

ALICE SPRINGS, AS	Station ID = ICAO_YBAS
Latitude = 23.81 S	Elevation = 1789 Feet
Longitude = 133.90 E	Average Pressure = 28.13 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	108	66	36	10	E
0.4% Occurrence	104	65	37	10.6	E
1.0% Occurrence	102	65	40	10.7	E
2.0% Occurrence	100	64	41	10.8	E
Mean Daily Range	27	-	-	-	W
97.5% Occurrence	38	34	25	3.7	W
99.0% Occurrence	35	32	24	3.8	W
99.6% Occurrence	32	30	22	4	W
Median of Extreme Lows	28	26	17	3.7	W

	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	77	86	131	7.8	ENE
0.4% Occurrence	75	84	121	8.3	N
1.0% Occurrence	73	84	111	8.8	N
2.0% Occurrence	72	84	106	8.9	E

	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	142	81	0.88	5.6	SE
0.4% Occurrence	127	78	0.79	7.1	E
1.0% Occurrence	120	78	0.75	7.9	E
2.0% Occurrence	113	77	0.7	8.1	E

Air Conditioning/ Humid Area Criteria	Threshold	T ≥ 93 °F	T ≥ 80 °F	Twb ≥ 73 °F	Twb ≥ 67 °F
	# of Hours	836	2687	140	912

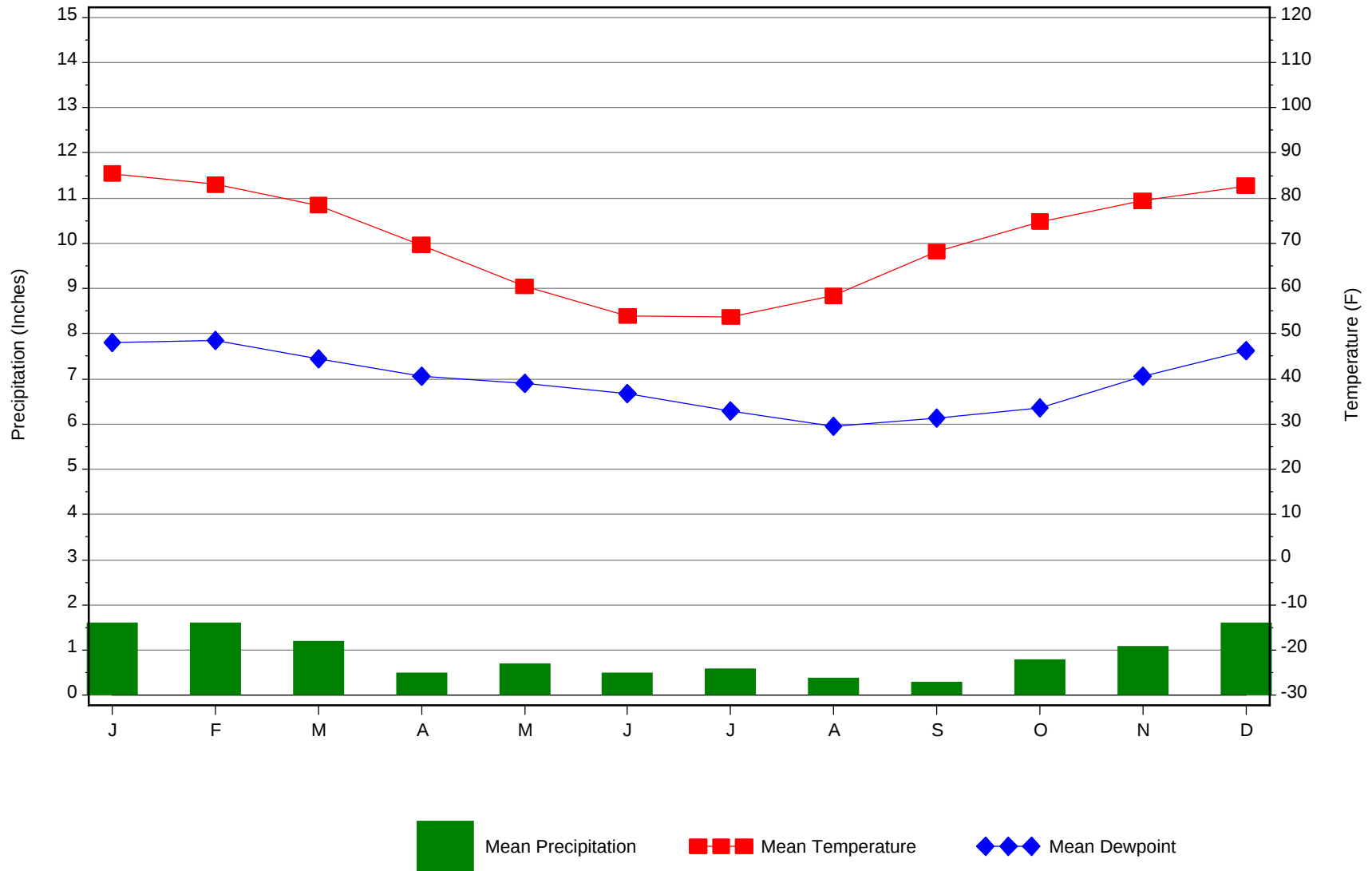
Other Site Data

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	1.5	90	0.8 + 3.7
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 (#)
73.1	0	0	8

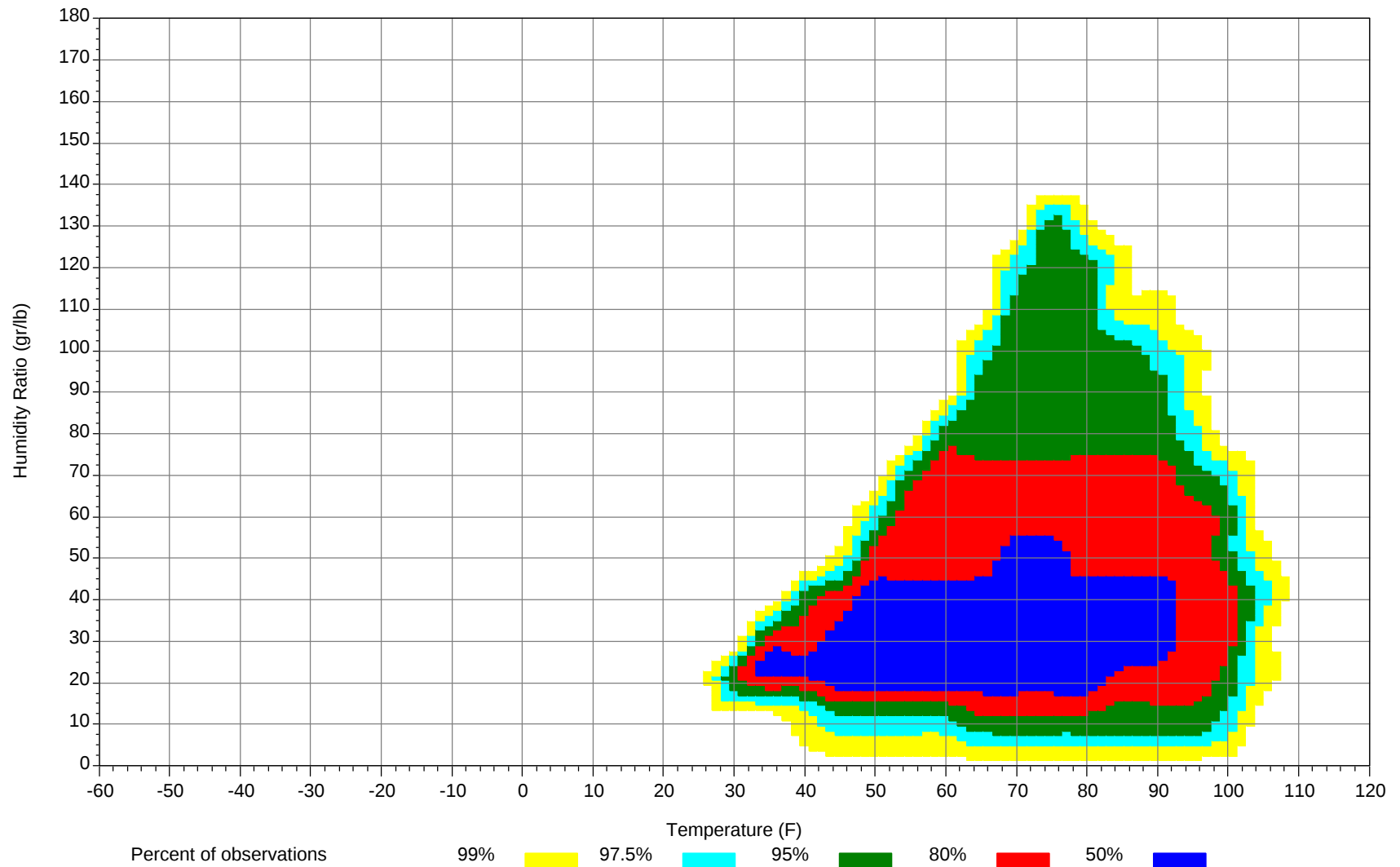
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.



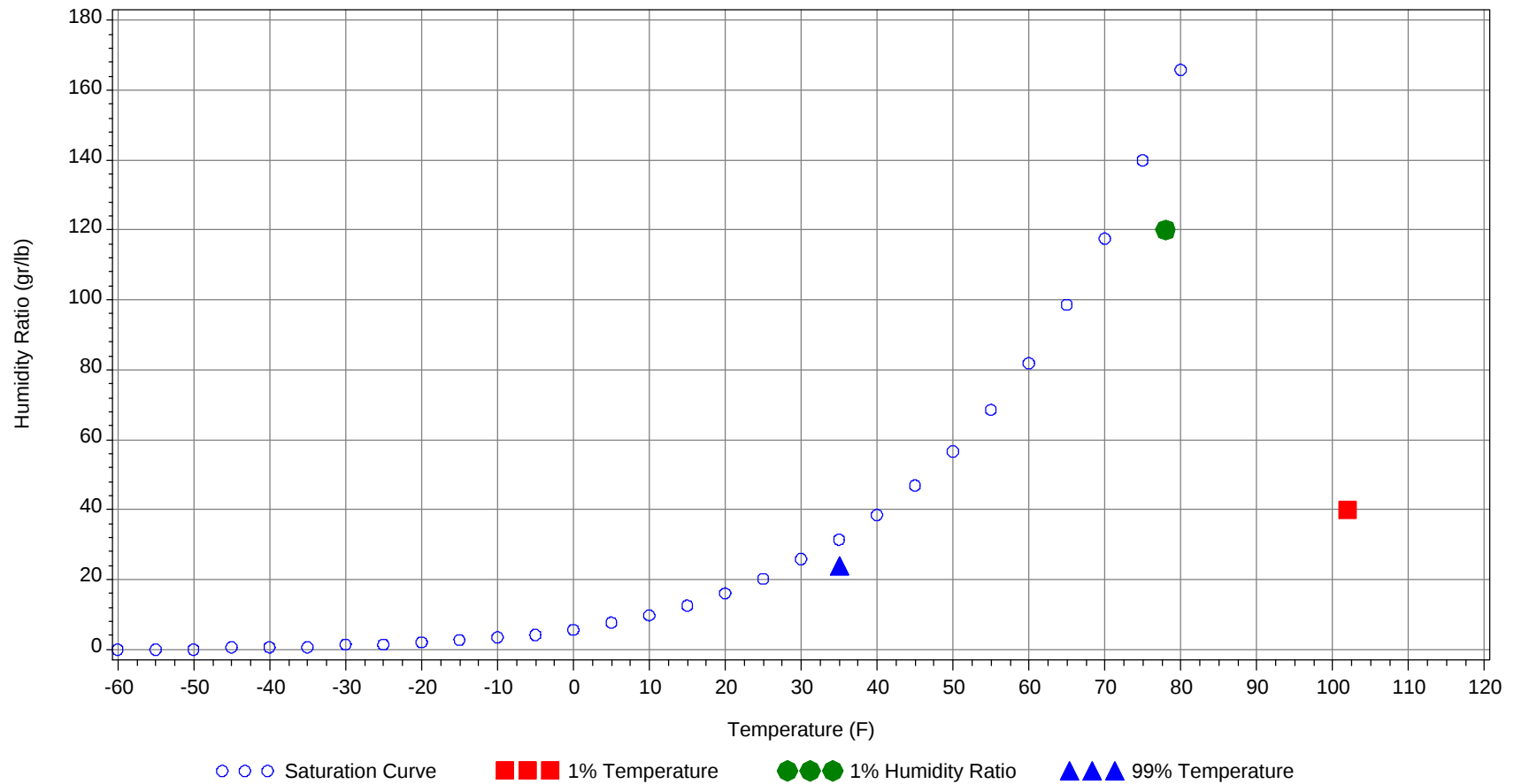
Average Annual Climate



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	102.0		65		40.0	30.6
99.0% Dry Bulb	35.0				24.0	12.1
1.0% Humidity Ratio	120.0	78.0	72.5	70.5		37.4

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)
110/114		0	0	0	68.4		0		0	62.5					
105/109		9	5	14	66.4		3	2	5	66.1		0	0	0	66.8
100/104		38	25	63	65.9		19	12	31	65.3		7	3	10	65.3
95/ 99	0	57	40	97	65.2	0	45	30	75	65		32	19	51	64
90/ 94	6	55	50	111	64.3	2	53	41	96	64.8	1	50	34	85	62.9
85/ 89	21	39	42	102	64.1	7	42	39	88	64.2	3	48	40	91	61.8
80/ 84	53	27	39	119	63.8	34	34	46	114	64	17	48	49	114	61
75/ 79	67	14	30	111	63.5	60	17	33	110	63.6	38	32	44	114	60.3
70/ 74	59	6	14	79	61.8	61	8	16	85	61.3	59	19	31	109	58.8
65/ 69	26	2	4	32	57.1	34	2	4	40	56.3	49	7	16	72	55.6
60/ 64	13	0	0	13	53.1	19	1	1	21	51.9	45	3	8	56	52.3
55/ 59	2			2	47.5	6	0		6	47.8	26	1	3	30	48.8
50/ 54	0			0	44	1			1	44.3	9	0	1	10	46.6
45/ 49											1			1	45
40/ 44											0			0	43.3
35/ 39															
30/ 34															
25/ 29															
20/ 24															

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)
110/114															
105/109															
100/104		1	0	1	66.1										
95/ 99		5	2	7	63.3										
90/ 94		17	7	24	62		1	0	1	61.9					
85/ 89	0	32	16	48	60.3		9	2	11	59.4		1	0	1	59.9
80/ 84	1	47	32	80	58.4		22	9	31	57.6		6	2	8	58.2
75/ 79	6	48	42	96	56.9	0	33	17	50	56.1	0	16	6	22	56.5
70/ 74	18	42	46	106	55.8	3	46	31	80	54.6	1	24	12	37	54.1
65/ 69	28	27	37	92	54.6	8	47	36	91	53	2	33	19	54	51.8
60/ 64	52	15	35	102	52.3	23	46	51	120	51.8	8	57	39	104	50
55/ 59	66	5	16	87	49	42	31	48	121	49.2	22	52	50	124	48.3
50/ 54	44	1	6	51	45.2	57	12	34	103	45.9	35	34	48	117	45.6
45/ 49	20	0	1	21	41	58	2	15	75	42	44	15	37	96	42
40/ 44	5		0	5	37.4	36	0	4	40	38	44	3	20	67	38.4
35/ 39	1			1	34.4	17		1	18	34.4	54	0	7	61	34.7
30/ 34						3			3	30.9	27	0	0	27	30.7
25/ 29						0			0	26.5	3			3	25.8
20/ 24											0			0	21.7

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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)
110/114															
105/109															
100/104												0		0	63.7
95/ 99							0		0	60.5		8	2	10	60.3
90/ 94							2	1	3	58.6		25	11	36	58.8
85/ 89		0	0	0	57.5		8	3	11	56.8	0	30	17	47	57.1
80/ 84		8	2	10	56.4	0	20	10	30	55	3	37	30	70	55.7
75/ 79		19	8	27	54.3	1	29	18	48	53.1	10	38	36	84	54
70/ 74	1	29	16	46	52.2	5	38	27	70	51.1	18	39	39	96	52.1
65/ 69	4	34	23	61	50.4	8	43	32	83	49.5	23	30	33	86	50.7
60/ 64	7	51	37	95	48.3	17	47	42	106	47.6	34	21	32	87	48.8
55/ 59	15	51	46	112	46.4	23	37	43	103	45.4	44	11	22	77	46.1
50/ 54	27	33	47	107	44.3	35	19	35	89	42.9	43	2	13	58	43
45/ 49	49	18	40	107	41.4	45	5	26	76	39.2	37	0	5	42	39.3
40/ 44	49	5	21	75	37.5	50	1	10	61	36	20		1	21	35.7
35/ 39	61	0	7	68	33.8	49	0	2	51	33	6			6	32.4
30/ 34	31		0	31	30.1	15			15	29.3	0			0	29
25/ 29	5			5	25.9	2			2	24.8					
20/ 24	0			0	21.2										

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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)
110/114												0		0	65
105/109		0	0	0	61.1		2	1	3	63.8		4	2	6	64.6
100/104		7	2	9	61.2		21	8	29	62.9		27	14	41	64.5
95/ 99		31	13	44	60.4	0	38	20	58	62.1	0	49	30	79	63.9
90/ 94	0	38	24	62	59.2	2	44	30	76	61.3	3	53	41	97	63.3
85/ 89	3	35	27	65	57.9	7	41	34	82	60.4	12	42	40	94	62.7
80/ 84	12	43	42	97	56.6	21	41	46	108	59.3	38	35	48	121	62.5
75/ 79	22	38	43	103	55.3	38	27	42	107	58.4	62	21	39	122	62.3
70/ 74	37	29	39	105	54.2	50	17	32	99	57.7	61	10	22	93	60.9
65/ 69	38	16	25	79	53	52	6	16	74	56.1	38	5	9	52	57.8
60/ 64	50	8	21	79	50.3	40	3	9	52	52.9	24	1	3	28	54
55/ 59	43	3	10	56	46.8	21	0	2	23	48.6	7	0	0	7	50.6
50/ 54	28	0	3	31	43.2	7		0	7	45.5	1			1	48.2
45/ 49	12	0	0	12	39.8	1		0	1	43.4					
40/ 44	3			3	36.7										
35/ 39	0			0	35.5										
30/ 34															
25/ 29															
20/ 24															

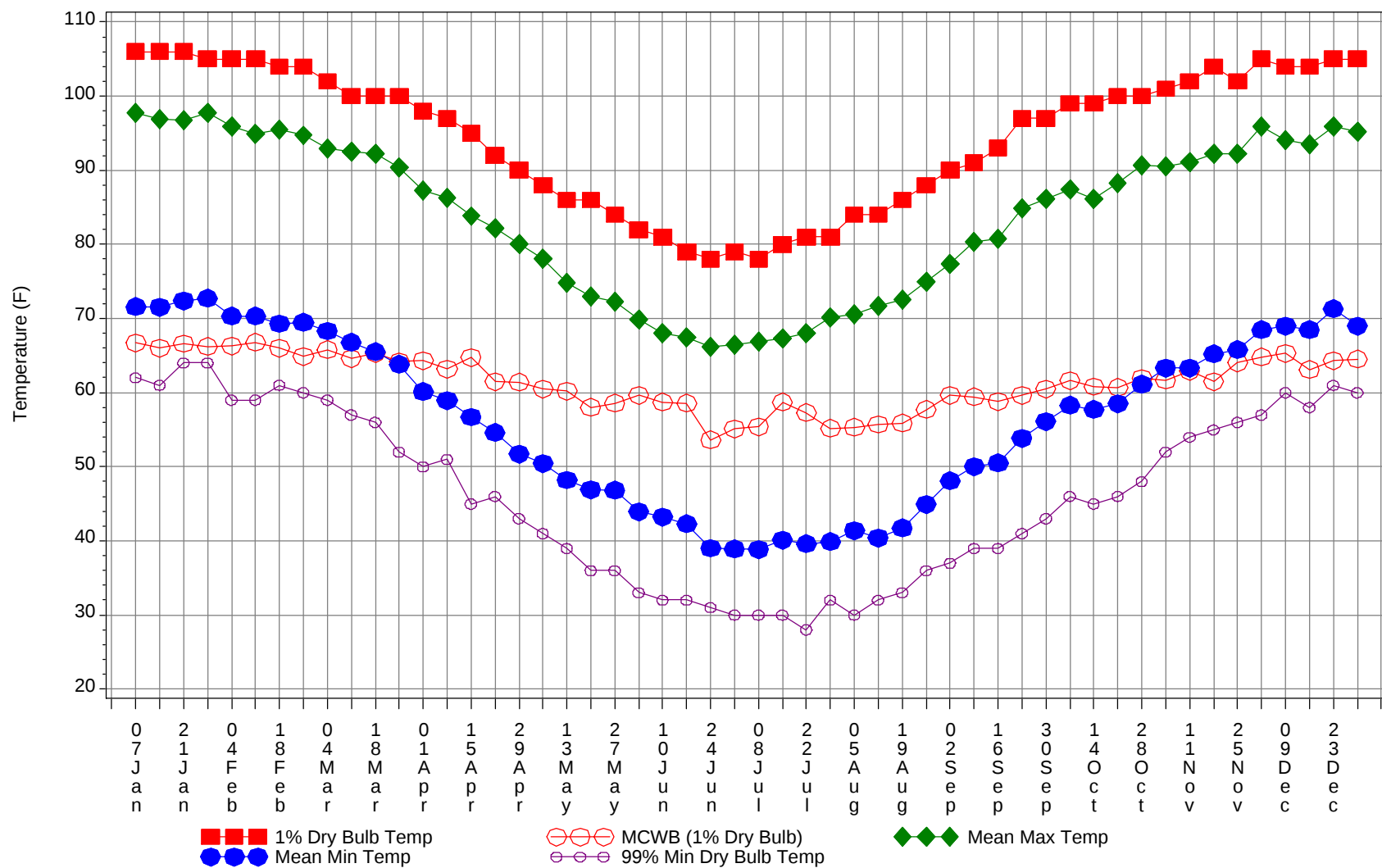
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

Dry-Bulb Temperature Hours For An Average Year

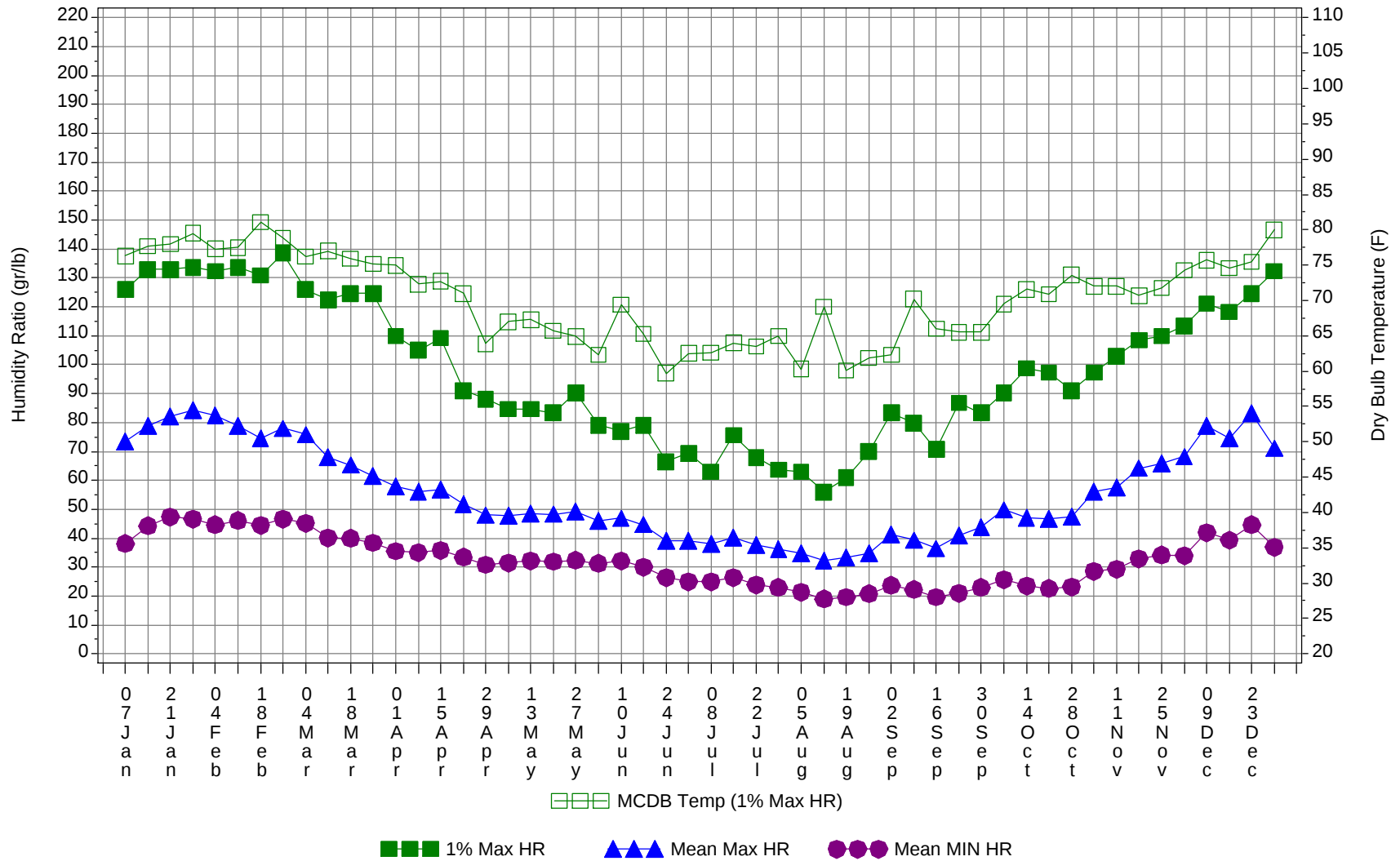
	Annual				
Temperature Range (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
110/114		0	0	0	67.3
105/109		19	9	28	65.7
100/104		120	65	185	64.8
95/ 99	1	266	157	424	63.7
90/ 94	15	338	240	593	62.7
85/ 89	55	327	260	642	61.5
80/ 84	180	368	355	903	60.2
75/ 79	304	333	357	994	58.9
70/ 74	374	306	324	1004	56.5
65/ 69	312	251	252	815	53.5
60/ 64	331	252	278	861	50.5
55/ 59	315	189	241	745	47.5
50/ 54	286	100	186	572	44.6
45/ 49	267	40	124	431	41
40/ 44	207	8	55	270	37.3
35/ 39	188	0	17	205	33.9
30/ 34	75	0	1	76	30.2
25/ 29	9			9	25.7
20/ 24	0			0	21.4

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



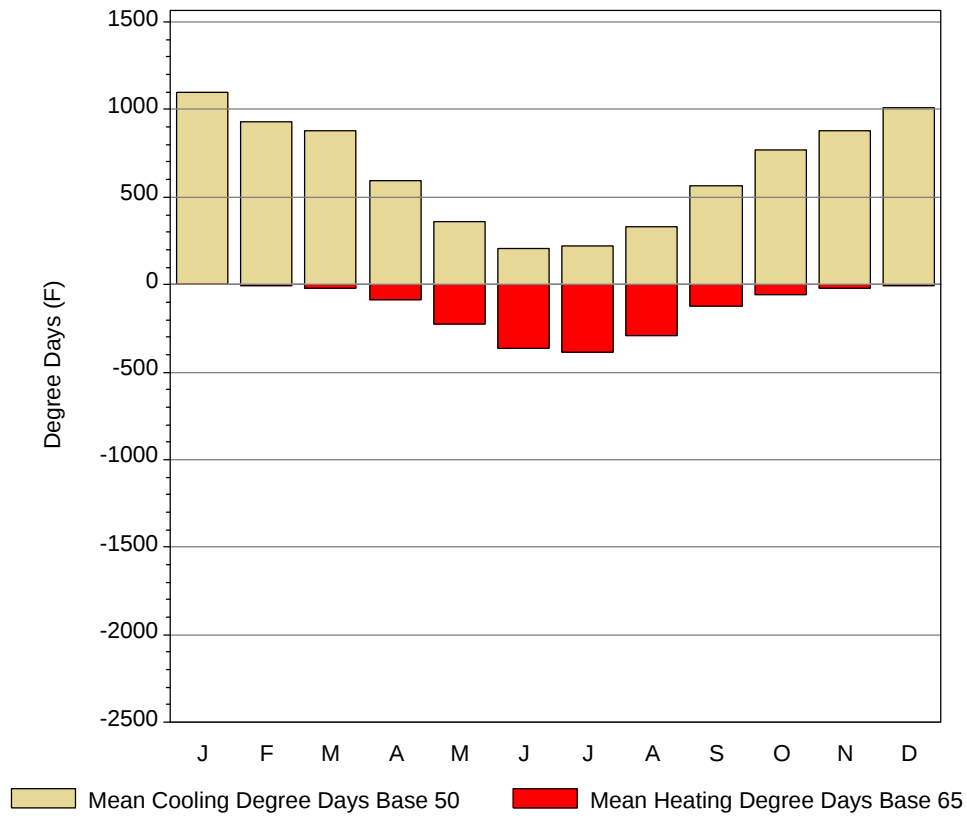
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

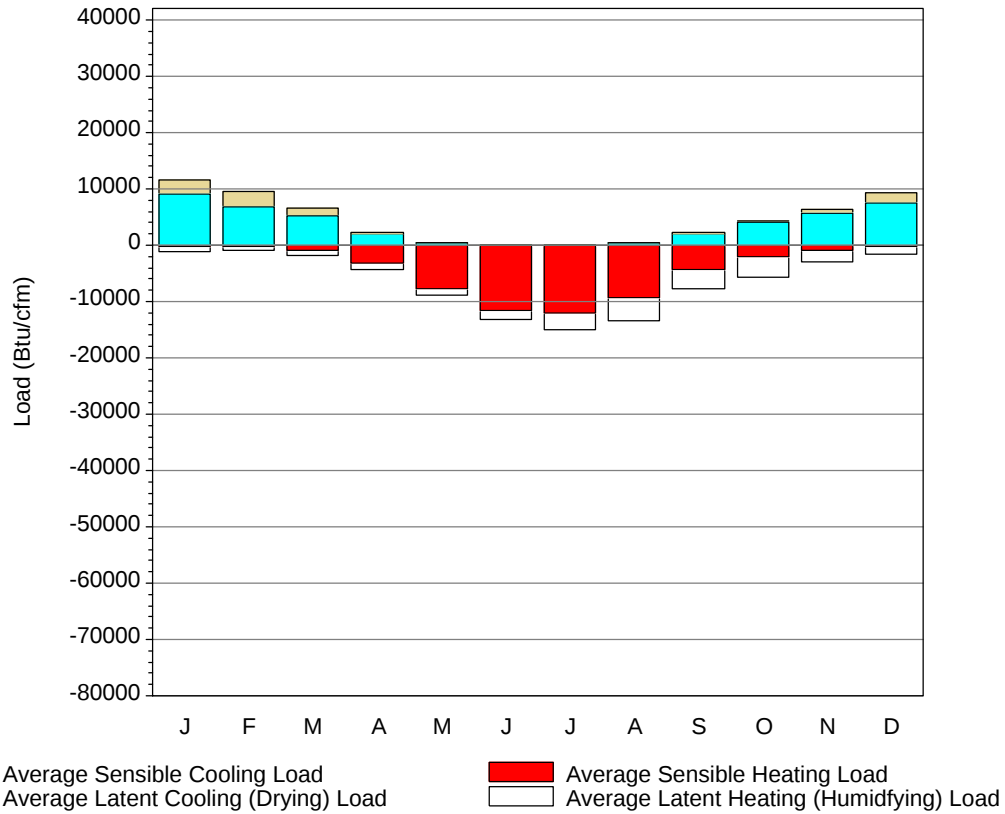
Week Ending	1.0% Temp (° F)	MCWB@ 1% Temp (° F)	Mean Max Temp (° F)	Mean Min Temp (° F)	99% Temp (° F)	1.0% HR (gr/lb)	MCDB@ 1% HR (° F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	106	66.7	97.7	71.6	62	126	76.3	73.5	38.2
14-Jan	106	66	96.9	71.5	61	133	77.7	78.9	44.3
21-Jan	106	66.6	96.8	72.4	64	133	78	82	47.3
28-Jan	105	66.2	97.7	72.7	64	133.7	79.5	84.3	46.6
4-Feb	105	66.3	95.9	70.3	59	132.3	77.3	82.5	44.7
11-Feb	105	66.8	94.9	70.3	59	133.7	77.5	79	46.1
18-Feb	104	66	95.5	69.3	61	130.9	81.1	74.6	44.4
25-Feb	104	64.9	94.7	69.5	60	138.6	78.9	78	46.6
4-Mar	102	65.8	92.9	68.3	59	126	76.2	75.8	45.2
11-Mar	100	64.6	92.5	66.8	57	122.5	77	68.1	40.1
18-Mar	100	65.3	92.2	65.5	56	124.6	75.9	65.3	39.9
25-Mar	100	64.2	90.4	63.8	52	124.6	75.2	61.6	38.4
1-Apr	98	64.3	87.2	60.1	50	109.9	75	58	35.5
8-Apr	97	63.2	86.3	58.9	51	105	72.3	56	35.1
15-Apr	95	64.7	83.8	56.7	45	109.2	72.7	56.8	35.7
22-Apr	92	61.5	82.2	54.6	46	91	71	51.8	33.5
29-Apr	90	61.4	80.1	51.7	43	88.2	63.9	48	30.8
6-May	88	60.5	78.1	50.4	41	84.7	67	47.8	31.5
13-May	86	60.2	74.8	48.2	39	84.7	67.3	48.6	32.2
20-May	86	58	73	46.9	36	83.3	65.7	48.3	31.9
27-May	84	58.6	72.2	46.8	36	90.3	64.9	49.2	32.4
4-Jun	82	59.6	69.9	43.9	33	79.1	62.3	46.1	31.3
10-Jun	81	58.7	68	43.2	32	77	69.4	46.9	32.2
17-Jun	79	58.6	67.5	42.3	32	79.1	65.3	44.7	30
24-Jun	78	53.6	66.2	39	31	66.5	59.7	39.2	26.4
1-Jul	79	55.1	66.5	38.9	30	69.3	62.5	39	24.9
8-Jul	78	55.4	66.9	38.8	30	63	62.6	38	24.9
15-Jul	80	58.7	67.3	40.1	30	75.6	64	40.2	26.3
22-Jul	81	57.3	68	39.6	28	67.9	63.5	37.8	23.9
29-Jul	81	55.2	70.1	39.9	32	63.7	65	36.2	22.9
5-Aug	84	55.3	70.5	41.4	30	63	60.3	34.8	21.3
12-Aug	84	55.7	71.7	40.4	32	56	69.1	32.2	19
19-Aug	86	55.9	72.6	41.7	33	60.9	60.1	33.2	19.6
26-Aug	88	57.7	75	44.9	36	70	61.9	34.7	20.8
2-Sep	90	59.6	77.4	48.1	37	83.3	62.3	41.3	23.6
9-Sep	91	59.4	80.3	50	39	79.8	70.2	39.3	22.3
16-Sep	93	58.8	80.8	50.5	39	70.7	66	36.4	19.6
23-Sep	97	59.6	84.8	53.8	41	86.8	65.5	40.9	20.9
30-Sep	97	60.5	86.2	56.1	43	83.3	65.5	43.9	22.9
7-Oct	99	61.6	87.4	58.3	46	90.3	69.5	49.8	25.6
14-Oct	99	60.8	86.2	57.7	45	98.7	71.6	47	23.5
21-Oct	100	60.7	88.2	58.5	46	97.3	70.9	46.8	22.6
28-Oct	100	61.9	90.6	61.1	48	91	73.6	47.3	23.1
4-Nov	101	61.7	90.5	63.3	52	97.3	72	56	28.5
11-Nov	102	62.9	91.1	63.3	54	102.9	72	57.5	29.3
18-Nov	104	61.5	92.2	65.2	55	108.5	70.7	64.2	32.9
25-Nov	102	64	92.2	65.8	56	109.9	71.8	66	34.2
2-Dec	105	64.8	95.9	68.5	57	113.4	74.3	68.2	33.9
9-Dec	104	65.3	94.1	69	60	121.1	75.7	78.9	41.9
16-Dec	104	63.1	93.5	68.5	58	118.3	74.6	74.6	39.3
23-Dec	105	64.3	95.9	71.3	61	124.6	75.5	83.3	44.7
31-Dec	105	64.5	95.2	69	60	132.3	80	71.1	36.8

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	1096.2	633.5	2
FEB	932.5	512.6	4.1
MAR	881.1	437.4	21.5
APR	590.7	223.7	87.6
MAY	357.5	86.8	228.5
JUN	204.7	31.1	366.1
JUL	217.7	38.2	388.4
AUG	328	84	290.4
SEP	561.8	221.2	124.7
OCT	768.8	356.3	54.9
NOV	882.2	449.1	17.1
DEC	1011.8	552.2	5.4
ANN	7833	3626.1	1590.7

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	9075	-135	2524	-914
FEB	6872	-234	2732	-744
MAR	5327	-951	1195	-941
APR	2042	-3241	234	-1155
MAY	482	-7595	49	-1344
JUN	106	-11499	4	-1569
JUL	129	-12090	3	-2834
AUG	506	-9249	3	-4044
SEP	2174	-4274	24	-3515
OCT	4180	-2095	163	-3461
NOV	5747	-797	579	-2046
DEC	7417	-316	1921	-1208
ANN	44057	-52476	9431	-23775

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													

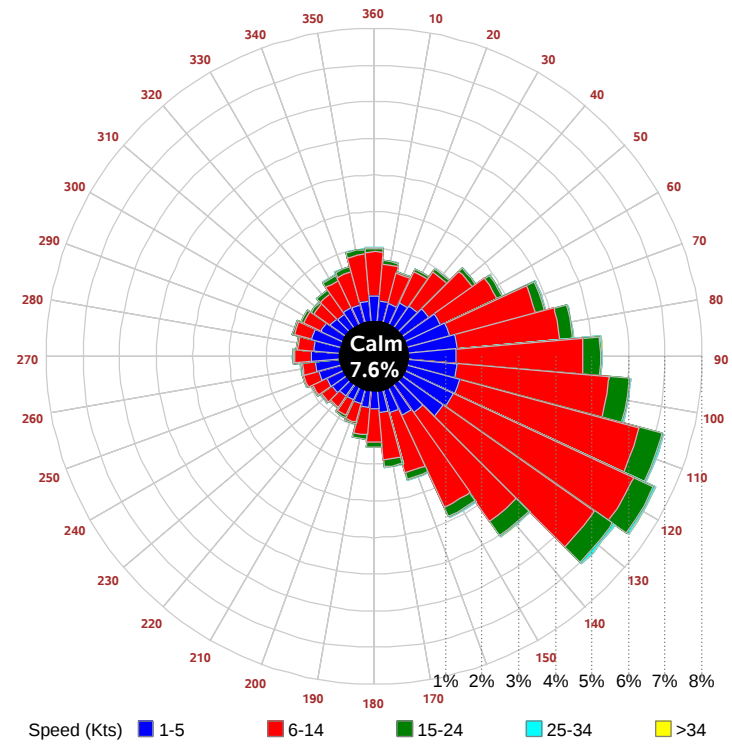
Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995

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													

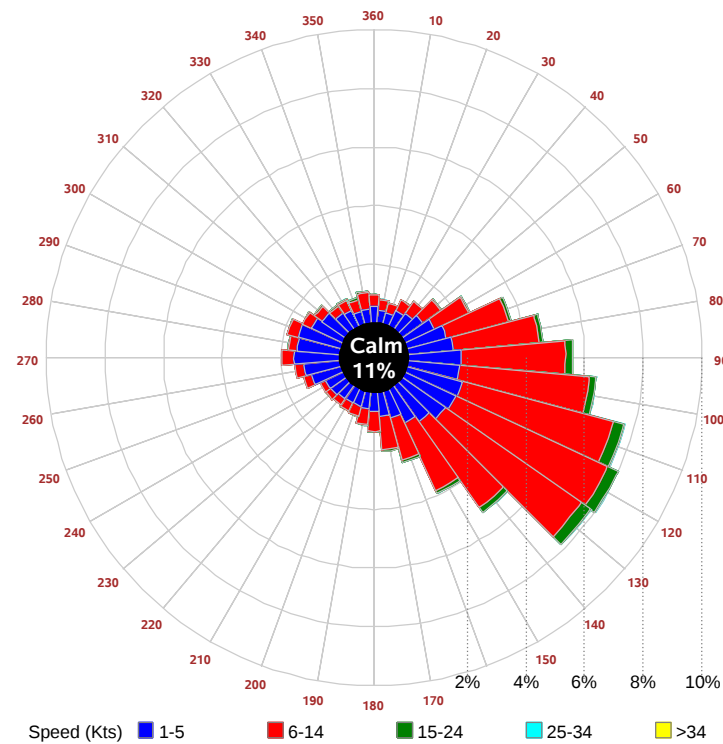
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9												
		9am		11am		March 1pm		3pm		5pm		
HORIZ.	M.Clear											
	M.Cloudy											
NORTH	M.Clear											
	M.Cloudy											
EAST	M.Clear											
	M.Cloudy											
SOUTH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

		9am		11am		Sept 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)											

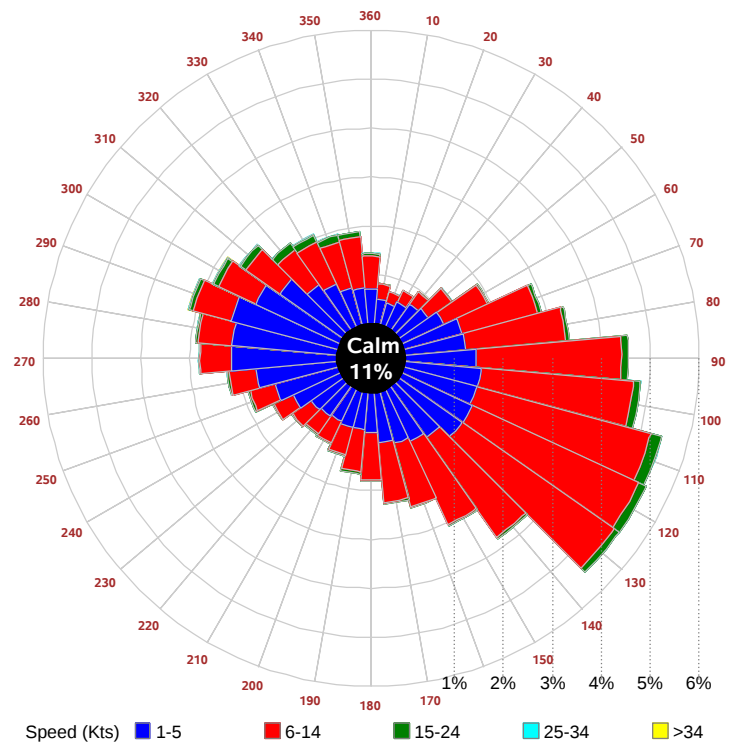
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November

