

WEST PALM BEACH FL

Latitude = 26.68 N

Longitude = 80.12 W

Period of Record = 1973 to 1996

WMO No. 722030

Elevation = 20 feet

Average Pressure = 30.00 inches Hg

Design Criteria Data

	Design Value	Mean Coincident (Average) Values			
		Wet Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Dry Bulb Temperature (T)	(°F)				
Median of Extreme Highs	94	78	117	11.9	W
0.4% Occurrence	91	78	123	12.2	SE
1.0% Occurrence	90	78	123	12.4	E
2.0% Occurrence	89	78	123	12.3	E
Mean Daily Range	14	-	-	-	-
97.5% Occurrence	52	48	44	8.4	NW
99.0% Occurrence	47	43	35	8.5	NW
99.6% Occurrence	43	39	29	9.2	NW
Median of Extreme Lows	36	32	21	11.4	NW
	Design Value	Mean Coincident (Average) Values			
		Dry Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Wet Bulb Temperature (T_{wb})	(°F)				
Median of Extreme Highs	82	89	148	11.8	SE
0.4% Occurrence	80	88	137	11.9	ESE
1.0% Occurrence	79	86	133	11.3	ESE
2.0% Occurrence	79	86	133	11.3	ESE
	Design Value	Mean Coincident (Average) Values			
		Dry Bulb Temperature (°F)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Humidity Ratio (HR)	(gr/lb)				
Median of Extreme Highs	151	84	1.00	9.2	SE
0.4% Occurrence	144	84	0.97	9.2	ESE
1.0% Occurrence	141	84	0.94	9.5	ESE
2.0% Occurrence	136	83	0.90	9.3	ESE
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		14	2710	3441	5980

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	5.0	140	11.5 + 2.5
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 (#)
77.2	0	0	0

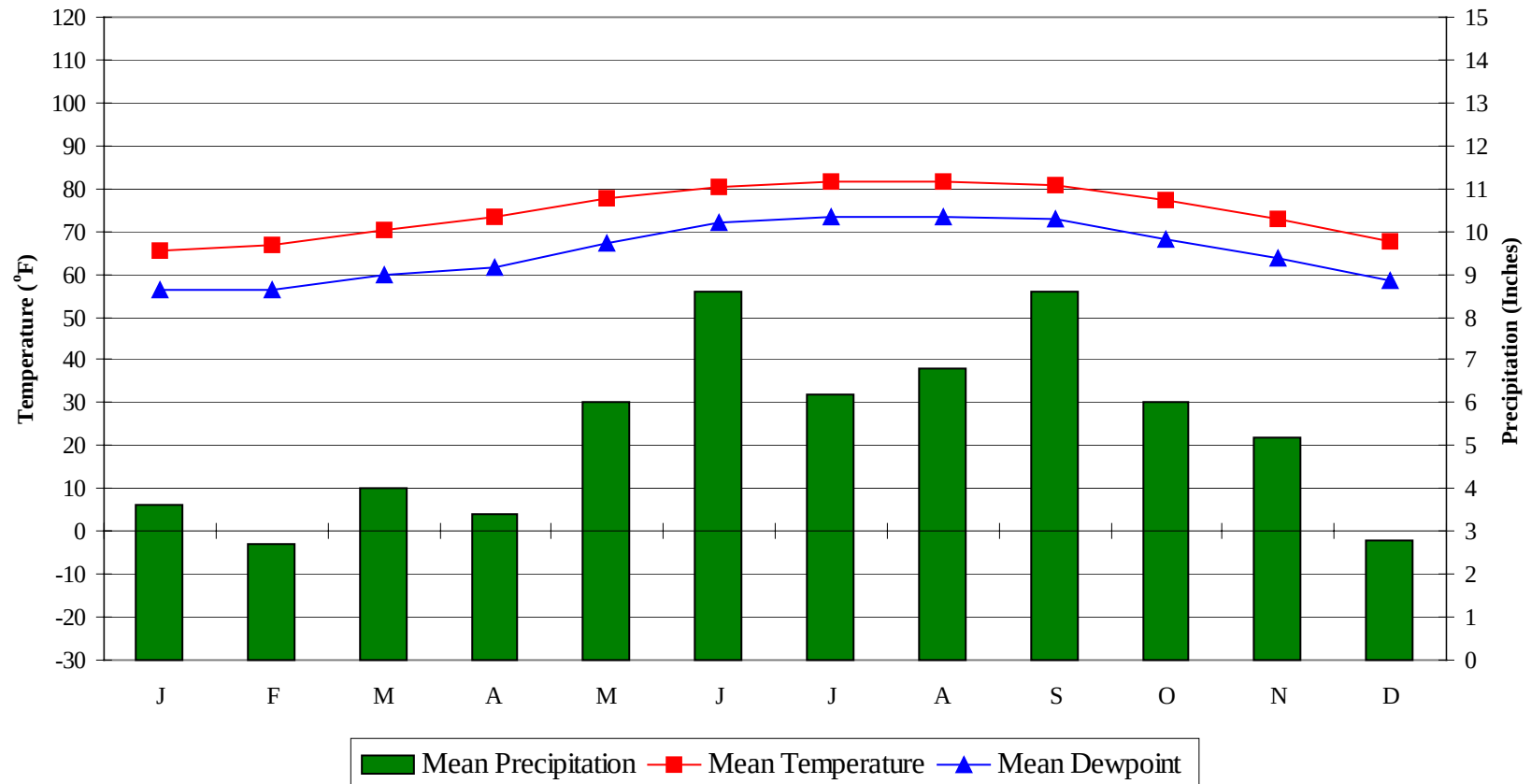
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

WEST PALM BEACH

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Average Annual Climate

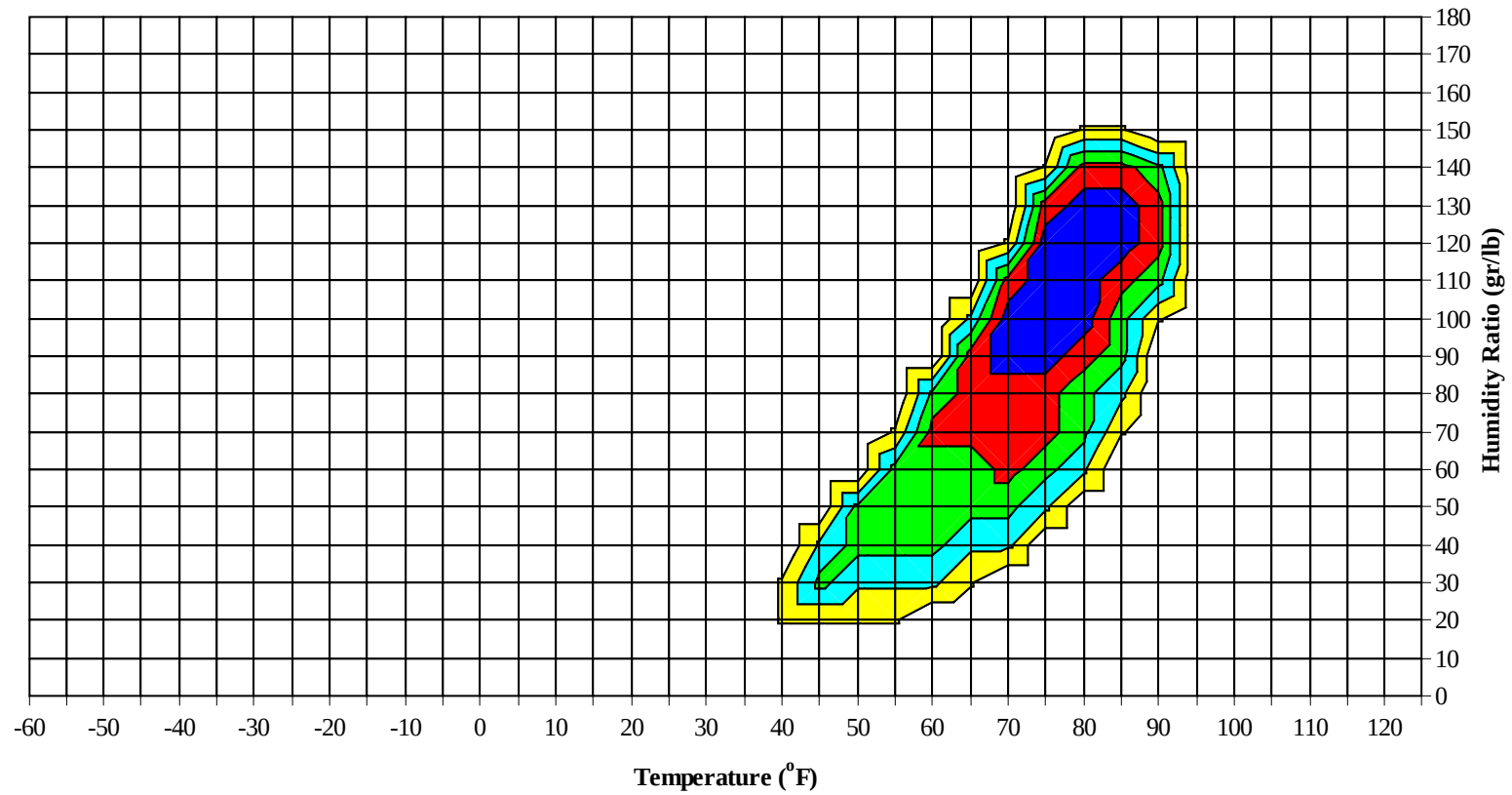


WEST PALM BEACH

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WMO No. 722030

Long Term Psychrometric Summary



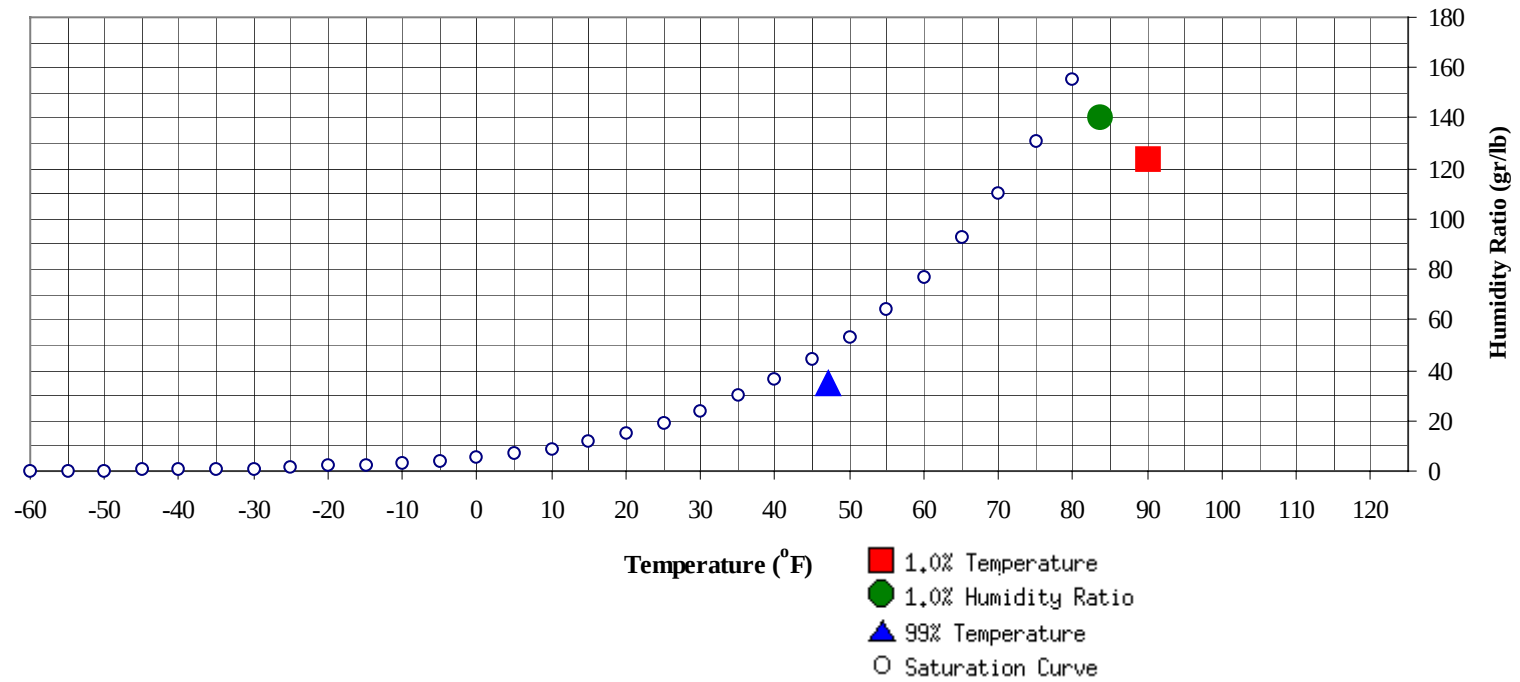
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

WEST PALM BEACH

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WMO No. 722030

Psychrometric Summary of Peak Design Values



99% Dry Bulb	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
	47	34.8	16.7		140.7	83.6	78.8	77	42.1

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	90	123.9	77.9	41.1

WEST PALM BEACH FL

WMO No. 722030

Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	January					February					March				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99															
90 / 94															
85 / 89		1		1	71.6		2	0	2	71.2			0	0	71.9
80 / 84		25	1	26	71.5		32	3	35	71.3			9	1	10 72.6
75 / 79	4	71	24	99	69.1	7	61	28	96	68.6	0	55	8	63	71.1
70 / 74	51	59	77	188	66.2	44	55	68	167	65.5	16	92	49	158	68.3
65 / 69	58	39	55	153	62.1	53	35	54	142	61.6	78	54	103	235	65.7
60 / 64	39	25	32	96	57.6	38	20	31	89	57.3	66	21	47	135	61.9
55 / 59	28	15	28	71	52.7	29	10	20	59	52.6	35	11	22	68	57.7
50 / 54	30	8	18	56	48.2	28	5	13	46	48.0	25	4	13	42	53.3
45 / 49	21	3	9	33	43.1	14	2	5	21	43.1	19	1	4	24	48.6
40 / 44	12	1	2	15	38.8	8	1	2	11	38.2	6	0	1	7	43.8
35 / 39	4	0	1	5	33.4	3	0	0	3	33.8	2	0	0	2	39.1
30 / 34	1	0	0	1	28.9	0			0	30.0	0	0		0	34.7
25 / 29	0		0	0	26.4						0	0		0	29.0

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.

WEST PALM BEACH FL

WMO No. 722030

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	April					May					June				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99						0			0	73.0		0	0	0	77.1
90 / 94		2	0	2	72.9	5	0		5	75.4		18	1	19	77.6
85 / 89		17	2	19	72.0	0	64	5	69	74.1	2	125	17	144	76.6
80 / 84	1	91	15	107	70.5	14	130	55	199	72.5	48	73	103	224	75.1
75 / 79	35	90	84	209	68.3	95	40	131	266	70.9	125	19	94	238	73.5
70 / 74	93	30	97	221	65.6	100	8	51	159	68.3	62	5	25	92	71.2
65 / 69	55	7	27	89	62.7	32	1	6	39	64.7	2	0	0	2	65.0
60 / 64	33	2	11	46	58.1	7		0	7	59.2	1		0	1	60.1
55 / 59	16	1	2	19	53.8	1			1	54.8					
50 / 54	5	0	1	6	48.8	0			0	51.3					
45 / 49	1		0	1	43.5										
40 / 44	0			0	39.0										
35 / 39															
30 / 34															
25 / 29															

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.

WEST PALM BEACH FL

WMO No. 722030

Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)**Period of Record = 1973 to 1996**

Temperature Range (°F)	July					August					September				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99		2	0	2	78.6		0		0	78.6					
90 / 94		40	2	42	78.2	0	43	1	44	78.3		16	0	16	78.0
85 / 89	5	149	37	191	77.4	6	147	35	188	77.5	2	141	16	159	77.2
80 / 84	68	41	123	233	76.0	80	41	134	256	76.1	63	62	131	255	75.8
75 / 79	134	13	70	217	74.0	131	14	68	213	74.4	127	17	78	223	74.0
70 / 74	41	3	16	60	71.6	31	2	10	43	71.6	47	4	15	66	71.4
65 / 69	0			0	68.0						1		0	1	66.9
60 / 64															
55 / 59															
50 / 54															
45 / 49															
40 / 44															
35 / 39															
30 / 34															
25 / 29															

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.

WEST PALM BEACH FL

WMO No. 722030

Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	October					November					December				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99															
90 / 94		2	0	2	76.4		0		0	77.0					
85 / 89	0	55	2	57	75.9		7	0	7	74.8		1		1	73.4
80 / 84	21	133	59	213	73.4	1	92	8	101	72.7		31	1	32	71.9
75 / 79	105	46	127	279	71.4	60	84	99	243	70.4	10	93	34	137	69.1
70 / 74	80	9	46	135	68.9	85	36	80	202	66.9	62	58	92	212	66.2
65 / 69	31	2	10	43	64.6	39	13	27	79	63.3	59	27	50	136	62.8
60 / 64	8	0	3	11	58.4	24	6	14	44	58.5	43	19	29	91	58.2
55 / 59	3	0	1	4	52.9	18	2	8	28	53.3	26	10	18	54	53.3
50 / 54	0		0	0	47.2	10	0	3	13	49.0	23	6	14	43	48.2
45 / 49	0			0	44.3	3		0	3	44.2	15	2	6	23	43.3
40 / 44						0			0	42.7	7	1	2	10	38.3
35 / 39											2	0	1	3	33.3
30 / 34											1	0	0	1	28.2
25 / 29											0			0	26.4

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.

WMO No. 722030

Period of Record = 1973 to 1996

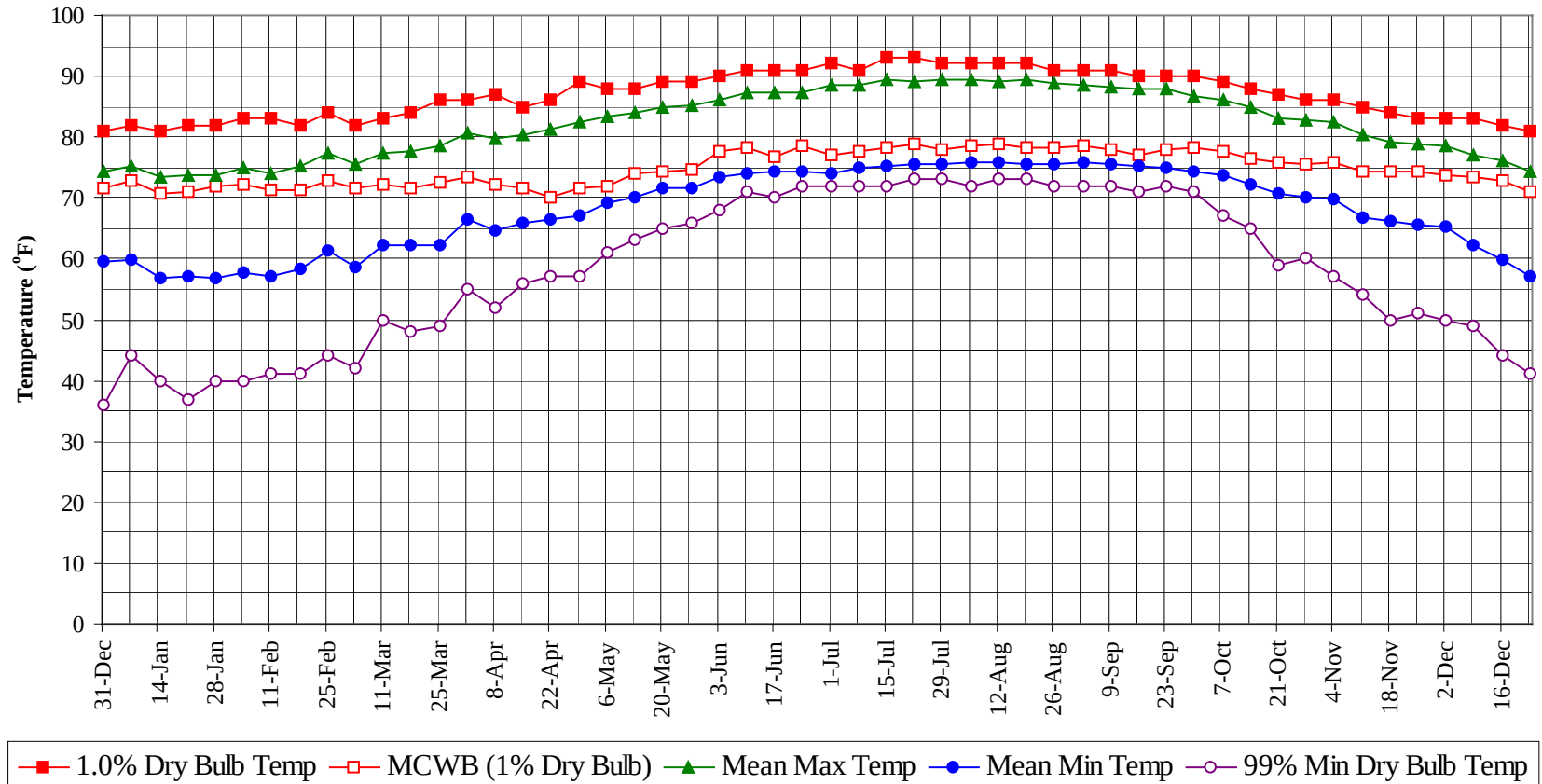
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WEST PALM BEACH

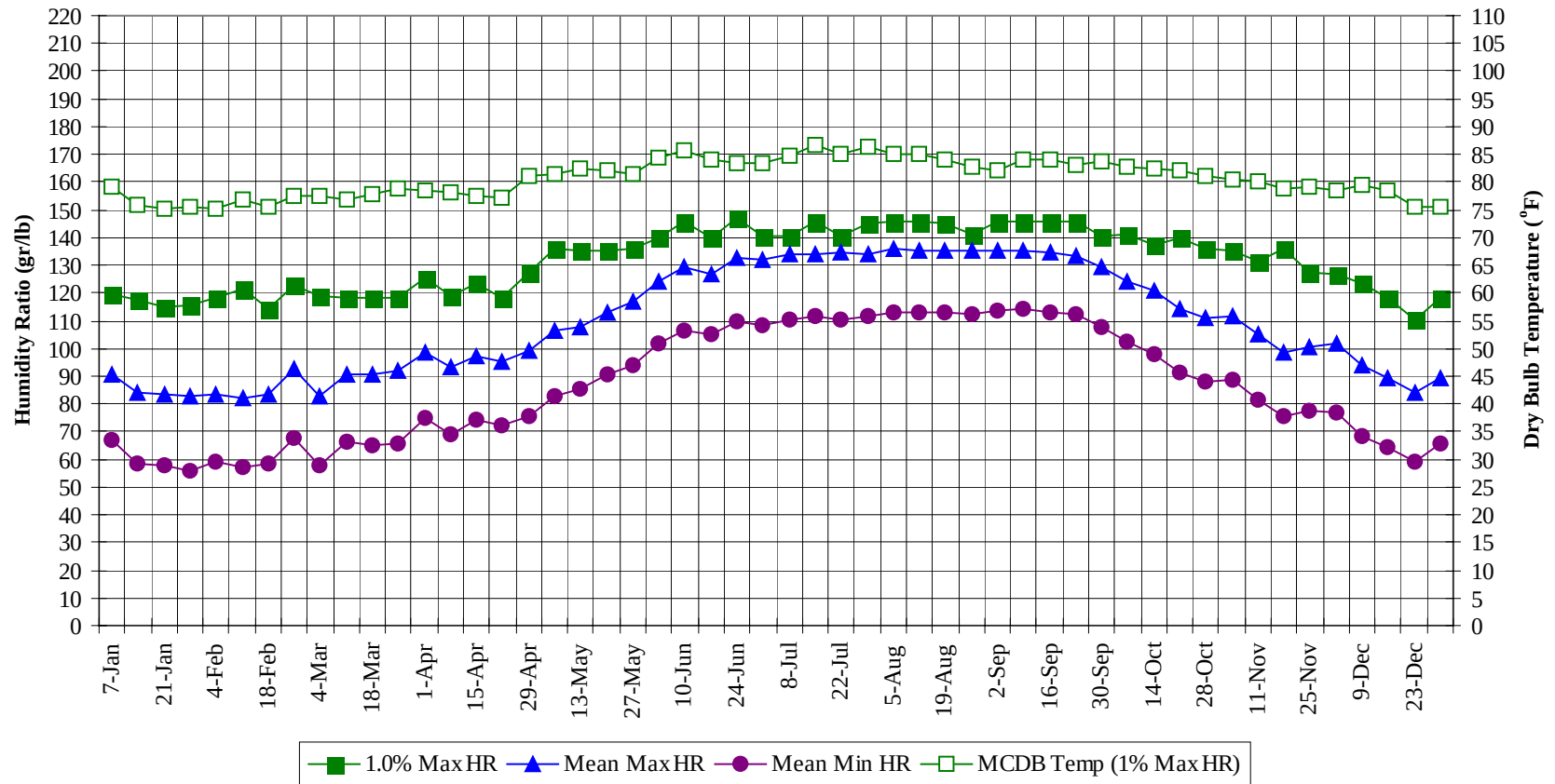
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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



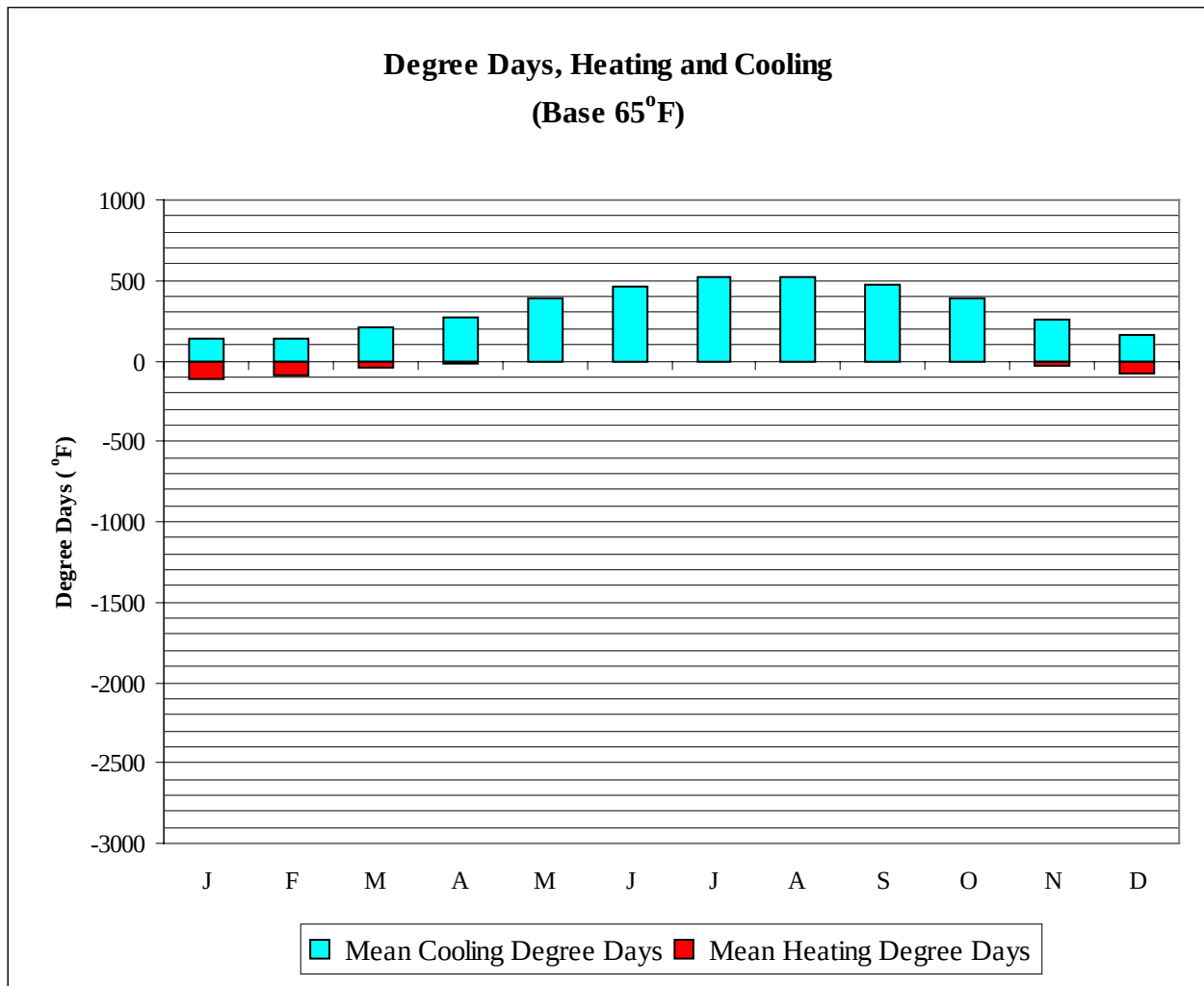
WEST PALM BEACH**FL****WMO No. 722030****Long Term Dry Bulb Temperature and Humidity Summary**

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	82.0	72.8	75.3	59.9	44.0	119.7	79.0	90.5	66.8
14-Jan	81.0	70.8	73.4	56.8	40.0	117.6	75.9	84.3	58.1
21-Jan	82.0	71.0	73.9	57.2	37.0	114.8	75.2	83.1	57.6
28-Jan	82.0	71.8	73.6	56.8	40.0	115.5	75.6	82.7	56.1
4-Feb	83.0	72.3	74.8	57.8	40.0	118.3	75.3	83.3	59.2
11-Feb	83.0	71.4	74.1	57.2	41.0	121.8	76.8	82.1	57.2
18-Feb	82.0	71.2	75.3	58.3	41.0	114.1	75.5	83.6	58.7
25-Feb	84.0	72.8	77.2	61.3	44.0	122.5	77.5	92.9	67.5
4-Mar	82.0	71.5	75.5	58.5	42.0	119.0	77.4	82.9	57.9
11-Mar	83.0	72.2	77.3	62.2	50.0	118.3	76.7	90.3	66.1
18-Mar	84.0	71.7	77.7	62.2	48.0	118.3	77.7	90.3	65.3
25-Mar	86.0	72.4	78.6	62.2	49.0	118.3	78.9	92.0	65.7
1-Apr	86.0	73.5	80.6	66.3	55.0	125.3	78.6	98.2	74.9
8-Apr	87.0	72.3	79.8	64.6	52.0	119.0	78.0	93.4	68.7
15-Apr	85.0	71.7	80.5	66.0	56.0	123.2	77.4	96.9	74.3
22-Apr	86.0	70.0	81.3	66.5	57.0	118.3	77.2	95.0	72.4
29-Apr	89.0	71.5	82.6	67.2	57.0	127.4	81.0	99.2	75.6
6-May	88.0	72.0	83.3	69.1	61.0	135.8	81.4	106.2	82.5
13-May	88.0	74.1	84.0	70.0	63.0	135.1	82.5	108.0	85.3
20-May	89.0	74.4	84.9	71.5	65.0	135.1	82.1	113.1	91.0
27-May	89.0	74.6	85.3	71.5	66.0	135.8	81.5	116.6	93.8
3-Jun	90.0	77.5	86.1	73.3	68.0	140.0	84.3	123.9	102.1
10-Jun	91.0	78.2	87.4	74.1	71.0	145.6	85.8	129.2	106.2
17-Jun	91.0	76.7	87.2	74.3	70.0	140.0	84.0	126.4	105.3
24-Jun	91.0	78.4	87.5	74.2	72.0	147.0	83.3	132.5	109.6
1-Jul	92.0	77.1	88.5	74.2	72.0	140.7	83.5	132.3	108.5
8-Jul	91.0	77.7	88.7	75.0	72.0	140.7	84.6	134.2	110.4
15-Jul	93.0	78.2	89.4	75.1	72.0	145.6	86.6	133.9	111.6
22-Jul	93.0	79.0	89.0	75.4	73.0	140.7	85.0	134.5	110.3
29-Jul	92.0	78.1	89.5	75.6	73.0	144.9	86.2	134.0	111.4
5-Aug	92.0	78.6	89.4	75.9	72.0	145.6	85.2	135.8	112.6
12-Aug	92.0	78.8	89.2	76.0	73.0	145.6	85.2	135.1	113.2
19-Aug	92.0	78.3	89.4	75.7	73.0	144.9	84.0	135.6	112.8
26-Aug	91.0	78.4	88.7	75.6	72.0	141.4	82.8	135.6	112.4
2-Sep	91.0	78.5	88.4	75.8	72.0	145.6	82.1	135.1	113.7
9-Sep	91.0	78.0	88.3	75.5	72.0	145.6	84.2	135.5	114.4
16-Sep	90.0	77.2	88.0	75.4	71.0	145.6	84.2	134.4	112.9
23-Sep	90.0	78.1	87.8	75.0	72.0	145.6	83.1	133.5	112.1
30-Sep	90.0	78.1	86.7	74.3	71.0	140.7	83.8	129.1	107.8
7-Oct	89.0	77.7	86.0	73.8	67.0	141.4	82.7	124.0	102.4
14-Oct	88.0	76.4	84.8	72.2	65.0	137.2	82.3	120.7	97.6
21-Oct	87.0	75.8	83.2	70.6	59.0	140.0	82.2	114.0	91.1
28-Oct	86.0	75.5	82.7	70.1	60.0	135.8	81.1	111.2	88.1
4-Nov	86.0	75.9	82.4	69.8	57.0	135.1	80.6	111.8	88.5
11-Nov	85.0	74.4	80.5	66.8	54.0	131.6	80.0	104.9	81.5
18-Nov	84.0	74.4	79.0	66.0	50.0	135.8	78.9	98.8	75.9
25-Nov	83.0	74.2	78.8	65.4	51.0	127.4	79.2	100.4	77.8
2-Dec	83.0	73.8	78.6	65.3	50.0	126.7	78.5	101.7	77.2
9-Dec	83.0	73.5	77.1	62.4	49.0	123.2	79.3	94.0	68.2
16-Dec	82.0	72.9	76.0	59.9	44.0	118.3	78.3	89.4	64.1
23-Dec	81.0	71.0	74.2	57.2	41.0	110.6	75.6	83.9	59.2
31-Dec	81.0	71.5	74.3	59.6	36.0	118.3	75.6	89.3	65.4

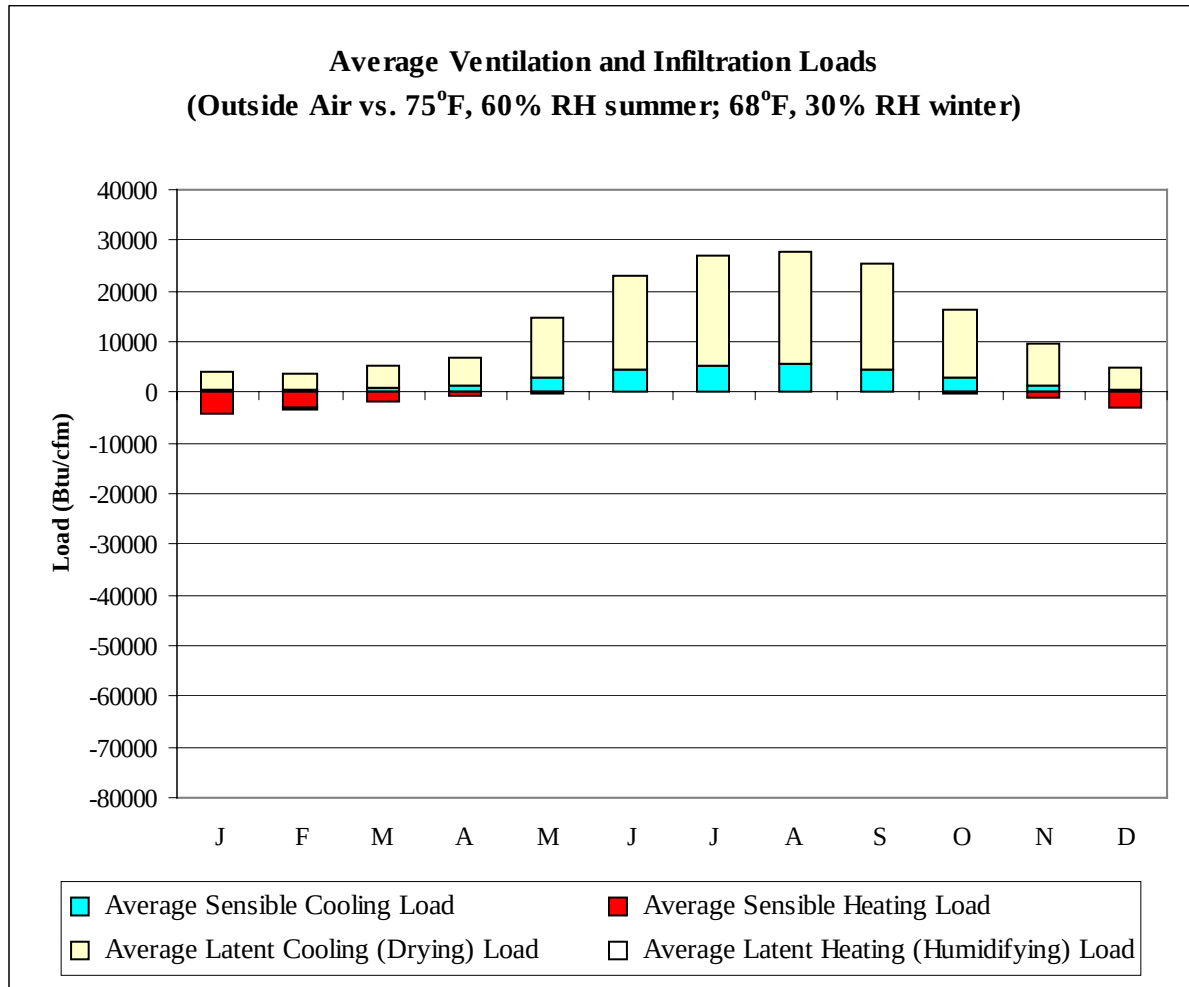
WEST PALM BEACH

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WMO No. 722030



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	133	113
FEB	133	85
MAR	208	43
APR	270	15
MAY	391	1
JUN	458	0
JUL	515	0
AUG	521	0
SEP	475	0
OCT	387	3
NOV	261	24
DEC	163	83
ANN	3917	367



	Average Sensible Cooling Load	Average Sensible Heating Load	Average Latent Cooling Load	Average Latent Heating Load
	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)
JAN	358	-4014	3619	-187
FEB	428	-3138	3232	-150
MAR	824	-1718	4606	-40
APR	1403	-702	5409	-3
MAY	2931	-84	11692	0
JUN	4328	-5	18669	0
JUL	5433	0	21695	0
AUG	5558	0	22350	0
SEP	4670	0	20708	0
OCT	2856	-159	13530	0
NOV	1229	-998	8250	-4
DEC	460	-3038	4406	-123
ANN	30478	-13856	138166	-507

Average Annual Solar Radiation – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

City: WEST PALM BEACH
 State: FL
 WBAN No: 12844
 Lat(N): 26.68
 Long(W): 80.1
 Elev(ft): 20

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 1.439
 Vert Gap: 0.2

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	1030	1270	1570	1880	1900	1810	1860	1760	1530	1330	1090	980	1500
	Std Dev	102	87	101	128	147	157	116	110	121	101	81	60	60
	Minimum	770	1130	1310	1630	1570	1480	1580	1540	1230	1130	940	870	1390
	Maximum	1210	1470	1790	2150	2200	2100	2100	1990	1760	1520	1230	1110	1620
	Diffuse	430	510	620	700	810	900	890	850	750	610	480	410	660
Clear Day	Global	1420	1720	2080	2370	2490	2510	2460	2330	2090	1750	1450	1310	2000
NORTH	Global	280	330	390	460	560	620	600	500	430	370	300	270	430
	Diffuse	280	330	390	450	490	520	520	480	430	370	300	270	400
Clear Day	Global	260	300	360	440	600	720	660	490	400	340	280	250	430
EAST	Global	650	770	900	1030	1020	980	1000	970	870	790	660	620	860
	Diffuse	350	410	490	570	600	620	630	610	540	460	370	330	500
Clear Day	Global	910	1060	1200	1310	1310	1300	1270	1240	1170	1040	900	850	1130
SOUTH	Global	1240	1210	1070	820	590	520	550	690	870	1100	1200	1260	920
	Diffuse	460	490	530	520	500	500	510	530	550	540	490	450	510
Clear Day	Global	1980	1830	1460	960	630	520	570	800	1220	1640	1870	1960	1280
WEST	Global	630	750	900	1030	980	880	920	900	800	750	650	600	820
	Diffuse	350	410	500	570	600	600	610	590	530	460	370	330	490
Clear Day	Global	910	1060	1200	1310	1310	1300	1270	1240	1170	1040	900	850	1130

Average Annual Solar Heat and Illumination – Nearest Available Site

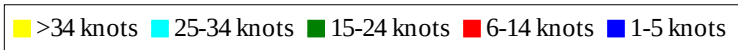
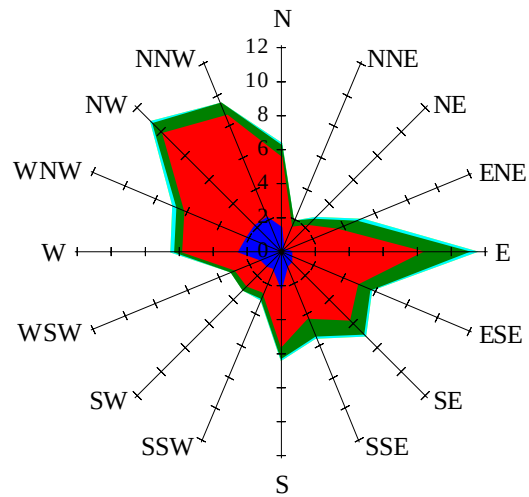
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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 NORTH	Unshaded	720	900	1140	1370	1380	1310	1360	1280	1110	950	760	680	1080
	Unshaded	200	230	270	310	360	390	380	340	290	250	210	190	290
	Shaded	140	160	200	230	250	250	250	230	200	180	150	130	200
EAST	Unshaded	460	550	640	740	720	700	710	690	620	550	460	430	610
	Shaded	250	290	330	380	360	340	350	350	320	290	250	230	310
SOUTH	Unshaded	910	850	690	480	370	350	360	420	550	750	870	930	620
	Shaded	250	210	230	250	250	240	250	250	240	210	220	280	240
WEST	Unshaded	440	530	640	730	690	620	650	630	560	520	450	420	570
	Shaded	240	280	330	370	350	310	330	320	290	280	240	230	300

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	39	79	94	79	39	34	76	101	99	71
	M.Cloudy	27	57	68	57	27	25	58	77	71	46
NORTH	M.Clear	10	16	16	15	10	23	22	18	18	23
	M.Cloudy	10	17	18	17	10	16	20	19	19	18
EAST	M.Clear	73	64	17	15	10	59	72	39	18	17
	M.Cloudy	37	43	18	17	10	33	51	33	19	16
SOUTH	M.Clear	29	57	67	57	29	11	18	23	23	17
	M.Cloudy	18	39	48	39	18	10	18	23	22	16
WEST	M.Clear	10	16	17	64	73	11	18	18	47	74
	M.Cloudy	10	17	19	44	38	10	18	19	36	41
M.Clear	(% hrs)	42	36	33	35	40	38	23	23	21	22
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	22	67	92	88	57	23	57	67	50	14
	M.Cloudy	17	51	72	66	39	15	39	46	35	10
NORTH	M.Clear	9	17	19	18	15	7	13	14	12	5
	M.Cloudy	7	17	19	19	14	7	13	15	12	5
EAST	M.Clear	48	71	38	18	15	51	49	14	12	5
	M.Cloudy	26	49	32	19	14	21	31	15	12	5
SOUTH	M.Clear	12	41	57	54	33	40	77	85	69	27
	M.Cloudy	9	31	45	41	23	18	44	50	39	12
WEST	M.Clear	9	17	19	49	71	7	13	19	54	39
	M.Cloudy	7	17	19	37	40	7	13	18	32	16
M.Clear	(% hrs)	37	23	20	21	21	45	39	35	38	41

Wind Summary - December, January, and February

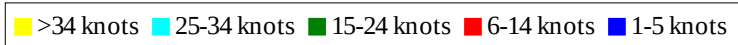
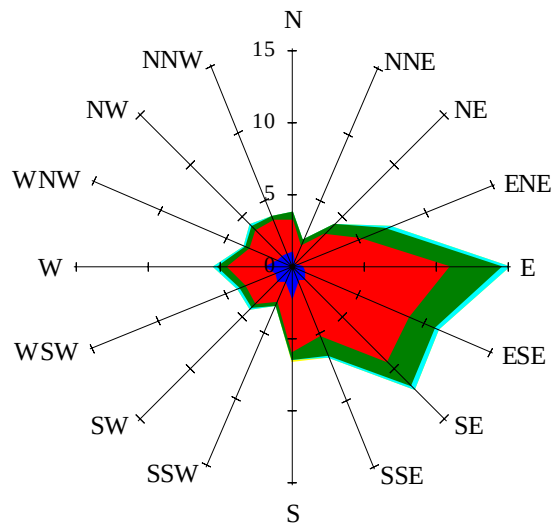
Labels of Percent Frequency on North Axis



Percent Calm = 5.46

Wind Summary - March, April, and May

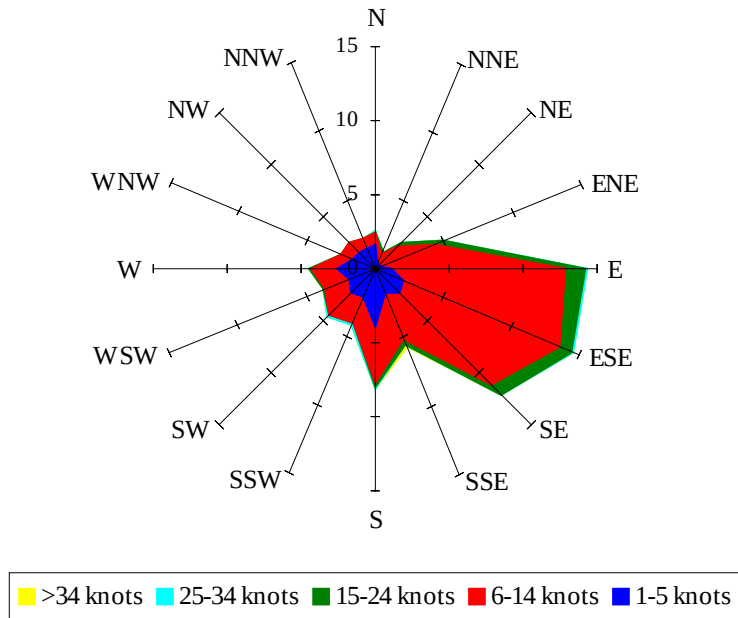
Labels of Percent Frequency on North Axis



Percent Calm = 4.63

Wind Summary - June, July, and August

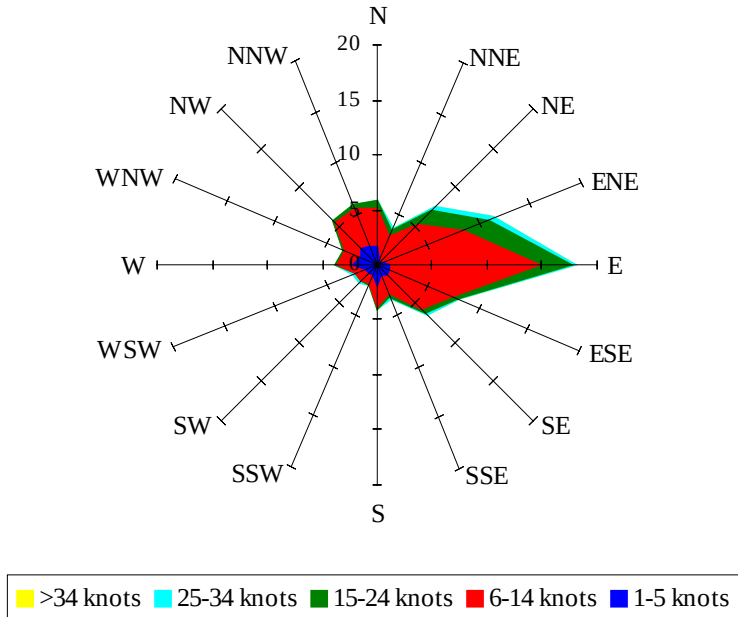
Labels of Percent Frequency on North Axis



Percent Calm = 10.29

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 6.78