

JACKSONVILLE INTL, FL	Station ID = ICAO_KJAX
Latitude = 30.49 N	Elevation = 30 Feet
Longitude = 81.69 W	Average Pressure = 30.03 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	98	77	110	8.7	W
0.4% Occurrence	95	77	112	8	W
1.0% Occurrence	93	77	114	8.1	W
2.0% Occurrence	91	76	114	8.2	W
Mean Daily Range	20	-	-	-	W
97.5% Occurrence	37	35	26	4.3	W
99.0% Occurrence	33	31	21	4	N
99.6% Occurrence	30	28	18	3.9	NW
Median of Extreme Lows	25	23	13	4.1	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	82	91	145	8.2	WSW
0.4% Occurrence	80	89	135	8.3	W
1.0% Occurrence	79	87	132	8.1	W
2.0% Occurrence	78	86	128	7.9	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	151	85	1	7.1	W
0.4% Occurrence	141	83	0.94	7.8	W
1.0% Occurrence	140	83	0.94	6.8	E
2.0% Occurrence	135	82	0.9	6.6	E

Air Conditioning/ Humid Area Criteria	Threshold	T ≥ 93 °F	T ≥ 80 °F	Twb ≥ 73 °F	Twb ≥ 67 °F
	# of Hours	96	1693	2326	4070

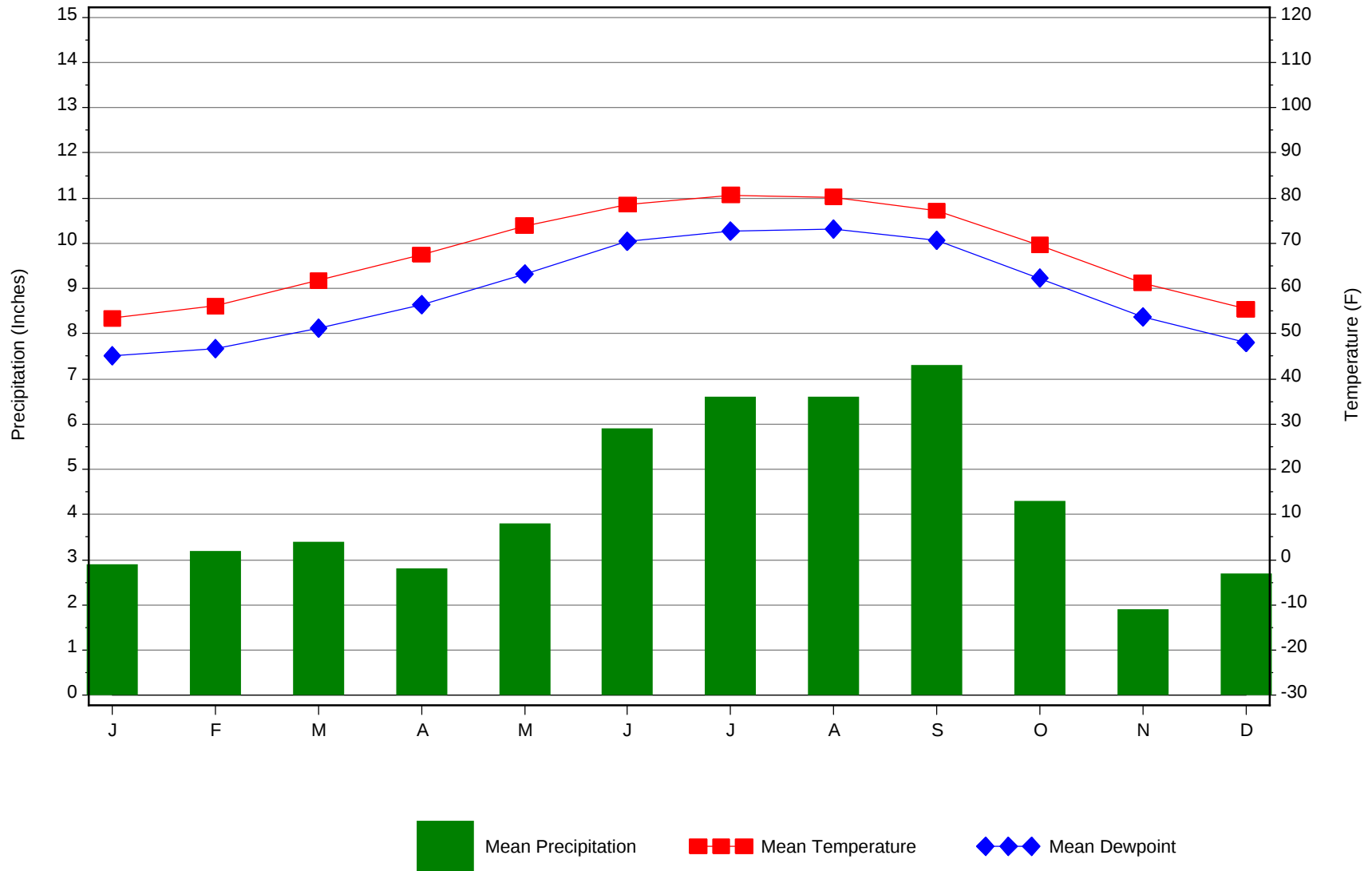
Other Site Data

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	4.3	120	8.5 + 1.8
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 (#)
70.6	0	0	9

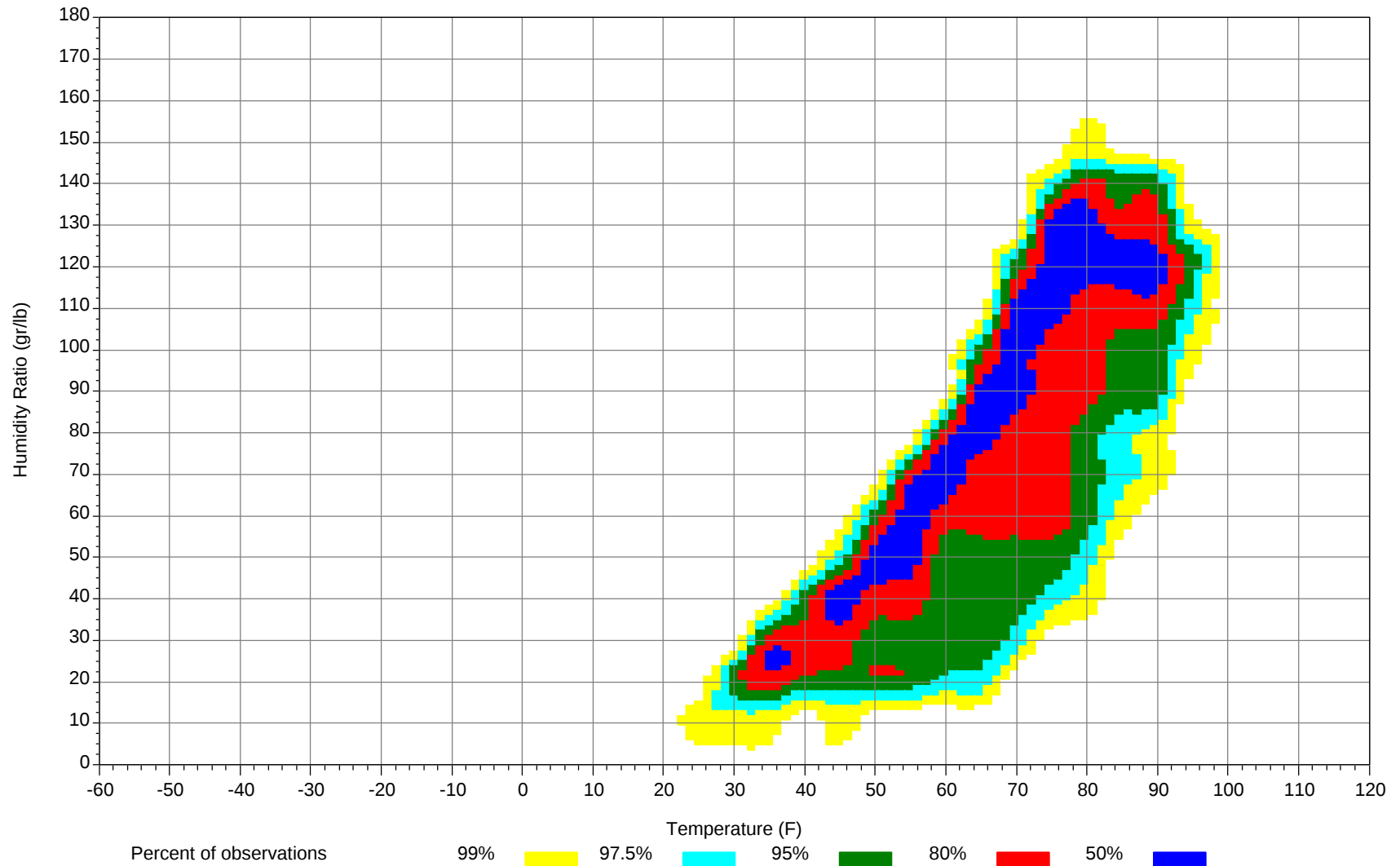
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.



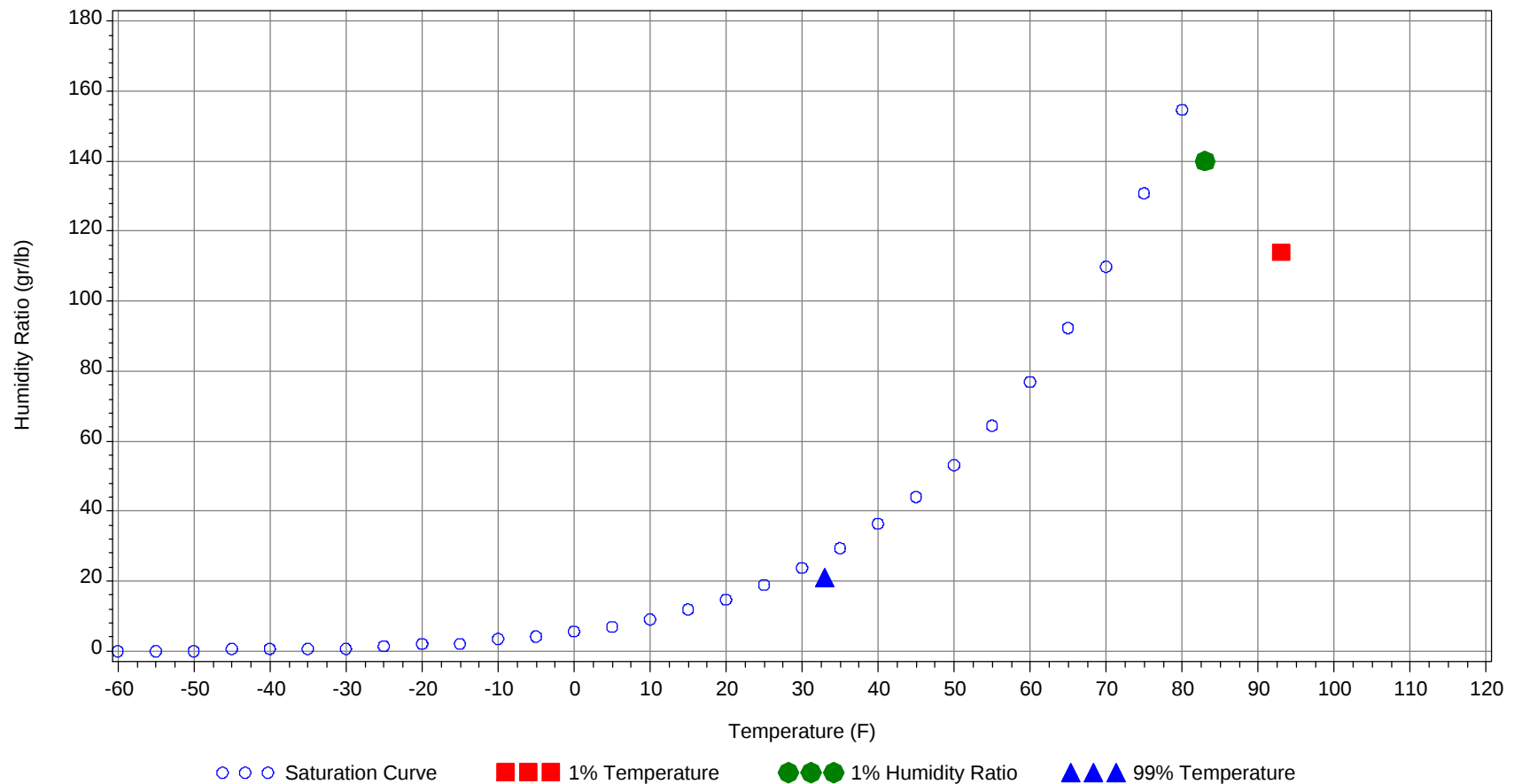
Average Annual Climate



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	93.0		77		114.0	40.3
99.0% Dry Bulb	33.0				21.0	11.2
1.0% Humidity Ratio	140.0	83.0	78.6	77.0		41.9

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												0		0	74
85/ 89							0		0	68.8		4	1	5	68.2
80/ 84		4	0	4	68.5		9	2	11	67.6		26	6	32	66.8
75/ 79		18	3	21	66.6		21	6	27	65.3	0	48	14	62	64.4
70/ 74	3	34	13	50	63.7	3	36	17	56	62.3	8	55	37	100	62.8
65/ 69	11	29	19	59	61.4	12	30	25	67	60.8	25	35	40	100	61.3
60/ 64	26	45	40	111	58	31	41	40	112	57.4	53	37	60	150	58
55/ 59	36	36	45	117	53.3	33	32	38	103	52.6	46	20	39	105	53.4
50/ 54	36	33	39	108	48.5	36	28	41	105	48.5	44	12	27	83	49.2
45/ 49	37	26	39	102	43.5	39	17	32	88	43.7	35	7	16	58	43.7
40/ 44	27	11	20	58	39.2	26	6	13	45	39.3	18	2	6	26	39.5
35/ 39	33	9	18	60	34.7	28	3	9	40	35.2	15	1	3	19	35.5
30/ 34	25	3	9	37	29.7	12	1	3	16	30	5	0	0	5	30.3
25/ 29	12	1	2	15	24.9	5	0	1	6	25.1	0			0	26
20/ 24	2	0	0	2	20.6	1			1	20.2					
15/ 19	0			0	16										

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	76.7
95/ 99							1	0	1	74.1		10	2	12	76.9
90/ 94		3	1	4	71.1		22	5	27	72.5		48	9	57	76.1
85/ 89		15	3	18	69.9		45	9	54	71.6	0	66	16	82	75.5
80/ 84	0	52	12	64	67.8	1	92	32	125	70.3	11	80	52	143	74.4
75/ 79	2	67	29	98	65.8	18	56	61	135	68.9	69	27	94	190	73.4
70/ 74	26	55	61	142	64.5	80	22	83	185	67.7	128	8	61	197	70.8
65/ 69	46	24	48	118	62.6	63	5	32	100	64.5	23	1	5	29	66.1
60/ 64	64	15	49	128	59	51	2	18	71	60.4	8	0	1	9	61.8
55/ 59	43	6	21	70	54	23	1	6	30	55.1	1			1	57
50/ 54	32	3	12	47	49.5	10	0	1	11	50.8					
45/ 49	20	0	4	24	44.7	2		0	2	46.6					
40/ 44	6		1	7	40.5										
35/ 39	2		0	2	36.9										
30/ 34	0			0	31.5										
25/ 29															
20/ 24															
15/ 19															

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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)
100/104		0		0	79.2		0		0	80					
95/ 99		12	2	14	77.9		7	1	8	77.8		1		1	76.3
90/ 94		79	15	94	77.6		66	9	75	77.8		21	2	23	76.1
85/ 89	0	79	25	104	77.1	0	83	20	103	77.4		71	8	79	75.7
80/ 84	22	57	73	152	75.9	15	70	72	157	76.3	4	91	46	141	74.9
75/ 79	121	17	101	239	74.4	125	19	116	260	74.6	64	41	106	211	73.7
70/ 74	101	4	33	138	71.6	102	2	30	134	71.8	131	13	66	210	70.7
65/ 69	4		0	4	66.4	4	0	0	4	66.7	25	2	8	35	65.5
60/ 64	1			1	63	0		0	0	62.6	13	0	3	16	61.1
55/ 59											1		1	2	55.1
50/ 54											1			1	51.9
45/ 49															
40/ 44															
35/ 39															
30/ 34															
25/ 29															
20/ 24															
15/ 19															

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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)
100/104															
95/ 99															
90/ 94		2	0	2	76.1										
85/ 89		17	1	18	74.4		1	0	1	73.9		0		0	73.5
80/ 84	0	75	12	87	71.9		21	1	22	70.7		7	0	7	70.6
75/ 79	17	68	45	130	70.4	1	46	10	57	67.9	0	26	4	30	68.1
70/ 74	57	49	78	184	68.1	19	57	36	112	65.8	8	37	19	64	65.6
65/ 69	46	19	42	107	64.2	26	34	36	96	62.9	15	31	22	68	62.4
60/ 64	55	13	38	106	60	42	39	53	134	58.7	33	44	45	122	58.6
55/ 59	32	3	19	54	54.5	40	23	39	102	53.9	36	39	42	117	53.4
50/ 54	23	1	10	34	50.1	38	12	31	81	49.5	37	28	38	103	49
45/ 49	13	0	3	16	44.9	38	6	21	65	44.6	33	21	36	90	43.8
40/ 44	3	0	1	4	40.2	18	1	8	27	40.2	26	8	20	54	39.9
35/ 39	1		0	1	36.5	14	0	4	18	35.8	34	5	15	54	35.3
30/ 34	0			0	32.5	5	0	1	6	31	19	1	5	25	30.3
25/ 29						1		0	1	26.4	6	1	1	8	25
20/ 24											1		0	1	20.6
15/ 19															

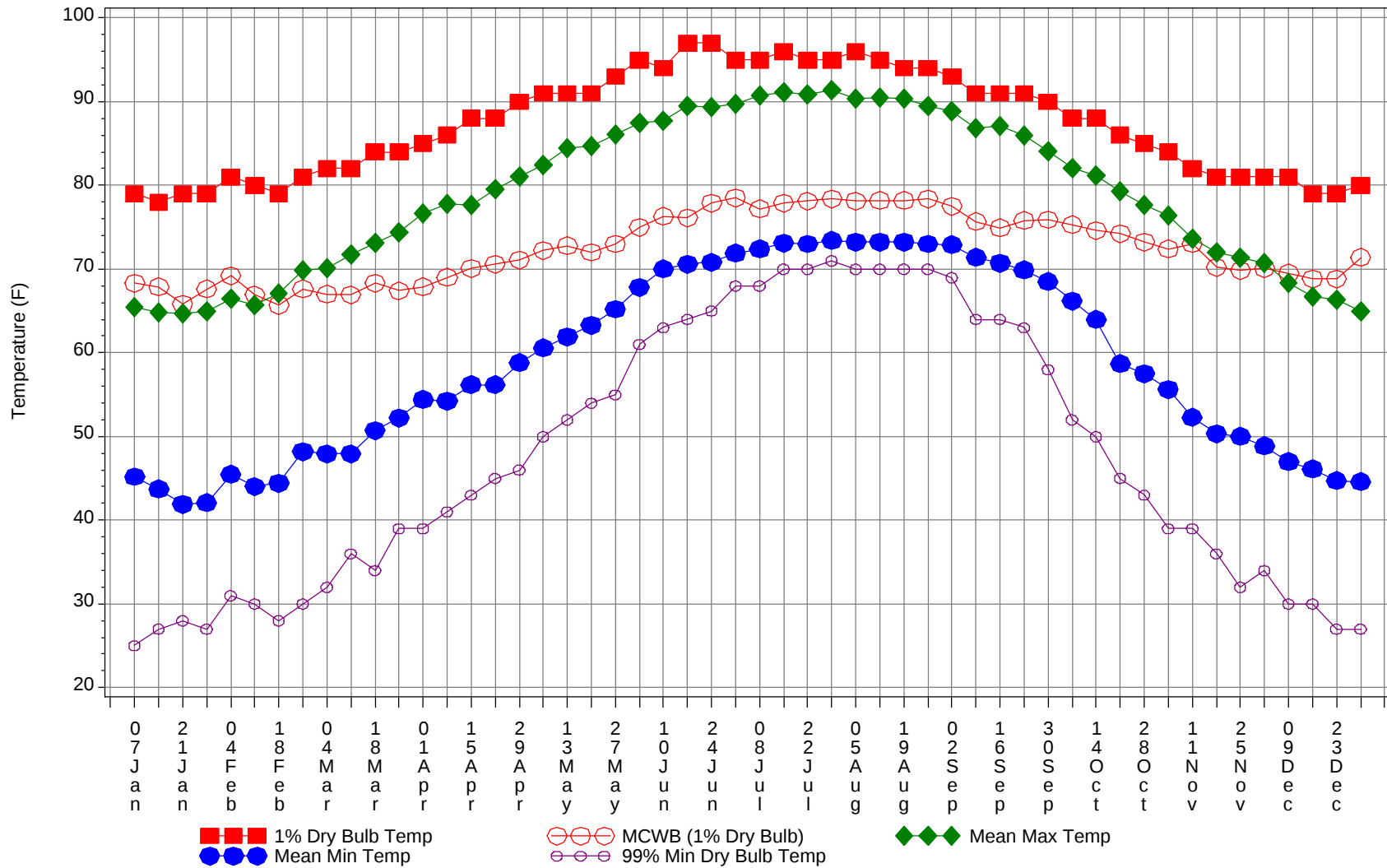
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Dry-Bulb Temperature Hours For An Average Year

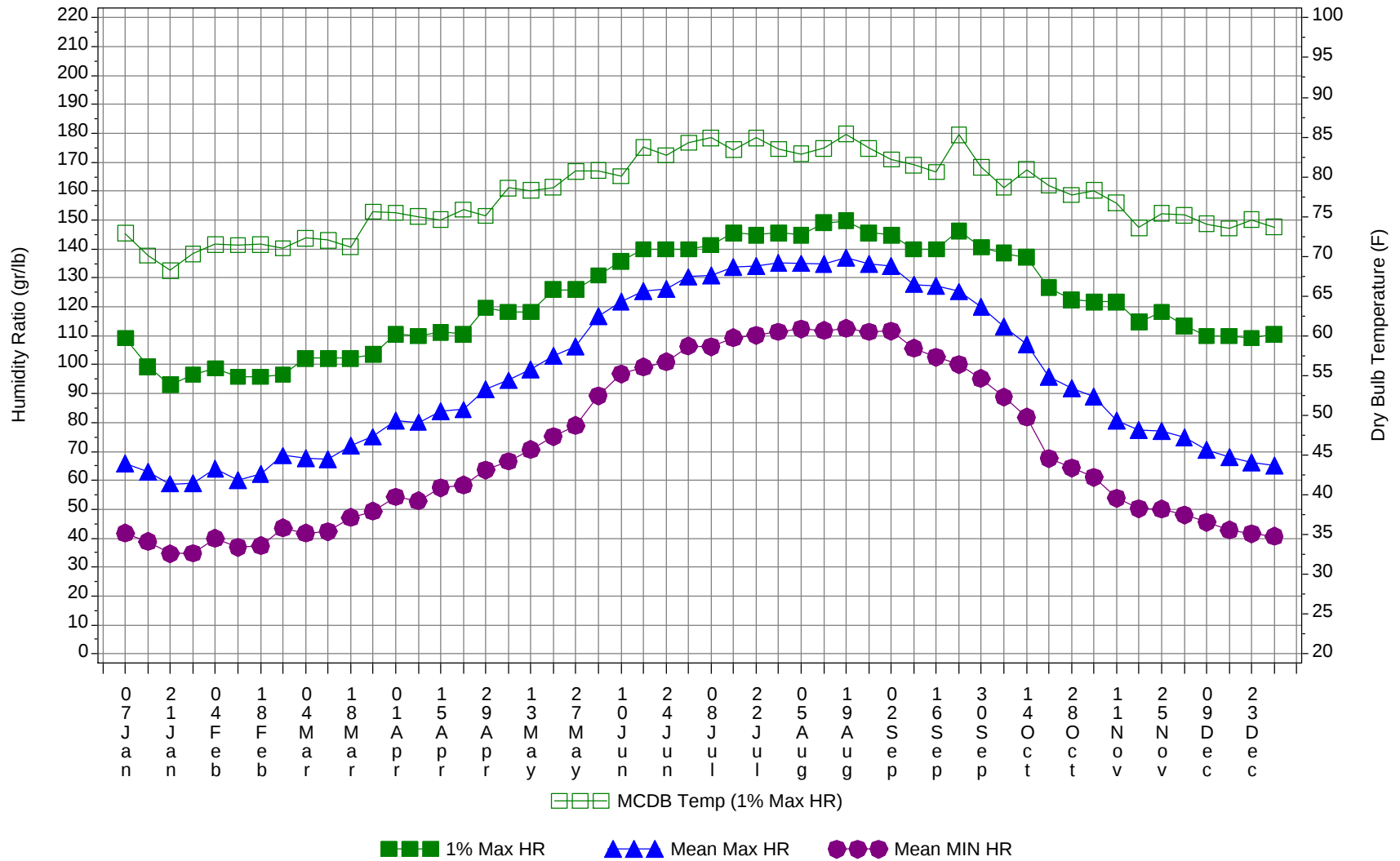
	Annual				
Temperature Range (°F)	01 To 08 LST	09 To 16 LST	17 to 00 LST	Total Obs	M C W B (°F)
100/104		1		1	78.5
95/ 99		31	5	36	77.4
90/ 94		245	40	285	76.7
85/ 89	0	384	84	468	75.5
80/ 84	55	585	311	951	73.4
75/ 79	423	452	591	1466	71.7
70/ 74	667	372	532	1571	68.1
65/ 69	299	209	276	784	63
60/ 64	374	236	345	955	58.8
55/ 59	289	160	248	697	53.6
50/ 54	256	117	199	572	49.1
45/ 49	216	77	151	444	43.9
40/ 44	122	28	68	218	39.6
35/ 39	126	18	49	193	35.2
30/ 34	66	5	18	89	30
25/ 29	24	1	4	29	25
20/ 24	3	0	0	3	20.5
15/ 19	0			0	16

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



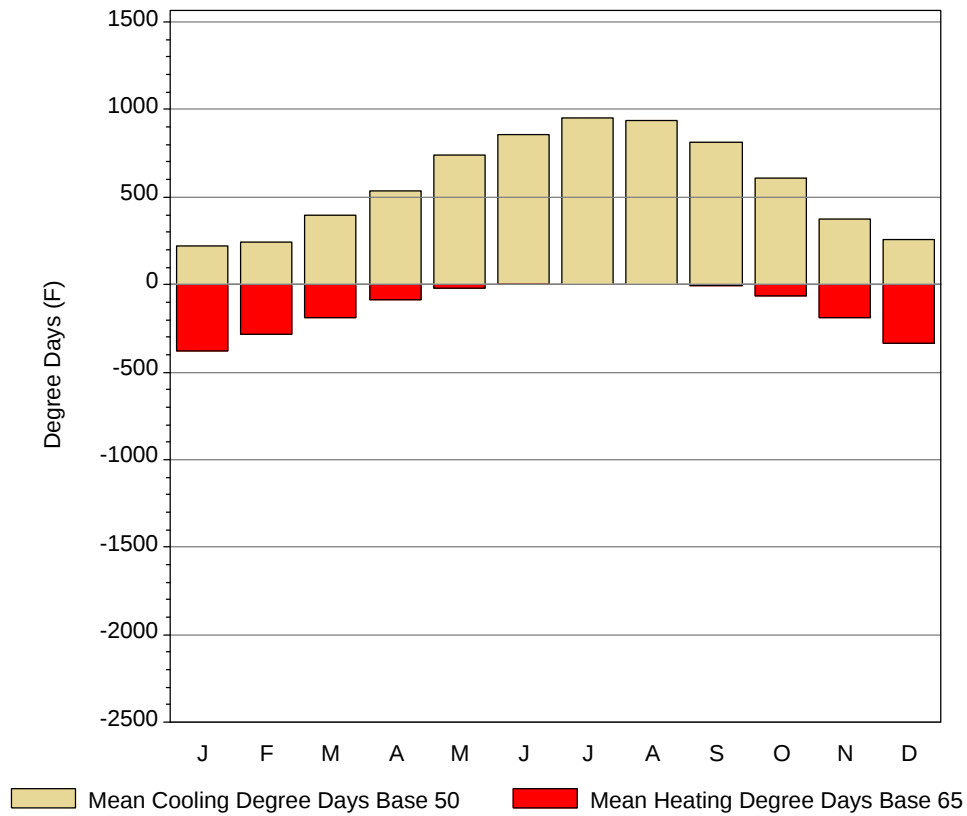
Long Term Humidity and Dry Bulb Temperature Summary



Long Term Humidity and Dry Bulb Temperature Summary

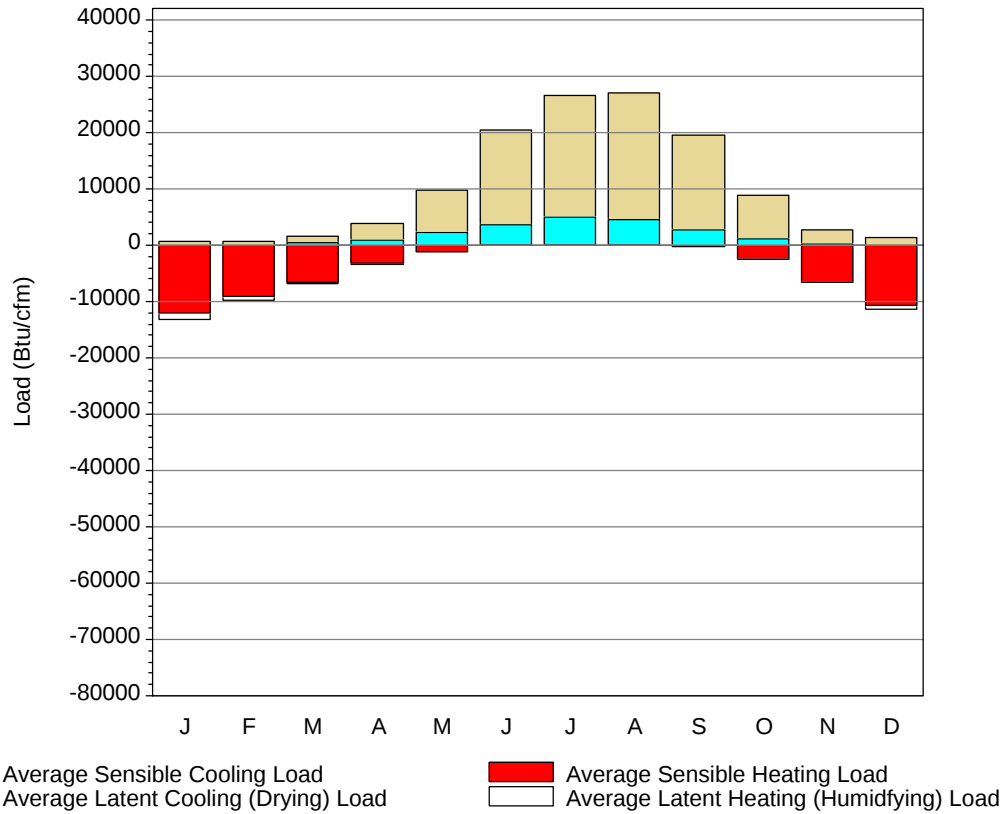
Week Ending	1.0% Temp (°F)	MCWB@ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB@ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	79	68.3	65.4	45.2	25	109.2	72.9	65.8	41.7
14-Jan	78	67.9	64.8	43.7	27	99.4	70.1	62.9	38.8
21-Jan	79	65.8	64.7	41.9	28	93.1	68.2	58.8	34.6
28-Jan	79	67.6	65	42.1	27	96.6	70.3	58.9	34.8
4-Feb	81	69.2	66.4	45.5	31	98.7	71.5	64.1	40
11-Feb	80	66.9	65.7	44	30	95.9	71.4	60.1	36.9
18-Feb	79	65.7	67.1	44.4	28	95.9	71.5	62.3	37.4
25-Feb	81	67.6	69.9	48.2	30	96.6	71	68.6	43.6
4-Mar	82	67	70.1	47.9	32	102.2	72.3	67.8	41.8
11-Mar	82	66.9	71.7	47.9	36	102.2	72	67.2	42.3
18-Mar	84	68.3	73.1	50.7	34	102.2	71.2	72.1	47.1
25-Mar	84	67.4	74.4	52.2	39	103.6	75.6	75.1	49.3
1-Apr	85	67.9	76.7	54.4	39	110.6	75.5	80.6	54.3
8-Apr	86	69	77.8	54.2	41	109.9	75	80.1	53
15-Apr	88	70.1	77.7	56.2	43	111.3	74.6	84	57.4
22-Apr	88	70.6	79.5	56.2	45	110.6	75.9	84.5	58.3
29-Apr	90	71.1	81	58.8	46	119.7	75.1	91.6	63.6
6-May	91	72.2	82.4	60.6	50	118.3	78.6	94.6	66.6
13-May	91	72.8	84.4	61.9	52	118.3	78.3	98.3	70.6
20-May	91	72	84.7	63.3	54	126	78.7	103	75.1
27-May	93	73	86.1	65.2	55	126	80.7	106.3	78.9
4-Jun	95	75	87.5	67.8	61	130.9	80.8	116.7	89.3
10-Jun	94	76.3	87.7	70	63	135.8	80.1	121.9	96.8
17-Jun	97	76.1	89.5	70.6	64	140	83.7	125.4	99.2
24-Jun	97	77.9	89.3	70.8	65	140	82.7	126.3	101
1-Jul	95	78.5	89.7	71.9	68	140	84.3	130.4	106.5
8-Jul	95	77.2	90.8	72.4	68	141.4	84.9	130.8	106.3
15-Jul	96	77.9	91.1	73.1	70	145.6	83.4	133.7	109.3
22-Jul	95	78.1	90.9	73	70	144.9	84.9	134.2	110.2
29-Jul	95	78.4	91.4	73.4	71	145.6	83.5	135.2	111.4
5-Aug	96	78.1	90.4	73.2	70	144.9	82.9	135.1	112.4
12-Aug	95	78.2	90.5	73.2	70	149.1	83.6	135	111.8
19-Aug	94	78.2	90.4	73.2	70	149.8	85.4	137.1	112.5
26-Aug	94	78.4	89.5	73	70	145.6	83.6	134.8	111.4
2-Sep	93	77.5	88.9	72.9	69	144.9	82.2	134.1	111.7
9-Sep	91	75.7	86.9	71.4	64	140	81.5	127.8	105.7
16-Sep	91	74.9	87.1	70.7	64	140	80.6	127.2	102.7
23-Sep	91	75.8	86	69.9	63	146.3	85.3	125.3	100.1
30-Sep	90	75.9	84.1	68.5	58	140.7	81.2	120	95.3
7-Oct	88	75.3	82.1	66.2	52	138.6	78.7	113.2	88.8
14-Oct	88	74.6	81.2	64	50	137.2	80.9	107	81.9
21-Oct	86	74.2	79.3	58.7	45	126.7	78.9	95.9	67.6
28-Oct	85	73.2	77.7	57.5	43	122.5	77.7	92	64.4
4-Nov	84	72.4	76.4	55.6	39	121.8	78.3	88.9	61
11-Nov	82	73	73.6	52.3	39	121.8	76.7	80.7	53.9
18-Nov	81	70.2	72	50.3	36	114.8	73.6	77.4	50.3
25-Nov	81	69.8	71.4	50	32	118.3	75.4	77	50
2-Dec	81	70.1	70.7	48.9	34	113.4	75.2	74.8	48.1
9-Dec	81	69.5	68.3	47	30	109.9	74.1	70.6	45.6
16-Dec	79	68.8	66.7	46.1	30	109.9	73.5	68	42.9
23-Dec	79	68.8	66.3	44.7	27	109.2	74.6	66.1	41.5
31-Dec	80	71.4	65	44.6	27	110.6	73.7	65.2	40.6

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	219	30.9	381.6
FEB	243	41.3	284.6
MAR	397.1	91.7	188.3
APR	532.8	162.5	85.6
MAY	739	296.9	23.1
JUN	858.9	409.8	1
JUL	951.1	486.1	0
AUG	936.3	471.3	0
SEP	814.6	366.8	2.2
OCT	610.6	203.8	61.8
NOV	372.1	82.9	191.4
DEC	257.7	42.3	332.8
ANN	6932.2	2686.3	1552.4

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	62	-11944	706	-1117
FEB	119	-9136	666	-702
MAR	390	-6460	1301	-357
APR	951	-3265	2925	-71
MAY	2405	-1080	7431	-1
JUN	3765	-81	16690	0
JUL	4945	-7	21629	0
AUG	4547	-5	22511	0
SEP	2859	-151	16819	0
OCT	1137	-2423	7662	-23
NOV	270	-6483	2499	-193
DEC	100	-10574	1316	-692
ANN	21550	-51609	102155	-3156

Station Information		Shading Geometry in Dimensionless Units	
City, State, WBAN	JACKSONVILLE, FL 13889	Window:	1.000
Lat, Lon, Elev	30.50N 81.70W 30ft	Overhang:	0.897
Press, Stn Type	14.7psia Secondary	Vert Gap:	0.651

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	920	1160	1500	1860	1940	1900	1850	1710	1470	1250	1010	850	1450
	Std.Dev.	68	90	99	115	131	123	99	97	129	97	83	73	37
	Minimum	820	1020	1280	1630	1570	1670	1550	1480	1140	1060	790	690	1380
	Maximum	1100	1350	1640	2180	2250	2170	2030	1870	1710	1420	1190	1000	1530
	Diffuse	380	460	580	670	790	870	870	810	710	550	410	360	620
Clear Day	Global	1280	1600	1990	2340	2510	2550	2490	2320	2020	1650	1310	1160	1930
NORTH	Global	250	310	380	450	560	610	580	490	410	340	270	240	410
	Diffuse	250	310	380	440	490	520	510	470	410	340	270	240	390
Clear Day	Global	240	290	360	440	590	690	630	490	390	320	260	230	410
EAST	Global	570	700	870	1040	1050	1030	1030	980	860	760	620	530	840
	Diffuse	310	370	460	550	600	620	620	590	520	430	340	290	470
Clear Day	Global	850	1020	1190	1320	1350	1340	1300	1250	1150	1010	850	780	1120
SOUTH	Global	1200	1190	1110	910	670	580	610	740	920	1130	1230	1170	950
	Diffuse	410	450	510	530	520	520	520	540	540	510	440	390	490
Clear Day	Global	1990	1890	1570	1090	750	620	680	930	1340	1710	1890	1940	1360
WEST	Global	580	710	870	1030	1030	950	910	870	810	740	630	540	810
	Diffuse	310	370	470	550	600	610	600	570	510	430	340	290	470
Clear Day	Global	850	1020	1190	1320	1350	1340	1300	1250	1150	1010	850	780	1120

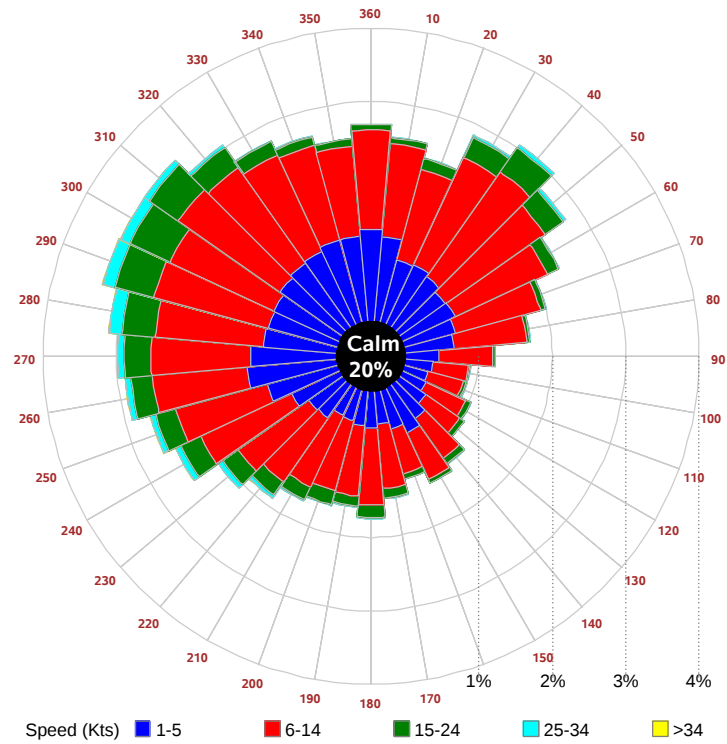
Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995

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	630	820	1080	1360	1420	1380	1350	1240	1060	890	700	570	1040
NORTH	Unshaded	180	210	260	310	360	390	370	330	280	240	190	170	270
	Shaded	150	190	230	280	310	330	320	290	250	210	170	140	240
EAST	Unshaded	400	490	610	740	750	730	730	700	610	540	430	370	590
	Shaded	340	420	520	610	610	600	600	580	500	450	370	320	490
SOUTH	Unshaded	890	850	730	550	400	370	380	450	590	780	900	870	650
	Shaded	840	690	410	320	320	320	320	320	330	560	820	840	510
WEST	Unshaded	410	500	620	740	730	670	640	610	570	520	440	370	570
	Shaded	350	430	520	610	600	540	520	500	470	440	370	320	470

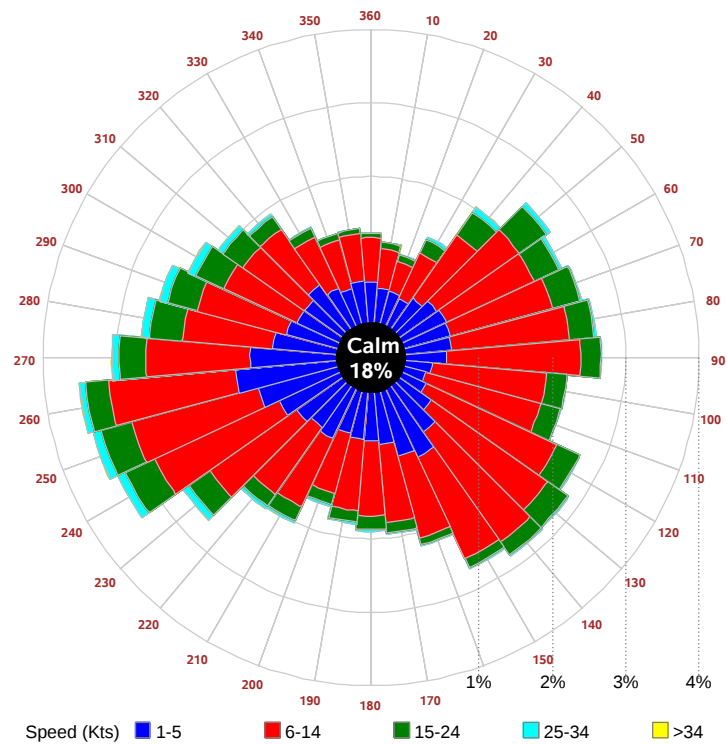
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS Percentage Uncertainty = 9												
		March					June					
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm	
HORIZ.	M.Clear	36	77	92	79	40	34	77	100	99	74	
	M.Cloudy	21	49	60	52	26	24	55	76	74	48	
NORTH	M.Clear	9	15	16	15	10	23	18	18	18	18	
	M.Cloudy	9	16	18	16	10	15	18	19	19	17	
EAST	M.Clear	75	67	19	15	10	62	76	42	18	17	
	M.Cloudy	27	38	19	16	10	32	50	34	19	16	
SOUTH	M.Clear	30	61	73	62	33	11	17	30	29	17	
	M.Cloudy	14	35	44	38	18	10	17	27	26	16	
WEST	M.Clear	9	15	16	62	76	11	17	18	44	75	
	M.Cloudy	9	16	18	38	35	10	17	19	35	43	
M.Clear	(% hrs)	41	42	39	39	38	43	35	29	25	30	

		Sept					Dec					
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm	
HORIZ.	M.Clear	20	65	90	86	58	18	52	63	48	13	
	M.Cloudy	14	45	64	61	38	10	31	38	29	8	
NORTH	M.Clear	8	16	18	18	15	6	11	13	11	5	
	M.Cloudy	6	15	19	18	14	5	12	14	11	4	
EAST	M.Clear	47	73	40	18	15	48	51	13	11	5	
	M.Cloudy	20	43	31	18	14	14	24	14	11	4	
SOUTH	M.Clear	12	43	62	59	38	37	80	91	75	29	
	M.Cloudy	7	29	44	41	24	12	33	41	32	10	
WEST	M.Clear	8	16	18	46	72	6	11	16	53	39	
	M.Cloudy	6	15	19	33	38	5	12	15	25	12	
M.Clear	(% hrs)	42	29	24	24	29	37	37	36	37	40	

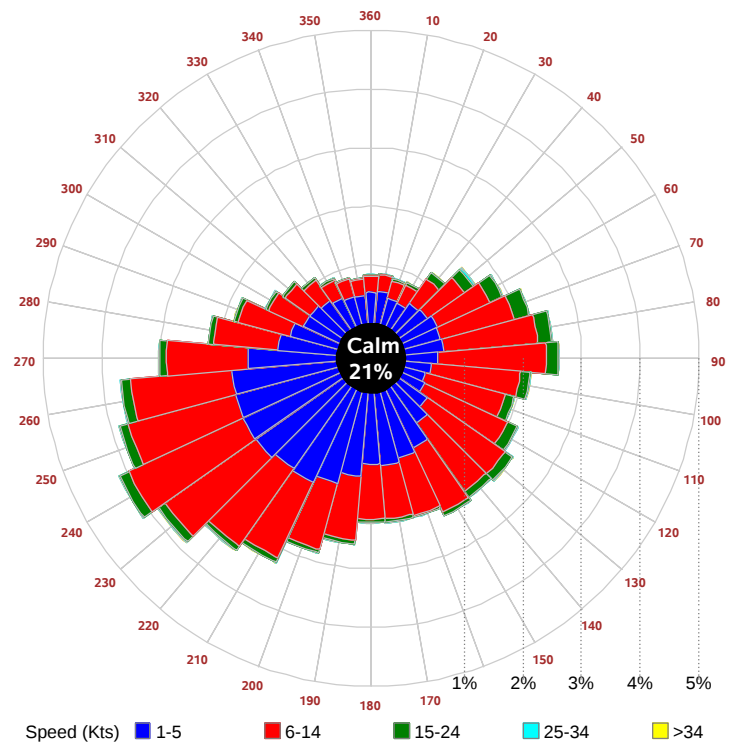
Wind Summary - December, January, and February



Wind Summary - March, April, and May



Wind Summary - June, July, and August



Wind Summary - September, October, and November

