

LONG BEACH (AIRPORT) CA

Latitude = 33.82 N

WMO No. 722970

Longitude = 118.10 W

Elevation = 39 feet

Period of Record = 1973 to 1996

Average Pressure = 29.90 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	102	68	48	10.1	SSW
0.4% Occurrence	92	68	65	9.9	W
1.0% Occurrence	88	67	67	9.5	W
2.0% Occurrence	85	67	69	9.4	S
Mean Daily Range	18	-	-	-	-
97.5% Occurrence	46	43	35	3.1	WNW
99.0% Occurrence	43	40	30	2.9	WNW
99.6% Occurrence	41	38	28	3.0	WNW
Median of Extreme Lows	36	32	21	3.2	WNW
	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	74	88	100	8.6	S
0.4% Occurrence	72	85	95	8.6	S
1.0% Occurrence	71	83	93	8.5	S
2.0% Occurrence	70	81	90	8.4	S
	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	116	79	0.77	7.9	SSE
0.4% Occurrence	104	77	0.69	6.4	S
1.0% Occurrence	97	76	0.65	6.6	S
2.0% Occurrence	93	75	0.62	6.8	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		33	524	25	724

Other Site Data

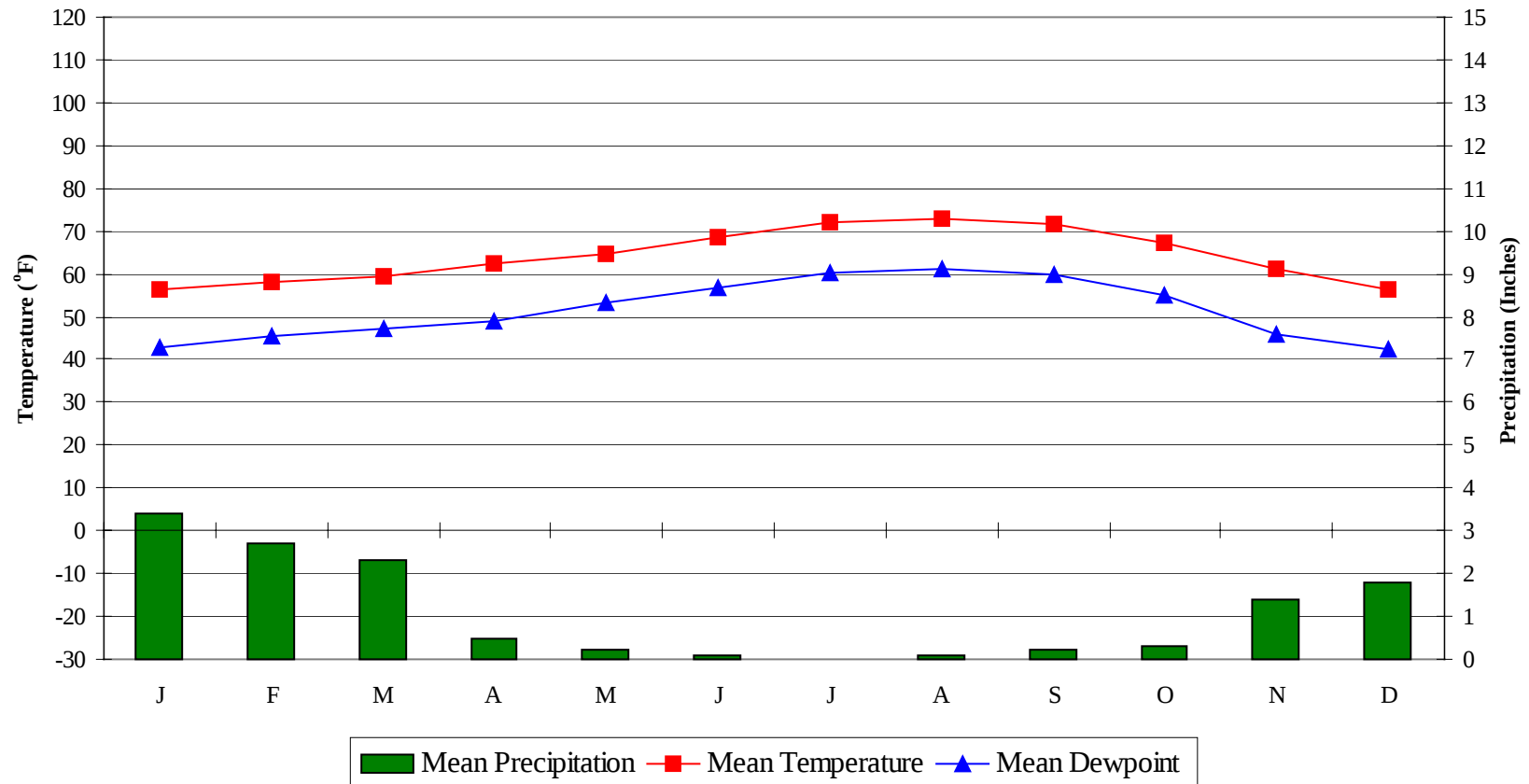
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
9	1.8	85	0.5 + 0.5
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
66.8	0	0	0

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

LONG BEACH (AIRPORT) CA

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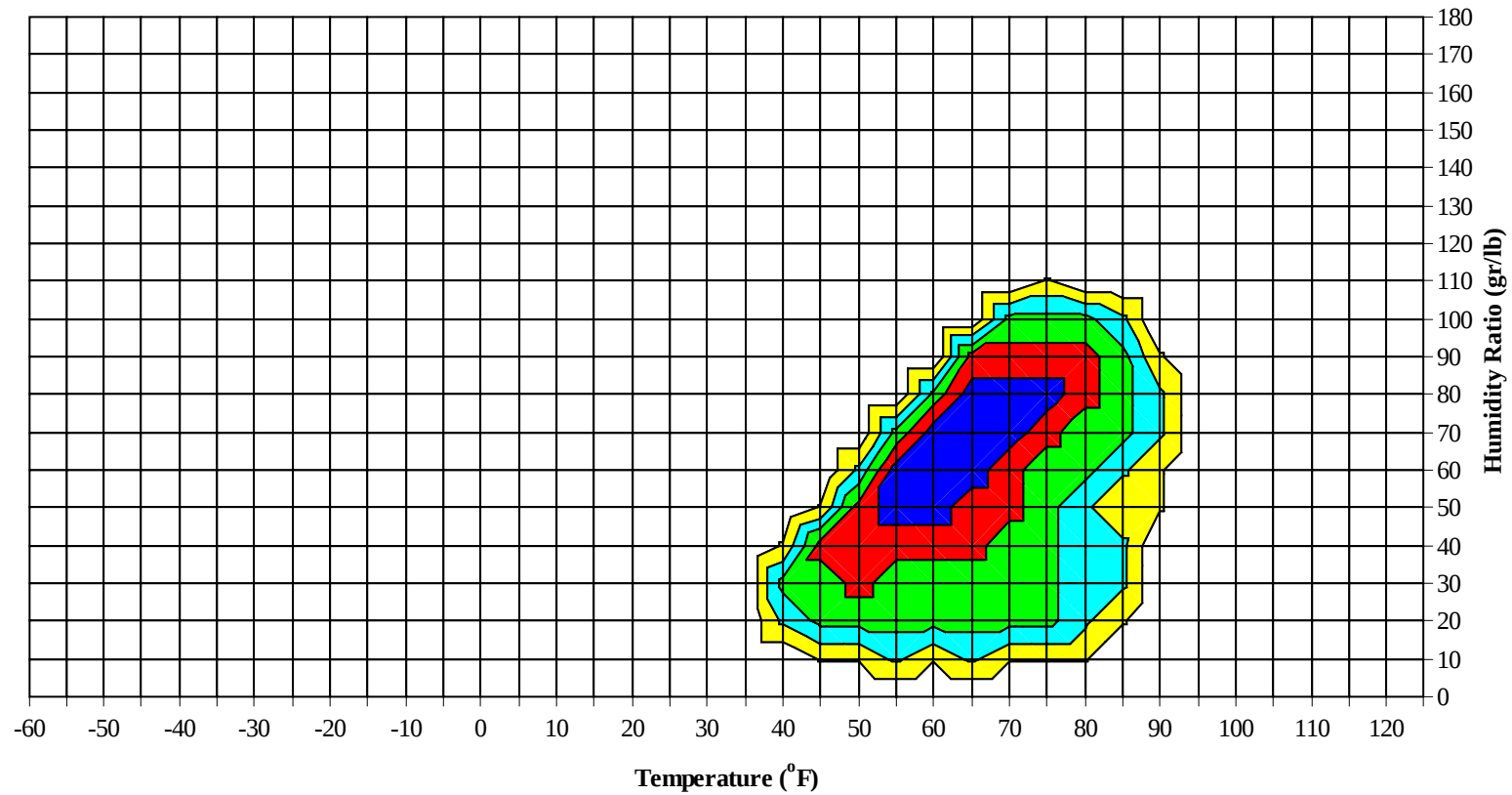
Average Annual Climate



LONG BEACH (AIRPORT) CA

WMO No. 722970

Long Term Psychrometric Summary

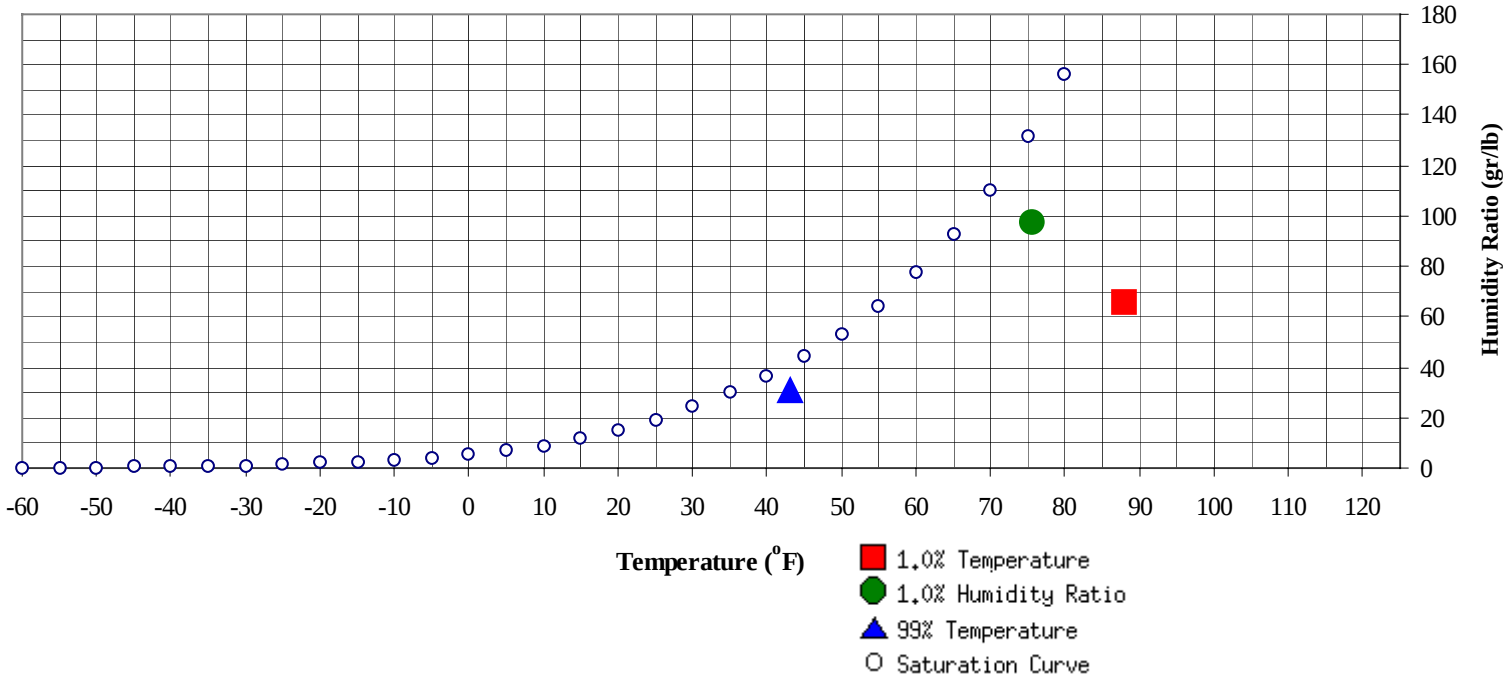


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

LONG BEACH (AIRPORT) CA

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Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
99% Dry Bulb	43	30.6	15.0		97.3	75.6	69.1	66	33.4

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	88	65.8	66.9	31.5

LONG BEACH (AIRPORT) CA

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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		
105 / 109															
100 / 104															
95 / 99															
90 / 94		0		0	61.0		0		0	63.0		0		0	61.9
85 / 89		2	0	2	58.4		2	0	2	60.3		2	0	2	60.2
80 / 84		6	0	6	56.4		6	0	6	57.8		4	1	5	58.9
75 / 79	0	12	1	13	55.0		11	2	13	56.5	0	12	2	13	57.6
70 / 74	0	23	3	25	54.2	0	22	4	26	55.5	0	25	5	30	57.1
65 / 69	0	39	11	50	53.6	1	46	13	60	55.1	3	61	18	82	56.8
60 / 64	6	75	37	119	53.4	10	75	49	135	54.8	21	95	60	177	54.9
55 / 59	43	60	96	199	51.9	51	46	97	195	52.6	84	40	116	241	52.6
50 / 54	72	25	72	170	48.1	80	14	48	142	48.4	85	7	41	133	48.6
45 / 49	78	5	24	107	43.7	61	2	10	72	43.8	45	0	4	49	44.4
40 / 44	39	0	4	43	39.3	19	0	1	20	39.5	9		0	9	39.7
35 / 39	8		0	8	34.1	1			1	35.6	1			1	36.0
30 / 34	1			1	30.8	0			0	28.0					
25 / 29	0			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.

LONG BEACH (AIRPORT) CA

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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		
105 / 109													0		0 66.0
100 / 104		1		1	66.3							1		1	66.6
95 / 99		1		1	63.3		1		1	65.3		2	0	2	66.2
90 / 94		1	0	1	61.3		2	0	2	64.9	0	4	1	5	66.6
85 / 89		5	0	5	60.0		4	0	4	63.8	0	11	2	13	67.0
80 / 84	0	12	2	14	59.9	0	6	2	8	63.2	1	21	6	28	65.9
75 / 79	0	19	5	24	59.1	0	23	5	27	62.9	2	43	14	60	64.9
70 / 74	1	42	11	54	58.9	2	70	16	88	61.3	11	93	38	141	62.8
65 / 69	7	90	31	129	57.4	25	107	60	191	59.1	64	58	86	207	60.9
60 / 64	48	59	92	198	55.5	127	34	122	283	57.2	139	8	88	235	58.7
55 / 59	106	9	85	200	53.1	75	2	42	119	53.9	22	0	6	28	55.1
50 / 54	61	2	13	76	49.1	18		1	19	49.7	1		0	1	51.2
45 / 49	16	0	1	16	45.3	1			1	45.8					
40 / 44	1		0	1	40.8										
35 / 39	0			0	38.0										
30 / 34															
25 / 29															

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LONG BEACH (AIRPORT) CA

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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		
105 / 109		0		0	67.0							0		0	72.2
100 / 104		0		0	67.0		1		1	73.5		2		2	69.3
95 / 99		1	0	1	69.9		3	0	3	71.1		3	0	3	69.5
90 / 94		5	0	5	69.4		8	0	8	70.7	0	11	1	12	69.5
85 / 89		21	2	23	68.9	0	25	3	28	69.9	0	25	3	28	68.9
80 / 84	1	50	11	62	68.0	1	59	13	73	68.7	1	40	10	51	68.0
75 / 79	6	89	32	126	66.5	11	95	38	143	66.9	7	67	26	100	66.7
70 / 74	40	68	75	183	64.8	59	50	87	196	65.4	38	71	65	175	64.8
65 / 69	139	14	107	259	62.6	130	6	94	230	62.9	114	20	105	239	62.6
60 / 64	61	1	22	84	59.9	46	0	14	60	60.2	68	1	31	100	59.9
55 / 59	1		0	1	56.9	1		0	1	56.7	12	0	0	12	55.4
50 / 54						0			0	54.0	0			0	49.7
45 / 49															
40 / 44															
35 / 39															
30 / 34															
25 / 29															

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LONG BEACH (AIRPORT) CA

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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		
105 / 109															
100 / 104		1		1	67.0										
95 / 99		3		3	64.4		0		0	60.6					
90 / 94		5	0	5	63.7		2		2	60.6					
85 / 89		12	1	13	62.7		6	0	6	59.0		1		1	57.4
80 / 84	0	22	2	24	63.7	0	14	1	15	57.4		5		5	55.0
75 / 79	1	45	8	54	63.6	0	25	3	28	57.1	0	13	0	13	54.5
70 / 74	6	94	28	127	62.4	0	43	7	50	57.1	0	25	2	27	54.0
65 / 69	61	56	101	217	61.2	4	73	26	103	56.9	0	45	8	53	54.0
60 / 64	104	10	93	206	58.6	37	55	86	179	55.5	6	81	38	125	53.8
55 / 59	52	1	15	69	53.5	69	19	78	167	52.4	38	50	95	183	51.8
50 / 54	22	0	1	23	48.6	72	4	31	106	48.1	68	23	74	164	48.0
45 / 49	2	0		2	44.1	45	0	6	51	43.6	86	5	27	117	43.5
40 / 44						12	0	1	13	39.1	41	1	5	46	38.6
35 / 39						1			1	34.7	8		0	8	33.8
30 / 34											1			1	27.3
25 / 29											0			0	25.0

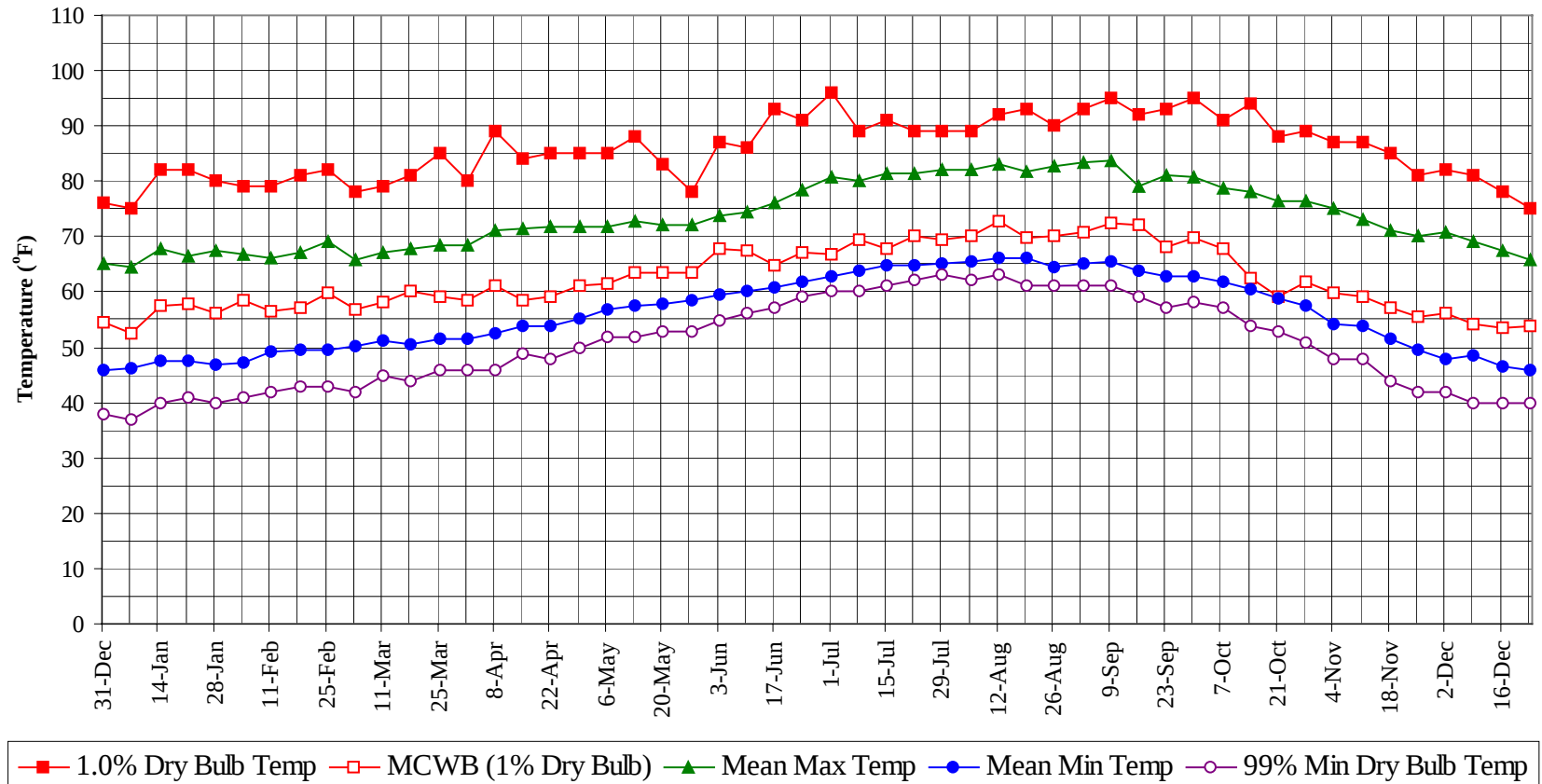
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LONG BEACH (AIRPORT) CA WMO No. 722970
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)
Period of Record = 1973 to 1996

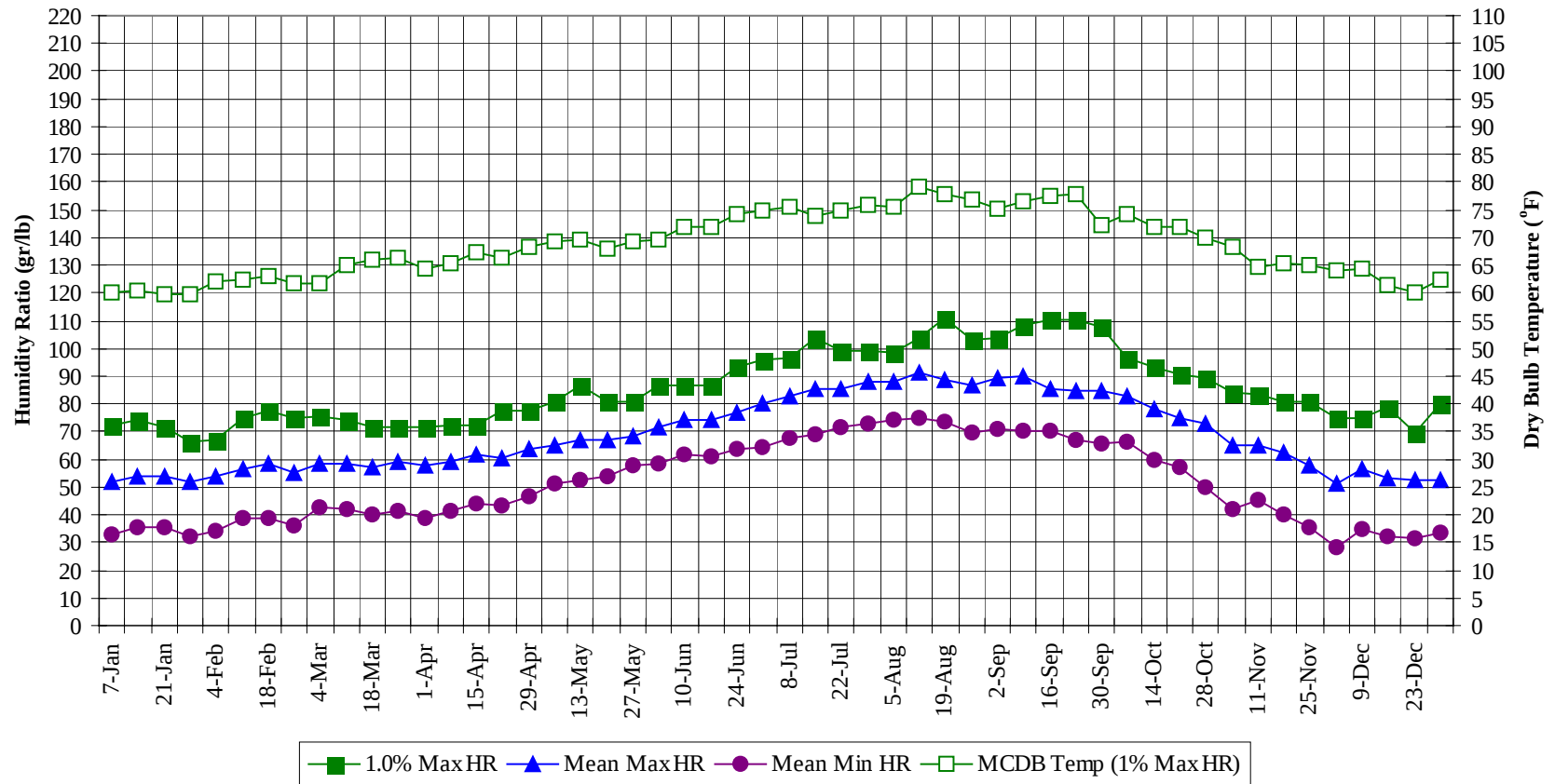
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
105 / 109		1		1	68.5
100 / 104		5		5	68.6
95 / 99		14	1	15	67.6
90 / 94	0	39	3	42	67.7
85 / 89	0	113	10	123	66.8
80 / 84	5	247	43	295	65.7
75 / 79	29	453	130	611	64.4
70 / 74	163	624	333	1119	62.4
65 / 69	566	614	644	1824	60.0
60 / 64	686	495	731	1912	56.6
55 / 59	552	227	647	1427	52.6
50 / 54	464	76	291	831	48.3
45 / 49	318	13	76	406	43.8
40 / 44	117	1	10	128	39.1
35 / 39	18		1	19	34.2
30 / 34	2			2	28.5
25 / 29	0			0	25.0

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.

Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



LONG BEACH (AIRPORT) CA

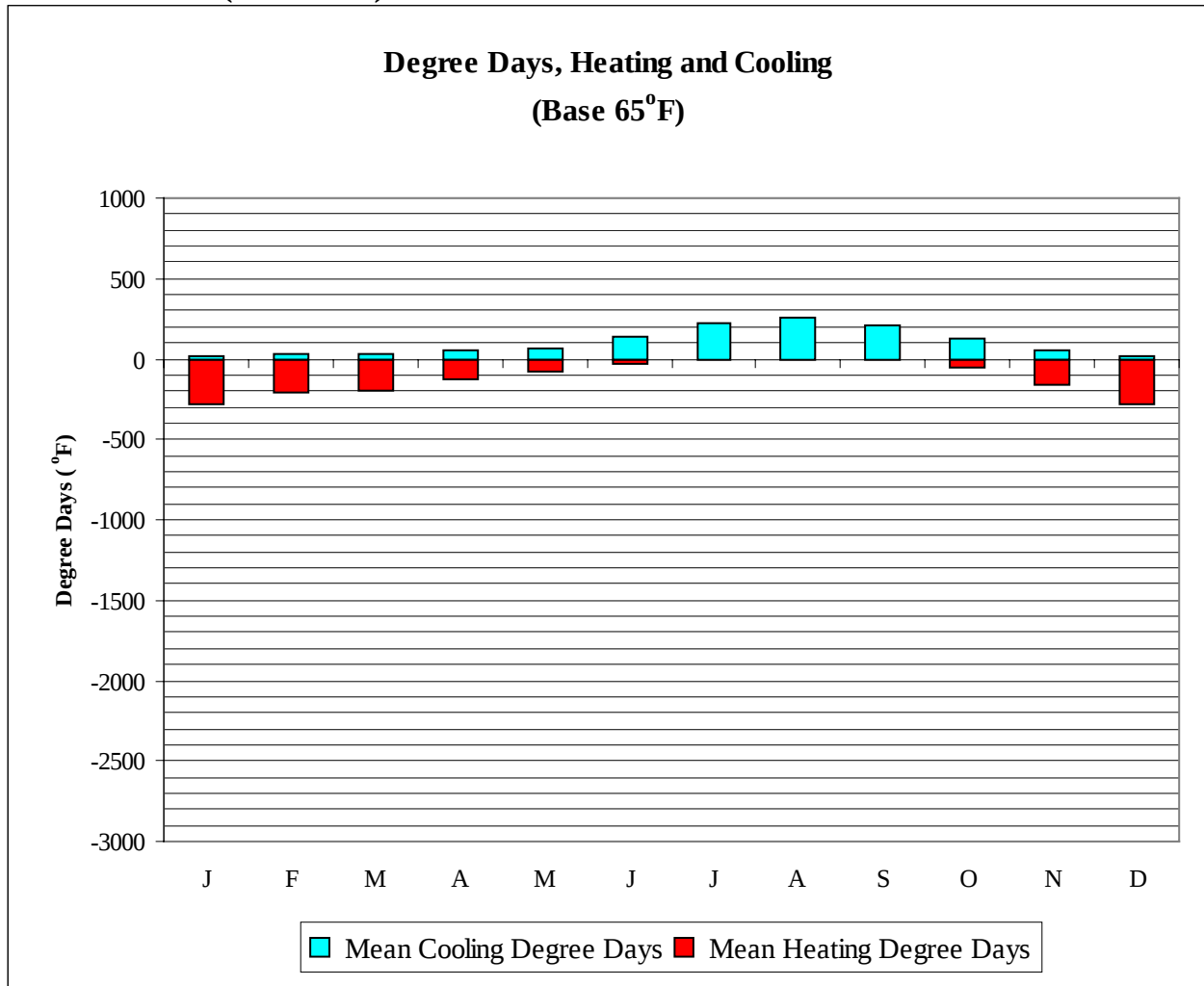
WMO No. 722970

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	75.0	52.4	64.6	46.1	37.0	72.1	60.0	52.2	32.8
14-Jan	82.0	57.3	67.9	47.5	40.0	74.2	60.5	53.6	35.2
21-Jan	82.0	57.7	66.3	47.6	41.0	71.4	59.6	53.7	35.4
28-Jan	80.0	56.0	67.6	46.8	40.0	66.5	59.9	51.6	32.4
4-Feb	79.0	58.4	66.7	47.2	41.0	67.2	62.0	53.7	34.3
11-Feb	79.0	56.5	66.1	49.2	42.0	74.9	62.3	56.6	38.6
18-Feb	81.0	57.0	67.1	49.6	43.0	77.7	62.9	58.5	38.8
25-Feb	82.0	59.8	69.1	49.4	43.0	74.9	61.7	55.1	36.1
4-Mar	78.0	56.7	66.0	50.3	42.0	75.6	61.6	58.6	42.6
11-Mar	79.0	58.3	67.0	51.0	45.0	74.2	65.0	58.6	41.9
18-Mar	81.0	60.3	67.7	50.4	44.0	71.4	66.1	57.3	40.2
25-Mar	85.0	59.3	68.3	51.6	46.0	71.4	66.3	58.8	41.4
1-Apr	80.0	58.5	68.5	51.5	46.0	71.4	64.2	57.7	39.0
8-Apr	89.0	61.2	71.1	52.6	46.0	72.1	65.2	59.2	41.7
15-Apr	84.0	58.6	71.5	54.0	49.0	72.1	67.2	61.7	44.2
22-Apr	85.0	59.0	71.7	53.9	48.0	77.7	66.4	60.6	43.3
29-Apr	85.0	61.3	71.9	55.3	50.0	77.7	68.4	63.9	46.5
6-May	85.0	61.4	71.9	56.9	52.0	80.5	69.1	65.3	51.1
13-May	88.0	63.6	72.7	57.4	52.0	86.8	69.5	67.0	52.4
20-May	83.0	63.5	72.3	58.0	53.0	80.5	67.9	67.0	53.8
27-May	78.0	63.6	72.2	58.5	53.0	80.5	69.4	68.2	57.6
3-Jun	87.0	67.7	73.8	59.5	55.0	86.8	69.8	71.4	58.7
10-Jun	86.0	67.4	74.5	60.3	56.0	86.8	72.1	74.4	62.0
17-Jun	93.0	64.8	76.0	60.8	57.0	86.8	71.9	74.5	60.9
24-Jun	91.0	67.3	78.4	62.0	59.0	93.1	74.3	76.9	63.5
1-Jul	96.0	66.8	80.8	62.8	60.0	95.9	74.8	80.3	64.4
8-Jul	89.0	69.3	80.2	63.7	60.0	96.6	75.5	82.9	67.5
15-Jul	91.0	68.0	81.4	64.7	61.0	103.6	73.8	85.4	69.1
22-Jul	89.0	70.2	81.3	64.9	62.0	99.4	74.8	85.6	71.4
29-Jul	89.0	69.6	82.0	65.2	63.0	99.4	75.9	87.8	73.2
5-Aug	89.0	70.2	82.1	65.6	62.0	98.7	75.5	88.0	74.2
12-Aug	92.0	72.7	83.2	66.0	63.0	103.6	79.1	91.2	74.6
19-Aug	93.0	69.7	81.7	66.0	61.0	111.3	77.9	88.8	73.4
26-Aug	90.0	70.0	82.8	64.6	61.0	102.9	76.7	86.7	69.8
2-Sep	93.0	70.7	83.5	65.1	61.0	103.6	75.1	89.1	70.9
9-Sep	95.0	72.6	83.7	65.3	61.0	108.5	76.5	89.9	70.3
16-Sep	92.0	72.2	79.2	63.9	59.0	110.6	77.5	85.4	70.0
23-Sep	93.0	68.2	81.2	62.9	57.0	110.6	77.9	84.8	66.7
30-Sep	95.0	69.7	80.7	62.9	58.0	107.8	72.1	84.9	65.6
7-Oct	91.0	67.9	78.6	61.9	57.0	96.6	74.1	82.5	66.5
14-Oct	94.0	62.5	78.2	60.5	54.0	93.1	71.8	78.5	59.9
21-Oct	88.0	59.0	76.4	58.9	53.0	90.3	71.9	75.1	57.0
28-Oct	89.0	61.7	76.5	57.5	51.0	89.6	69.9	72.8	50.0
4-Nov	87.0	59.8	75.0	54.2	48.0	84.0	68.3	64.7	42.3
11-Nov	87.0	59.0	73.2	53.7	48.0	83.3	64.7	65.1	45.2
18-Nov	85.0	57.0	71.1	51.6	44.0	80.5	65.2	62.6	40.0
25-Nov	81.0	55.4	70.3	49.4	42.0	80.5	65.1	57.7	35.2
2-Dec	82.0	56.3	70.6	47.8	42.0	74.9	63.9	51.1	28.1
9-Dec	81.0	54.3	69.3	48.4	40.0	74.9	64.3	56.4	35.1
16-Dec	78.0	53.6	67.5	46.4	40.0	79.1	61.4	53.1	32.2
23-Dec	75.0	53.7	65.8	45.8	40.0	69.3	60.2	52.4	31.6
31-Dec	76.0	54.4	65.2	45.9	38.0	79.8	62.3	52.4	33.3

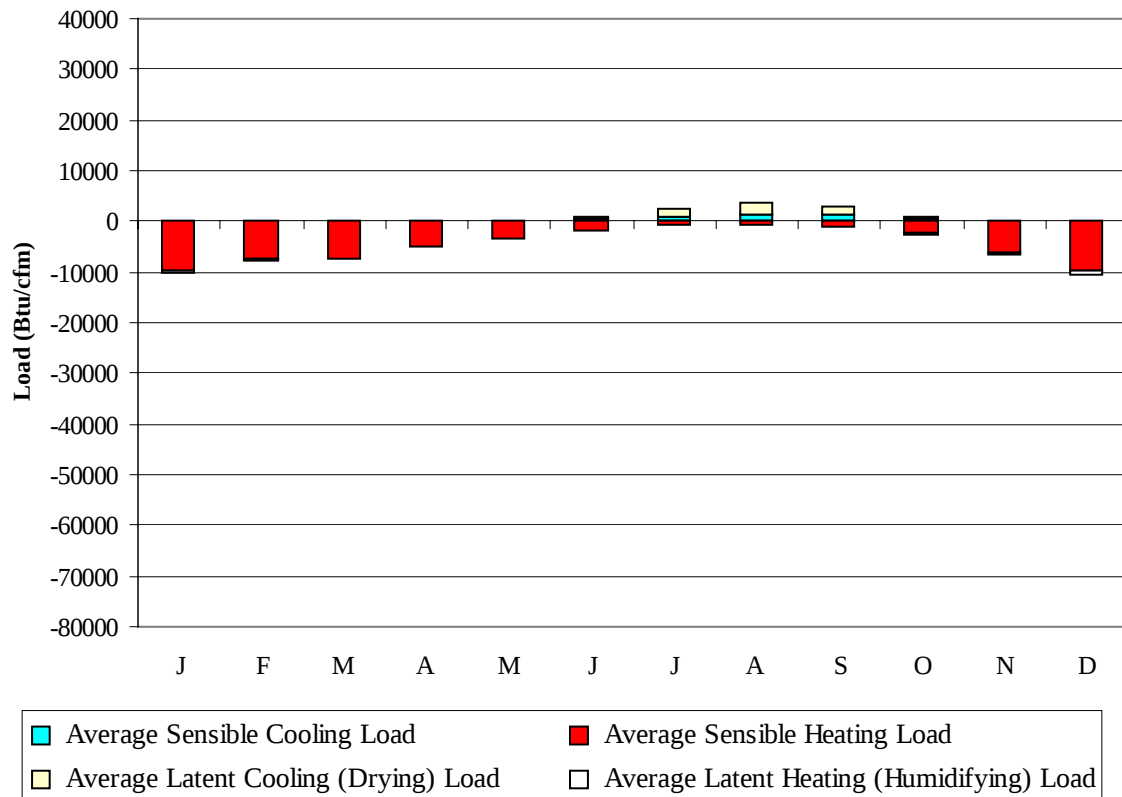
LONG BEACH (AIRPORT) CA

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	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	22	285
FEB	24	215
MAR	28	200
APR	56	126
MAY	67	72
JUN	133	27
JUL	221	6
AUG	254	4
SEP	211	11
OCT	123	48
NOV	53	164
DEC	21	284
ANN	1213	1442

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 Load	Average Latent Heating Load
	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)
JAN	84	-9560	1	-703
FEB	89	-7511	1	-403
MAR	112	-7288	0	-232
APR	264	-5018	3	-162
MAY	203	-3442	50	-15
JUN	628	-1738	310	-12
JUL	1094	-640	1460	0
AUG	1432	-484	2302	0
SEP	1279	-858	1809	-14
OCT	581	-2411	518	-161
NOV	251	-6061	31	-652
DEC	70	-9542	7	-914
ANN	6087	-54553	6492	-3268

Average Annual Solar Radiation – Nearest Available Site

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

City: LONG BEACH
 State: CA
 WBAN No: 23129
 Lat(N): 33.82
 Long(W): 118.15
 Elev(ft): 56

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.361
 Vert Gap: 0.274

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	880	1140	1500	1900	2040	2130	2300	2120	1700	1320	990	820	1570
	Std Dev	75	107	110	101	132	177	85	73	112	78	63	62	37
	Minimum	740	930	1310	1700	1710	1650	2070	1920	1360	1140	870	670	1470
	Maximum	1050	1370	1760	2150	2270	2370	2460	2230	1880	1440	1090	920	1630
	Diffuse	360	460	600	690	810	830	720	650	600	490	380	330	580
Clear Day	Global	1100	1420	1870	2280	2530	2610	2550	2340	1990	1540	1160	1000	1870
NORTH	Global	240	300	380	460	560	620	590	490	400	330	260	220	410
	Diffuse	240	300	380	450	510	530	510	460	400	330	260	220	380
Clear Day	Global	230	290	370	460	590	690	640	490	390	320	250	220	410
EAST	Global	560	670	830	980	920	920	1040	980	830	710	590	520	800
	Diffuse	300	380	480	560	600	610	600	560	490	410	320	280	470
Clear Day	Global	740	910	1130	1290	1370	1390	1370	1300	1160	960	770	680	1090
SOUTH	Global	1290	1290	1200	1020	790	690	760	970	1160	1320	1350	1290	1090
	Diffuse	430	490	540	560	560	540	530	540	540	510	450	410	510
Clear Day	Global	1830	1820	1630	1230	890	750	800	1060	1450	1740	1810	1800	1400
WEST	Global	580	720	920	1120	1210	1260	1310	1240	1070	860	650	540	960
	Diffuse	310	380	490	570	630	650	630	590	520	420	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

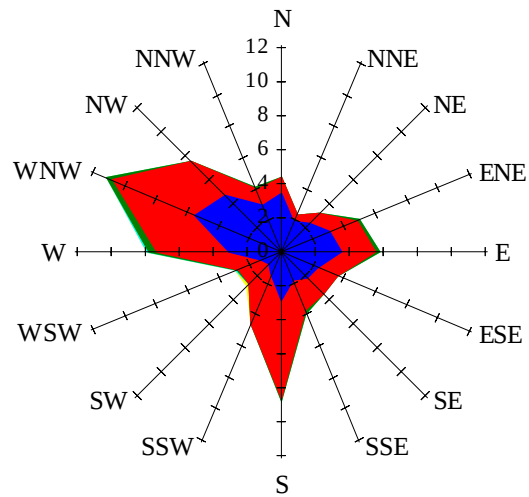
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	Unshaded	600	800	1080	1380	1490	1560	1700	1560	1240	940	680	540	1130
NORTH	Unshaded	170	210	270	310	370	400	380	320	280	230	180	160	270
	Shaded	160	200	250	300	340	370	360	310	260	220	170	150	260
EAST	Unshaded	380	470	580	690	640	640	730	690	580	490	410	350	550
	Shaded	360	430	530	630	580	570	650	620	530	450	380	330	500
SOUTH	Unshaded	970	930	810	630	470	410	440	570	760	940	1000	970	740
	Shaded	950	880	690	470	360	350	350	400	590	850	980	950	650
WEST	Unshaded	400	500	650	800	860	890	930	890	760	600	450	370	680
	Shaded	370	470	600	730	780	810	850	810	690	560	420	350	620

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	24	49	88	106	99	67
	M.Cloudy	29	54	61	47	17	28	51	70	70	47
NORTH	M.Clear	12	16	16	14	8	21	17	17	17	17
	M.Cloudy	11	17	18	15	7	14	19	21	20	17
EAST	M.Clear	73	54	16	14	8	75	71	27	17	15
	M.Cloudy	33	35	18	15	7	26	34	25	20	16
SOUTH	M.Clear	39	69	76	57	21	13	26	37	32	15
	M.Cloudy	21	43	48	37	12	12	22	30	28	16
WEST	M.Clear	12	16	29	70	58	13	17	17	57	81
	M.Cloudy	11	17	24	43	27	12	19	21	42	47
M.Clear	(% hrs)	40	42	48	51	52	23	44	61	71	75
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	33	75	93	83	48	23	51	55	33	3
	M.Cloudy	18	44	64	57	32	15	34	38	23	3
NORTH	M.Clear	10	16	17	16	12	7	12	12	9	2
	M.Cloudy	8	16	19	18	12	6	12	13	9	1
EAST	M.Clear	66	69	25	16	12	47	38	12	9	2
	M.Cloudy	20	33	23	18	12	20	23	13	9	1
SOUTH	M.Clear	22	54	69	61	33	44	81	85	59	6
	M.Cloudy	11	29	46	41	21	19	41	47	30	3
WEST	M.Clear	10	16	17	59	76	7	12	27	51	9
	M.Cloudy	8	16	19	39	38	6	12	19	26	4
M.Clear	(% hrs)	34	50	69	76	78	47	50	52	53	55

Wind Summary - December, January, and February

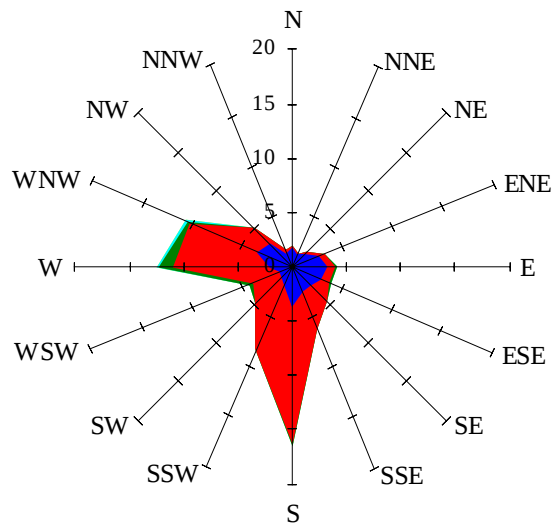
Labels of Percent Frequency on North Axis



Percent Calm = 19.59

Wind Summary - March, April, and May

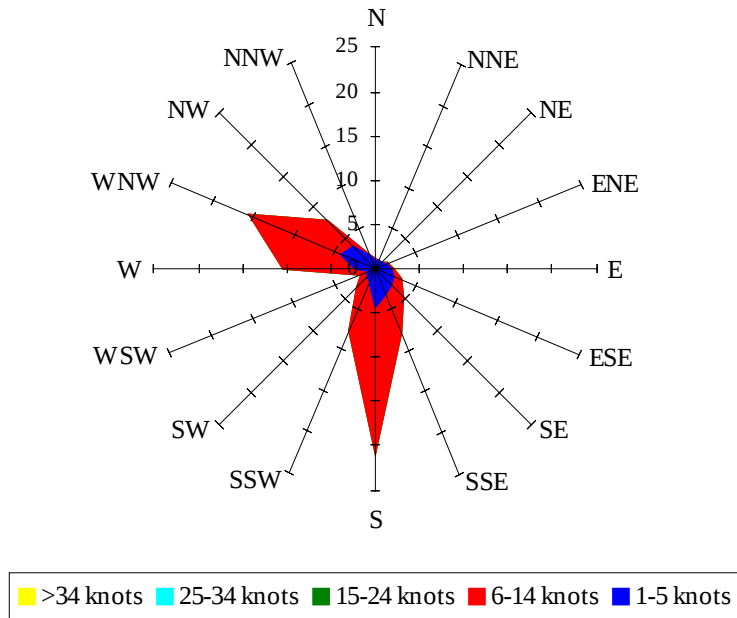
Labels of Percent Frequency on North Axis



Percent Calm = 10.59

Wind Summary - June, July, and August

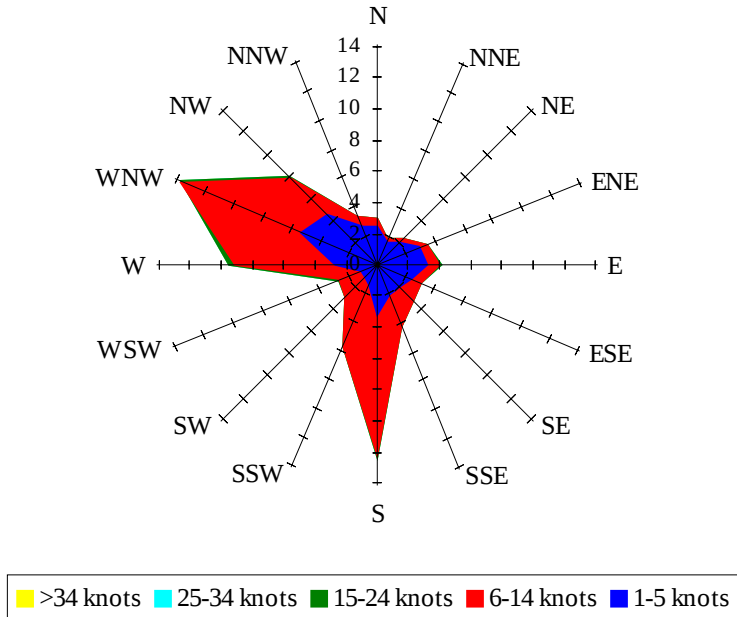
Labels of Percent Frequency on North Axis



Percent Calm = 9.54

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 17.45