

FLORENNES, BE

Latitude = 50.24 N

Longitude = 4.65 E

Period of Record = 1988 To 2017

Station ID = ICAO_EBFS

Elevation = 935 Feet

Average Pressure = 28.97 inches Hg

Design Criteria Data

Dry Bulb Temperature (T)	Mean Coincident (Average) Values				
	Design Value (°F)	Wet Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	90	69	75	7.2	S
0.4% Occurrence	83	67	75	7.1	VRB
1.0% Occurrence	79	65	74	7.2	VRB
2.0% Occurrence	76	64	72	7.4	VRB
Mean Daily Range	12	-	-	-	VRB
97.5% Occurrence	27	26	18	7.1	VRB
99.0% Occurrence	23	22	15	6.8	VRB
99.6% Occurrence	19	18	12	6.3	VRB
Median of Extreme Lows	16	15	10	6.3	VRB

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	71	82	97	6.9	S
0.4% Occurrence	68	78	88	6.9	VRB
1.0% Occurrence	67	77	85	6.9	VRB
2.0% Occurrence	65	73	81	6.8	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	106	79	0.69	6.3	VRB
0.4% Occurrence	95	72	0.61	6.9	VRB
1.0% Occurrence	89	69	0.58	7.2	VRB
2.0% Occurrence	85	69	0.56	6.8	VRB

Air Conditioning/ Humid Area Criteria	Threshold	T ≥ 93 °F	T ≥ 80 °F	Twb ≥ 73 °F	Twb ≥ 67 °F
	# of Hours	4	83	8	100

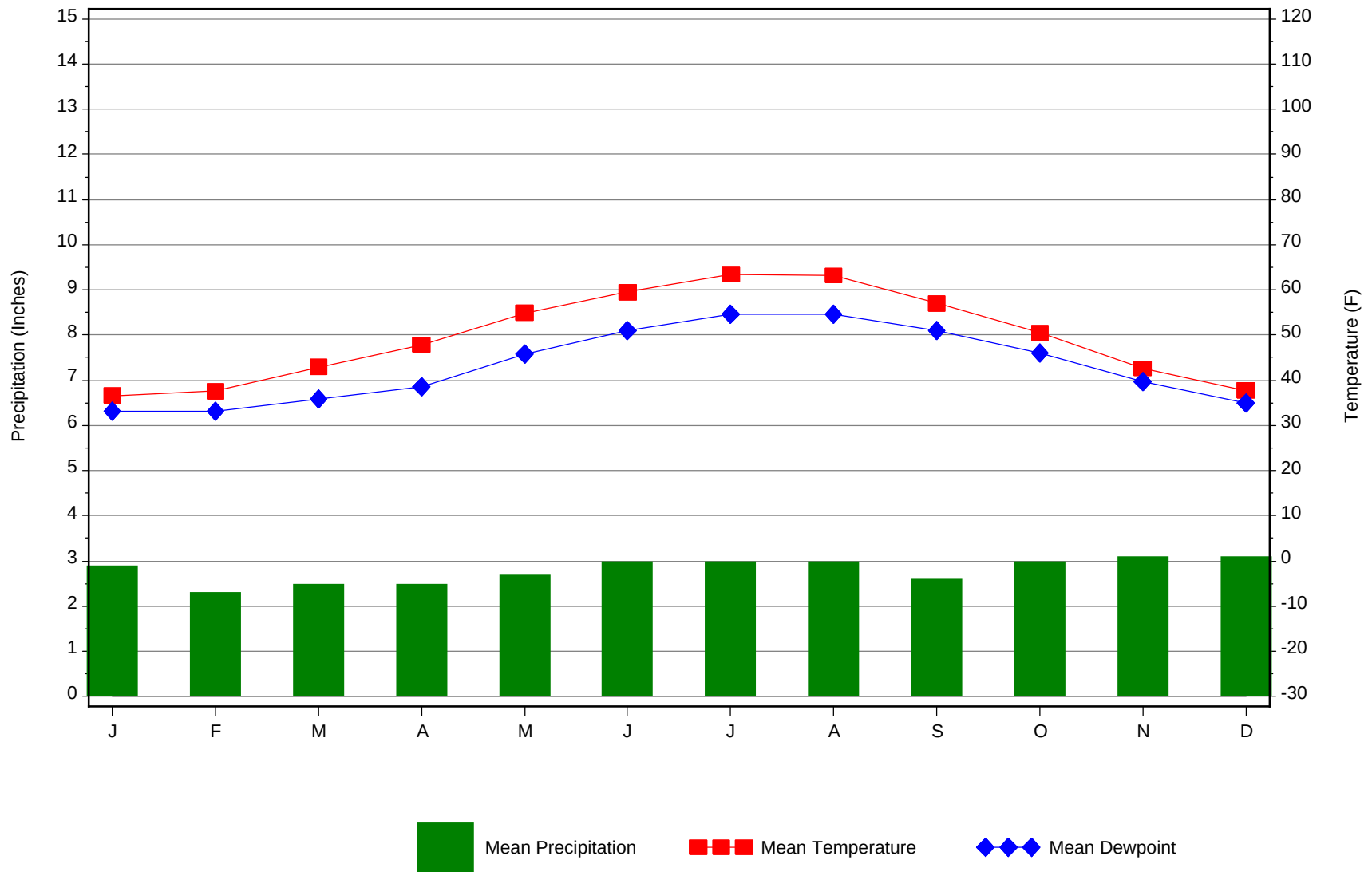
Other Site Data

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
6	N/A	N/A	0.1 + 0.1
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 (#)
52	N/A	N/A	31

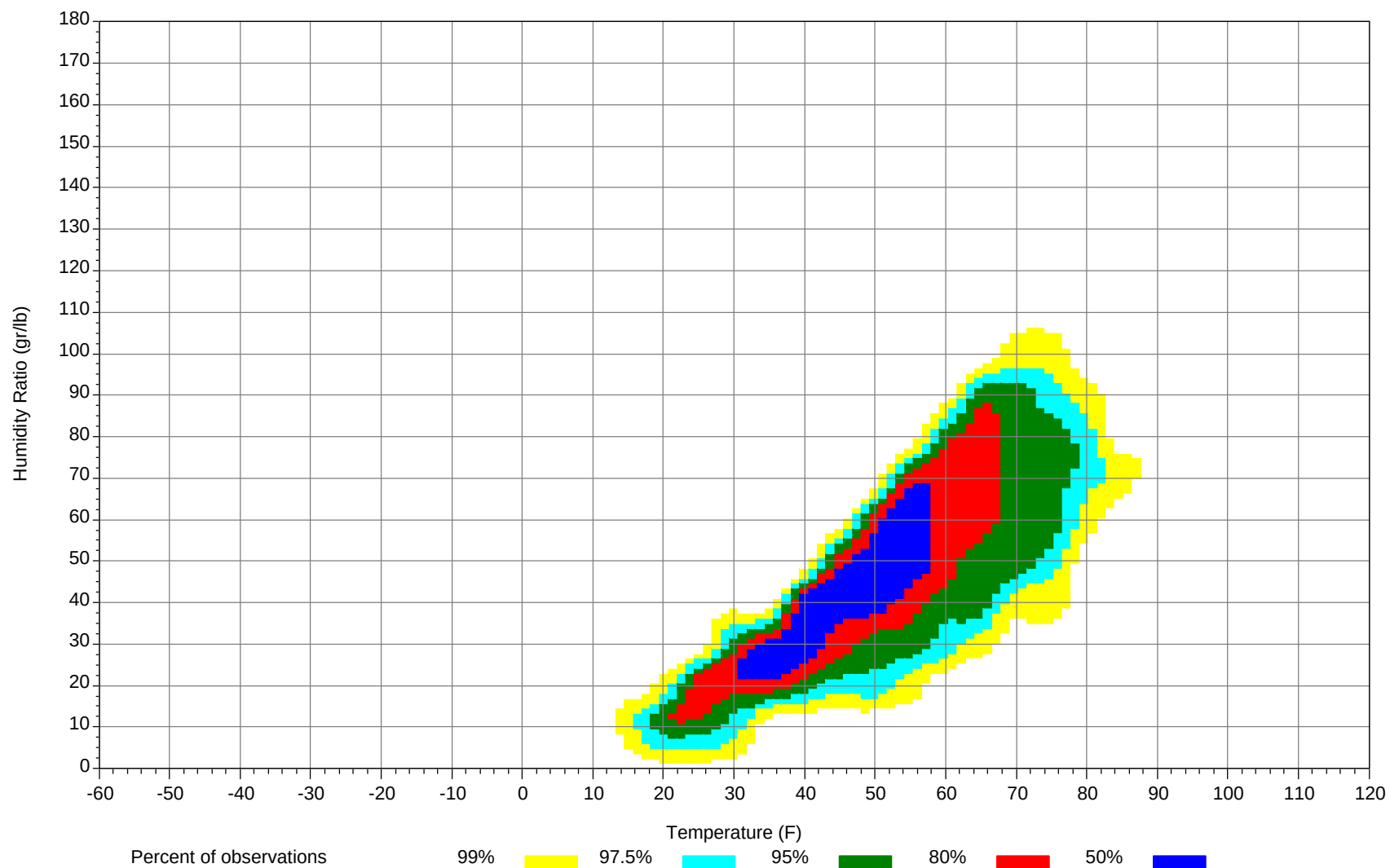
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.



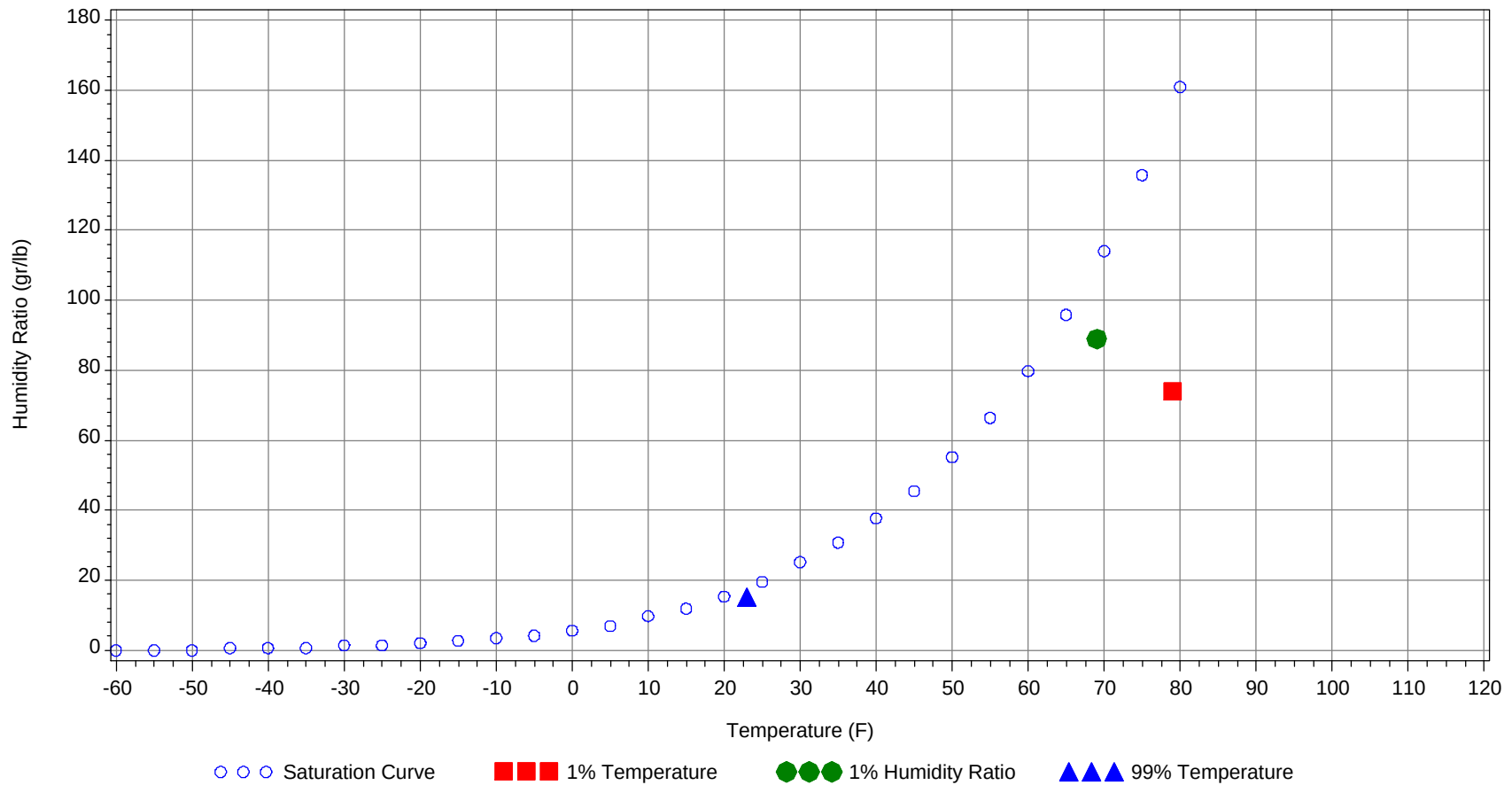
Average Annual Climate



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	79.0		65		74.0	30.6
99.0% Dry Bulb	23.0				15.0	7.8
1.0% Humidity Ratio	89.0	69.0	65	62.8		30.5

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)
95/ 99															
90/ 94															
85/ 89															
80/ 84															
75/ 79															
70/ 74												0	0	0	54.7
65/ 69												2	1	3	52.8
60/ 64							1	0	1	51.8	0	10	5	15	50.9
55/ 59	0	0	0	0	50.3	0	4	2	6	48	1	20	15	36	48.7
50/ 54	6	10	8	24	49.1	5	13	11	29	46.9	14	38	35	87	46.9
45/ 49	26	35	32	93	44.8	25	38	36	99	44.2	49	64	62	175	43.5
40/ 44	49	57	53	159	40.4	40	53	50	143	39.9	59	52	56	167	39.4
35/ 39	60	63	63	186	35.8	58	52	56	166	35.7	63	39	47	149	35.3
30/ 34	54	47	52	153	31.1	51	40	43	134	31	45	18	20	83	30.8
25/ 29	30	23	25	78	26	28	16	18	62	26	14	4	5	23	26.1
20/ 24	16	9	11	36	21.2	10	6	5	21	21.2	3	1	1	5	21.6
15/ 19	6	3	3	12	17	4	2	3	9	16.1	1	0	0	1	16.1
10/ 14	1	1	0	2	12.2	2	1	1	4	11.6	0			0	12.2
5/ 9	0	0	0	0	6.9	1	0	0	1	6.7					
0/ 4	0	0		0	2.9	0	0		0	3.7					

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)
95/ 99															
90/ 94												0	0	0	69.4
85/ 89							0	0	0	64.4		2	1	3	66.9
80/ 84							2	1	3	63.8		5	4	9	66
75/ 79		1	0	1	57.9		8	4	12	61.6	0	17	9	26	63.9
70/ 74		7	3	10	55.8	0	20	12	32	59	3	28	20	51	61.8
65/ 69		11	7	18	54	3	29	21	53	57.3	9	39	35	83	59.3
60/ 64	1	21	15	37	51.9	14	46	41	101	54.8	34	59	56	149	56.7
55/ 59	9	38	30	77	49.4	39	58	56	153	52	65	59	61	185	53.5
50/ 54	32	54	54	140	46.9	71	54	61	186	48.8	82	26	43	151	50
45/ 49	57	56	58	171	43.4	70	25	38	133	44.8	40	4	11	55	45.8
40/ 44	64	36	46	146	39.5	39	6	12	57	40.7	7	0	1	8	41.5
35/ 39	50	14	21	85	35.4	12	0	2	14	36.7	0			0	36.8
30/ 34	22	2	5	29	31.1	1			1	33.1					
25/ 29	3		0	3	26.5										
20/ 24															
15/ 19															
10/ 14															
5/ 9															
0/ 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

	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)
95/ 99		0		0	67		0	0	0	69.4					
90/ 94		1	0	1	68.5		1	1	2	70					
85/ 89		5	3	8	68.1	0	5	2	7	68.3		0		0	64
80/ 84	0	15	9	24	66.7	0	14	7	21	66.5	0	3	1	4	64.3
75/ 79	1	30	20	51	64.8	1	25	16	42	64.7	0	8	3	11	64.1
70/ 74	7	41	33	81	62.8	6	41	30	77	62.4	0	17	8	25	62
65/ 69	25	50	47	122	60.4	21	54	48	123	60.5	3	30	20	53	59.7
60/ 64	61	62	65	188	58	60	68	70	198	58.2	22	65	47	134	57.2
55/ 59	85	39	52	176	54.6	94	36	56	186	54.9	64	74	78	216	54.1
50/ 54	59	6	18	83	51.1	57	4	16	77	51	85	36	64	185	50.4
45/ 49	9	0	0	9	46.8	9	0	1	10	46.6	54	6	18	78	46.2
40/ 44	0			0	42.8	0			0	43	11	0	1	12	41.7
35/ 39											1		0	1	37.8
30/ 34															
25/ 29															
20/ 24															
15/ 19															
10/ 14															
5/ 9															
0/ 4															

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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)
95/ 99															
90/ 94															
85/ 89															
80/ 84															
75/ 79		0	0	0	62.8										
70/ 74		4	1	5	61.8										
65/ 69		12	4	16	59.5		0		0	55.4					
60/ 64	6	29	19	54	57.1	0	3	1	4	55.7		0		0	50.5
55/ 59	35	61	50	146	53.8	5	12	9	26	52.6	0	1	1	2	51.8
50/ 54	66	70	71	207	49.9	26	39	32	97	49.5	10	14	15	39	49.3
45/ 49	64	45	59	168	45.2	52	68	61	181	45.2	34	42	34	110	45
40/ 44	43	19	32	94	40.8	60	56	61	177	40.8	43	54	54	151	40.6
35/ 39	24	6	12	42	36.4	52	39	46	137	36.3	63	62	59	184	36.2
30/ 34	8	1	1	10	31.5	32	18	24	74	31.6	55	49	57	161	31.3
25/ 29	1	0	0	1	26.3	9	5	6	20	26.3	30	19	22	71	26.3
20/ 24	0			0	23.5	3	1	2	6	21.7	10	4	5	19	21.2
15/ 19						1	0	0	1	16.6	3	1	1	5	17
10/ 14						0	0		0	13.8	1	0	0	1	11.4
5/ 9											0	0	0	0	7.7
0/ 4															

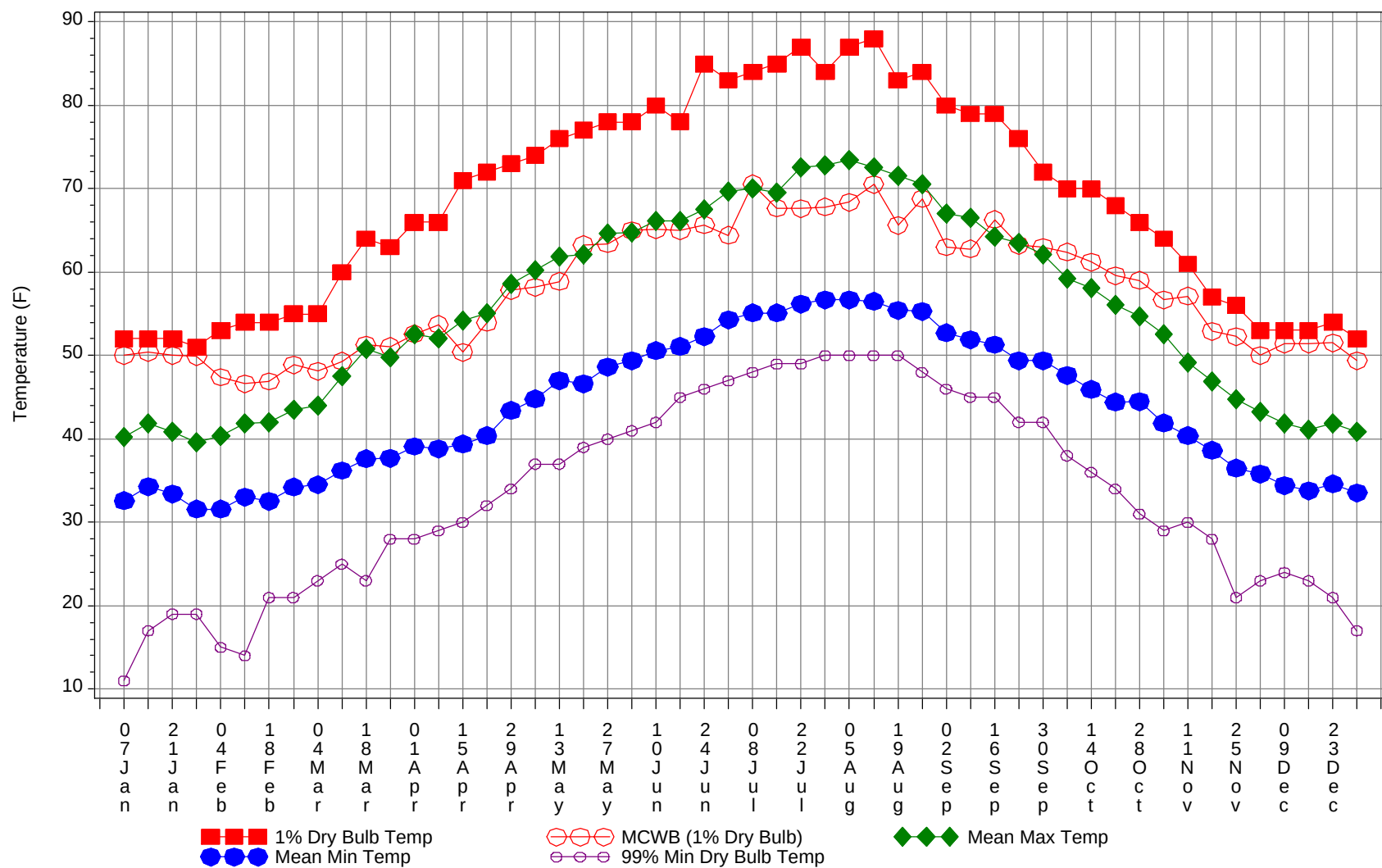
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

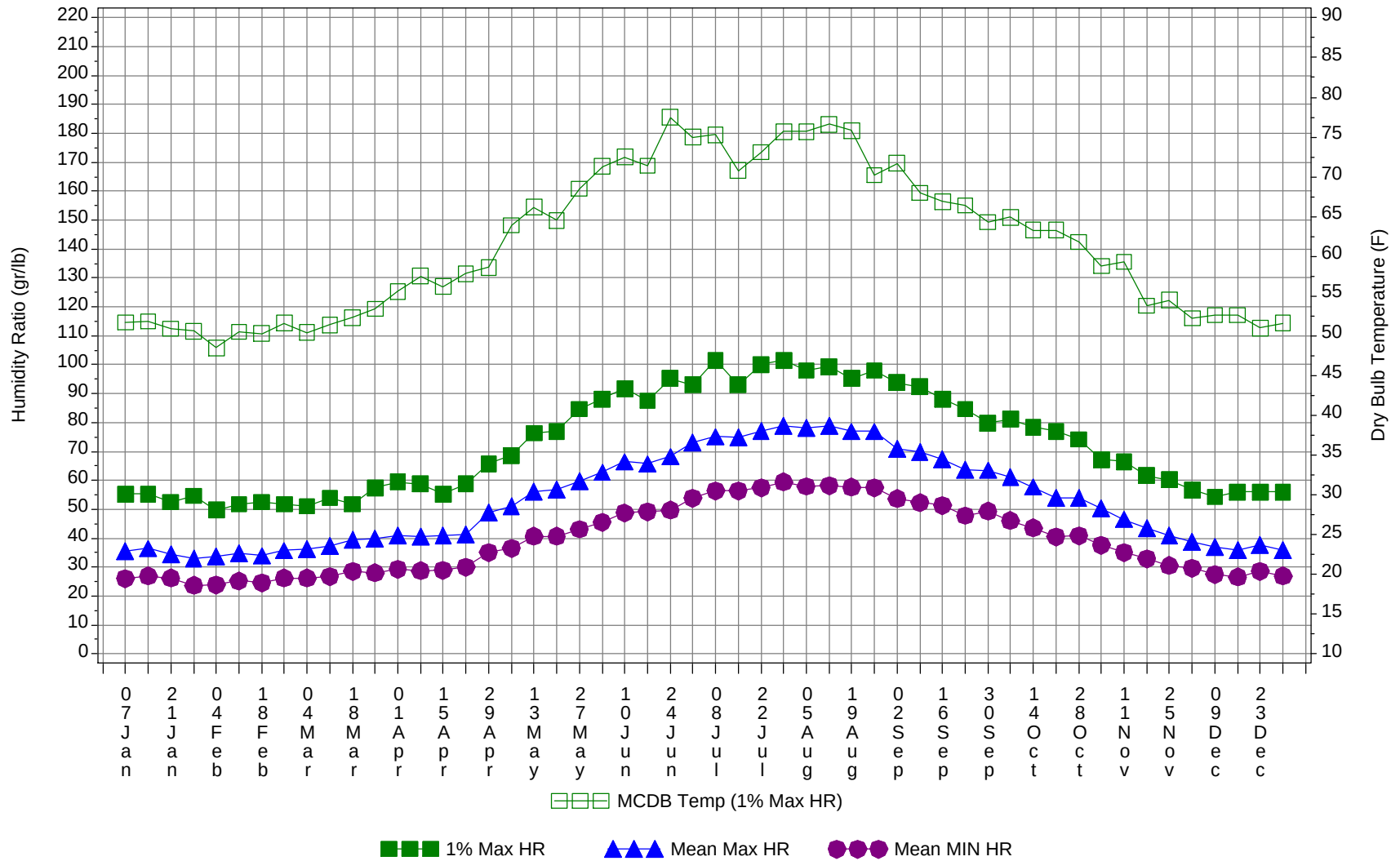
	Annual				
Temperature Range (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
95/ 99		0	0	0	69.1
90/ 94		3	1	4	69.5
85/ 89	0	12	6	18	67.9
80/ 84	0	39	21	60	66.3
75/ 79	3	89	53	145	64.2
70/ 74	16	157	107	280	61.7
65/ 69	60	228	181	469	59.5
60/ 64	198	363	319	880	56.9
55/ 59	398	403	409	1210	53.4
50/ 54	513	364	429	1306	49.3
45/ 49	488	383	411	1282	44.7
40/ 44	415	333	365	1113	40.2
35/ 39	383	275	306	964	35.9
30/ 34	269	175	202	646	31.2
25/ 29	115	67	76	258	26.1
20/ 24	41	21	24	86	21.3
15/ 19	15	6	7	28	16.7
10/ 14	4	2	1	7	11.8
5/ 9	1	0	1	2	7
0/ 4	0	0		0	3.1

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



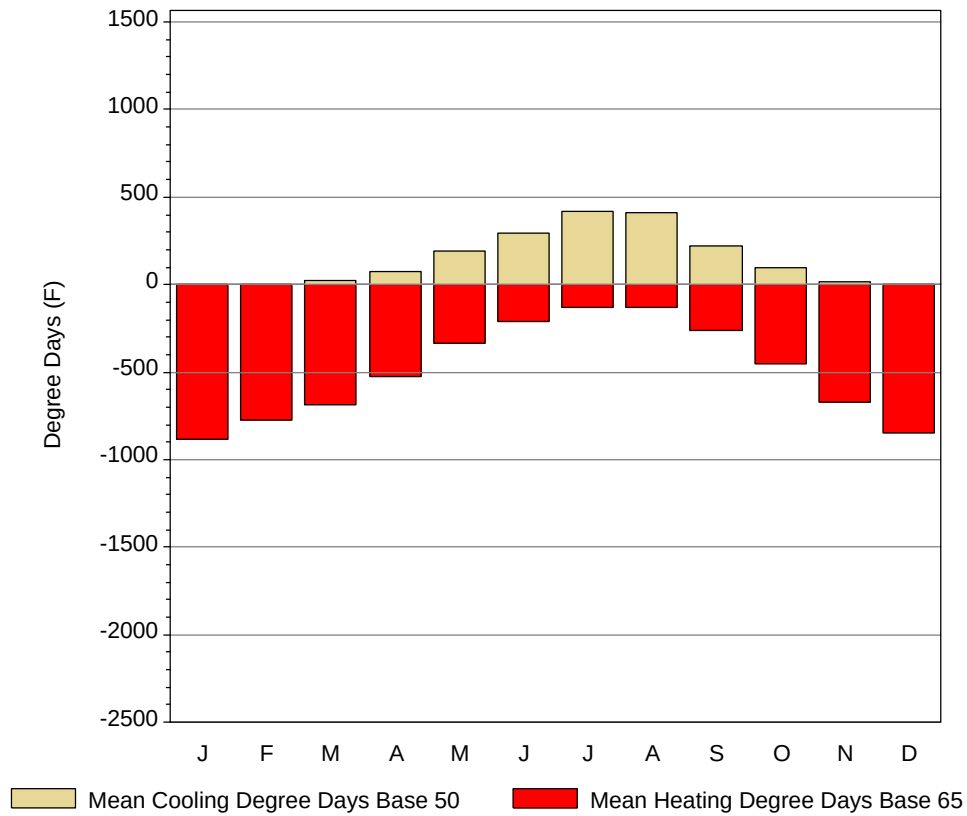
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

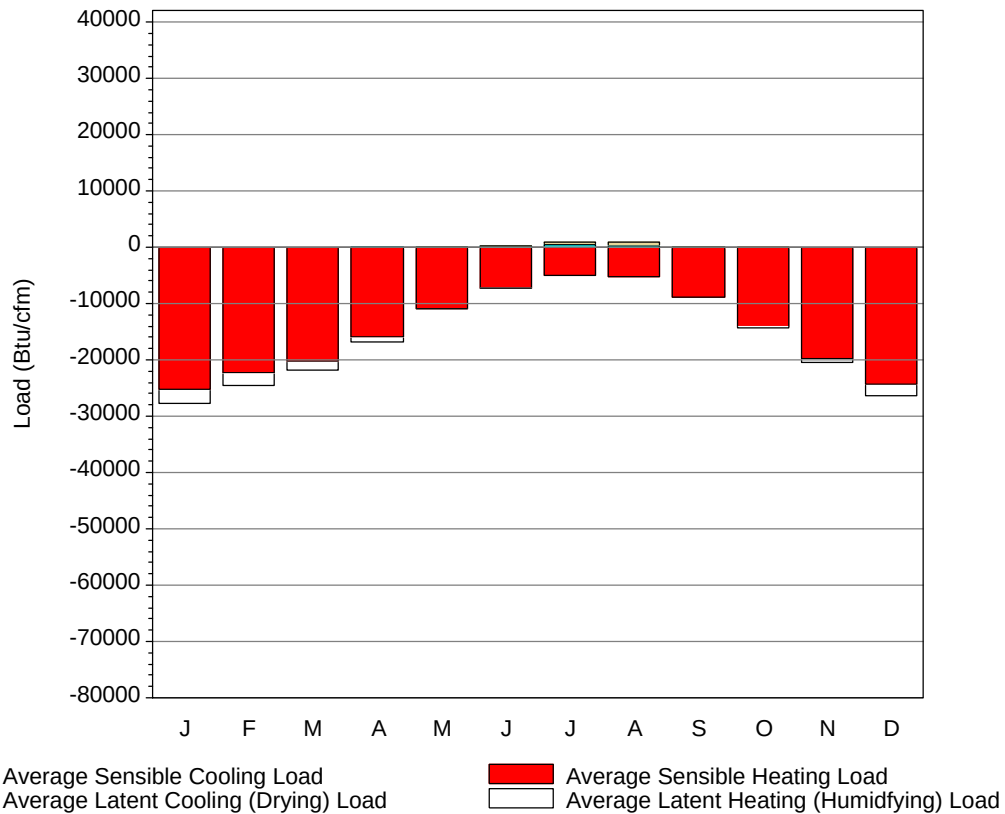
Week Ending	1.0% Temp (° F)	MCWB@ 1% Temp (° F)	Mean Max Temp (° F)	Mean Min Temp (° F)	99% Temp (° F)	1.0% HR (gr/lb)	MCDB@ 1% HR (° F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	52	50	40.2	32.6	11	55.3	51.7	35.5	26
14-Jan	52	50.4	41.8	34.3	17	55.3	51.8	36.4	26.9
21-Jan	52	50	40.8	33.4	19	52.5	50.9	34.4	26.2
28-Jan	51	49.9	39.6	31.6	19	54.6	50.6	33	23.7
4-Feb	53	47.4	40.3	31.6	15	49.7	48.5	33.6	23.9
11-Feb	54	46.6	41.9	33	14	51.8	50.5	34.7	25.2
18-Feb	54	46.9	42	32.5	21	52.5	50.3	33.9	24.5
25-Feb	55	48.9	43.5	34.2	21	51.8	51.6	35.7	26.2
4-Mar	55	48.1	44	34.5	23	51.1	50.4	36.2	26.2
11-Mar	60	49.3	47.5	36.2	25	53.9	51.4	37.4	26.8
18-Mar	64	51.3	50.8	37.6	23	51.8	52.3	39.5	28.6
25-Mar	63	51.1	49.8	37.7	28	57.4	53.4	39.8	28
1-Apr	66	52.6	52.5	39.1	28	59.5	55.6	40.9	29.2
8-Apr	66	53.7	52.1	38.8	29	58.8	57.5	40.6	28.8
15-Apr	71	50.4	54.2	39.4	30	55.3	56.2	40.9	28.9
22-Apr	72	54	55.1	40.4	32	58.8	57.8	41.4	30
29-Apr	73	57.8	58.6	43.4	34	65.8	58.6	49	35
6-May	74	58.2	60.2	44.8	37	68.6	63.9	51	36.5
13-May	76	58.9	61.9	47	37	76.3	66.2	56	40.6
20-May	77	63.3	62.1	46.6	39	77	64.5	56.9	40.7
27-May	78	63.4	64.6	48.6	40	84.7	68.5	59.8	43.1
4-Jun	78	65	64.8	49.4	41	88.2	71.3	62.8	45.5
10-Jun	80	65.1	66.1	50.6	42	91.7	72.5	66.4	48.7
17-Jun	78	65	66.2	51.1	45	87.5	71.4	65.7	49.1
24-Jun	85	65.7	67.5	52.3	46	95.2	77.5	68.2	49.7
1-Jul	83	64.4	69.7	54.3	47	93.1	75	73.1	53.9
8-Jul	84	70.6	70	55.1	48	101.5	75.3	75.1	56.4
15-Jul	85	67.7	69.6	55.1	49	93.1	70.8	74.9	56.4
22-Jul	87	67.6	72.6	56.2	49	100.1	73.1	77.1	57.5
29-Jul	84	67.8	72.8	56.7	50	101.5	75.7	78.8	59.5
5-Aug	87	68.4	73.4	56.7	50	98	75.7	78.1	57.9
12-Aug	88	70.5	72.5	56.5	50	99.4	76.6	78.9	58.1
19-Aug	83	65.6	71.5	55.4	50	95.2	75.8	76.9	57.7
26-Aug	84	68.8	70.5	55.3	48	98	70.2	76.9	57.5
2-Sep	80	63	67	52.7	46	93.8	71.7	70.8	53.7
9-Sep	79	62.8	66.5	51.9	45	92.4	68	69.8	52.3
16-Sep	79	66.3	64.3	51.3	45	88.2	66.9	67.2	51.3
23-Sep	76	63.2	63.5	49.4	42	84.7	66.4	63.7	47.8
30-Sep	72	63	62.1	49.4	42	79.8	64.3	63.5	49.3
7-Oct	70	62.4	59.2	47.6	38	81.2	64.9	61.1	46.1
14-Oct	70	61.2	58.1	45.9	36	78.4	63.3	57.7	43.5
21-Oct	68	59.6	56.1	44.4	34	77	63.3	54	40.4
28-Oct	66	59	54.7	44.5	31	74.2	61.8	54	40.9
4-Nov	64	56.7	52.5	41.9	29	67.2	58.8	50.3	37.5
11-Nov	61	57.1	49.1	40.4	30	66.5	59.3	46.5	35
18-Nov	57	52.9	46.9	38.6	28	61.6	53.8	43.4	32.9
25-Nov	56	52.3	44.7	36.5	21	60.2	54.5	40.8	30.5
2-Dec	53	50	43.2	35.8	23	56.7	52.2	38.7	29.7
9-Dec	53	51.4	41.9	34.4	24	54.3	52.6	36.9	27.5
16-Dec	53	51.4	41.1	33.8	23	56	52.6	35.9	26.6
23-Dec	54	51.5	41.9	34.6	21	56	51	37.7	28.5
31-Dec	52	49.4	40.9	33.5	17	56	51.6	36	26.9

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	1.3	0	882.7
FEB	3.4	0	776.7
MAR	25.9	0.3	687.4
APR	72.9	4.6	521.6
MAY	193	21.2	335.6
JUN	291.6	42.5	209.5
JUL	416.4	81.7	131.2
AUG	407.6	74.8	133.2
SEP	222	18.5	259.1
OCT	98.8	2.4	451.7
NOV	15.3	0	672.7
DEC	2.5	0	846.6
ANN	1750.7	246	5908

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	-25291	0	-2461
FEB	0	-22330	0	-2207
MAR	0	-20221	0	-1584
APR	1	-15786	0	-926
MAY	42	-10855	24	-89
JUN	157	-7321	187	-5
JUL	378	-5045	548	0
AUG	359	-5147	466	0
SEP	44	-8826	81	0
OCT	0	-14077	4	-177
NOV	0	-19769	0	-764
DEC	0	-24356	0	-1935
ANN	981	-179024	1310	-10148

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													

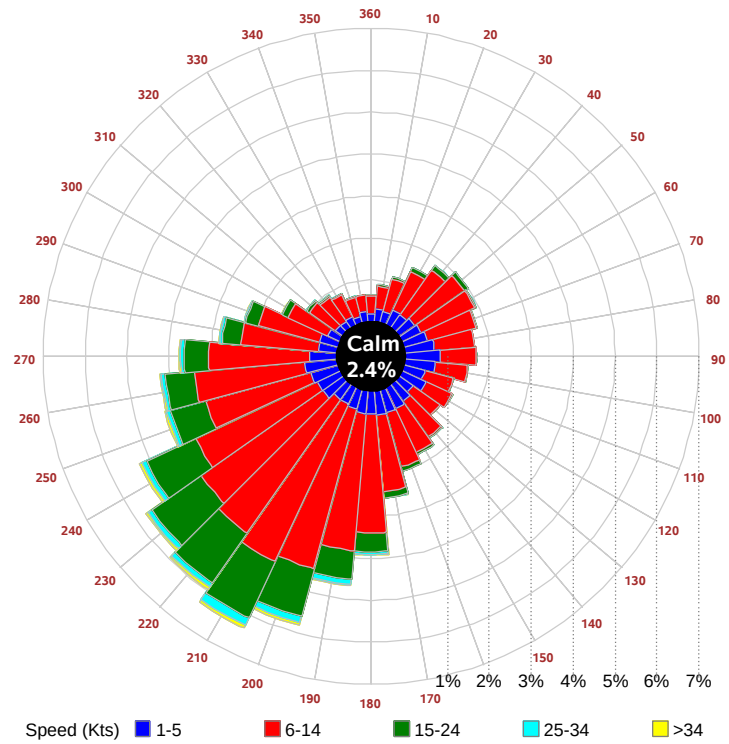
Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995

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													

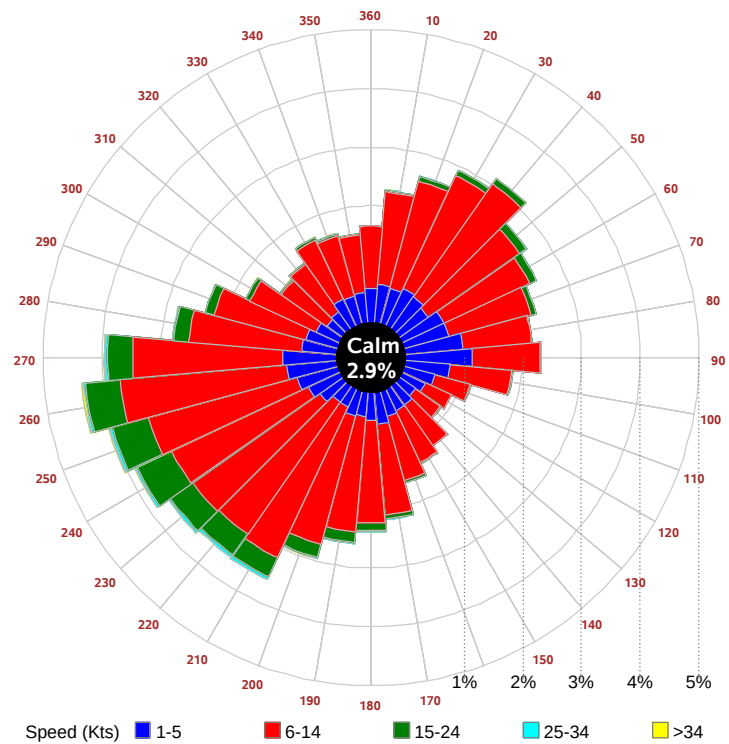
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9												
		March						June				
		9am	11am	1pm	3pm	5pm		9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear											
	M.Cloudy											
NORTH	M.Clear											
	M.Cloudy											
EAST	M.Clear			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

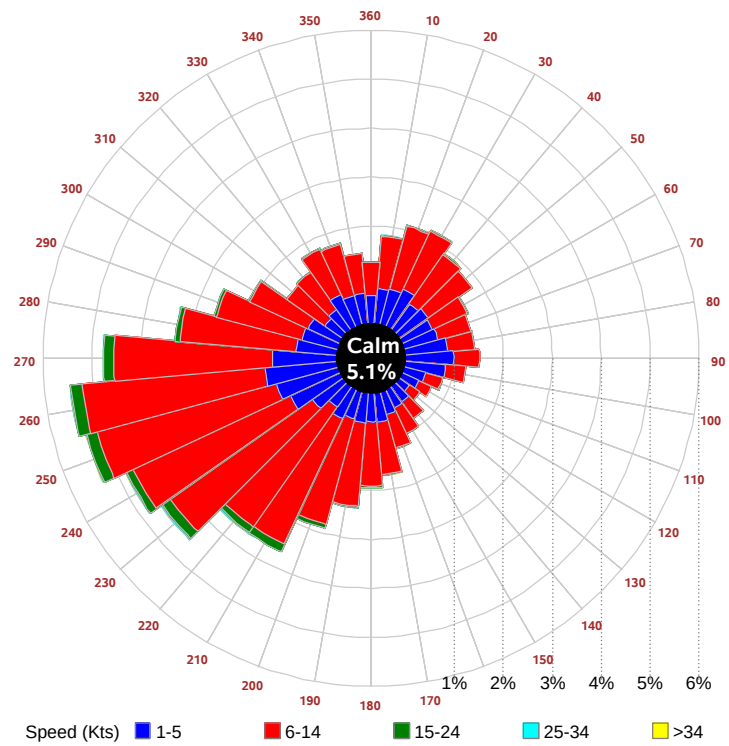
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November

