

GENEVA COINTRIN, SZ

Latitude = 46.24 N

Longitude = 6.11 E

Period of Record = 1988 To 2017

Station ID = ICAO_LSGG

Elevation = 1411 Feet

Average Pressure = 28.59 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	93	68	66	8.5	SW
0.4% Occurrence	88	67	70	7.7	VRB
1.0% Occurrence	84	66	72	6.9	VRB
2.0% Occurrence	82	65	71	6.6	VRB
Mean Daily Range	16	-	-	-	VRB
97.5% Occurrence	27	26	19	4.1	VRB
99.0% Occurrence	25	23	16	4.8	VRB
99.6% Occurrence	21	20	13	5.3	WSW
Median of Extreme Lows	16	15	10	6.6	WSW

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	72	86	95	5.7	VRB
0.4% Occurrence	69	83	86	5.7	VRB
1.0% Occurrence	68	81	84	5.6	VRB
2.0% Occurrence	67	79	83	5.4	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	104	77	0.67	2.7	SW
0.4% Occurrence	94	73	0.6	3.6	VRB
1.0% Occurrence	90	72	0.58	3.5	VRB
2.0% Occurrence	90	72	0.58	3.4	VRB

Air Conditioning/ Humid Area Criteria	Threshold	$T \geq 93^{\circ}\text{F}$	$T \geq 80^{\circ}\text{F}$	$T_{wb} \geq 73^{\circ}\text{F}$	$T_{wb} \geq 67^{\circ}\text{F}$
	# of Hours	14	256	2	179

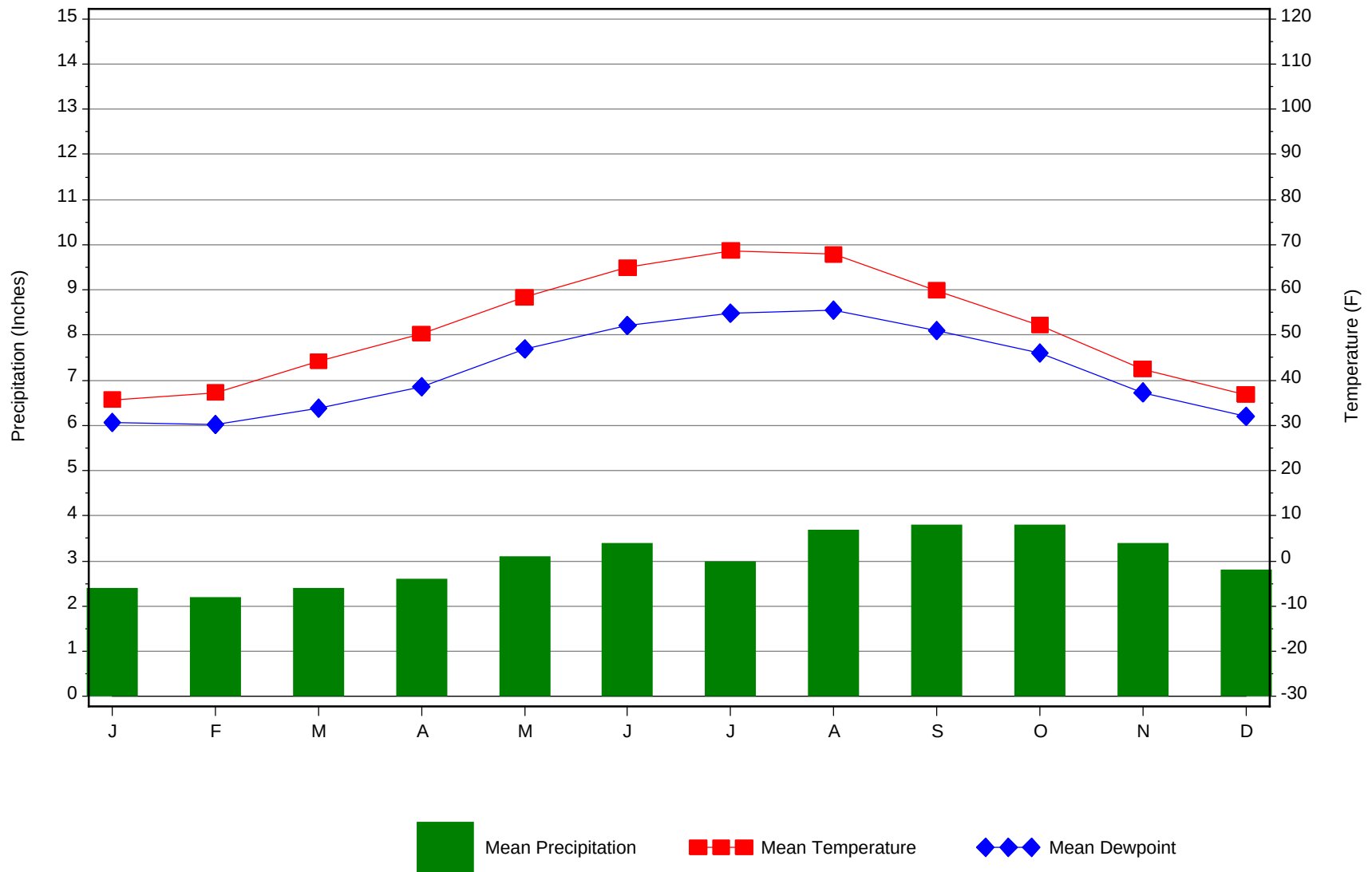
Other Site Data

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
7	N/A	N/A	0.1 + 0.3
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 (#)
54.1	N/A	N/A	45

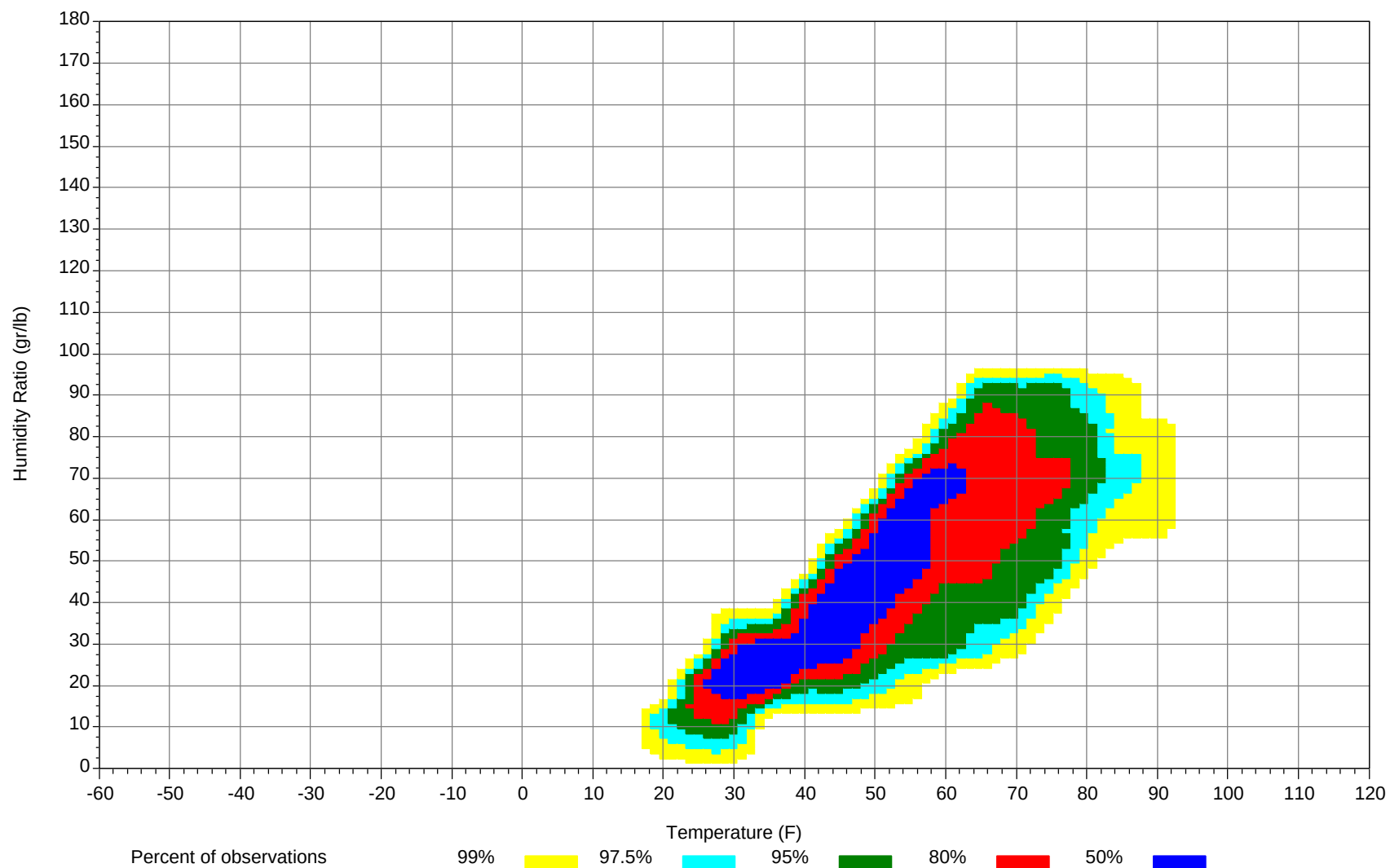
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.



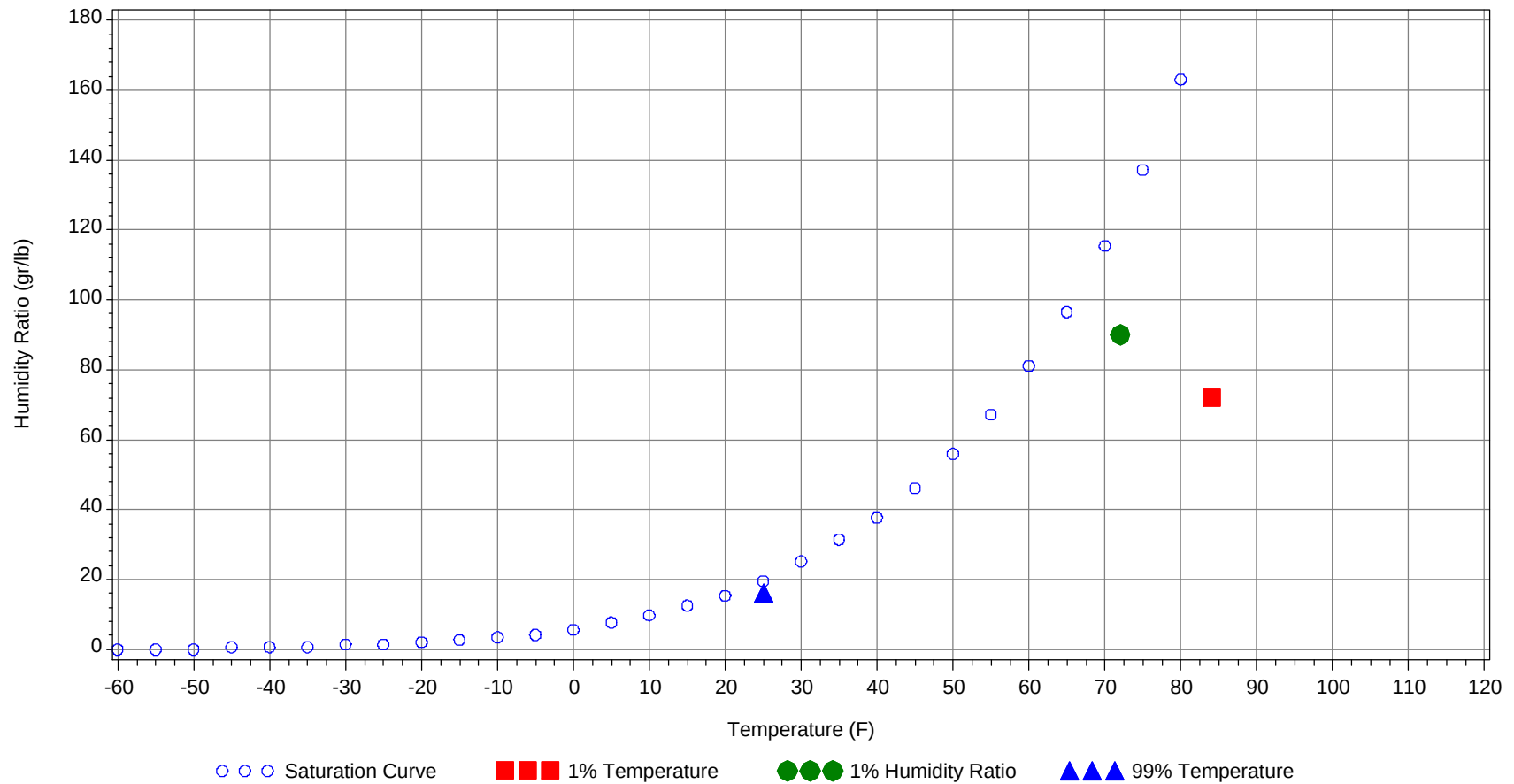
Average Annual Climate



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	84.0		66		72.0	31.4
99.0% Dry Bulb	25.0				16.0	8.5
1.0% Humidity Ratio	90.0	72.0	65.5	63.0		31.3

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															
95/ 99															
90/ 94															
85/ 89															
80/ 84															
75/ 79												0	0	0	53
70/ 74												1	1	2	53.9
65/ 69							0		0	48		4	2	6	52.5
60/ 64		0		0	51.5		1	0	1	49.3	0	15	10	25	50.3
55/ 59	0	2	1	3	49.3	0	7	3	10	47.5	2	37	24	63	47.9
50/ 54	4	13	9	26	46.2	3	21	14	38	44.8	14	52	46	112	45.3
45/ 49	16	35	25	76	42.6	16	41	35	92	41.7	41	60	63	164	42
40/ 44	22	37	33	92	39.2	22	41	37	100	38.6	43	36	41	120	38.3
35/ 39	57	66	68	191	35.2	52	54	60	166	34.9	75	31	44	150	34.7
30/ 34	77	63	71	211	30.4	67	41	52	160	30.1	51	9	15	75	30.1
25/ 29	55	27	35	117	25.8	48	13	18	79	25.5	19	1	2	22	25.2
20/ 24	11	4	4	19	21	10	2	2	14	20.6	2	0	0	2	20.8
15/ 19	5	1	1	7	17.3	5	2	2	9	16	1	0	0	1	16.3
10/ 14	1	0	0	1	12.6	1	0	0	1	11.4	0			0	13

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															
95/ 99												0		0	64
90/ 94							0	0	0	64		3	2	5	67.6
85/ 89							1	0	1	64.9		6	5	11	66.9
80/ 84		0		0	60		5	3	8	63.1	0	24	15	39	65.4
75/ 79		2	2	4	57.5	0	17	10	27	60.7	2	42	30	74	63.2
70/ 74	0	10	7	17	55.1	1	38	24	63	58.3	10	53	41	104	60.8
65/ 69	0	16	10	26	53.2	3	39	27	69	56.6	19	37	36	92	59
60/ 64	2	38	25	65	51.3	19	60	52	131	54.7	63	46	54	163	56.9
55/ 59	10	50	42	102	48.9	62	53	63	178	52.3	78	25	41	144	53.5
50/ 54	38	55	59	152	46.4	83	26	48	157	48.9	51	4	16	71	49.8
45/ 49	75	46	56	177	42.7	56	8	17	81	44.5	15	0	2	17	45.2
40/ 44	55	16	25	96	39	17	1	3	21	40.4	2		0	2	40.8
35/ 39	47	6	13	66	35.6	6	0	1	7	36.9	0			0	37.5
30/ 34	12	1	1	14	31.2	0			0	32.2					
25/ 29	1			1	25.7										
20/ 24															
15/ 19															
10/ 14															

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	70.3		0		0	64					
95/ 99		1	1	2	68		1	1	2	66.7					
90/ 94		7	5	12	67.4		5	3	8	67.8					
85/ 89		12	8	20	67.1		12	7	19	66.8		0	0	0	66.2
80/ 84	0	38	27	65	65.6	0	35	23	58	65.9		6	2	8	65.3
75/ 79	4	58	43	105	63.7	2	54	37	93	64		18	9	27	63.2
70/ 74	22	62	53	137	61.6	13	64	53	130	62.1	2	42	23	67	61.1
65/ 69	41	34	41	116	60.4	35	38	44	117	60.7	5	43	32	80	59.2
60/ 64	88	26	46	160	58.2	91	30	53	174	58.6	35	66	62	163	57
55/ 59	65	9	21	95	54.4	73	8	22	103	54.8	76	46	65	187	53.7
50/ 54	25	1	4	30	50.5	29	1	5	35	50.6	70	16	35	121	49.7
45/ 49	3		0	3	45.8	6		0	6	45.5	40	2	10	52	45.3
40/ 44	0			0	42	0			0	41.5	9	0	1	10	41.1
35/ 39											2		0	2	37.5
30/ 34											0			0	33
25/ 29															
20/ 24															
15/ 19															
10/ 14															

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															
80/ 84															
75/ 79		1	0	1	61.9										
70/ 74	0	8	3	11	60.2		0		0	58.5					
65/ 69	1	17	6	24	58.9		1	0	1	55.6	0		0	0	52.6
60/ 64	6	47	26	79	56.5	0	6	1	7	53.6	0	0	0	0	51.4
55/ 59	30	67	58	155	53.2	3	16	8	27	51.2	1	3	2	6	50
50/ 54	77	65	79	221	49.4	18	47	31	96	48.1	5	15	9	29	46.8
45/ 49	74	31	50	155	44.5	50	68	65	183	43.9	19	38	29	86	43.1
40/ 44	35	8	18	61	40.3	51	44	51	146	39.9	30	42	39	111	39.5
35/ 39	17	3	7	27	36.1	60	41	51	152	35.7	62	69	70	201	35.3
30/ 34	6	0	1	7	31.2	43	15	26	84	30.7	80	62	73	215	30.6
25/ 29	2	0	0	2	26.7	13	3	5	21	25.9	38	15	22	75	25.9
20/ 24	0			0	22	2	0	0	2	21.4	8	3	3	14	21.1
15/ 19						1	0	0	1	17.6	4	1	1	6	17.1
10/ 14											0	0	0	0	11.5

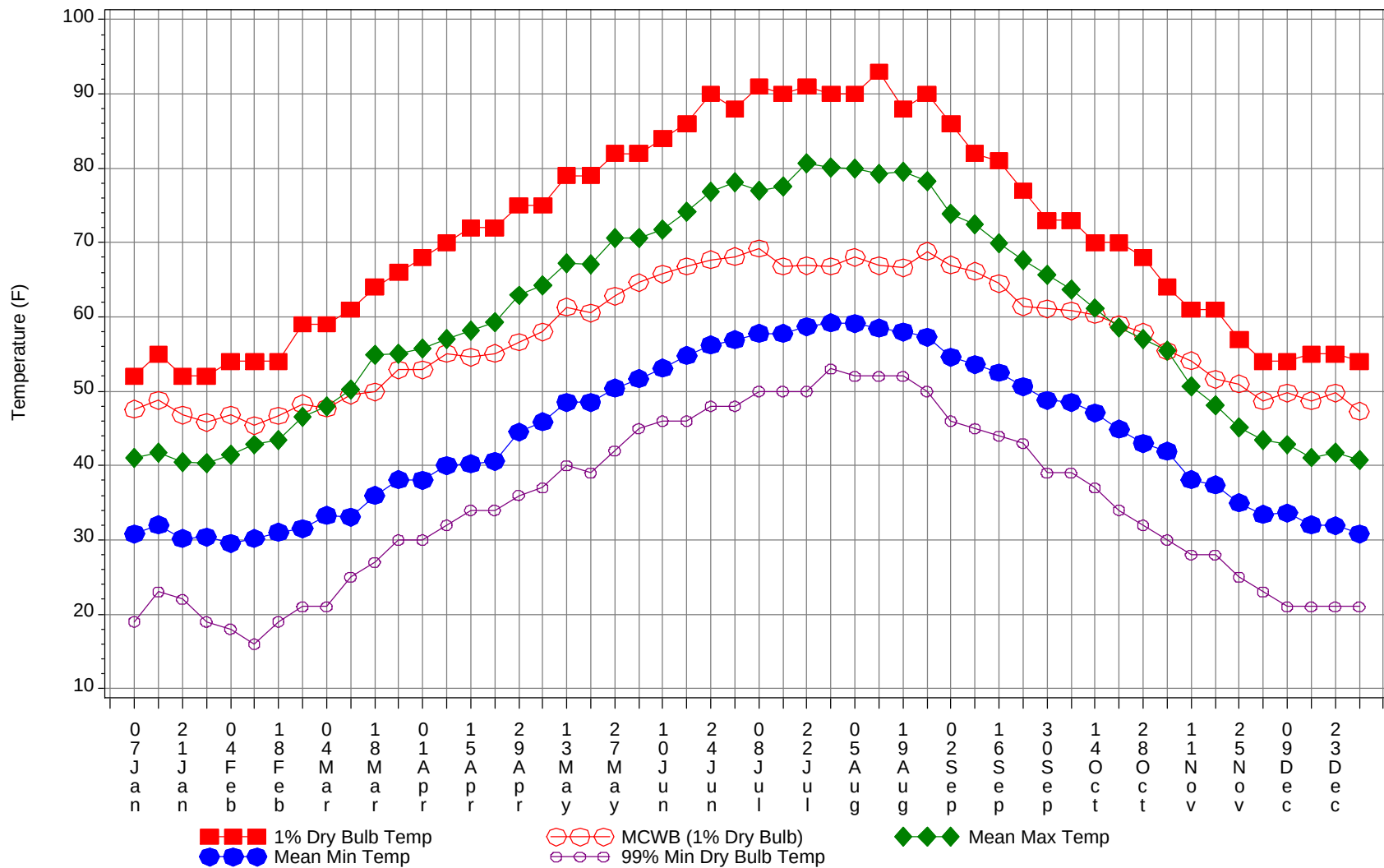
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

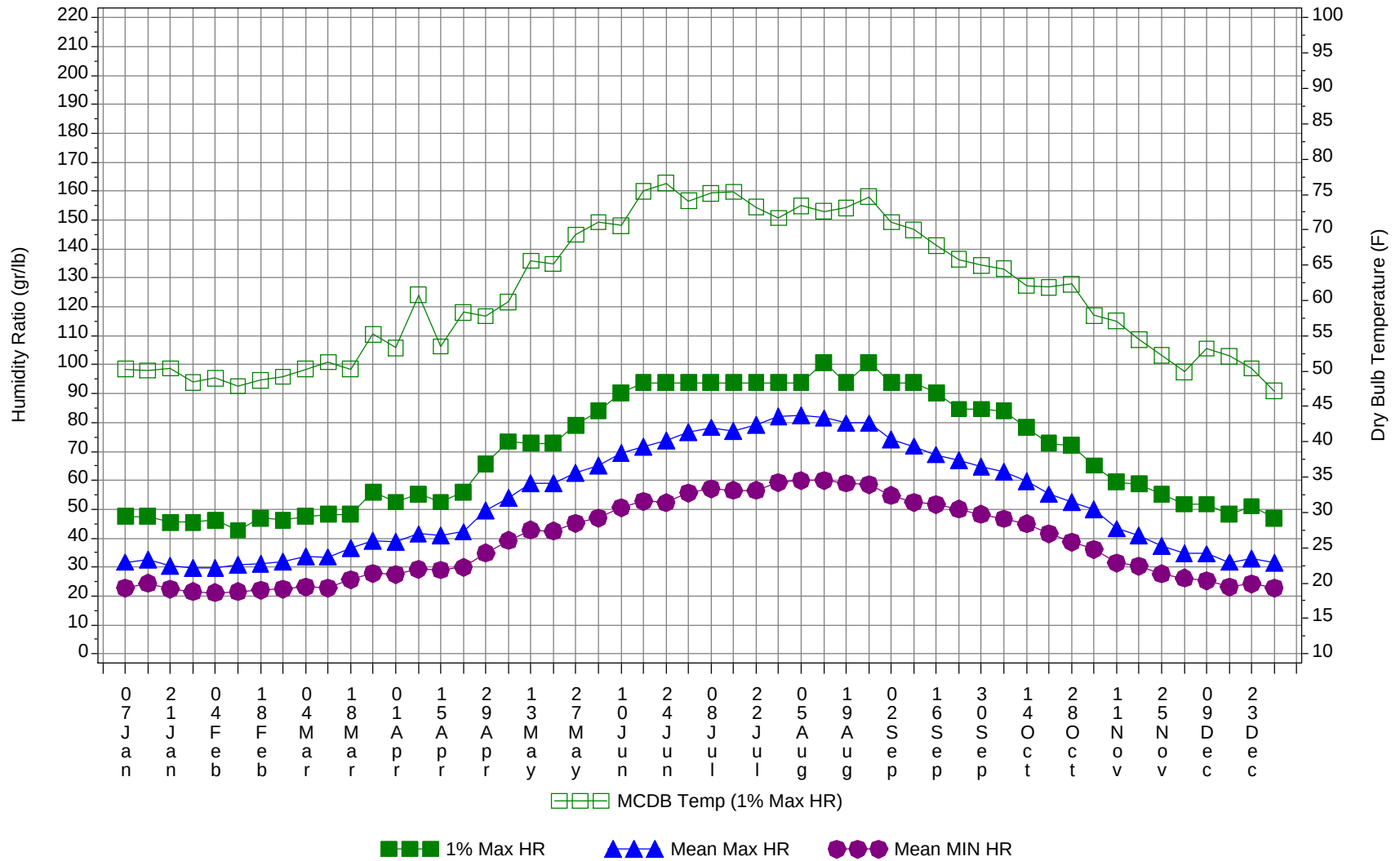
	Annual				
Temperature Range (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
100/104		0		0	68.8
95/ 99		2	1	3	67.2
90/ 94		14	10	24	67.6
85/ 89		31	20	51	66.9
80/ 84	0	107	69	176	65.5
75/ 79	8	192	130	330	63.3
70/ 74	47	279	205	531	60.9
65/ 69	104	228	199	531	59
60/ 64	305	336	330	971	56.5
55/ 59	400	325	349	1074	52.6
50/ 54	417	317	356	1090	48.2
45/ 49	412	331	352	1095	43.3
40/ 44	285	224	247	756	39.3
35/ 39	379	268	315	962	35.3
30/ 34	338	192	240	770	30.5
25/ 29	175	60	82	317	25.7
20/ 24	33	9	10	52	20.9
15/ 19	15	3	5	23	16.7
10/ 14	2	0	0	2	11.9

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



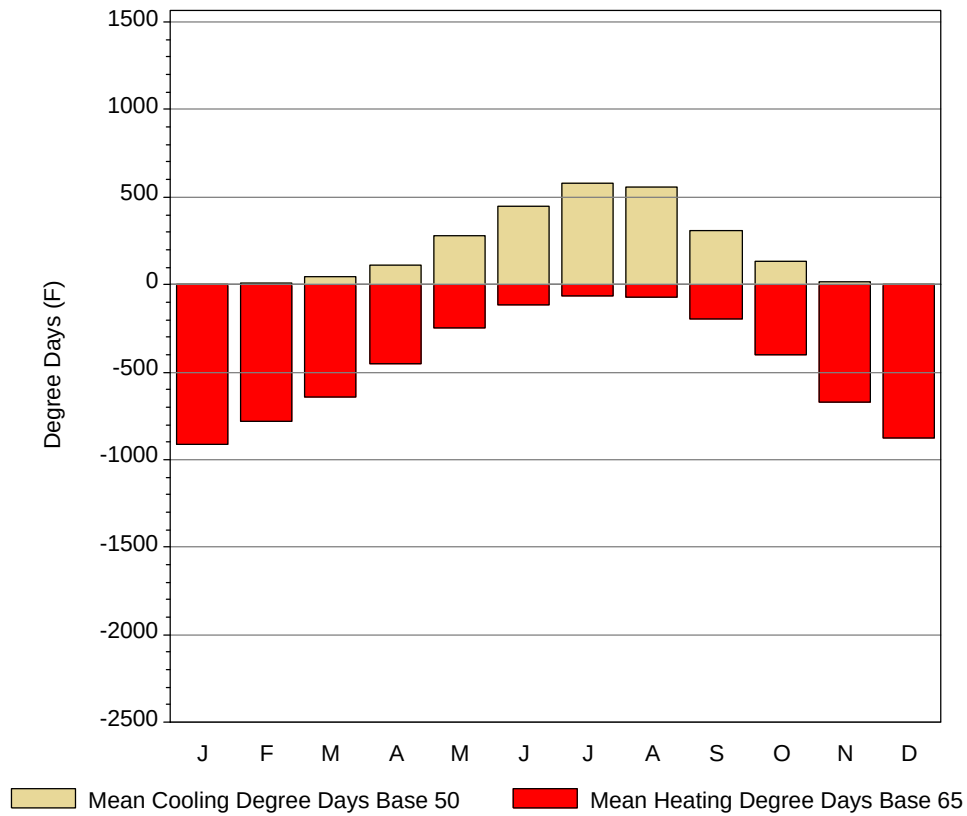
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

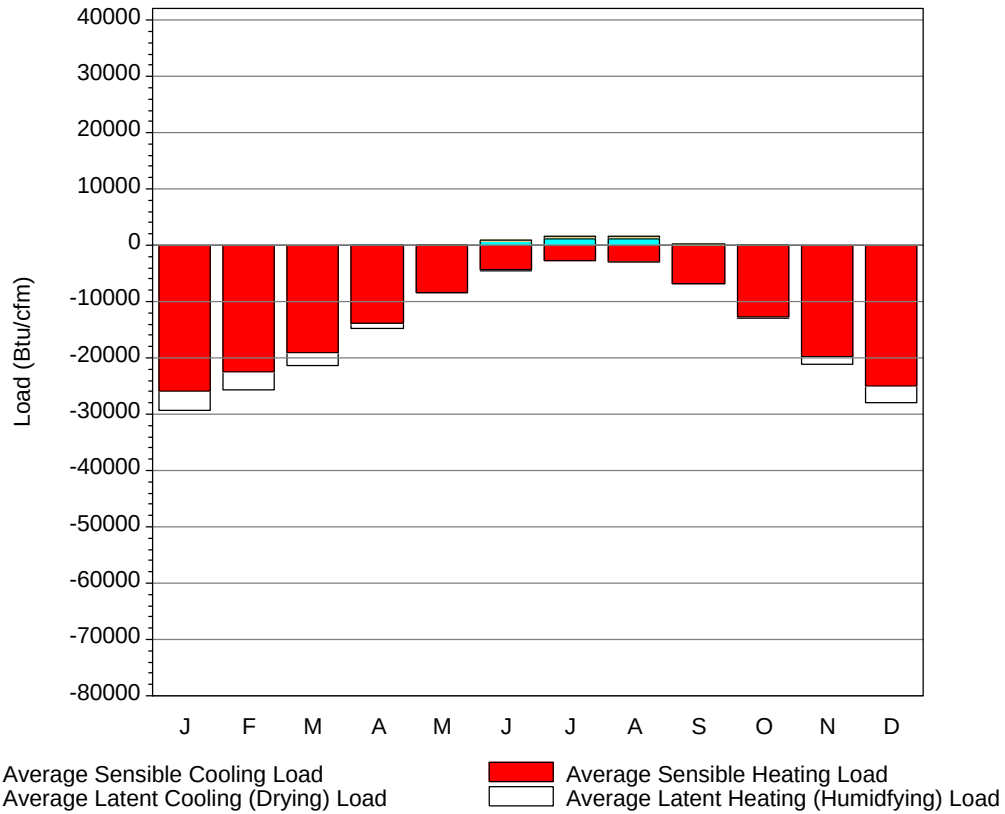
Week Ending	1.0% Temp (° F)	MCWB@ 1% Temp (° F)	Mean Max Temp (° F)	Mean Min Temp (° F)	99% Temp (° F)	1.0% HR (gr/lb)	MCDB@ 1% HR (° F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	52	47.6	41	30.8	19	47.6	50.3	31.7	22.8
14-Jan	55	48.8	41.7	32	23	47.6	50.1	32.7	24.4
21-Jan	52	46.8	40.5	30.2	22	45.5	50.4	30.4	22.4
28-Jan	52	45.8	40.3	30.4	19	45.5	48.4	29.7	21.5
4-Feb	54	46.8	41.4	29.5	18	46.2	49	29.7	21.1
11-Feb	54	45.4	42.8	30.2	16	42.7	47.9	30.8	21.5
18-Feb	54	46.7	43.4	31	19	46.9	48.7	31.1	22
25-Feb	59	48.3	46.5	31.5	21	46.2	49.2	32	22.4
4-Mar	59	47.7	48	33.3	21	47.6	50.3	33.6	23.2
11-Mar	61	49.5	50.2	33.1	25	48.3	51.3	33.5	22.7
18-Mar	64	49.9	54.9	36	27	48.3	50.3	36.6	25.7
25-Mar	66	52.9	55	38.1	30	56	55.2	39	27.8
1-Apr	68	52.9	55.7	38	30	52.5	53.3	38.8	27.4
8-Apr	70	55.1	57	40	32	55.3	60.8	41.5	29.2
15-Apr	72	54.6	58.1	40.2	34	52.5	53.5	40.8	29
22-Apr	72	55.1	59.3	40.6	34	56	58.3	42.2	29.9
29-Apr	75	56.6	62.9	44.5	36	65.8	57.8	49.6	34.9
6-May	75	58	64.3	45.9	37	73.5	59.8	54	39.2
13-May	79	61.3	67.2	48.5	40	72.8	65.6	59	42.8
20-May	79	60.5	67.1	48.5	39	72.8	65.2	58.9	42.4
27-May	82	62.8	70.6	50.4	42	79.1	69.3	62.6	45.1
4-Jun	82	64.6	70.6	51.7	45	84	71.1	65	46.9
10-Jun	84	65.8	71.7	53.1	46	90.3	70.6	69.6	50.6
17-Jun	86	66.8	74.2	54.8	46	93.8	75.5	71.7	52.7
24-Jun	90	67.7	76.9	56.2	48	93.8	76.6	73.9	52.3
1-Jul	88	68.1	78.1	56.9	48	93.8	74.1	76.8	55.6
8-Jul	91	69.2	77	57.8	50	93.8	75.2	78.3	57.1
15-Jul	90	66.8	77.6	57.8	50	93.8	75.4	77	56.5
22-Jul	91	66.9	80.7	58.7	50	93.8	73.2	79.2	56.6
29-Jul	90	66.8	80.1	59.2	53	93.8	71.7	82.2	59.3
5-Aug	90	68	80	59.1	52	93.8	73.4	82.5	59.9
12-Aug	93	66.9	79.2	58.5	52	100.8	72.6	81.6	60
19-Aug	88	66.6	79.5	58	52	93.8	73.1	79.8	59
26-Aug	90	68.8	78.2	57.3	50	100.8	74.7	79.8	58.6
2-Sep	86	67	73.9	54.6	46	93.8	71.1	74.1	54.8
9-Sep	82	66.1	72.4	53.6	45	93.8	70	71.8	52.4
16-Sep	81	64.5	69.9	52.5	44	90.3	67.8	68.9	51.6
23-Sep	77	61.4	67.7	50.6	43	84.7	65.8	67	50
30-Sep	73	61.1	65.6	48.8	39	84.7	65	64.8	48.3
7-Oct	73	60.8	63.7	48.5	39	84	64.5	63	46.7
14-Oct	70	60.3	61.2	47.1	37	78.4	62.1	59.6	45
21-Oct	70	59	58.6	44.9	34	72.8	61.9	55.2	41.5
28-Oct	68	57.9	57	43	32	72.1	62.3	52.4	38.6
4-Nov	64	55.4	55.4	41.9	30	65.1	57.9	49.9	36.1
11-Nov	61	54.1	50.7	38.1	28	59.5	57.1	43.3	31.4
18-Nov	61	51.6	48.1	37.4	28	58.8	54.5	40.8	30.3
25-Nov	57	51	45.2	35	25	55.3	52.2	37.3	27.6
2-Dec	54	48.7	43.4	33.4	23	51.8	49.9	34.9	26.2
9-Dec	54	49.8	42.8	33.6	21	51.8	53.2	34.6	25.3
16-Dec	55	48.7	41.1	32	21	48.3	52.1	31.7	23.2
23-Dec	55	49.8	41.7	31.9	21	51.1	50.4	33.1	24.2
31-Dec	54	47.3	40.7	30.8	21	46.9	47.2	31.5	22.8

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	2.4	0	909.6
FEB	6.1	0	782.8
MAR	44.6	1	645
APR	111.7	8.3	448.4
MAY	280.2	41.8	247.6
JUN	450.3	113.7	116.2
JUL	580	178.3	63.6
AUG	554.9	161	71.8
SEP	309	43.5	195.6
OCT	130.3	5.2	402.4
NOV	17.2	0.1	673.8
DEC	3.6	0	873.1
ANN	2490.3	552.9	5429.9

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	-25986	0	-3389
FEB	0	-22487	0	-3157
MAR	0	-19110	0	-2164
APR	5	-13833	0	-858
MAY	115	-8360	5	-85
JUN	650	-4403	245	-10
JUL	1193	-2703	501	0
AUG	1053	-3017	547	-1
SEP	109	-6903	102	-5
OCT	2	-12756	3	-199
NOV	0	-19795	0	-1277
DEC	0	-25041	0	-2873
ANN	3127	-164394	1403	-14018

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													

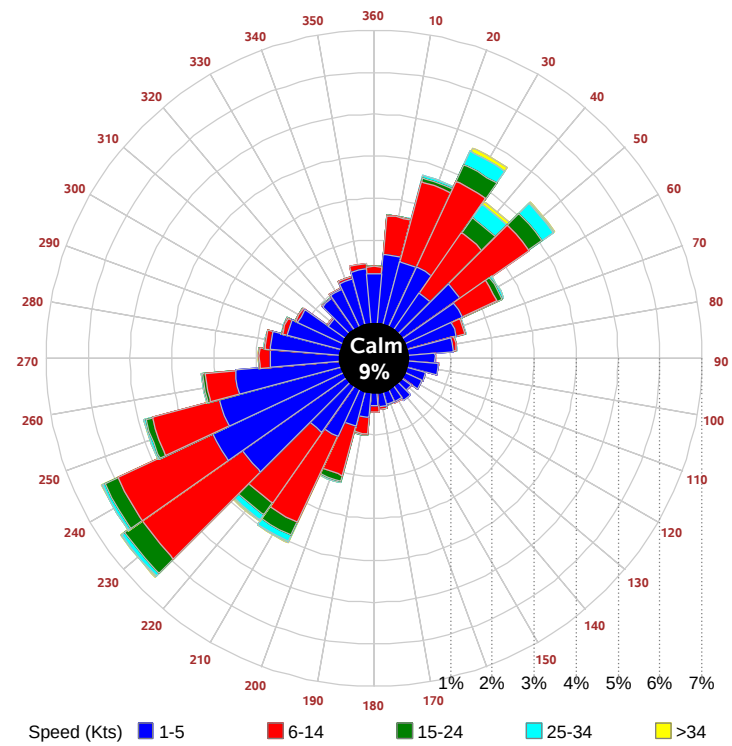
Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995

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													

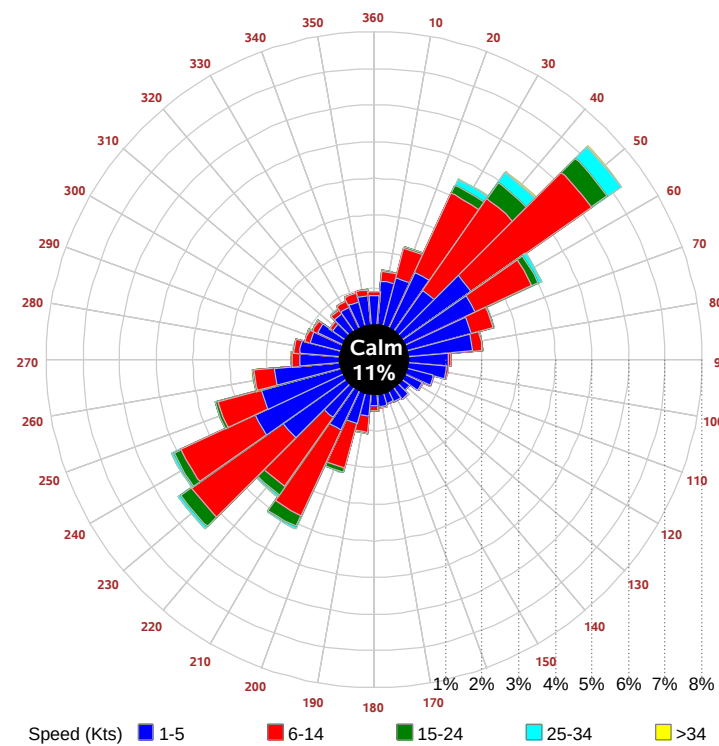
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9												
		March						June				
		9am	11am	1pm	3pm	5pm		9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear											
	M.Cloudy											
NORTH	M.Clear											
	M.Cloudy											
EAST	M.Clear			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

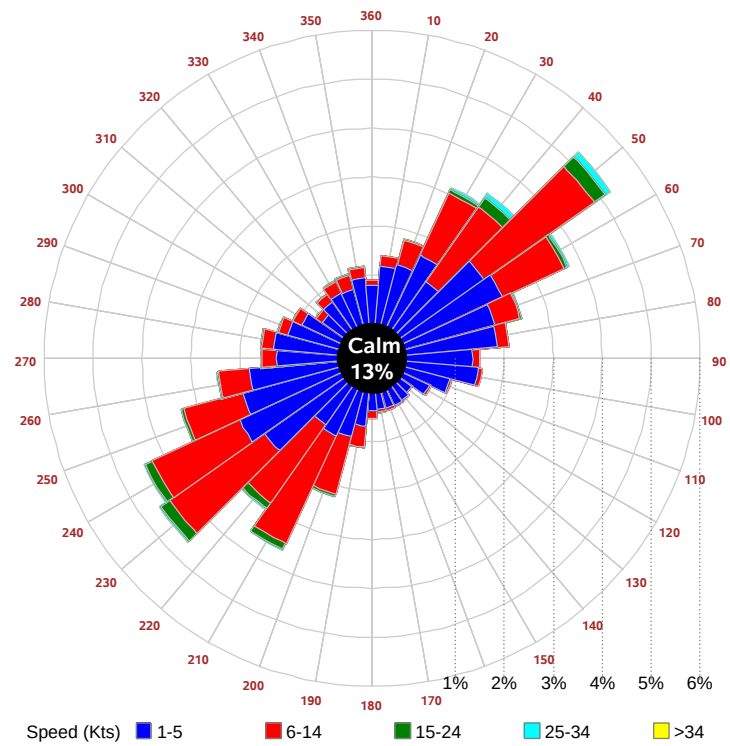
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November

