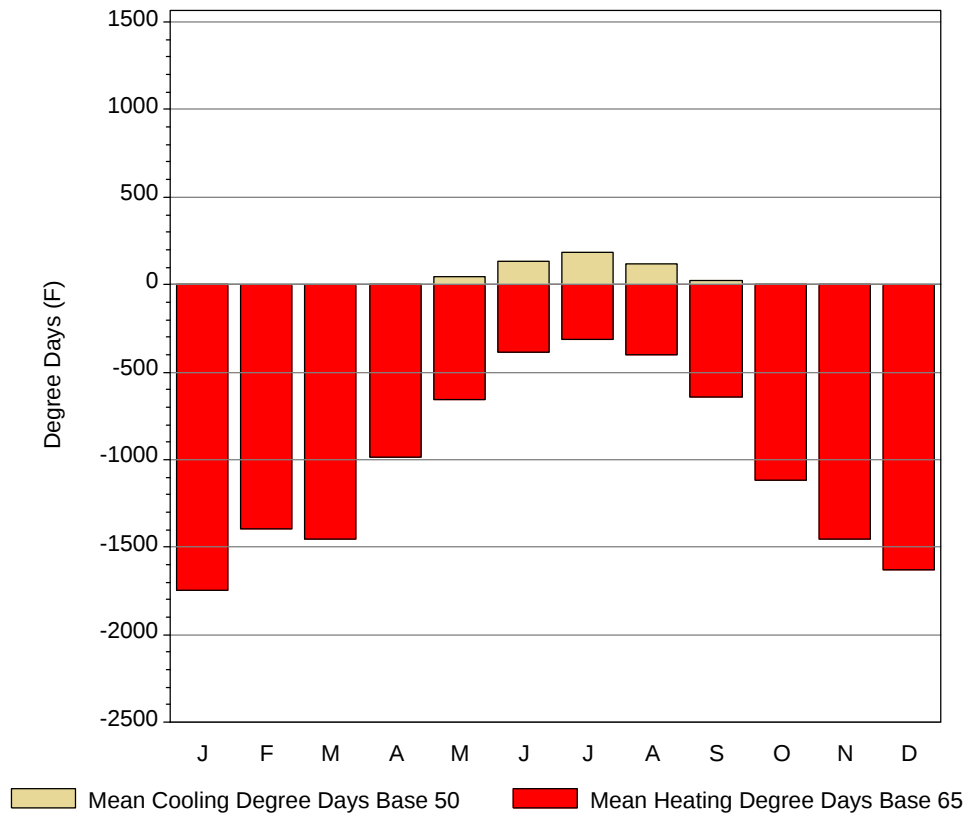
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

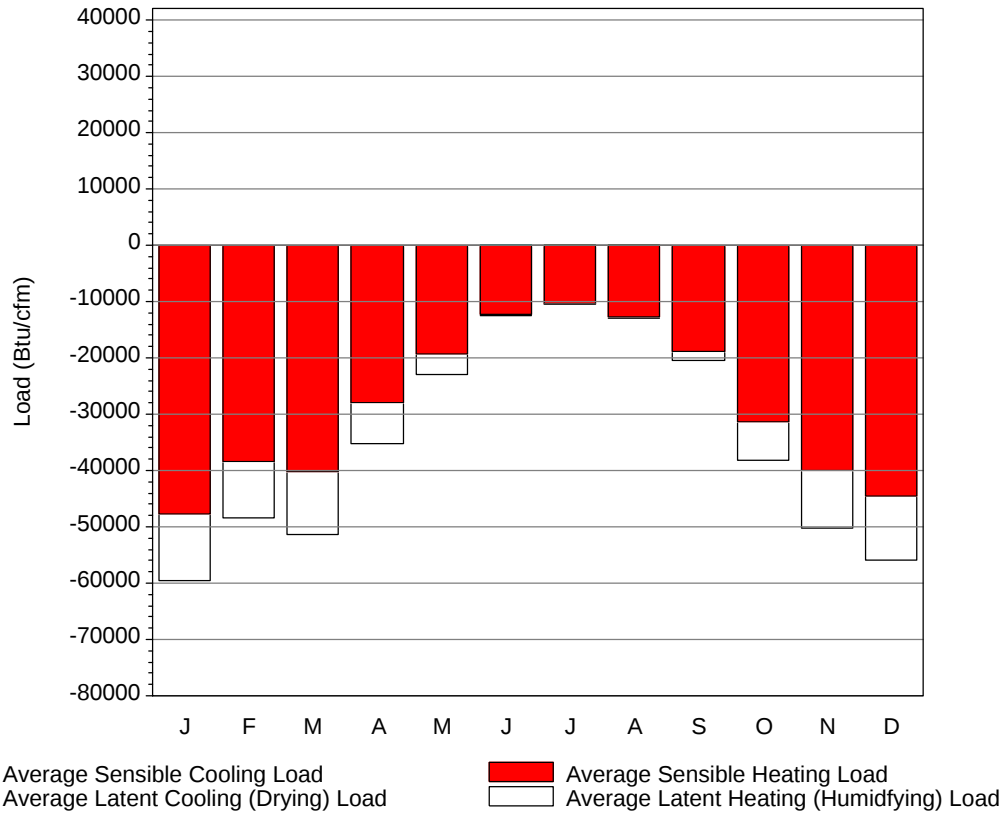
Week Ending	1.0% Temp (° F)	MCWB@ 1% Temp (° F)	Mean Max Temp (° F)	Mean Min Temp (° F)	99% Temp (° F)	1.0% HR (gr/lb)	MCDB@ 1% HR (° F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	42	35.6	14.6	2.5	-36	28	34.1	12.7	7.5
14-Jan	43	38	16	2.3	-28	32.9	40.6	12.6	7
21-Jan	43	35.8	18.6	4.3	-27	28	35.4	13.4	7.6
28-Jan	49	40.1	13.9	0.5	-42	28	42.5	11.5	6.4
4-Feb	47	39	16.8	3.5	-39	28.7	36.3	13.1	7.5
11-Feb	43	36.2	21	8	-32	30.1	37.5	15	9
18-Feb	43	35.4	24.6	11.8	-19	27.3	35.6	15.6	9.1
25-Feb	44	37.1	23.2	10.9	-18	28	38.1	14.7	9.1
4-Mar	44	37	24.2	12	-17	29.4	39.8	14.9	9.2
11-Mar	40	32.5	23.7	10.4	-15	25.9	33.7	13.2	8.1
18-Mar	42	33.7	21.6	8	-19	25.2	33	12.2	7.3
25-Mar	42	33.7	25.2	11.9	-12	28	35	13.6	8.6
1-Apr	45	36.9	28.5	15.5	-13	29.4	35.6	15	9.9
8-Apr	45	35.6	33.4	20.6	0	28.7	35.6	18	11.9
15-Apr	47	37.4	35.7	23.1	-1	28.7	38.8	19.4	12.9
22-Apr	51	39.3	40.4	28	11	30.8	37.8	22.1	15.5
29-Apr	55	43.4	44.3	31.7	19	35.7	41.2	25.3	18
6-May	61	45.9	45.8	32.6	16	37.8	47	26.5	19
13-May	64	48.2	48.5	35	25	40.6	48.8	29.3	21
20-May	67	49.7	51.5	36.4	21	42	54.3	30.7	21.6
27-May	70	51.9	55.3	40.2	32	51.1	53.8	35.2	25.5
4-Jun	72	52.4	58.1	43	35	50.4	54	39.7	28.5
10-Jun	69	49.6	58	43.5	37	56.7	57.5	42	30.7
17-Jun	77	56	60.7	45.5	38	60.9	56.5	46.6	34.6
24-Jun	72	56.4	60.6	46.4	39	60.9	60.2	49.5	37.5
1-Jul	74	61.1	61.3	47.8	41	71.4	66.2	53	41
8-Jul	75	60.6	62	49.4	42	70	60.6	56	43.9
15-Jul	76	59.7	62.2	49.4	44	69.3	62.1	56.3	43.5
22-Jul	74	58.9	62	49.3	42	69.3	60.5	56.8	44.3
29-Jul	72	59	60.4	48.8	43	74.2	63	57.8	46
5-Aug	73	57.8	60.1	49.3	43	75.6	65.3	57.9	46.2
12-Aug	76	64.2	60.6	49	41	80.5	61.1	58.2	45.4
19-Aug	73	61.7	59	47.7	40	73.5	72.5	55.5	42.8
26-Aug	68	55.8	56.2	45.1	37	67.9	58.1	52.2	40
2-Sep	64	54.1	54.8	43.6	33	64.4	56.7	47.6	36.6
9-Sep	64	54.4	54.1	43.1	35	63.7	57.8	46.2	35.9
16-Sep	63	52.2	51.7	41.1	29	53.2	51.9	42	31.6
23-Sep	60	49.9	47	37.1	22	49	51.9	36.3	27.4
30-Sep	54	46.4	42.9	32.4	18	49	51	31.3	22.7
7-Oct	53	42	41.1	32.1	19	45.5	47.5	30.4	22.9
14-Oct	56	43.9	36.7	27.6	13	48.3	50	26.2	18.9
21-Oct	48	43.3	31.7	21.8	5	42	45.8	21.3	15.1
28-Oct	47	38.9	29.2	19.2	-3	32.9	38.2	19.6	13.2
4-Nov	47	39.9	28.1	17.6	-3	37.1	40.8	19.6	13.1
11-Nov	46	36.5	24.2	13.4	-11	32.9	38.7	17	10.7
18-Nov	47	39.4	20.8	9.2	-15	28.7	35	14.5	8.4
25-Nov	43	39.2	21	7.9	-19	37.8	41.9	15	8.8
2-Dec	46	36	19.1	6	-18	28.7	35.3	13.5	7.6
9-Dec	48	38.3	21.2	8.6	-23	33.6	43.6	15.4	8.7
16-Dec	42	34.6	16.7	5.5	-21	28.7	34.6	13	7.8
23-Dec	42	33.6	19.6	6.1	-24	28.7	34.5	14.2	7.5
31-Dec	41	34	20.1	7	-26	27.3	34.5	14.2	8.2

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	0.1	0	1745.5
FEB	0	0	1396.2
MAR	0	0	1456.6
APR	1.6	0	985.2
MAY	47.1	2.5	657.3
JUN	131	8.1	385.1
JUL	182.2	11.9	315.7
AUG	117	5.7	403.2
SEP	25.3	0.1	639
OCT	2	0	1117.6
NOV	0.1	0	1456.3
DEC	0	0	1628.5
ANN	506.4	28.3	12186.2

Average Ventilation and Infiltration Loads (Outside Air vs 75F, 60% RH summer; 68F, 30% RH winter)



	Average Sensible Cooling Load (Btu/cfm)	Average Sensible Heating Load (Btu/cfm)	Average Latent Cooling Load (Btu/cfm)	Average Latent Heating Load (Btu/cfm)
Month	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)
JAN	0	-47645	0	-11936
FEB	0	-38389	0	-9963
MAR	0	-40165	0	-11112
APR	0	-27870	0	-7278
MAY	0	-19409	0	-3417
JUN	11	-12204	0	-348
JUL	11	-10429	4	-13
AUG	11	-12789	52	-105
SEP	0	-18892	0	-1589
OCT	0	-31378	0	-6694
NOV	0	-40081	0	-10104
DEC	0	-44621	0	-11361
ANN	33	-343872	56	-73920

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													

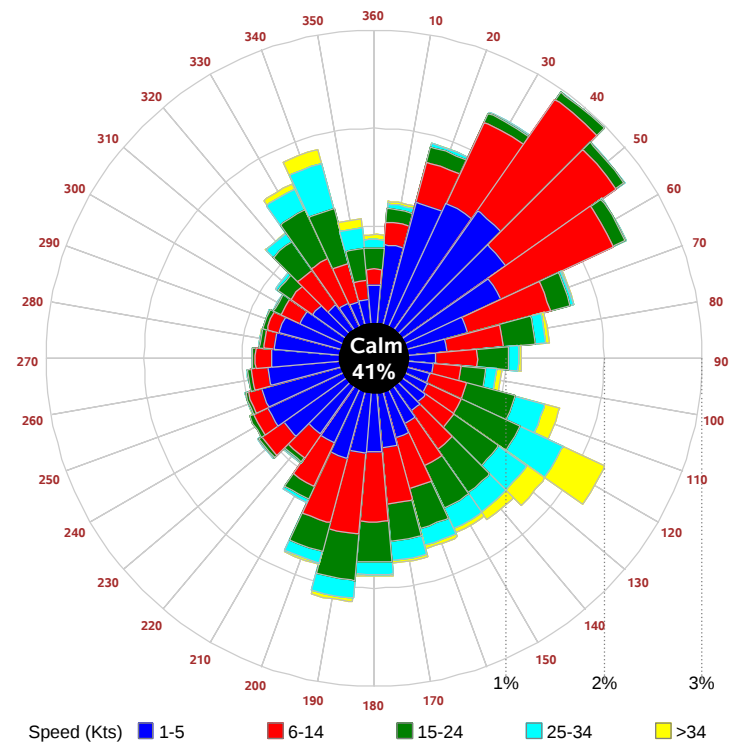
Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995

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													

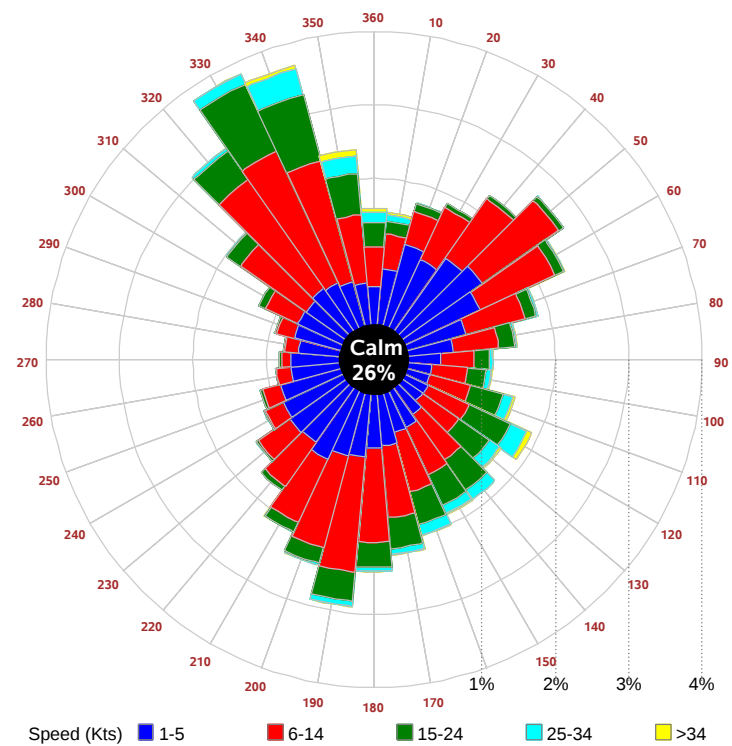
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9												
		March						June				
		9am	11am	1pm	3pm	5pm		9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear											
	M.Cloudy											
NORTH	M.Clear											
	M.Cloudy											
EAST	M.Clear			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

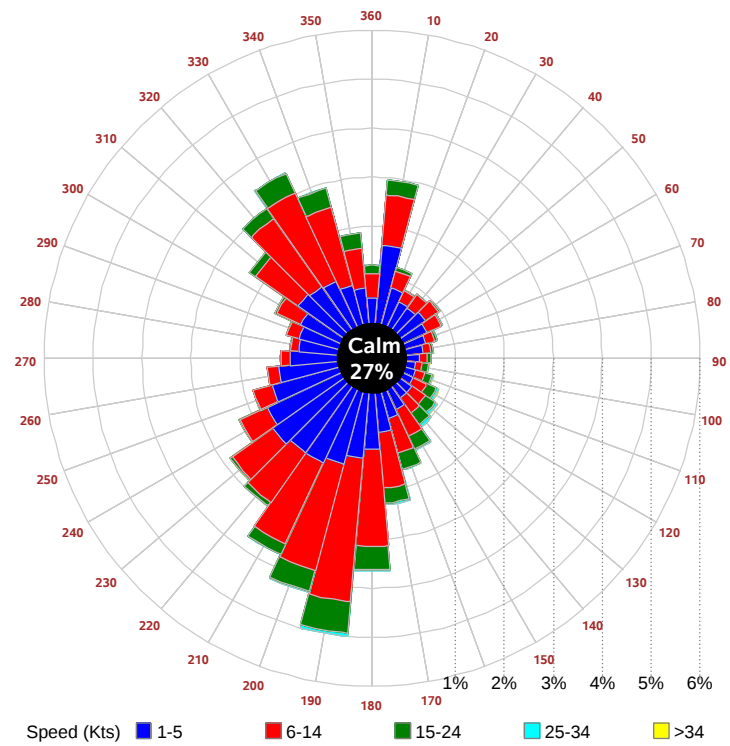
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November

