

PROVENCE, FR	
Latitude = 43.44 N	Station ID = ICAO_LFML
Longitude = 5.21 E	Elevation = 74 Feet
Period of Record = 1988 To 2017	Average Pressure = 29.89 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	70	69	13.3	W
0.4% Occurrence	91	70	76	13.5	W
1.0% Occurrence	89	70	77	13.3	W
2.0% Occurrence	87	69	77	13.2	W
Mean Daily Range	16	-	-	-	N
97.5% Occurrence	34	32	23	7.4	N
99.0% Occurrence	30	28	19	6.5	SE
99.6% Occurrence	28	26	17	5.8	SSE
Median of Extreme Lows	25	23	14	6.4	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	76	85	117	11.5	W
0.4% Occurrence	74	84	108	10.6	S
1.0% Occurrence	73	83	103	10.4	S
2.0% Occurrence	71	82	95	9.9	W

	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	123	80	0.82	8.2	SW
0.4% Occurrence	114	80	0.76	8.6	S
1.0% Occurrence	108	78	0.72	8.3	S
2.0% Occurrence	102	77	0.68	7.9	S

Air Conditioning/ Humid Area Criteria	Threshold	T ≥ 93 °F	T ≥ 80 °F	Twb ≥ 73 °F	Twb ≥ 67 °F
	# of Hours	21	723	93	900

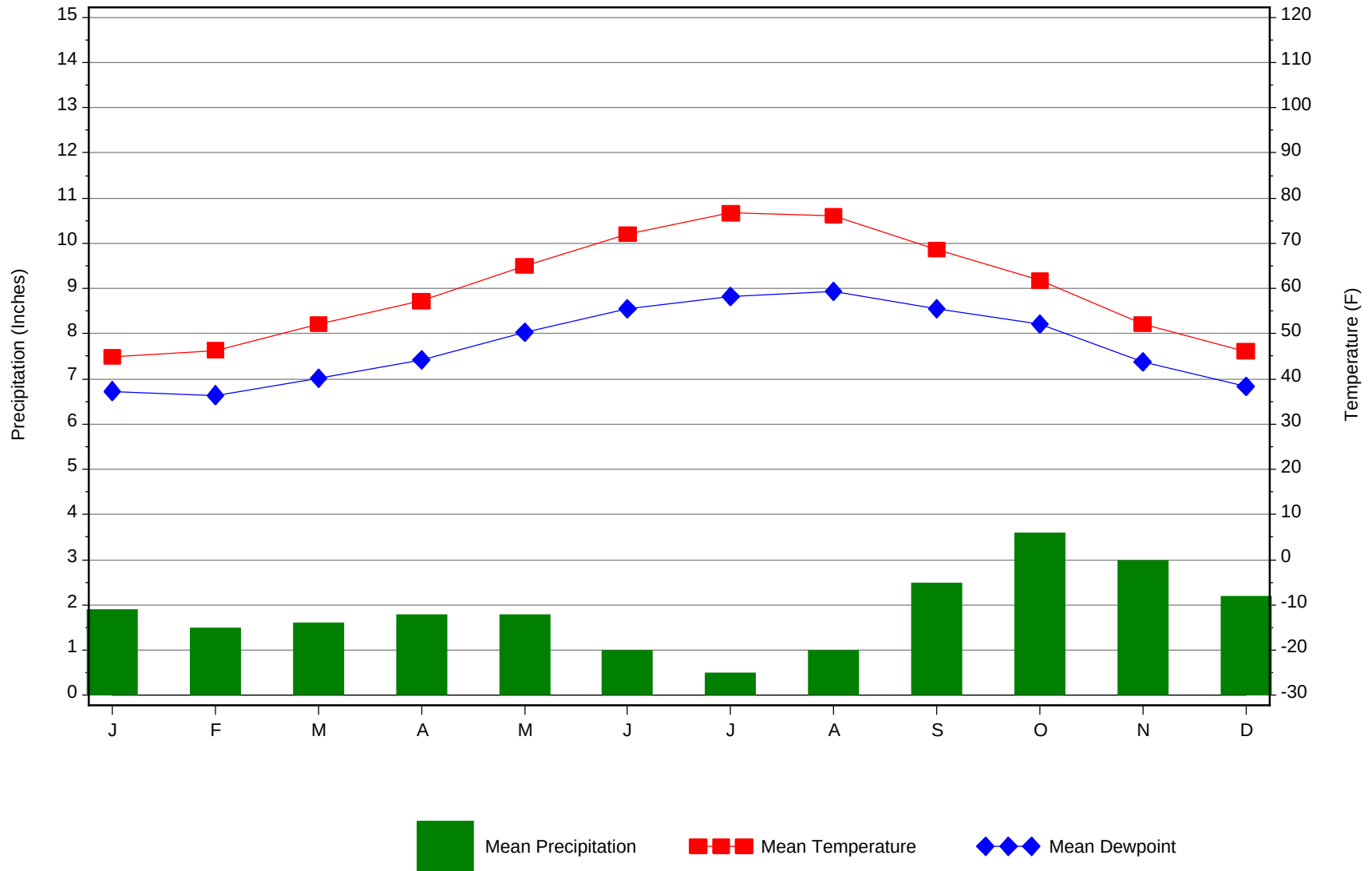
Other Site Data

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
8	N/A	N/A	0.8 + 0.7
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 (#)
62.5	N/A	N/A	17

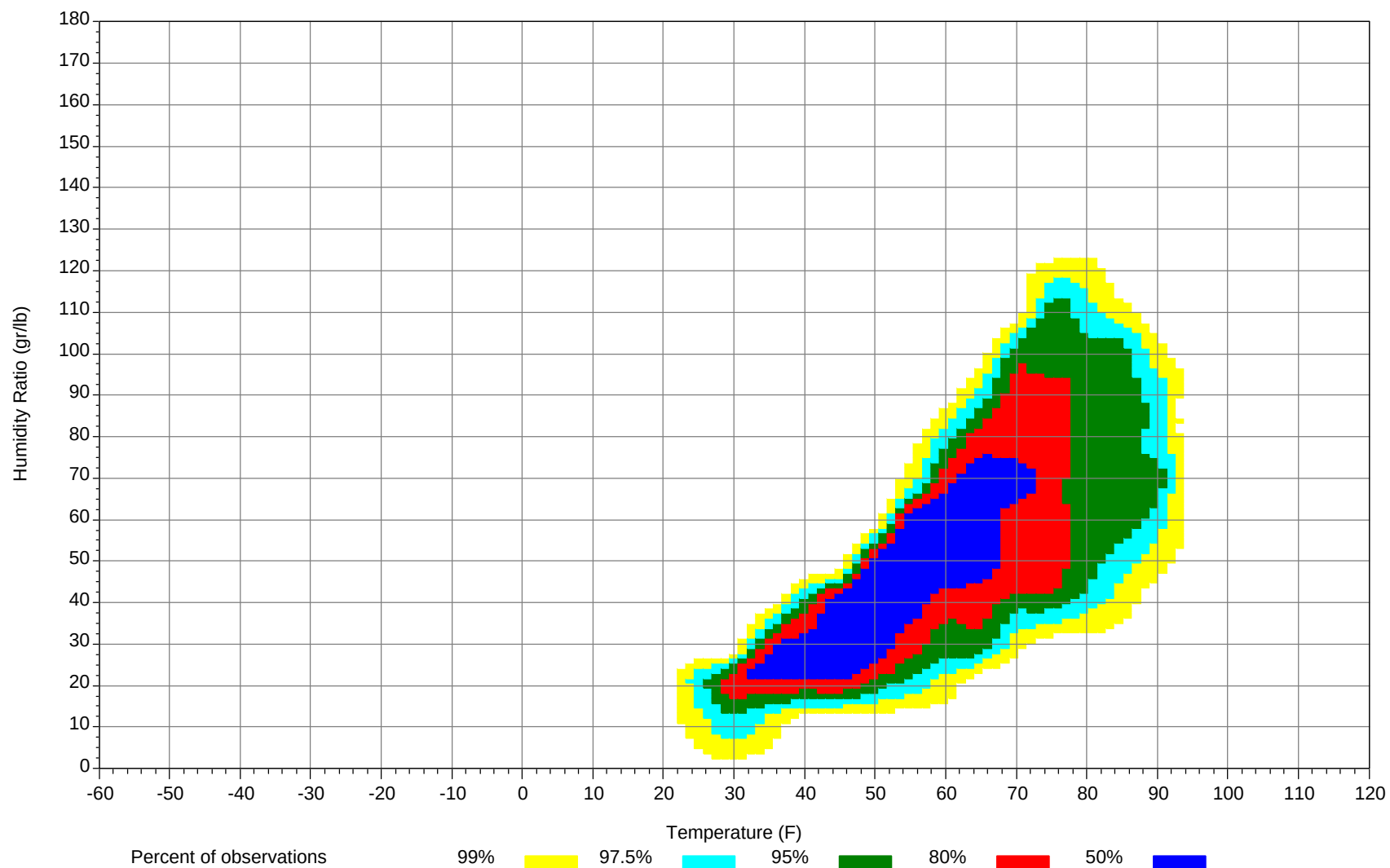
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.



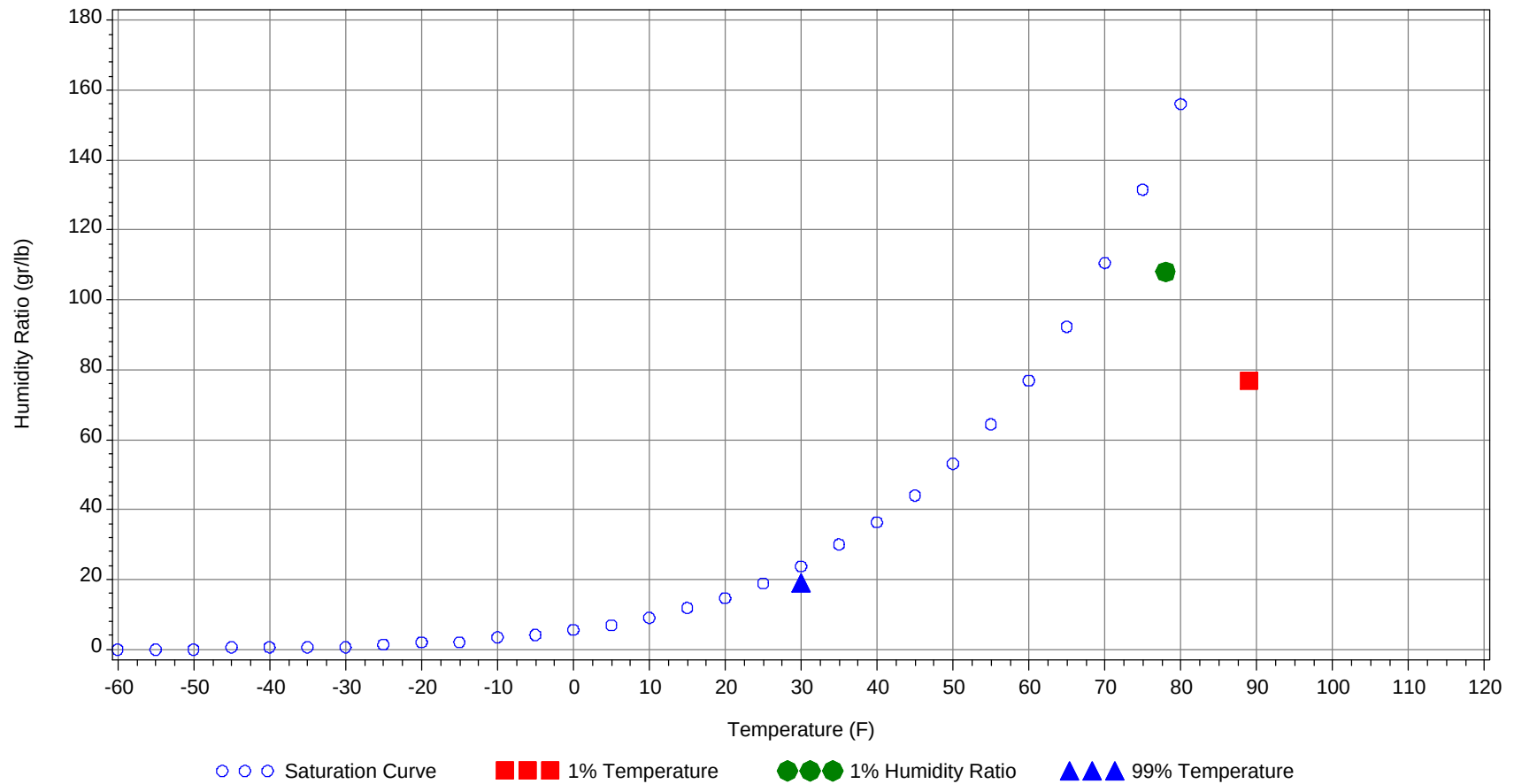
Average Annual Climate



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	89.0		70		77.0	33.1
99.0% Dry Bulb	30.0				19.0	10.1
1.0% Humidity Ratio	108.0	78.0	72	69.3		35.7

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															
95/ 99															
90/ 94															
85/ 89															
80/ 84															
75/ 79												0	0	0	57.8
70/ 74							0	0	0	57		5	1	6	56.4
65/ 69		1	0	1	55.3		1	0	1	54.3	0	21	7	28	54.6
60/ 64	0	8	1	9	53.2	0	17	4	21	52.2	2	61	29	92	52.6
55/ 59	11	44	21	76	51.2	6	50	28	84	49.9	22	71	69	162	50.1
50/ 54	31	64	55	150	47.3	28	61	60	149	46.8	60	53	77	190	47
45/ 49	49	60	65	174	43.2	53	47	60	160	42.9	77	26	45	148	42.9
40/ 44	49	38	55	142	39.1	47	27	37	111	38.6	54	8	15	77	38.7
35/ 39	50	22	33	105	35	47	14	23	84	34.3	24	2	5	31	34.1
30/ 34	39	9	15	63	30.4	30	6	9	45	29.5	7	0	1	8	29.4
25/ 29	16	2	2	20	26.1	10	2	3	15	24.5	2	0	0	2	24.8
20/ 24	2	0	0	2	21.9	2	0	0	2	19.9	0		0	0	20.2
15/ 19						0			0	15.4					

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												0		0	69
95/ 99							0		0	65		0	0	0	69.1
90/ 94							0	0	0	65.5		10	2	12	69.5
85/ 89							3	1	4	65.9	0	28	9	37	68.1
80/ 84		1	0	1	60.5	0	14	4	18	63.6	1	55	27	83	65.9
75/ 79		5	1	6	60.3	1	48	17	66	61.7	14	68	53	135	64.2
70/ 74	0	23	8	31	57.7	5	77	44	126	59.9	41	49	69	159	62.4
65/ 69	2	54	22	78	55.4	28	58	68	154	58.2	79	22	54	155	60.1
60/ 64	14	73	58	145	53.4	78	34	74	186	56	75	7	22	104	57.2
55/ 59	57	54	81	192	51	90	12	34	136	52.6	25	1	3	29	53.4
50/ 54	86	24	53	163	47.7	37	2	7	46	48.8	3		0	3	48.5
45/ 49	63	6	15	84	43.6	8	0	1	9	44.4	0			0	42.5
40/ 44	16	0	2	18	39.4	0			0	39.7					
35/ 39	3		0	3	35.4										
30/ 34	0			0	32										
25/ 29															
20/ 24															
15/ 19															

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		0	0	0	67.2		0		0	72					
95/ 99		2	0	2	70.1		3	0	3	70					
90/ 94		25	5	30	69.7	0	19	4	23	70.4		1	0	1	70
85/ 89	0	67	26	93	68.8	0	59	19	78	69.4		9	1	10	67.6
80/ 84	5	79	59	143	67.3	3	83	53	139	68.1	0	37	9	46	66.9
75/ 79	39	50	80	169	65.8	30	54	88	172	66.6	3	68	37	108	65
70/ 74	100	20	57	177	63.8	97	22	63	182	64.4	26	64	71	161	63.2
65/ 69	73	5	17	95	60.4	84	6	18	108	60.8	60	41	69	170	60.6
60/ 64	29	1	3	33	56.8	29	1	4	34	56.9	88	17	41	146	57.2
55/ 59	3	0	0	3	53.6	5			5	52.8	47	3	12	62	52.9
50/ 54	0			0	48	0			0	51	14	0	1	15	48.9
45/ 49											2			2	45.2
40/ 44											0			0	38
35/ 39															
30/ 34															
25/ 29															
20/ 24															
15/ 19															

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															
90/ 94															
85/ 89		0		0	64.8										
80/ 84		3	0	3	66										
75/ 79	0	25	5	30	65.4										
70/ 74	7	56	25	88	63.1	0	3	0	3	61.5					
65/ 69	30	66	59	155	60.4	3	24	7	34	59.6	0	1	0	1	57.6
60/ 64	59	56	72	187	57.1	20	55	34	109	56.2	2	19	5	26	55.4
55/ 59	70	30	55	155	53	36	62	54	152	52.2	21	48	31	100	51.9
50/ 54	53	10	23	86	48.8	51	48	61	160	47.9	35	64	53	152	47.5
45/ 49	20	2	7	29	44.1	53	30	45	128	43.4	47	54	60	161	43.3
40/ 44	6	0	1	7	39.1	42	12	25	79	39.3	47	35	49	131	39
35/ 39	2		0	2	36.2	23	5	9	37	35.2	51	18	33	102	34.7
30/ 34	0			0	32.1	9	1	3	13	30.6	30	7	14	51	30.3
25/ 29						3	0	0	3	25.8	13	1	2	16	26.4
20/ 24						0			0	22	1	0	0	1	21.4
15/ 19															

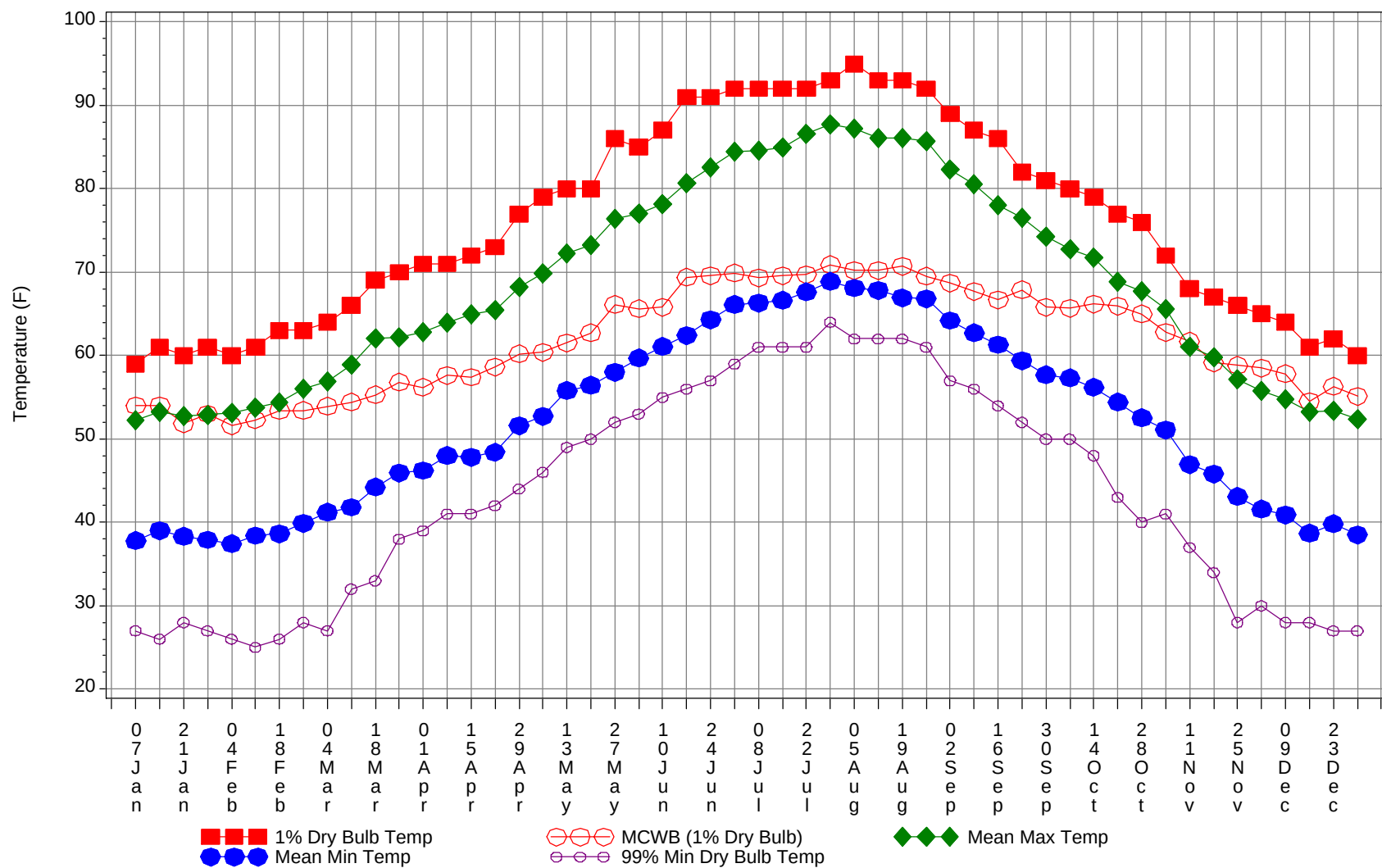
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

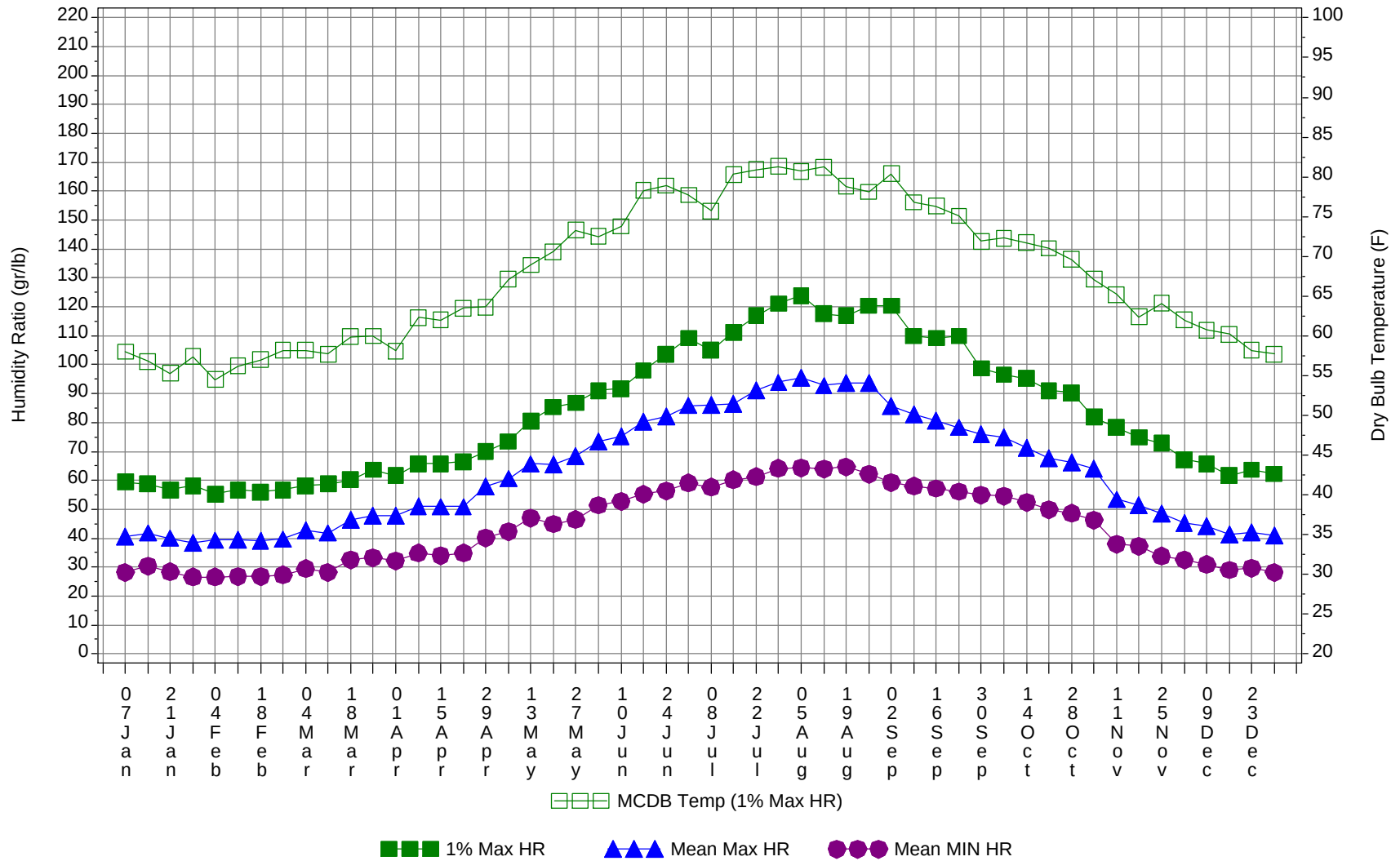
	Annual				
Temperature Range (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
100/104		0	0	0	69.3
95/ 99		5	1	6	69.9
90/ 94	0	55	11	66	69.9
85/ 89	1	165	56	222	68.8
80/ 84	10	271	151	432	67.1
75/ 79	86	317	279	682	65.1
70/ 74	275	319	337	931	62.7
65/ 69	358	300	321	979	59.5
60/ 64	397	348	347	1092	55.8
55/ 59	392	376	392	1160	51.7
50/ 54	400	327	391	1118	47.6
45/ 49	373	225	298	896	43.2
40/ 44	262	120	184	566	39
35/ 39	200	61	103	364	34.7
30/ 34	116	24	43	183	30.1
25/ 29	44	5	8	57	25.7
20/ 24	6	1	0	7	20.9
15/ 19	0			0	15.4

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



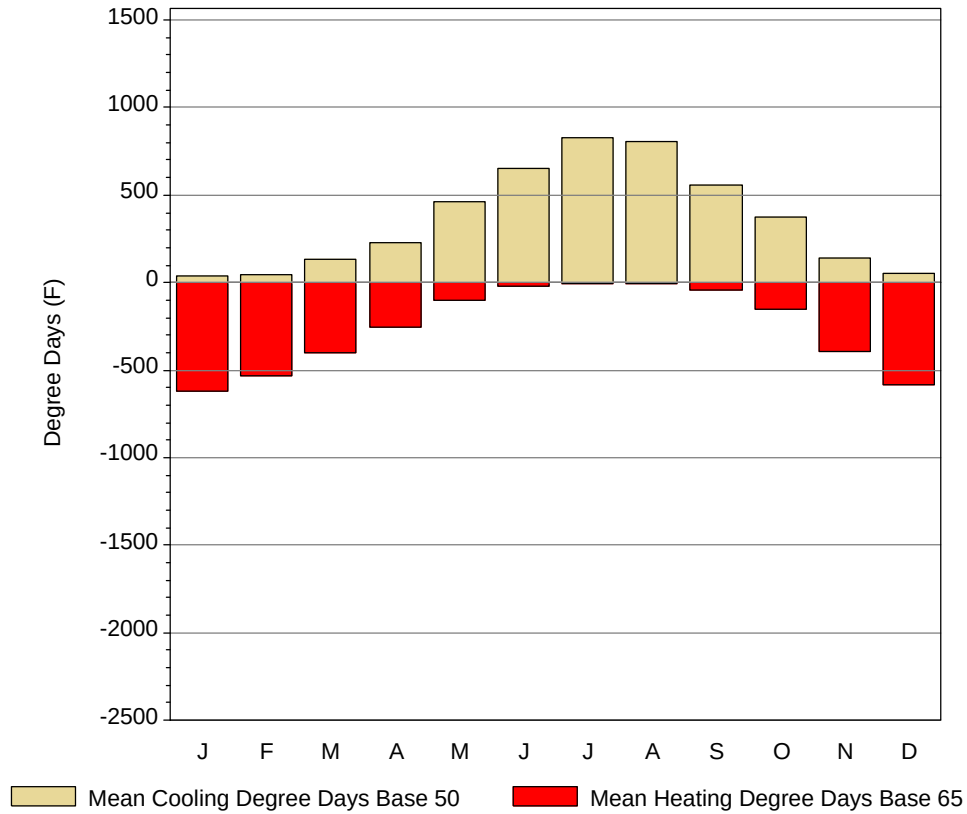
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

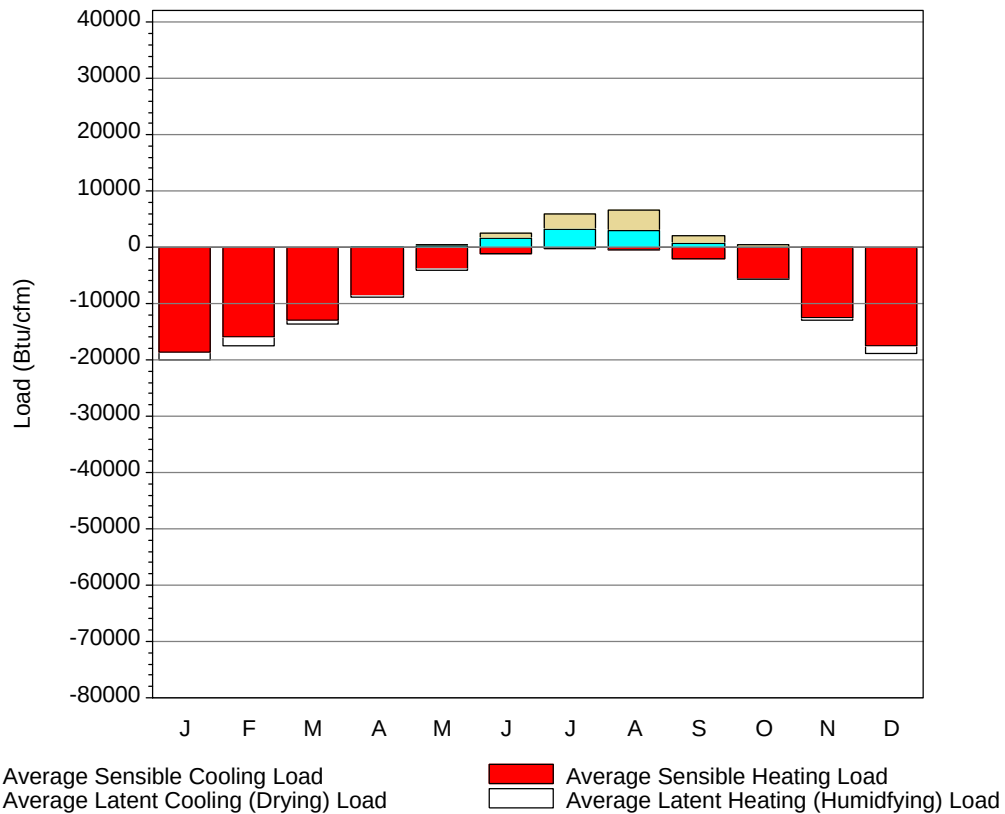
Week Ending	1.0% Temp (° F)	MCWB@ 1% Temp (° F)	Mean Max Temp (° F)	Mean Min Temp (° F)	99% Temp (° F)	1.0% HR (gr/lb)	MCDB@ 1% HR (° F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	59	54	52.2	37.8	27	59.5	58	40.5	28.1
14-Jan	61	54	53.3	39	26	58.8	56.8	41.8	30.3
21-Jan	60	51.8	52.7	38.3	28	56.7	55.3	40	28.4
28-Jan	61	53	52.9	37.9	27	58.1	57.4	38.3	26.6
4-Feb	60	51.6	53.1	37.4	26	55.3	54.5	39.3	26.6
11-Feb	61	52.3	53.7	38.4	25	56.7	56.2	39.5	26.8
18-Feb	63	53.4	54.4	38.6	26	56	57	39	26.8
25-Feb	63	53.4	56	39.9	28	56.7	58.2	39.7	27.3
4-Mar	64	53.9	56.9	41.2	27	58.1	58.2	42.8	29.5
11-Mar	66	54.4	58.9	41.8	32	58.8	57.7	41.8	28.1
18-Mar	69	55.3	62.1	44.2	33	60.2	59.9	46.3	32.5
25-Mar	70	56.8	62.2	45.9	38	63.7	60	47.9	33.2
1-Apr	71	56.2	62.8	46.2	39	61.6	58.1	47.7	32.1
8-Apr	71	57.6	64	48	41	65.8	62.3	51	34.9
15-Apr	72	57.4	65	47.8	41	65.8	62	50.9	33.9
22-Apr	73	58.6	65.4	48.4	42	66.5	63.5	50.9	34.9
29-Apr	77	60.2	68.2	51.6	44	70	63.6	57.8	40.1
6-May	79	60.4	69.9	52.7	46	73.5	67.1	60.6	42.3
13-May	80	61.5	72.3	55.8	49	80.5	68.9	65.7	47
20-May	80	62.7	73.3	56.4	50	85.4	70.6	65.4	44.9
27-May	86	66.1	76.4	58	52	86.8	73.3	68.5	46.4
4-Jun	85	65.6	77	59.7	53	91	72.5	73.5	51.4
10-Jun	87	65.8	78.1	61.1	55	91.7	73.8	75.3	52.7
17-Jun	91	69.4	80.7	62.4	56	98	78.3	80.2	55.2
24-Jun	91	69.6	82.6	64.3	57	103.6	78.9	82.1	56.3
1-Jul	92	69.9	84.5	66.1	59	109.2	77.7	85.9	59.1
8-Jul	92	69.3	84.6	66.3	61	105	75.7	86.1	57.6
15-Jul	92	69.6	85	66.6	61	111.3	80.3	86.6	60.1
22-Jul	92	69.7	86.6	67.6	61	116.9	80.9	91.2	61.3
29-Jul	93	70.9	87.7	68.9	64	121.1	81.3	93.9	64.1
5-Aug	95	70.2	87.2	68.1	62	123.9	80.7	95.5	64.4
12-Aug	93	70.2	86.1	67.8	62	117.6	81.2	92.8	63.9
19-Aug	93	70.7	86.1	66.9	62	116.9	78.8	93.8	64.6
26-Aug	92	69.5	85.7	66.8	61	120.4	78.1	93.8	62.1
2-Sep	89	68.7	82.3	64.2	57	120.4	80.4	85.8	59.3
9-Sep	87	67.7	80.6	62.7	56	109.9	76.8	82.8	58
16-Sep	86	66.7	78	61.3	54	109.2	76.3	80.8	57.2
23-Sep	82	67.9	76.5	59.4	52	109.9	75.1	78.3	56.1
30-Sep	81	65.8	74.2	57.7	50	98.7	71.9	75.9	55
7-Oct	80	65.7	72.8	57.3	50	96.6	72.3	75	54.5
14-Oct	79	66.2	71.7	56.2	48	95.2	71.7	71.3	52.4
21-Oct	77	65.9	68.8	54.4	43	91	71	67.7	49.8
28-Oct	76	65	67.7	52.5	40	90.3	69.6	66.1	48.6
4-Nov	72	62.8	65.6	51.1	41	81.9	67.1	64.1	46.2
11-Nov	68	61.7	61.1	46.9	37	78.4	65.2	53.4	37.9
18-Nov	67	59.1	59.8	45.8	34	74.9	62.4	51.4	37.2
25-Nov	66	58.8	57.1	43.1	28	72.8	64.1	48.4	33.8
2-Dec	65	58.5	55.7	41.6	30	67.2	62	45.2	32.5
9-Dec	64	57.8	54.7	40.9	28	65.8	60.7	44.1	30.9
16-Dec	61	54.5	53.2	38.7	28	61.6	60.2	41.2	29
23-Dec	62	56.3	53.4	39.8	27	63.7	58.2	42.1	29.7
31-Dec	60	55.1	52.4	38.5	27	62.3	57.7	40.8	28.1

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	36.2	0	623.6
FEB	46.1	0.1	529.4
MAR	131.9	3.7	404.3
APR	231.9	17.6	252.2
MAY	463.8	95.1	97.3
JUN	655.6	227.8	22.3
JUL	825.4	364.4	4
AUG	808.2	347.7	4.5
SEP	558.3	153.8	45.7
OCT	372.9	52.7	152.4
NOV	136.9	2.7	390.5
DEC	52.2	0	585.7
ANN	4319.4	1265.6	3111.9

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	-18574	0	-1371
FEB	0	-15919	0	-1487
MAR	0	-12823	0	-879
APR	14	-8609	0	-272
MAY	285	-3943	101	-20
JUN	1517	-1222	972	-2
JUL	3159	-313	2706	-1
AUG	2875	-334	3633	-1
SEP	659	-2131	1411	0
OCT	68	-5679	405	-42
NOV	0	-12397	12	-494
DEC	0	-17590	0	-1250
ANN	8577	-99534	9240	-5819

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													

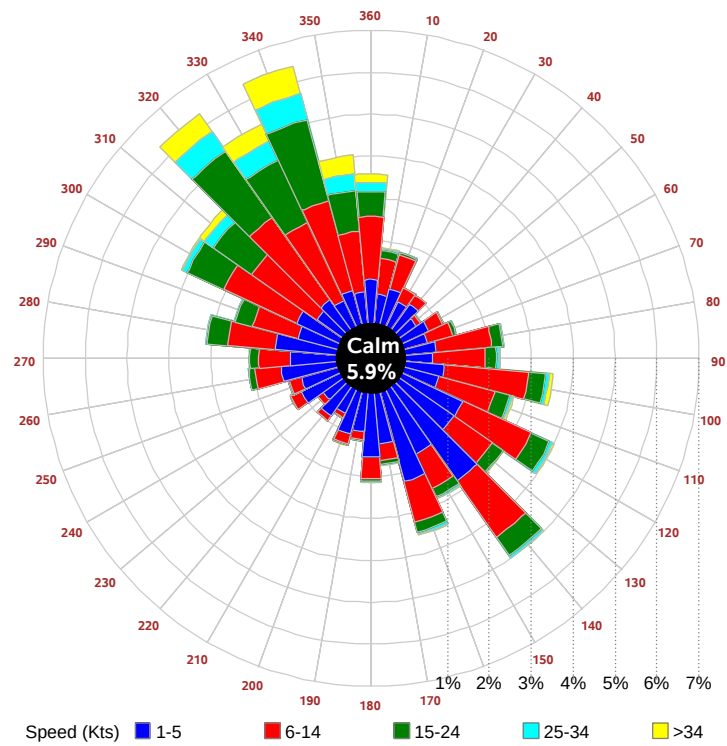
Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995

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													

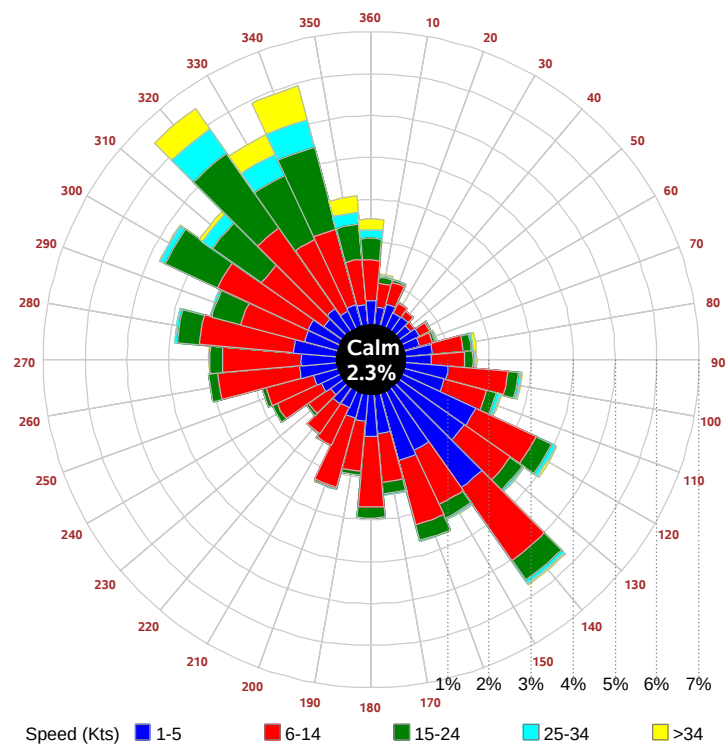
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9												
				March						June		
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm	
HORIZ.	M.Clear											
	M.Cloudy											
NORTH	M.Clear											
	M.Cloudy											
EAST	M.Clear			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

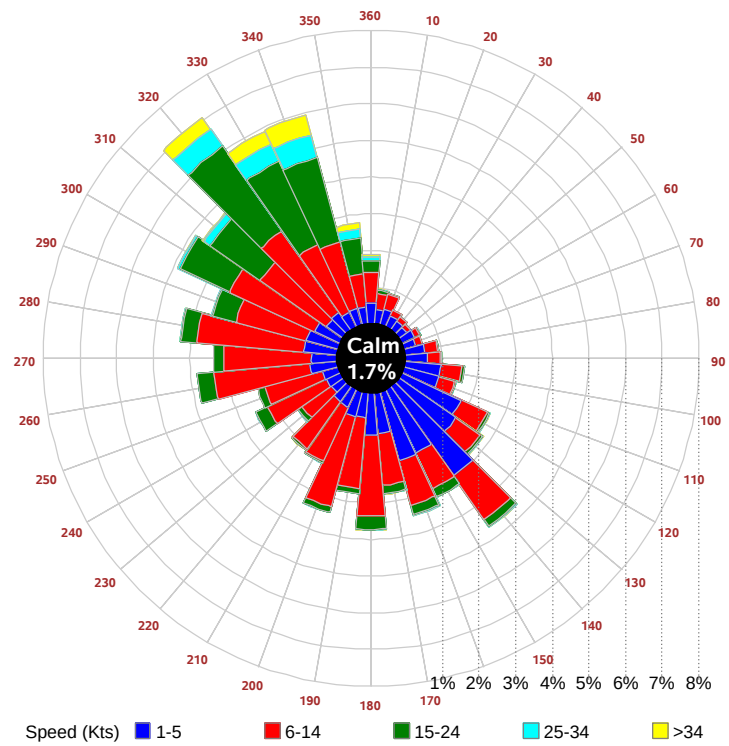
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November

