

LOS ANGELES INTL CA

Latitude = 33.93 N

WMO No. 722950

Longitude = 118.40 W

Elevation = 105 feet

Period of Record = 1973 to 1996

Average Pressure = 29.84 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	96	63	35	10.5	W
0.4% Occurrence	85	64	57	9.2	WSW
1.0% Occurrence	81	64	65	9.2	WSW
2.0% Occurrence	78	65	71	9.7	WSW
Mean Daily Range	13	-	-	-	-
97.5% Occurrence	49	44	36	5.6	E
99.0% Occurrence	46	42	32	5.4	E
99.6% Occurrence	44	39	28	6.0	E
Median of Extreme Lows	40	34	20	3.8	E
	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	72	82	100	9.3	WSW
0.4% Occurrence	70	79	96	9.5	WSW
1.0% Occurrence	69	77	93	9.2	WSW
2.0% Occurrence	68	75	91	9.2	WSW
	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	108	76	0.72	7.3	W
0.4% Occurrence	99	74	0.67	8.2	WSW
1.0% Occurrence	96	73	0.64	7.2	WSW
2.0% Occurrence	93	72	0.62	7.7	WSW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		5	120	2	338

Other Site Data

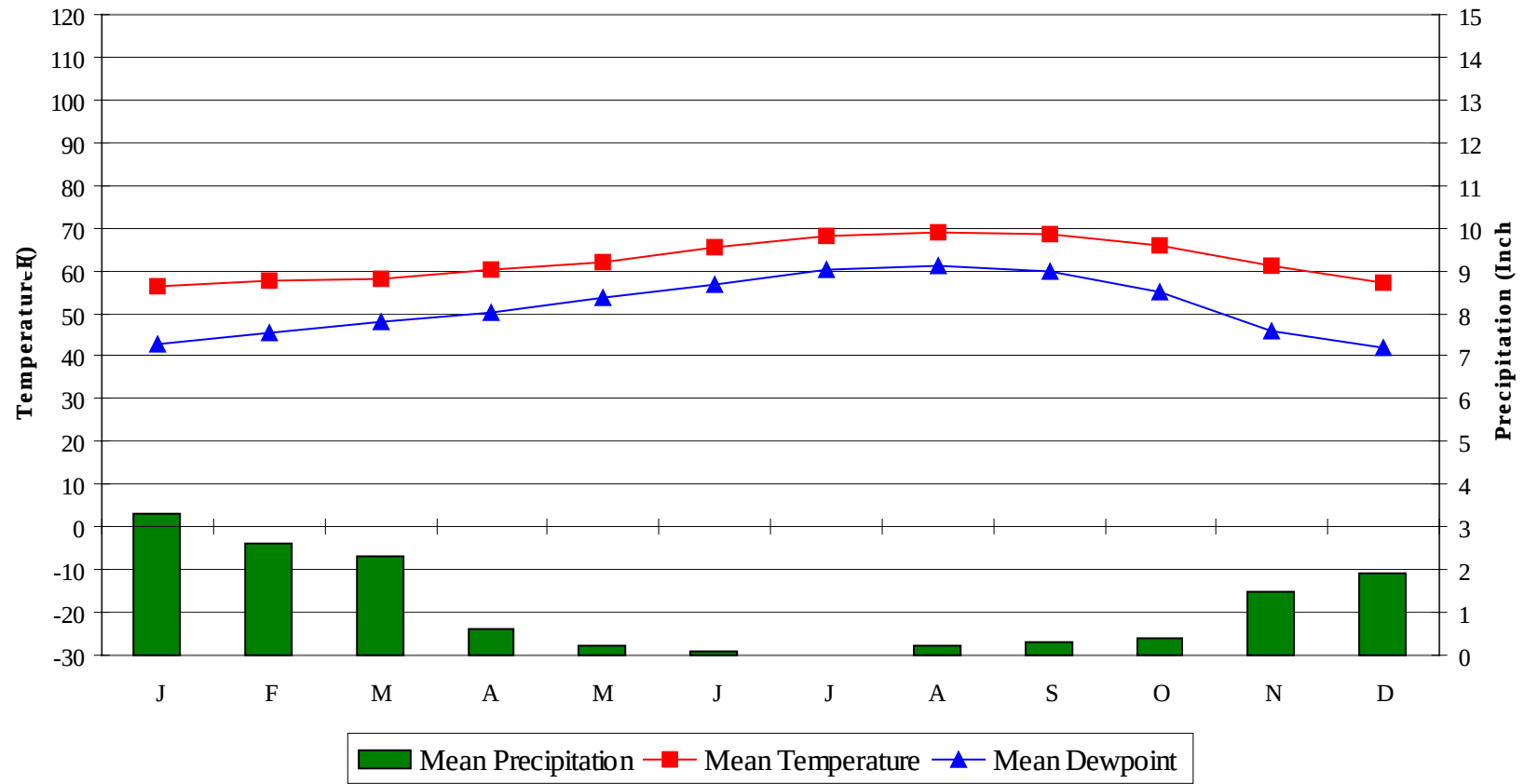
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
9	2.0	N/A	0.5 + 0.1
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
65.0	0	0	0

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

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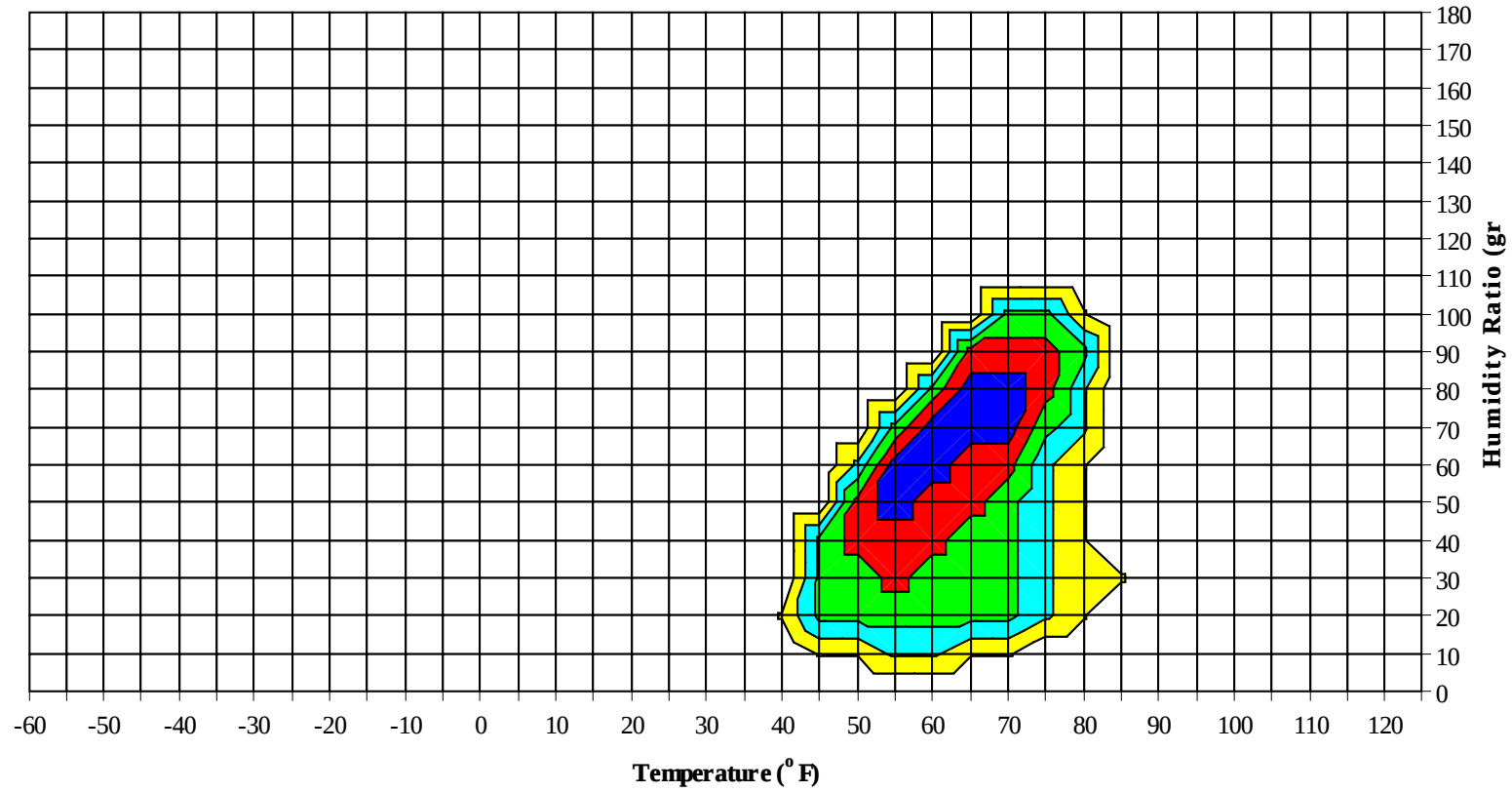
Average Annual Climate



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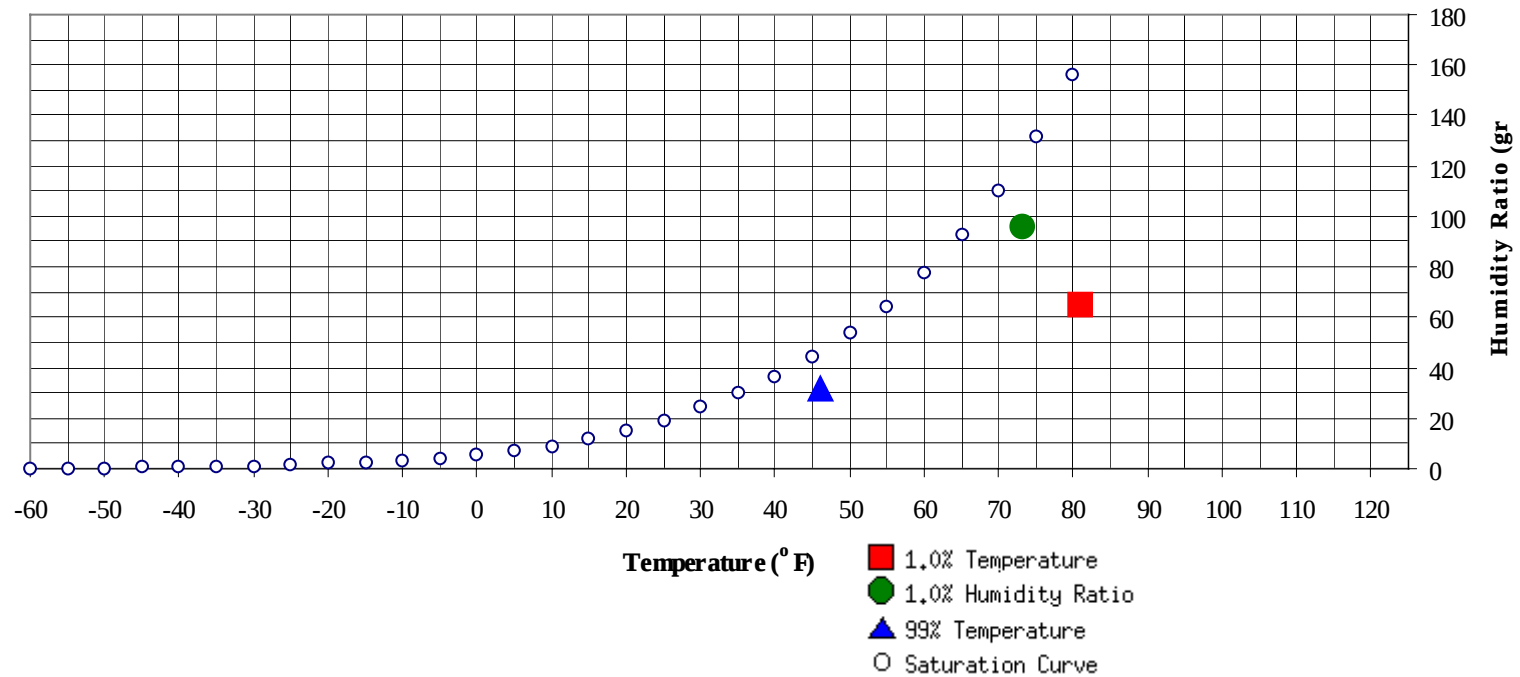
Long Term Psychrometric Summary



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

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Psychrometric Summary of Peak Design Values

	(°F)	MCHR	Enthalpy	1.0% Humidity	(gr/lb)	MCDB	MCWB	MC Dewpt	Enthalpy
		(gr/lb)	(btu/lb)			(°F)	(°F)	(°F)	(btu/lb)
99% Dry Bulb	46	31.6	15.9	Ratio	95.9	73.1	68.3	66	32.5

	(°F)	MCHR	MCWB	Enthalpy
		(gr/lb)	(°F)	(btu/lb)
1.0% Dry Bulb	81	65.1	64.4	29.6

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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		
100 / 104															
95 / 99															
90 / 94															
85 / 89		0		0	58.4		1		1	60.5		0		0	61.0
80 / 84		3		3	55.6		3	0	3	57.6		1	0	1	57.6
75 / 79		8	0	8	54.2		6	1	7	55.9	0	4	0	5	56.5
70 / 74		18	2	20	53.4	0	16	3	19	54.8	0	14	2	16	55.9
65 / 69	1	35	10	46	52.6	2	35	10	47	54.1	2	41	6	49	56.3
60 / 64	11	78	39	127	53.1	14	85	41	140	54.4	18	110	52	180	55.4
55 / 59	56	75	120	251	51.7	70	59	120	250	52.6	99	66	141	306	53.0
50 / 54	102	26	67	195	47.8	91	16	44	151	48.6	97	10	44	151	48.9
45 / 49	63	4	10	76	42.9	37	3	6	45	43.7	28	1	3	32	44.1
40 / 44	14	0	1	15	37.8	8	0	1	9	38.7	2		0	2	39.7
35 / 39	1			1	32.7	0			0	32.0					
30 / 34	0			0	30.5										

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.

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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		
100 / 104		0		0	69.0							0		0	63.3
95 / 99		0		0	64.2							1		1	62.6
90 / 94		1		1	62.4		0		0	62.8	0	1	0	1	63.7
85 / 89		1	0	1	60.8		0		0	62.9	0	3	0	3	65.9
80 / 84	0	3	0	4	58.5	0	2	0	2	62.9	0	4	1	5	66.0
75 / 79	1	8	1	10	58.8	0	6	1	7	63.2	2	18	3	23	65.2
70 / 74	2	23	4	29	58.6	1	37	3	41	62.1	8	88	14	110	63.3
65 / 69	6	74	16	97	58.0	15	118	26	158	59.7	42	103	65	210	61.1
60 / 64	42	101	76	219	55.9	96	78	121	295	57.4	143	22	135	301	58.9
55 / 59	123	24	121	268	53.5	116	6	94	215	54.4	43	0	21	64	55.7
50 / 54	58	2	20	81	49.6	20	0	4	24	50.2	1	0	0	1	50.8
45 / 49	8	0	1	9	45.2	0	0	0	0	46.3					
40 / 44	0			0	41.7										
35 / 39															
30 / 34															

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.

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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		
100 / 104															
95 / 99							0		0	68.0		1	0	1	66.5
90 / 94	0	1		1	67.3		1	0	1	69.5	0	2	0	3	67.3
85 / 89	0	1		1	68.4	0	2	0	3	69.9	0	5	0	6	67.1
80 / 84	0	9	0	9	67.9	1	16	1	17	69.4	1	14	2	17	67.7
75 / 79	3	47	4	53	67.1	5	66	8	79	67.6	5	48	9	63	66.9
70 / 74	24	152	43	220	64.7	35	137	57	229	65.2	24	117	40	181	64.8
65 / 69	117	37	128	282	62.8	127	25	133	286	63.2	108	50	128	286	62.7
60 / 64	101	2	71	173	60.5	77	1	50	128	60.8	93	2	61	156	60.3
55 / 59	3	0	1	4	57.6	2		0	2	58.1	7	0	0	7	56.4
50 / 54															
45 / 49															
40 / 44															
35 / 39															
30 / 34															

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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		
100 / 104		0		0	65.0										
95 / 99		0		0	62.8										
90 / 94		2		2	61.5		1		1	62.1		0		0	57.0
85 / 89	0	4	0	5	61.1		2	0	2	58.4		0		0	56.5
80 / 84	0	11	1	13	61.1		7	0	8	57.6		3	0	3	55.9
75 / 79	1	23	3	28	62.0		18	1	19	56.7	0	8	0	9	53.8
70 / 74	5	86	14	106	62.2	1	37	7	46	55.9	0	22	1	23	53.1
65 / 69	57	102	96	255	61.1	6	76	27	110	56.2	1	43	9	53	53.0
60 / 64	128	17	122	268	58.8	53	72	106	231	55.4	10	89	47	146	53.2
55 / 59	50	1	11	61	53.4	96	22	81	199	52.1	65	60	129	254	51.6
50 / 54	6	0	0	7	48.4	65	3	16	84	47.1	101	20	51	172	47.0
45 / 49	0			0	39.5	18	0	1	19	42.4	55	3	9	67	42.2
40 / 44						2		0	2	38.6	12	1	1	14	36.5
35 / 39											2	0	0	2	29.9
30 / 34											0			0	27.5

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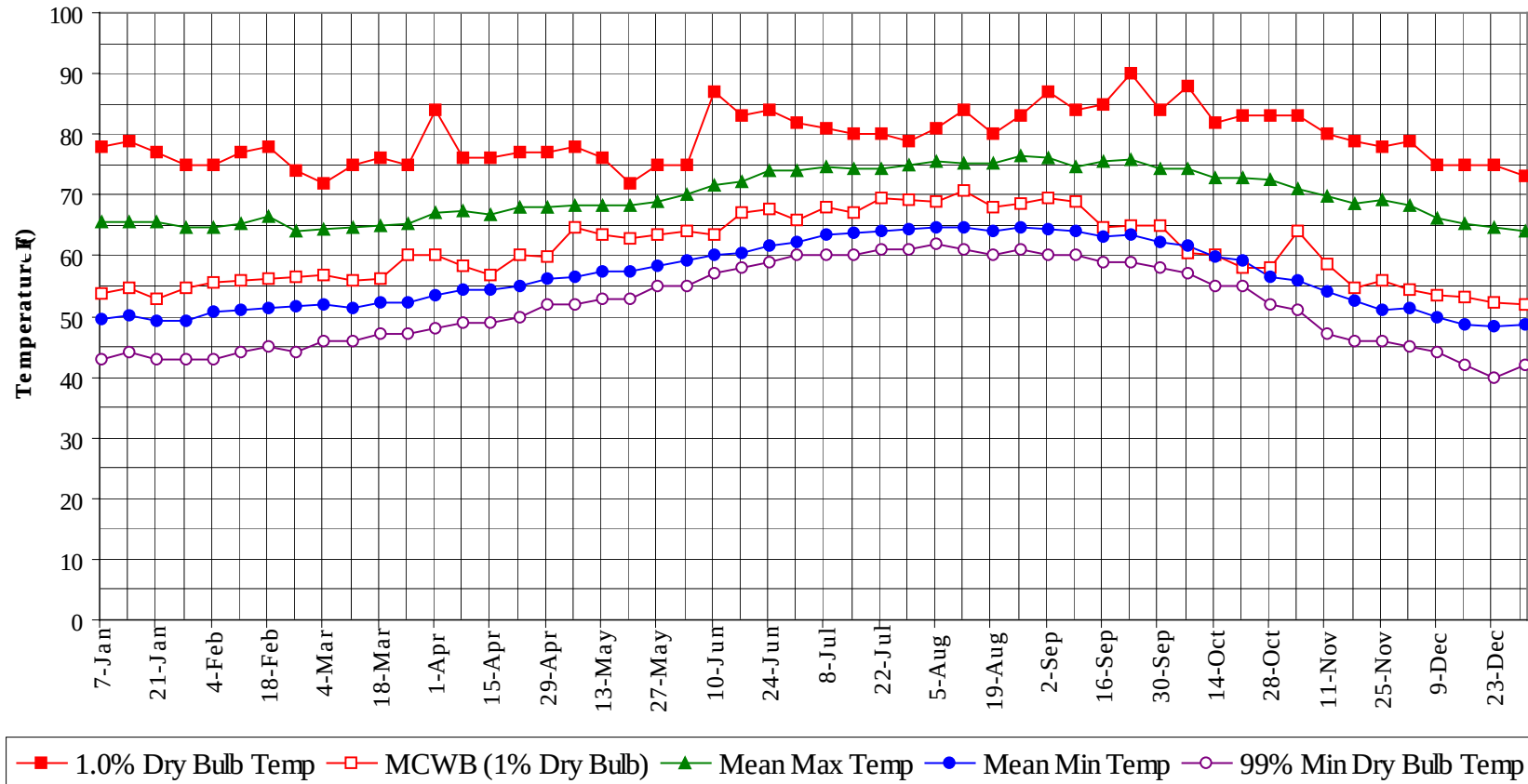
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

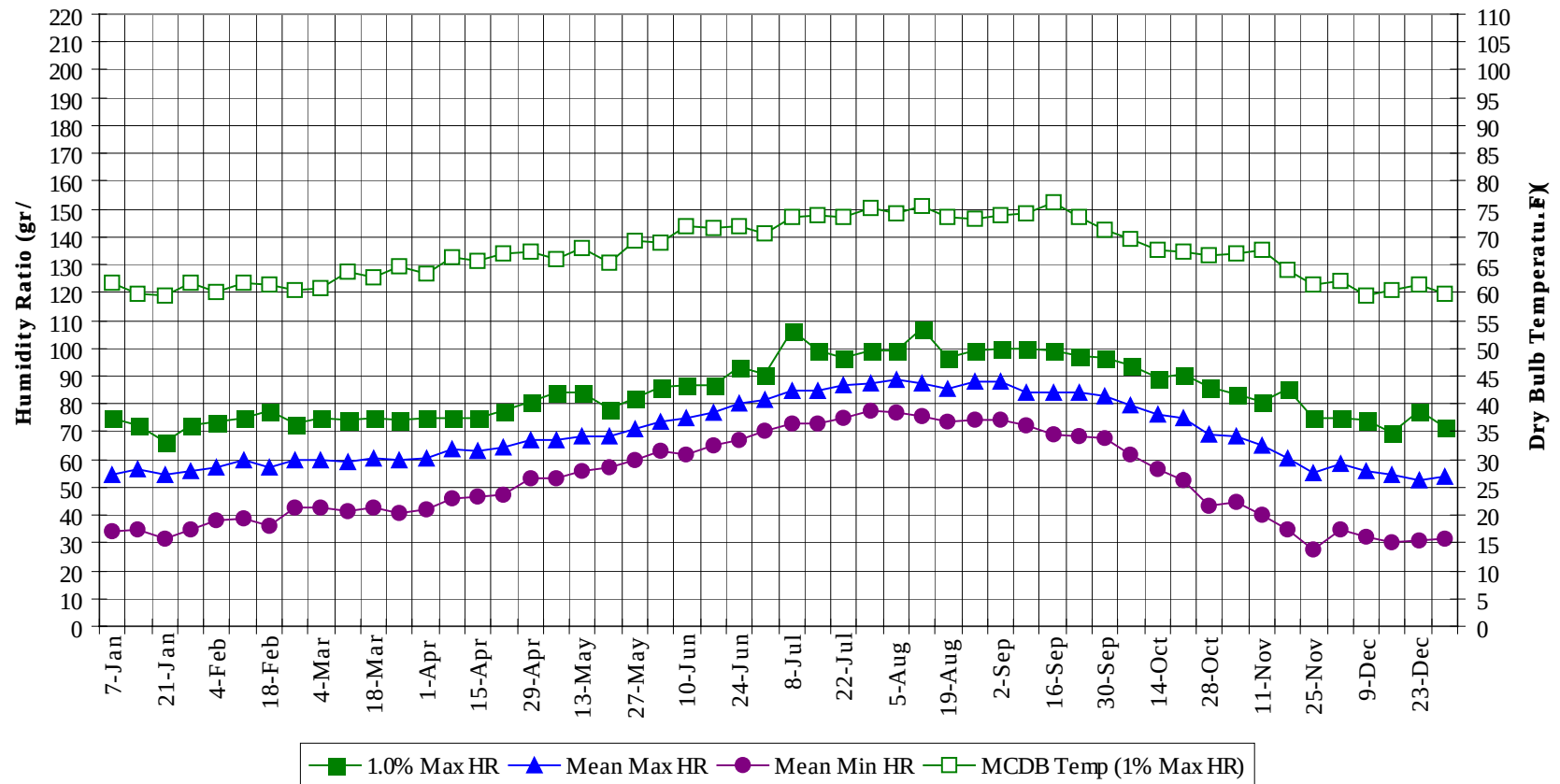
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104		1		1	65.5
95 / 99		2	0	2	64.6
90 / 94	0	8	0	9	64.6
85 / 89	1	22	1	24	64.2
80 / 84	3	76	6	85	64.2
75 / 79	18	261	33	312	64.4
70 / 74	102	747	191	1040	63.0
65 / 69	483	740	654	1878	60.6
60 / 64	785	659	920	2364	57.2
55 / 59	730	314	840	1884	52.9
50 / 54	543	78	247	868	48.2
45 / 49	209	10	30	249	43.1
40 / 44	39	1	3	42	37.7
35 / 39	3	0	0	4	31.1
30 / 34	0			0	29.5

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.

Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



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Long Term Dry Bulb Temperature and Humidity Summary

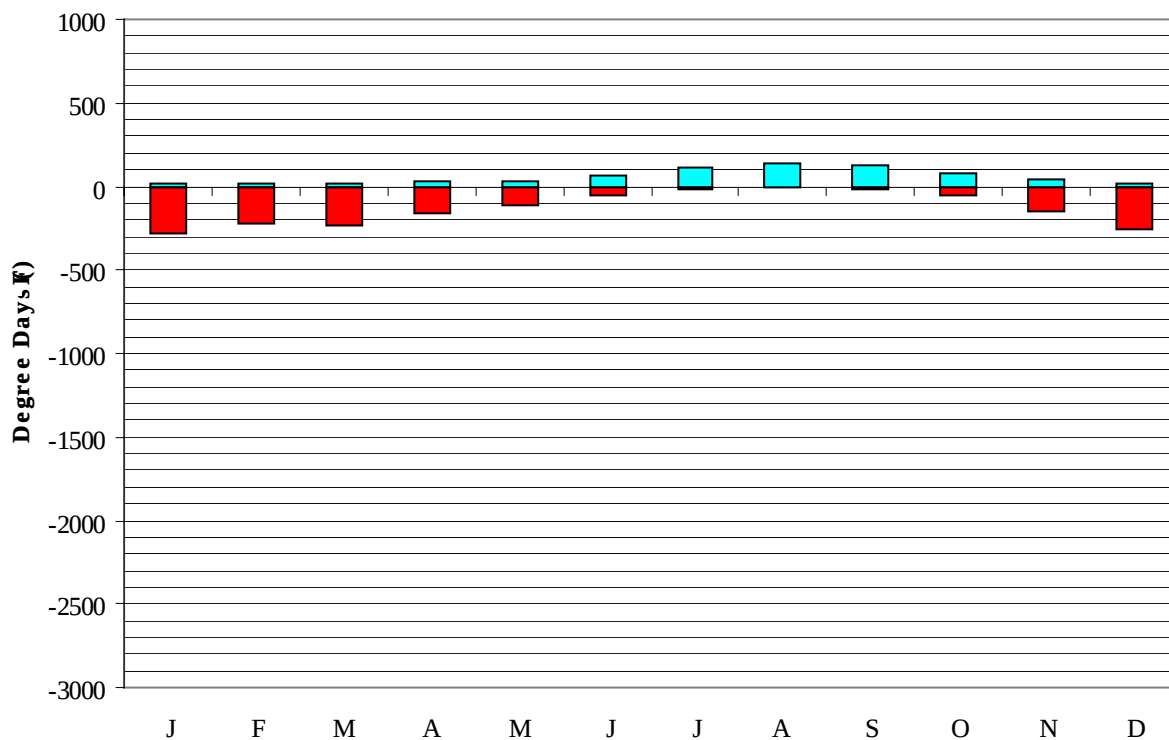
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	78.0	53.8	65.4	49.6	43.0	74.9	61.7	54.4	33.9
14-Jan	79.0	54.7	65.7	50.2	44.0	72.1	59.8	56.7	35.1
21-Jan	77.0	52.8	65.6	49.2	43.0	66.5	59.3	54.4	31.5
28-Jan	75.0	54.6	64.6	49.2	43.0	72.1	61.8	55.7	34.5
4-Feb	75.0	55.5	64.5	50.6	43.0	73.5	60.2	57.5	37.8
11-Feb	77.0	55.8	65.1	51.1	44.0	74.9	61.9	59.6	38.5
18-Feb	78.0	56.3	66.5	51.4	45.0	77.7	61.4	57.4	35.9
25-Feb	74.0	56.4	64.2	51.6	44.0	72.8	60.3	60.0	43.0
4-Mar	72.0	56.9	64.5	51.9	46.0	74.9	60.6	60.1	42.9
11-Mar	75.0	56.0	64.7	51.4	46.0	74.2	63.7	59.4	41.6
18-Mar	76.0	56.2	65.0	52.4	47.0	74.9	62.9	60.4	42.6
25-Mar	75.0	60.0	65.2	52.4	47.0	74.2	64.9	59.9	40.7
1-Apr	84.0	60.2	67.0	53.4	48.0	74.9	63.4	60.6	42.1
8-Apr	76.0	58.2	67.4	54.4	49.0	74.9	66.3	64.0	45.7
15-Apr	76.0	56.8	66.8	54.2	49.0	74.9	65.6	63.0	46.9
22-Apr	77.0	60.2	67.9	54.9	50.0	77.7	66.8	64.1	47.3
29-Apr	77.0	59.9	67.8	56.3	52.0	80.5	67.4	67.2	53.3
6-May	78.0	64.6	68.4	56.6	52.0	84.0	66.0	66.7	52.9
13-May	76.0	63.6	68.4	57.3	53.0	84.0	67.8	68.0	55.6
20-May	72.0	62.7	68.2	57.3	53.0	78.4	65.5	68.2	57.3
27-May	75.0	63.3	69.0	58.4	55.0	81.9	69.3	71.0	59.9
3-Jun	75.0	64.2	70.0	59.2	55.0	86.1	68.8	73.6	63.0
10-Jun	87.0	63.5	71.6	60.2	57.0	86.8	71.8	74.6	61.8
17-Jun	83.0	67.1	72.2	60.5	58.0	86.8	71.5	76.8	65.1
24-Jun	84.0	67.6	74.1	61.8	59.0	93.1	71.8	80.0	66.9
1-Jul	82.0	65.9	74.0	62.3	60.0	90.3	70.7	81.5	70.1
8-Jul	81.0	67.9	74.6	63.4	60.0	106.4	73.6	84.7	72.7
15-Jul	80.0	67.1	74.3	63.8	60.0	99.4	73.9	84.7	73.2
22-Jul	80.0	69.4	74.3	63.9	61.0	96.6	73.5	86.5	75.1
29-Jul	79.0	69.3	74.9	64.3	61.0	99.4	75.1	87.5	77.3
5-Aug	81.0	69.0	75.7	64.8	62.0	99.4	74.2	88.4	77.2
12-Aug	84.0	70.7	75.3	64.7	61.0	107.1	75.6	87.6	75.6
19-Aug	80.0	67.9	75.3	64.1	60.0	96.6	73.7	85.7	73.5
26-Aug	83.0	68.7	76.4	64.6	61.0	99.4	73.3	88.0	73.9
2-Sep	87.0	69.4	76.2	64.5	60.0	100.1	73.8	88.3	74.0
9-Sep	84.0	68.8	74.7	64.0	60.0	100.1	74.2	84.4	72.1
16-Sep	85.0	64.6	75.5	63.3	59.0	99.4	76.0	84.2	68.9
23-Sep	90.0	65.0	75.9	63.6	59.0	97.3	73.5	83.8	68.3
30-Sep	84.0	65.0	74.4	62.3	58.0	96.6	71.3	82.9	67.6
7-Oct	88.0	60.6	74.2	61.5	57.0	93.8	69.5	79.4	61.8
14-Oct	82.0	60.3	72.9	59.9	55.0	89.6	67.6	76.1	56.7
21-Oct	83.0	58.0	72.9	59.2	55.0	90.3	67.2	75.1	52.3
28-Oct	83.0	58.2	72.5	56.5	52.0	86.1	66.8	68.9	43.3
4-Nov	83.0	64.0	71.0	55.9	51.0	83.3	67.0	68.5	44.9
11-Nov	80.0	58.6	69.9	54.2	47.0	80.5	67.6	65.2	40.1
18-Nov	79.0	54.7	68.4	52.5	46.0	85.4	63.9	60.2	34.7
25-Nov	78.0	56.0	69.3	50.9	46.0	74.9	61.4	55.1	27.7
2-Dec	79.0	54.4	68.3	51.3	45.0	74.9	62.0	58.4	34.6
9-Dec	75.0	53.6	66.3	50.0	44.0	74.2	59.4	55.7	32.5
16-Dec	75.0	53.2	65.2	48.8	42.0	69.3	60.5	54.7	30.0
23-Dec	75.0	52.3	64.6	48.4	40.0	77.7	61.5	52.5	31.0
31-Dec	73.0	52.0	64.0	48.7	42.0	71.4	59.9	53.6	31.9

LOS ANGELES INTL

CA

WMO No. 722950

Degree Days, Heating and Cooling
(Base 65°F)



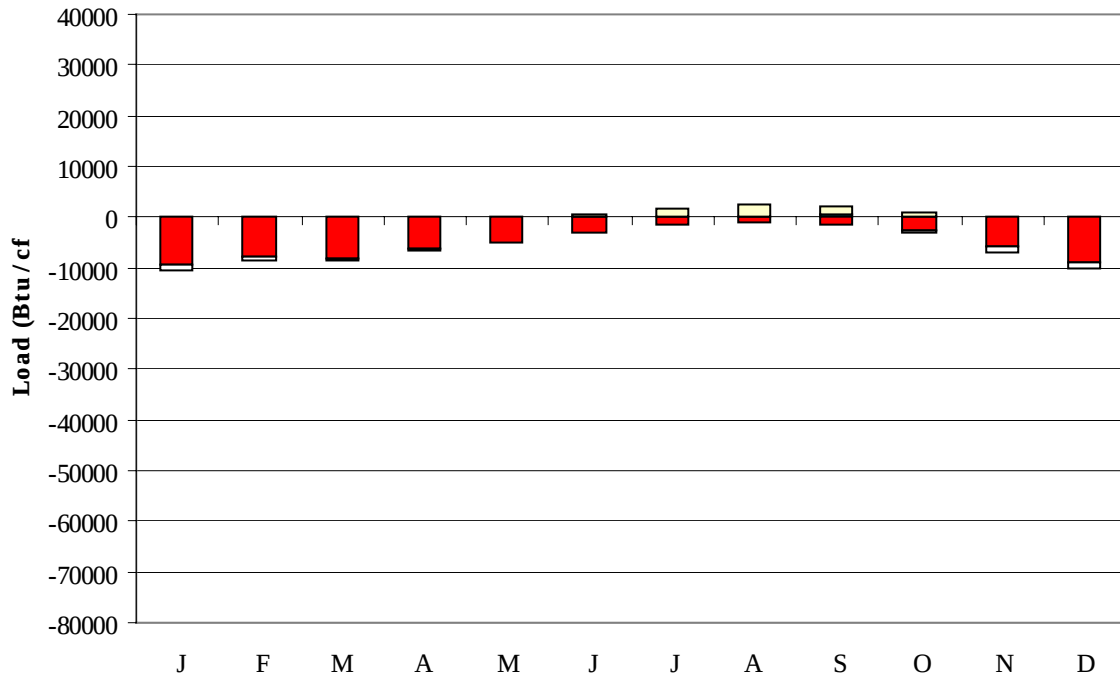
■ Mean Cooling Degree Days ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	15	277
FEB	14	226
MAR	12	231
APR	24	165
MAY	27	117
JUN	66	54
JUL	117	17
AUG	140	11
SEP	125	16
OCT	75	50
NOV	37	154
DEC	16	261
ANN	668	1579

LOS ANGELES INTL CA

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Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



■ Average Sensible Cooling Load ■ Average Sensible Heating Load
■ Average Latent Cooling (Drying) Load ■ Average Latent Heating (Humidifying) Load

	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	40	-9412	0	-1007
FEB	39	-7888	2	-570
MAR	33	-8258	1	-275
APR	77	-6317	8	-143
MAY	34	-5015	45	-11
JUN	155	-2897	247	-9
JUL	157	-1405	1376	0
AUG	274	-1066	2241	0
SEP	369	-1319	1672	-6
OCT	233	-2782	573	-190
NOV	128	-5895	34	-889
DEC	37	-8968	2	-1314
ANN	1576	-61222	6201	-4414

Average Annual Solar Radiation – Nearest Available Site

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

City: LOS ANGELES
 State: CA
 WBAN No: 23174
 Lat(N): 33.93
 Long(W): 118.4
 Elev(ft): 105

Stn Type: Primary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1
 Overhang: 0.364
 Vert Gap: 0.275

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	890	1150	1520	1920	2030	2090	2260	2070	1670	1320	1000	820	1560
	Std Dev	82	106	123	100	139	166	109	82	113	70	66	65	35
	Minimum	710	960	1280	1740	1820	1770	2030	1930	1400	1190	840	660	1500
	Maximum	1040	1390	1750	2150	2290	2360	2530	2200	1850	1430	1140	940	1630
	Diffuse	360	460	600	700	840	880	780	700	620	500	380	330	600
Clear Day	Global	1090	1420	1860	2270	2520	2610	2550	2340	1980	1540	1160	990	1860
NORTH	Global	240	310	390	470	560	620	600	490	410	340	260	220	410
	Diffuse	240	310	390	460	520	550	520	470	410	340	260	220	390
Clear Day	Global	230	290	370	460	590	690	640	490	390	320	250	220	410
EAST	Global	570	690	850	1000	940	930	1050	980	840	720	610	530	810
	Diffuse	300	380	480	570	610	620	620	570	500	420	320	280	470
Clear Day	Global	740	910	1130	1290	1370	1390	1370	1300	1160	960	770	680	1090
SOUTH	Global	1300	1300	1220	1040	800	700	770	960	1140	1320	1360	1300	1100
	Diffuse	430	490	550	560	570	560	550	540	520	450	410	410	510
Clear Day	Global	1830	1820	1630	1230	890	750	800	1060	1450	1740	1810	1800	1400
WEST	Global	570	720	910	1110	1160	1190	1240	1180	1020	830	640	540	930
	Diffuse	300	380	490	580	640	660	640	600	520	430	330	280	490
Clear Day	Global	740	910	1130	1290	1370	1390	1370	1300	1160	960	770	680	1090

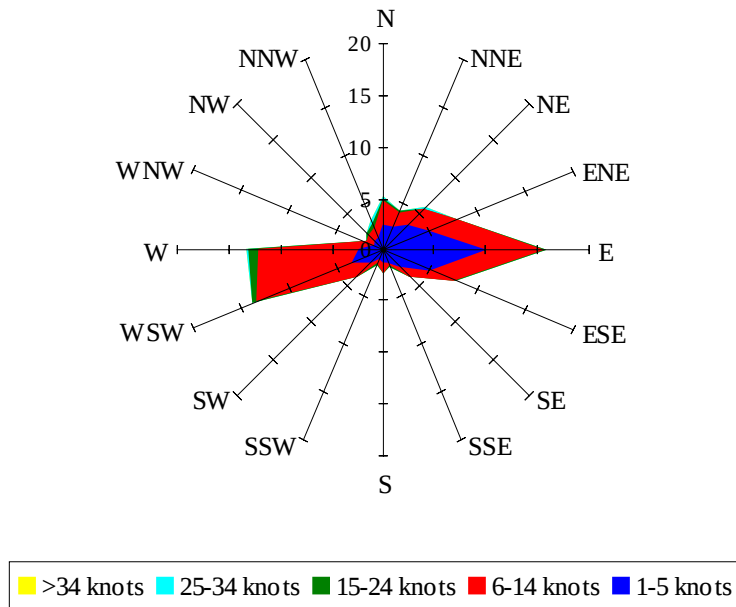
Average Annual Solar Heat and Illumination – Nearest Available Site

(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	600	810	1090	1400	1480	1530	1670	1520	1220	940	680	550	1130
	Unshaded	170	210	270	320	370	410	390	330	280	230	180	160	280
	Shaded	160	200	250	300	350	370	360	310	260	220	170	150	260
EAST	Unshaded	390	480	600	710	660	650	730	680	590	510	420	360	570
	Shaded	360	450	550	640	590	580	660	610	530	460	390	340	510
SOUTH	Unshaded	970	940	830	640	480	420	450	570	750	940	1000	980	750
	Shaded	960	890	700	470	370	360	360	400	590	850	980	960	660
WEST	Unshaded	390	500	640	790	820	840	880	830	720	590	440	370	650
	Shaded	370	460	590	720	740	760	790	760	660	540	410	340	600

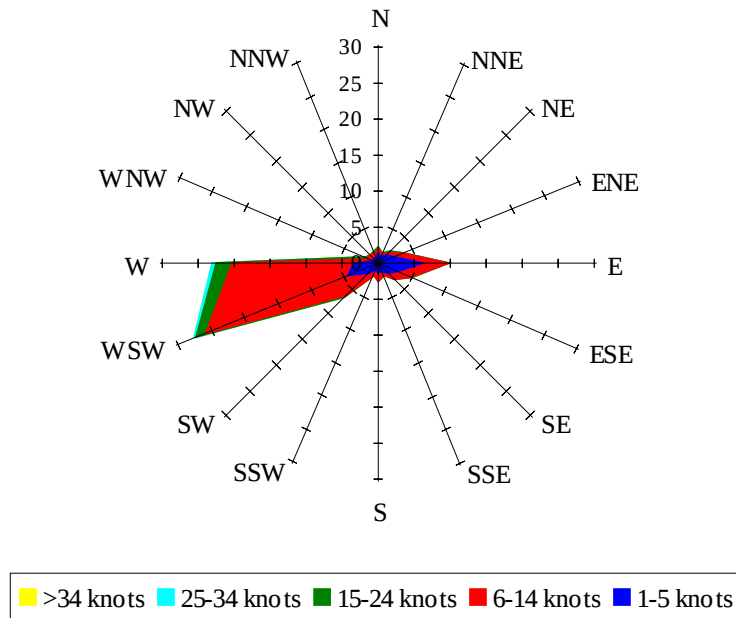
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9											
		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	46	80	88	67	25	49	88	106	98	67
	M.Cloudy	28	55	62	46	17	27	53	71	71	46
NORTH	M.Clear	11	16	16	14	8	21	17	17	17	17
	M.Cloudy	11	17	18	15	7	13	20	22	21	17
EAST	M.Clear	74	55	16	14	8	75	71	28	17	15
	M.Cloudy	31	36	18	15	7	23	36	26	21	16
SOUTH	M.Clear	39	69	76	58	21	13	26	38	33	15
	M.Cloudy	20	43	49	36	12	12	22	31	29	16
WEST	M.Clear	11	16	29	70	58	13	17	17	57	80
	M.Cloudy	11	17	25	41	25	12	20	22	42	45
M.Clear	(% hrs)	45	46	52	52	51	28	41	56	65	62
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	33	74	93	84	48	23	51	55	33	3
	M.Cloudy	18	45	62	57	30	15	35	37	22	3
NORTH	M.Clear	10	16	17	16	12	7	12	12	9	2
	M.Cloudy	8	17	20	18	12	6	12	13	9	1
EAST	M.Clear	66	69	26	16	12	48	39	12	9	2
	M.Cloudy	18	33	23	18	12	19	24	13	9	1
SOUTH	M.Clear	22	54	70	62	33	45	82	86	60	6
	M.Cloudy	10	29	43	40	19	18	42	44	28	3
WEST	M.Clear	10	16	17	59	75	7	12	27	51	9
	M.Cloudy	8	17	20	38	33	6	12	19	25	4
M.Clear	(% hrs)	39	49	66	72	69	50	52	53	54	53

Wind Summary - December, January, and February **Labels of Percent Frequency on North Axis**



Percent Calm = 8.15

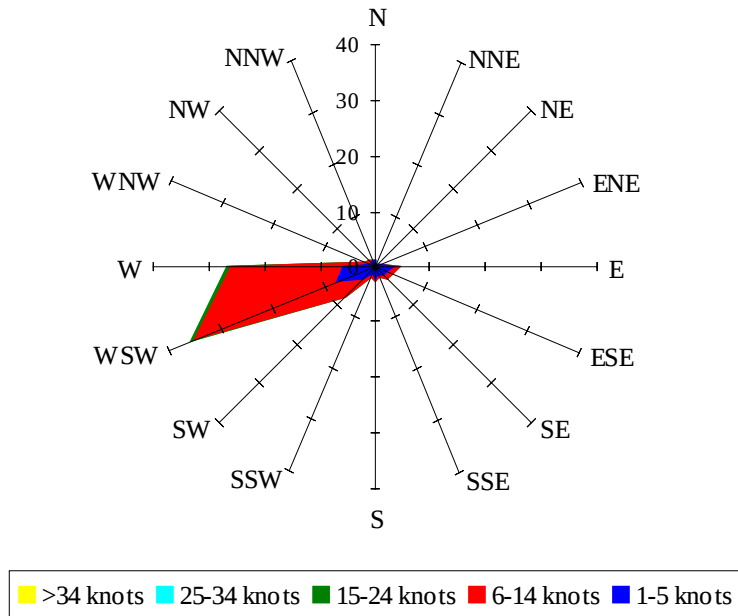
Wind Summary - March, April, and May **Labels of Percent Frequency on North Axis**



Percent Calm = 5.23

Wind Summary - June, July, and August

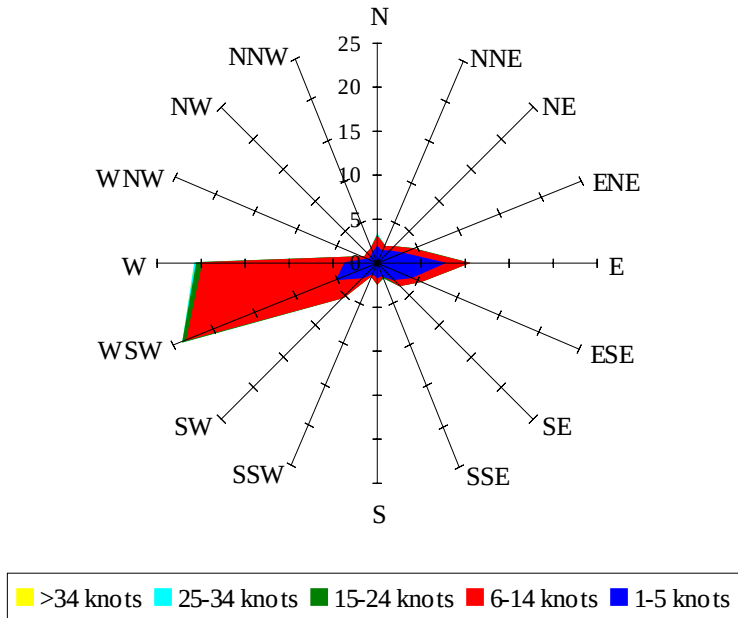
Labels of Percent Frequency on North Axis



Percent Calm = 5.49

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 8.01