

LUKE AFB/PHOENIX AZ

Latitude = 33.53 N

WMO No. 722785

Longitude = 112.30 W

Elevation = 1089 feet

Period of Record = 1967 to 1996

Average Pressure = 28.74 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	114	72	57	10.6	SW
0.4% Occurrence	110	71	58	9.3	SW
1.0% Occurrence	108	71	60	9.2	SW
2.0% Occurrence	106	71	61	8.6	SW
Mean Daily Range	26	-	-	-	-
97.5% Occurrence	41	36	23	4.4	N
99.0% Occurrence	38	33	21	4.5	N
99.6% Occurrence	35	31	19	4.2	N
Median of Extreme Lows	30	26	13	4.8	N
	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	79	97	125	7.2	S
0.4% Occurrence	77	98	111	7.0	SSW
1.0% Occurrence	76	97	105	6.9	SSW
2.0% Occurrence	75	96	101	6.5	SSW
	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	133	85	0.85	4.6	SSW
0.4% Occurrence	123	83	0.79	4.6	N
1.0% Occurrence	116	86	0.74	5.0	SSW
2.0% Occurrence	108	89	0.69	6.2	SSW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		1352	3206	512	1676

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	2.0	90	0.7 + 4.9
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 (#)
74.4	5	0	2

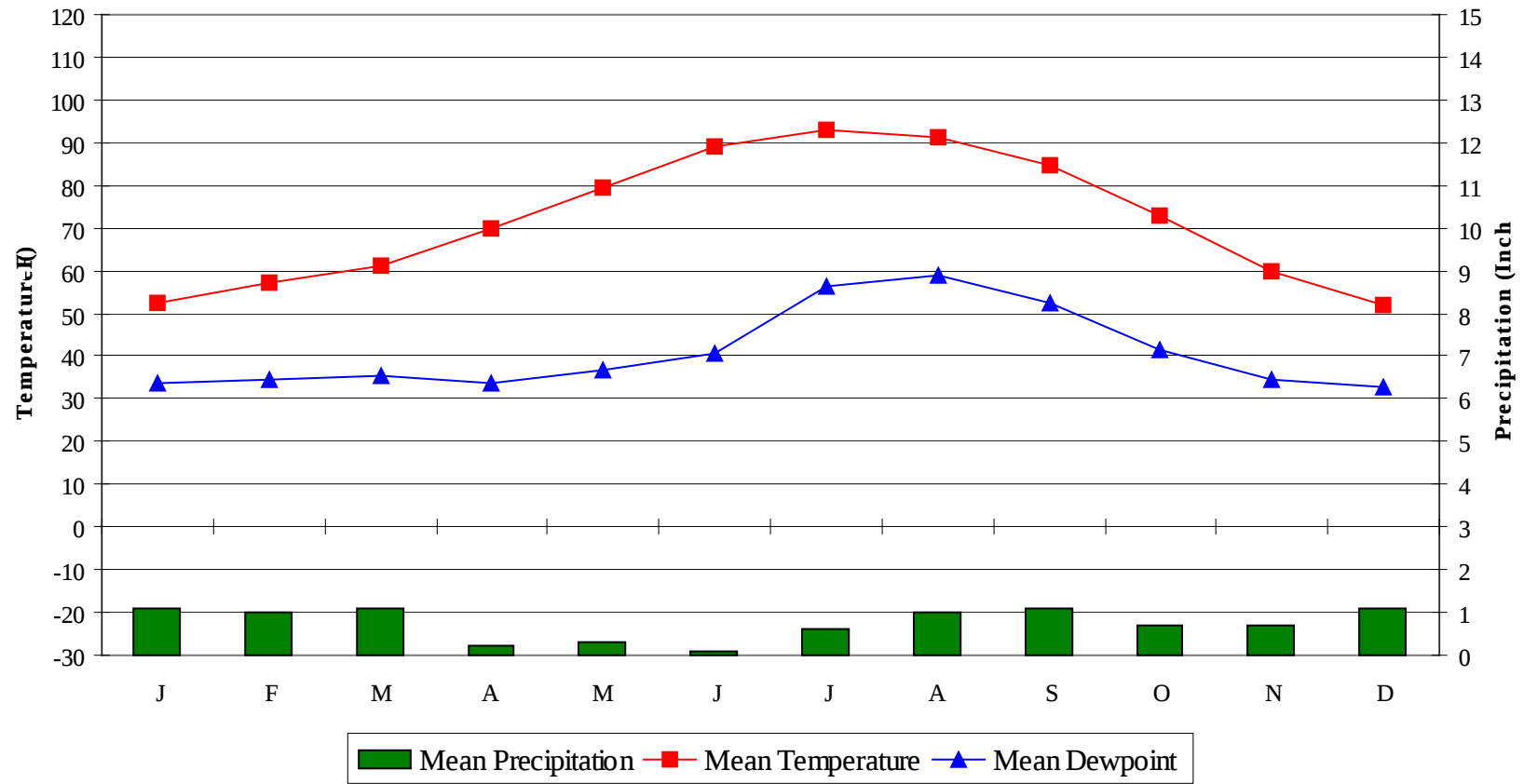
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

LUKE AFB/PHOENIX

AZ

WMO No. 722785

Average Annual Climate

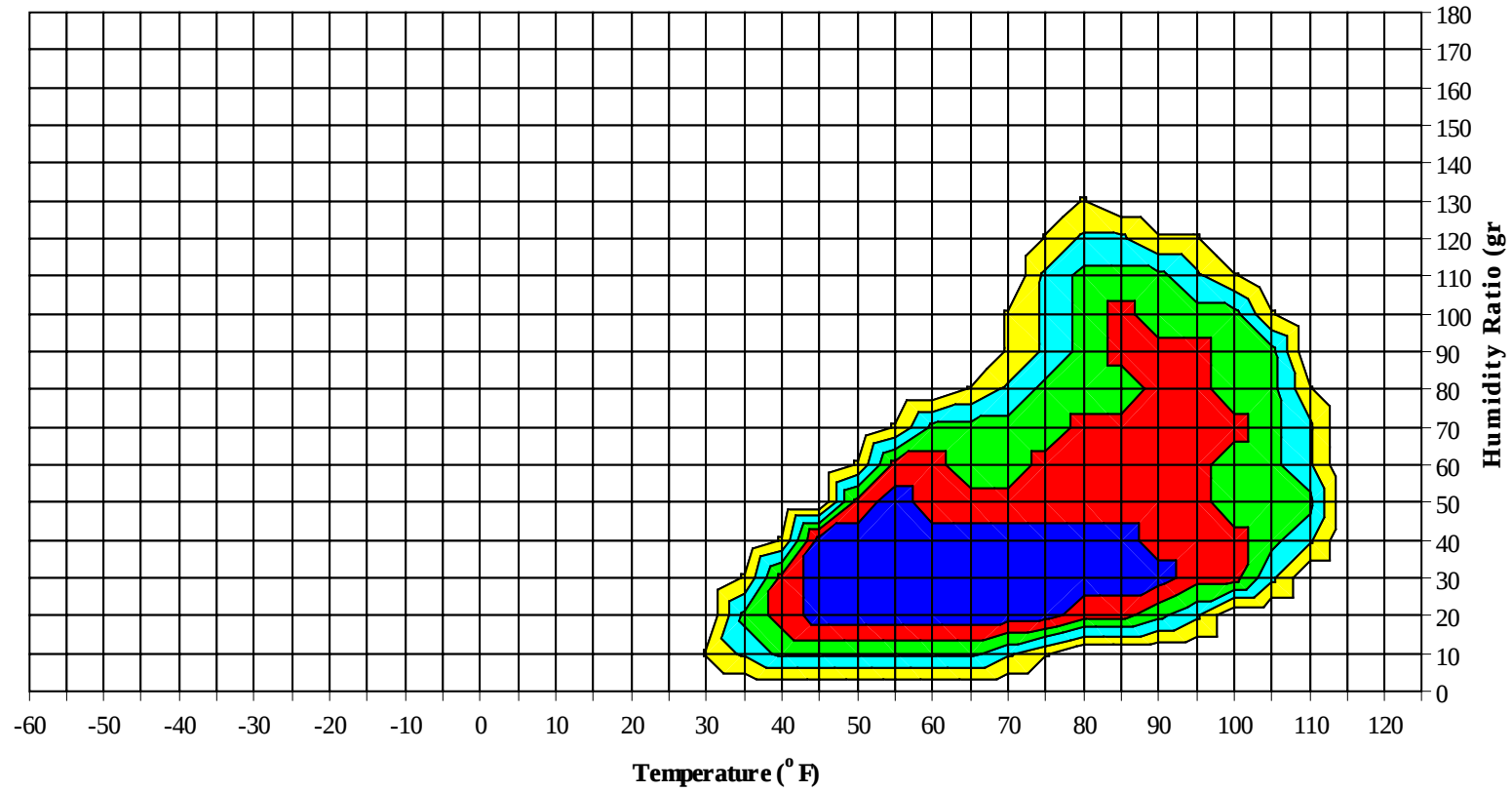


LUKE AFB/PHOENIX

AZ

WMO No. 722785

Long Term Psychrometric Summary

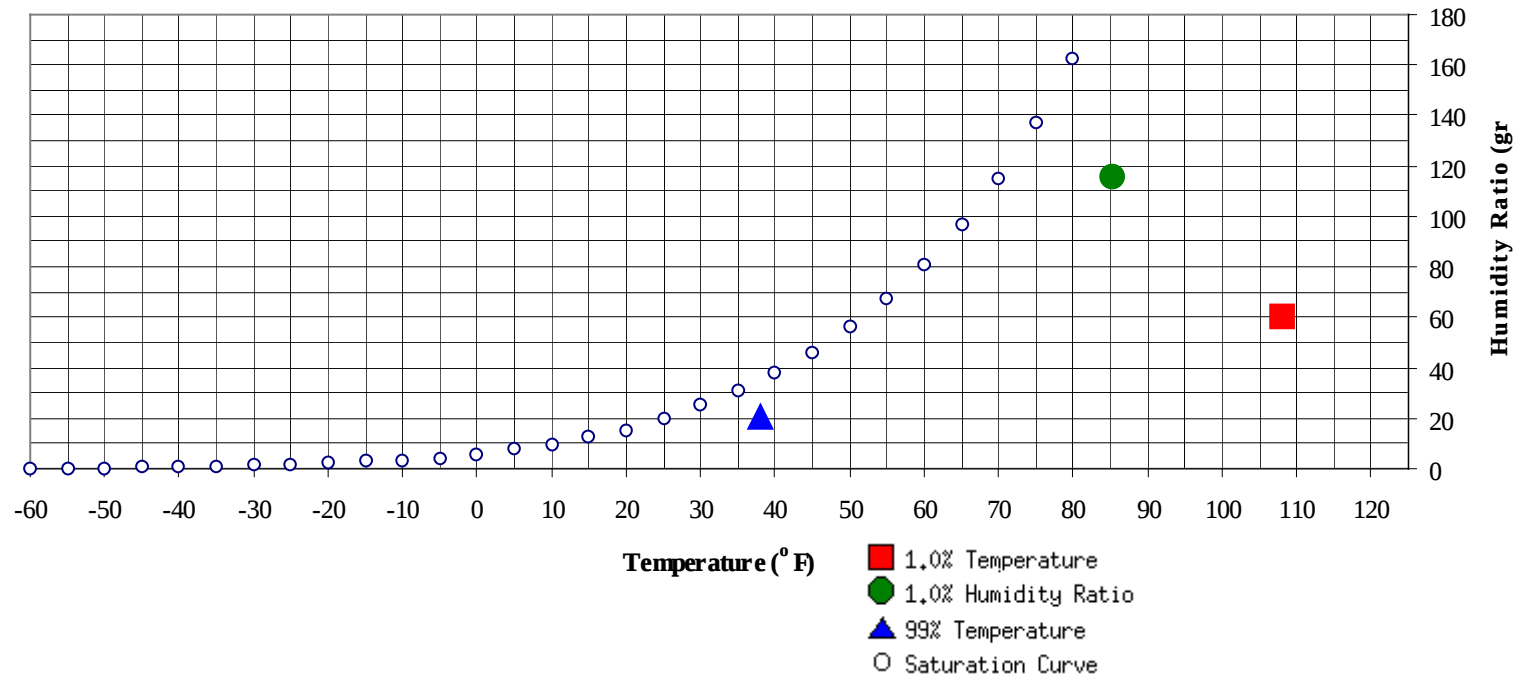


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

LUKE AFB/PHOENIX

AZ

WMO No. 722785

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	38	21	12.4	Ratio	115.5	85.3	74.3	70	38.6

1.0% Dry Bulb	(°F)	MCHR	MCWB	Enthalpy
		(gr/lb)	(°F)	(btu/lb)
108	60.3	71.2	35.5	

LUKE AFB/PHOENIX AZ

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

Period of Record = 1967 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		
120 / 124															
115 / 119															
110 / 114															
105 / 109															
100 / 104															
95 / 99												0	0	0	61.8
90 / 94							0		0	60.0		1	1	2	60.5
85 / 89							1	0	1	60.4		7	4	11	58.5
80 / 84		0	0	0	54.3		4	2	6	56.0	0	18	10	28	56.6
75 / 79		4	1	5	53.2		18	9	27	54.6	0	30	19	48	54.8
70 / 74		16	5	21	52.1	0	32	18	49	52.7	1	42	31	75	53.0
65 / 69		36	16	52	50.7	1	43	29	73	51.1	6	49	43	99	51.3
60 / 64	1	54	32	86	49.3	7	48	45	100	49.7	24	48	54	126	49.6
55 / 59	12	58	57	127	47.8	30	39	56	126	48.1	57	35	47	138	47.8
50 / 54	43	44	66	153	45.1	62	24	41	127	44.8	80	15	30	125	45.0
45 / 49	69	24	48	141	41.1	66	12	19	97	40.7	59	3	8	70	41.3
40 / 44	72	11	18	101	37.1	41	2	5	48	36.4	20	0	1	21	37.3
35 / 39	39	3	5	47	32.6	13	1	1	15	32.0	2			2	33.5
30 / 34	10	0	0	10	28.7	2		0	2	27.3	0			0	30.0
25 / 29	1			1	24.8	0			0	22.4					
20 / 24	0			0	23.0										

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.

LUKE AFB/PHOENIX AZ

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Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)**Period of Record = 1967 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		
120 / 124												0	0	0	74.7
115 / 119												1	1	2	72.8
110 / 114							0	0	0	65.8		10	7	17	70.2
105 / 109		0		0	67.0		3	2	5	67.5		28	21	48	68.2
100 / 104		1	1	2	64.2		14	8	22	64.9	0	47	32	79	66.2
95 / 99		6	3	9	62.2		31	20	50	63.1	1	54	41	97	64.4
90 / 94		17	10	27	60.7	0	48	31	79	61.3	10	46	45	102	62.8
85 / 89		31	19	49	58.5	2	52	41	96	59.4	31	31	42	105	61.0
80 / 84	1	42	31	74	56.4	12	44	50	107	57.7	52	16	31	98	58.8
75 / 79	6	44	38	88	54.6	39	30	43	112	55.9	62	5	14	81	56.7
70 / 74	17	40	44	101	52.7	61	17	30	107	53.9	50	2	5	57	54.2
65 / 69	36	30	42	108	50.7	62	7	16	85	51.7	26	0	1	27	51.6
60 / 64	57	18	29	103	48.7	43	3	6	51	49.4	7			7	49.1
55 / 59	60	8	16	84	46.5	21	0	2	23	46.6	1			1	45.6
50 / 54	41	2	6	49	43.6	6		0	6	43.3	0			0	45.0
45 / 49	18	1	2	21	40.6	1			1	38.1					
40 / 44	4	0	0	4	37.3										
35 / 39	0			0	36.4										
30 / 34															
25 / 29															
20 / 24															

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Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1967 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		
120 / 124		0	0	0	74.8										
115 / 119		1	1	2	72.2		0	0	0	71.4					
110 / 114		10	9	19	72.0		6	4	10	73.4		0	0	0	72.8
105 / 109		39	32	71	71.6		27	21	48	72.9		7	4	11	71.5
100 / 104	0	66	47	113	71.1	0	60	43	103	72.0		30	16	46	70.1
95 / 99	5	63	56	124	70.5	2	69	53	124	71.3	0	53	30	82	68.5
90 / 94	38	43	54	136	69.5	22	51	56	129	70.6	3	60	42	104	67.4
85 / 89	82	18	33	133	68.5	70	25	41	136	69.7	19	45	48	112	66.5
80 / 84	76	6	13	95	67.5	84	8	21	113	68.6	46	29	49	123	64.8
75 / 79	32	2	3	37	65.3	47	2	7	56	66.8	65	13	33	111	63.1
70 / 74	11	0	0	11	59.2	16	1	2	19	62.6	59	4	15	78	60.2
65 / 69	3			3	52.5	5		0	5	57.0	34	1	4	39	55.9
60 / 64	0			0	51.0	1			1	51.7	12	0	0	12	51.4
55 / 59											2			2	48.4
50 / 54											0			0	44.1
45 / 49															
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															

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LUKE AFB/PHOENIX AZ

WMO No. 722785

Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)**Period of Record = 1967 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		
120 / 124															
115 / 119															
110 / 114															
105 / 109		0	0	0	68.2										
100 / 104		4	1	5	65.3										
95 / 99		13	5	18	64.2										
90 / 94		28	11	39	62.8		0	0	0	59.8					
85 / 89	0	46	20	66	61.5		4	1	5	57.8		0		0	57.0
80 / 84	1	51	32	84	60.4		19	4	23	56.9		0	0	0	55.5
75 / 79	10	47	45	102	58.4		37	12	49	55.5		5	1	6	53.7
70 / 74	34	33	51	118	56.7	0	47	20	67	53.6		22	5	27	51.9
65 / 69	60	18	47	124	54.4	4	46	35	85	51.9	0	36	12	48	50.4
60 / 64	70	7	25	102	51.0	17	40	55	112	49.7	1	53	26	79	49.0
55 / 59	44	2	10	55	46.8	54	28	56	137	47.0	11	55	54	120	47.6
50 / 54	21	0	2	23	43.2	74	13	37	124	43.6	35	39	70	143	44.6
45 / 49	7	0	0	7	39.3	56	5	17	78	40.2	72	25	51	148	40.7
40 / 44	1			1	36.6	26	1	4	31	36.0	77	12	23	112	36.9
35 / 39						8		0	8	32.0	42	3	6	51	32.8
30 / 34						1			1	28.6	8	0	1	9	28.9
25 / 29											2		0	2	23.9
20 / 24											0			0	19.6

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.

LUKE AFB/PHOENIX AZ

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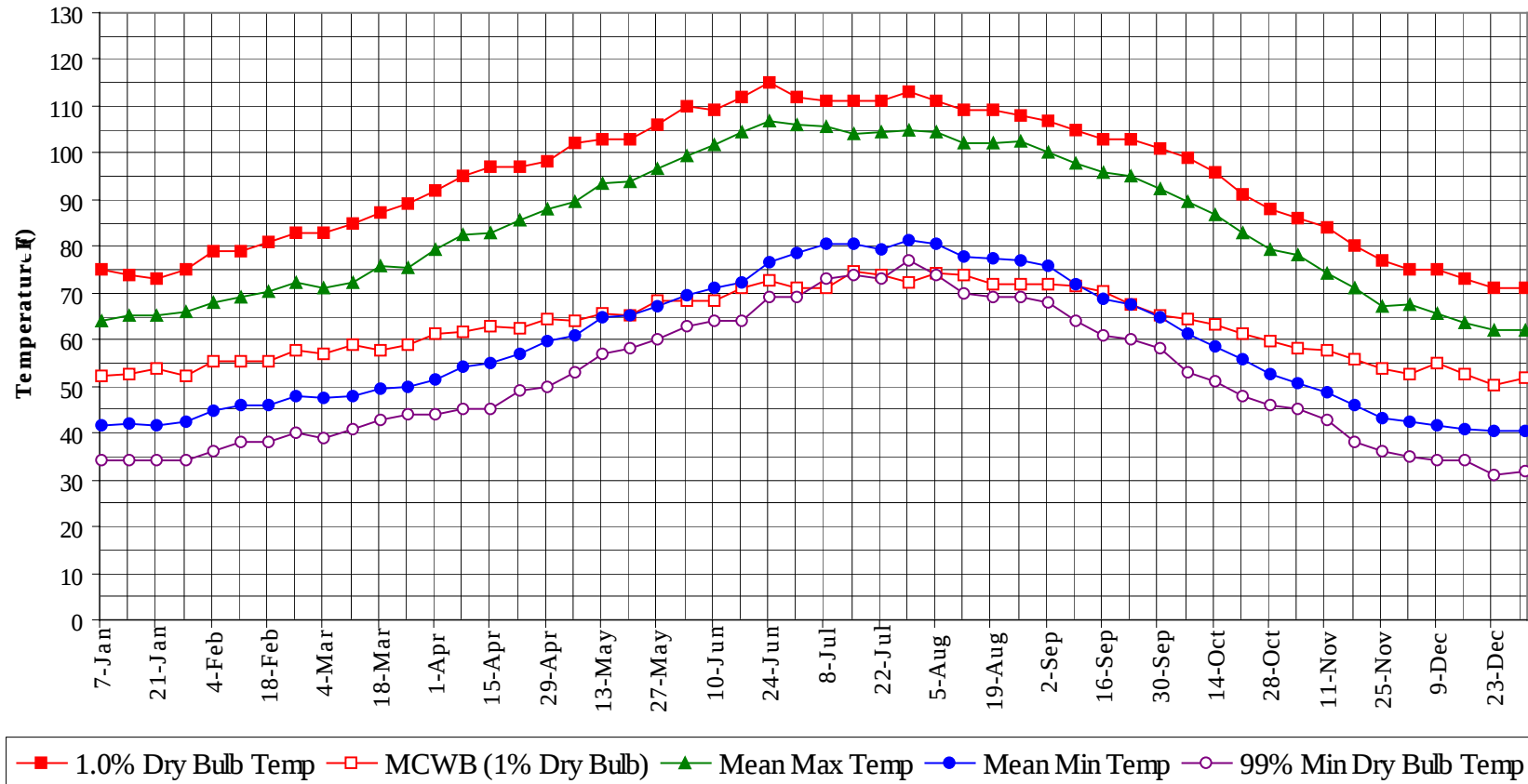
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1967 to 1996

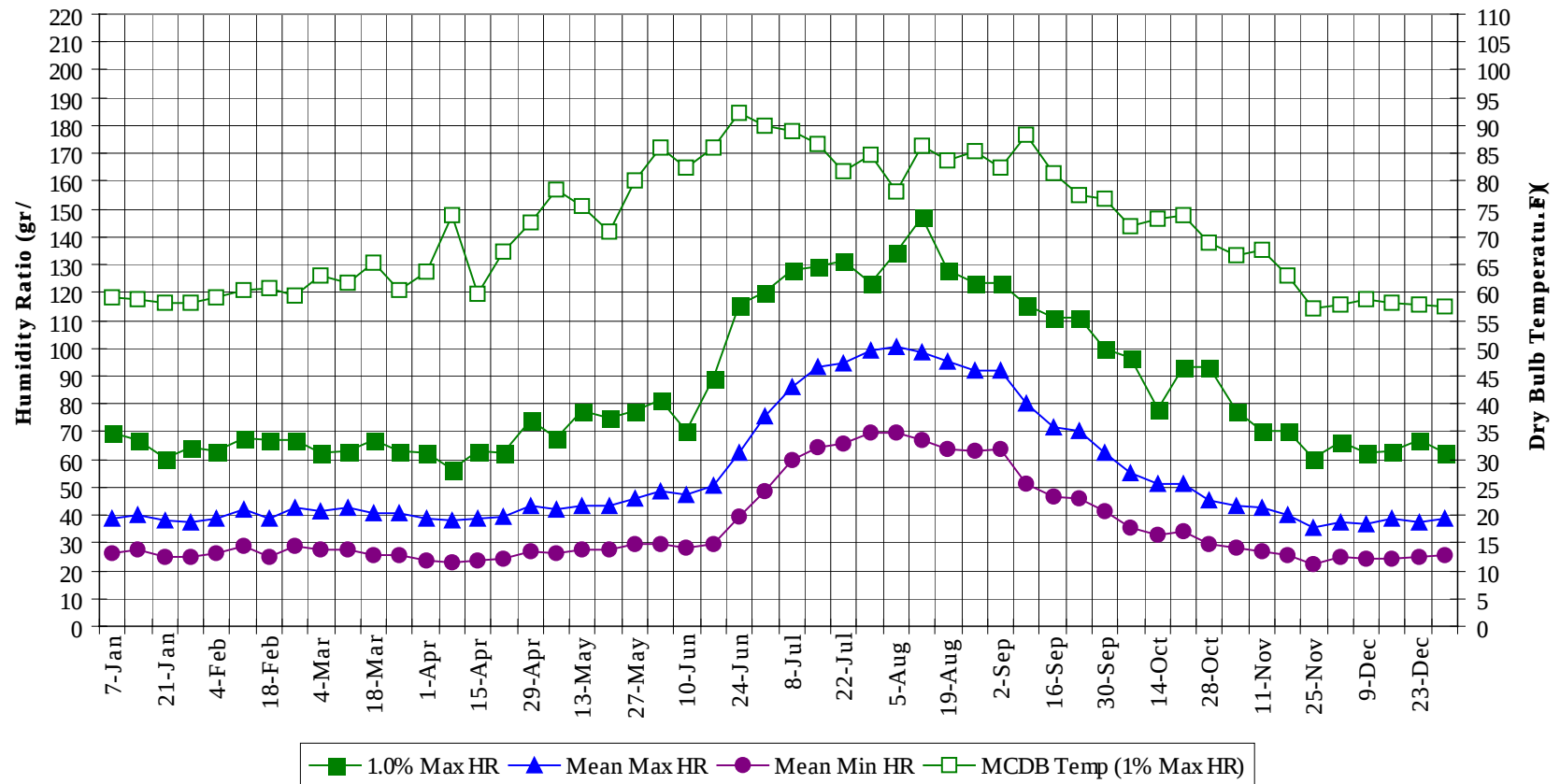
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
120 / 124		0	0	0	74.8
115 / 119		2	2	4	72.4
110 / 114		27	20	46	71.6
105 / 109		103	78	181	70.9
100 / 104	0	221	148	369	69.7
95 / 99	9	289	208	506	68.1
90 / 94	75	294	250	619	66.4
85 / 89	207	259	249	715	64.5
80 / 84	273	237	242	752	62.0
75 / 79	261	236	224	721	58.4
70 / 74	251	254	226	731	54.9
65 / 69	234	265	244	744	52.0
60 / 64	240	270	272	782	49.6
55 / 59	291	224	298	812	47.5
50 / 54	361	138	251	750	44.5
45 / 49	347	69	143	559	40.8
40 / 44	241	26	50	318	36.8
35 / 39	105	6	12	123	32.6
30 / 34	21	1	2	24	28.6
25 / 29	3		0	3	24.1
20 / 24	0			0	20.6

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



LUKE AFB/PHOENIX

AZ

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Long Term Dry Bulb Temperature and Humidity Summary

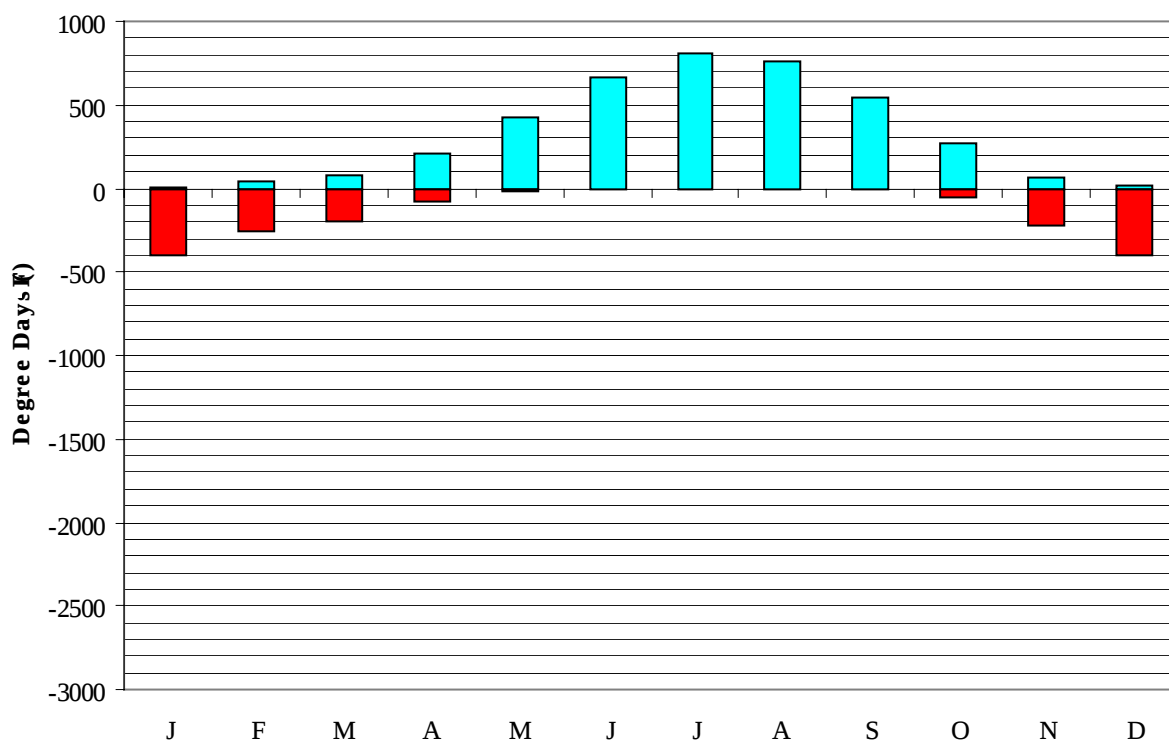
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	75.0	52.3	64.0	41.5	34.0	69.3	59.1	38.9	26.3
14-Jan	74.0	52.6	65.1	42.2	34.0	67.2	58.9	39.8	27.7
21-Jan	73.0	53.7	65.4	41.8	34.0	60.2	58.2	38.1	25.3
28-Jan	75.0	52.3	65.9	42.3	34.0	64.4	58.2	37.3	25.0
4-Feb	79.0	55.4	68.0	44.9	36.0	63.0	59.0	38.6	26.5
11-Feb	79.0	55.2	69.0	46.0	38.0	67.9	60.4	42.2	28.7
18-Feb	81.0	55.5	70.4	45.8	38.0	67.2	60.7	38.9	25.1
25-Feb	83.0	57.9	72.2	47.9	40.0	67.2	59.4	42.7	29.2
4-Mar	83.0	56.9	71.3	47.6	39.0	62.3	63.1	41.6	27.6
11-Mar	85.0	58.9	72.5	48.0	41.0	63.0	61.9	42.6	27.8
18-Mar	87.0	57.7	75.6	49.3	43.0	67.2	65.4	40.6	25.6
25-Mar	89.0	59.0	75.2	50.0	44.0	63.0	60.4	40.8	25.3
1-Apr	92.0	61.1	79.3	51.5	44.0	62.3	63.6	38.6	23.9
8-Apr	95.0	61.7	82.7	54.2	45.0	56.7	73.8	38.0	23.2
15-Apr	97.0	62.7	82.9	55.2	45.0	63.0	59.8	38.7	23.8
22-Apr	97.0	62.4	85.5	56.9	49.0	62.3	67.3	39.4	24.0
29-Apr	98.0	64.3	87.8	59.6	50.0	74.2	72.4	43.6	27.1
6-May	102.0	64.2	89.6	61.0	53.0	67.9	78.3	41.9	26.2
13-May	103.0	65.7	93.4	64.6	57.0	77.7	75.6	43.5	27.8
20-May	103.0	65.1	94.0	65.2	58.0	74.9	71.1	43.2	27.6
27-May	106.0	68.2	96.5	67.2	60.0	77.7	80.1	45.7	29.4
3-Jun	110.0	68.3	99.3	69.4	63.0	81.2	86.1	48.6	29.4
10-Jun	109.0	68.3	101.5	70.9	64.0	70.0	82.4	47.4	28.4
17-Jun	112.0	71.1	104.4	72.3	64.0	89.6	86.0	50.5	29.8
24-Jun	115.0	72.7	106.9	76.7	69.0	115.5	92.2	62.5	39.5
1-Jul	112.0	70.9	106.1	78.7	69.0	120.4	89.8	75.5	48.9
8-Jul	111.0	71.1	105.6	80.6	73.0	128.1	89.1	86.2	60.1
15-Jul	111.0	74.7	103.9	80.4	74.0	129.5	86.7	93.4	64.4
22-Jul	111.0	73.8	104.4	79.5	73.0	131.6	81.8	94.3	65.9
29-Jul	113.0	72.4	105.1	81.4	77.0	123.2	84.8	98.9	69.9
5-Aug	111.0	74.4	104.3	80.4	74.0	134.4	78.0	100.7	69.7
12-Aug	109.0	73.8	102.0	77.7	70.0	147.0	86.5	98.3	67.2
19-Aug	109.0	71.7	102.0	77.3	69.0	128.1	83.8	94.9	63.6
26-Aug	108.0	71.9	102.5	76.9	69.0	123.2	85.5	92.0	63.2
2-Sep	107.0	71.8	100.2	75.6	68.0	123.2	82.3	92.2	63.8
9-Sep	105.0	71.6	97.6	71.9	64.0	115.5	88.3	80.0	51.5
16-Sep	103.0	70.3	95.7	68.9	61.0	111.3	81.4	71.7	46.9
23-Sep	103.0	67.6	94.9	67.6	60.0	111.3	77.4	70.3	46.0
30-Sep	101.0	65.3	92.4	64.9	58.0	100.1	76.7	62.1	41.3
7-Oct	99.0	64.3	89.7	61.4	53.0	96.6	71.8	54.9	35.5
14-Oct	96.0	63.4	86.6	58.4	51.0	78.4	73.1	51.0	32.6
21-Oct	91.0	61.2	82.9	55.9	48.0	93.1	73.9	51.4	33.9
28-Oct	88.0	59.9	79.4	52.7	46.0	93.1	69.1	45.5	29.3
4-Nov	86.0	58.0	78.2	50.5	45.0	77.7	66.6	43.2	28.2
11-Nov	84.0	57.6	74.4	48.9	43.0	70.0	67.6	42.5	27.0
18-Nov	80.0	55.8	70.9	46.0	38.0	70.0	63.1	39.7	25.9
25-Nov	77.0	54.0	67.1	43.2	36.0	60.2	57.1	35.4	22.4
2-Dec	75.0	52.7	67.6	42.6	35.0	66.5	57.9	37.6	24.7
9-Dec	75.0	55.0	65.7	41.5	34.0	62.3	58.7	36.8	24.3
16-Dec	73.0	52.7	63.7	40.7	34.0	63.0	58.1	38.6	24.6
23-Dec	71.0	50.3	62.2	40.5	31.0	67.2	57.9	37.2	25.1
31-Dec	71.0	51.8	62.1	40.6	32.0	62.3	57.4	38.6	25.4

LUKE AFB/PHOENIX

AZ

WMO No. 722785

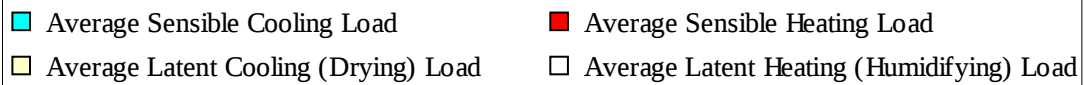
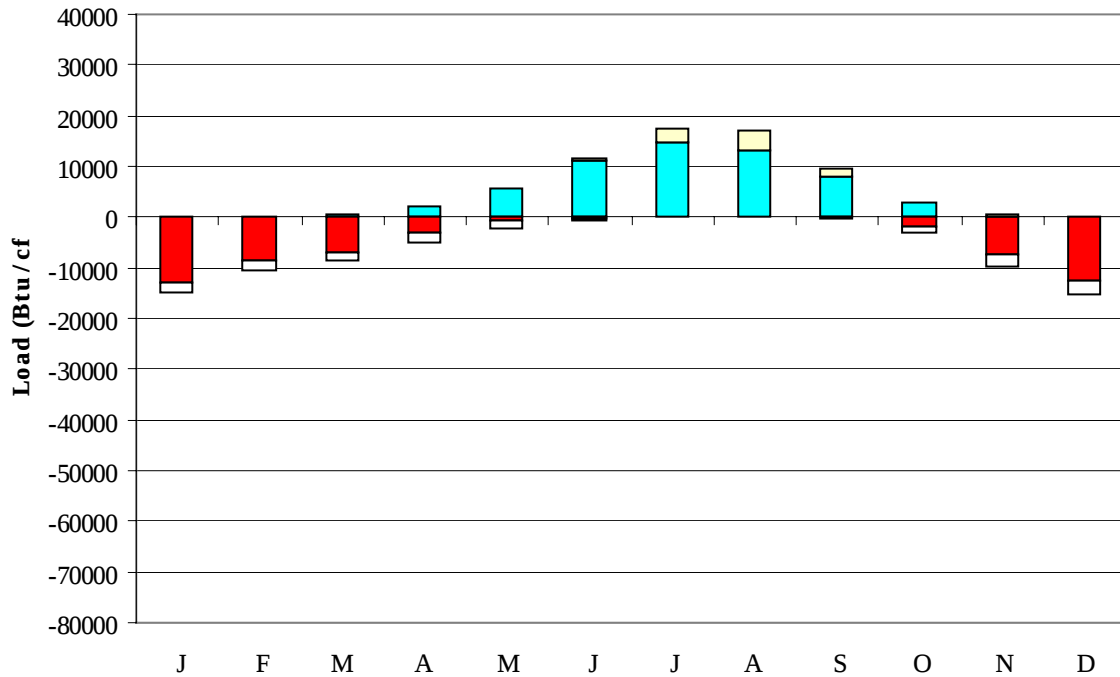
Degree Days, Heating and Cooling
(Base 65°F)



■ Mean Cooling Degree Days ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	11	406
FEB	36	260
MAR	78	199
APR	210	83
MAY	427	16
JUN	670	1
JUL	812	0
AUG	759	0
SEP	548	2
OCT	269	48
NOV	66	223
DEC	13	403
ANN	3900	1641

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



	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	9	-12766	0	-2225
FEB	106	-8532	0	-2000
MAR	470	-6856	0	-1863
APR	2124	-3127	0	-1927
MAY	5719	-779	7	-1345
JUN	11281	-74	156	-659
JUL	14569	-3	2752	-55
AUG	13144	-6	3949	-13
SEP	8155	-138	1411	-95
OCT	2936	-2007	147	-827
NOV	328	-7484	18	-2189
DEC	9	-12605	0	-2502
ANN	58850	-54377	8440	-15700

Average Annual Solar Radiation – Nearest Available Site

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

City: PHOENIX
 State: AZ
 WBAN No: 23183
 Lat(N): 33.43
 Long(W): 112.02
 Elev(ft): 1112

Stn Type: Primary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1
 Overhang: 1.015
 Vert Gap: 0.661

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	1020	1350	1750	2240	2540	2650	2410	2240	1930	1550	1140	930	1810
	Std Dev	76	98	128	90	61	64	89	98	105	83	73	77	47
	Minimum	870	1110	1490	2040	2360	2470	2190	1990	1730	1320	960	680	1670
	Maximum	1150	1510	2010	2440	2620	2760	2580	2390	2130	1680	1250	1080	1860
	Diffuse	330	410	520	560	600	590	710	630	500	410	330	300	490
Clear Day	Global	1190	1530	1990	2420	2680	2760	2660	2440	2090	1640	1250	1080	1980
NORTH	Global	250	310	390	470	620	720	640	510	400	330	260	230	430
	Diffuse	250	310	390	450	500	520	520	470	400	330	260	230	390
Clear Day	Global	230	280	350	440	610	730	660	490	370	300	240	210	410
EAST	Global	670	870	1070	1310	1410	1420	1250	1220	1140	970	750	620	1060
	Diffuse	300	390	480	560	600	610	630	590	510	420	330	280	480
Clear Day	Global	820	1010	1230	1410	1480	1490	1450	1390	1260	1060	850	760	1180
SOUTH	Global	1550	1590	1420	1160	860	720	760	990	1320	1610	1620	1540	1260
	Diffuse	420	490	530	540	530	520	540	520	500	440	400	400	500
Clear Day	Global	2020	1980	1710	1230	870	720	770	1050	1490	1860	1990	1990	1470
WEST	Global	660	840	1040	1260	1370	1420	1280	1230	1120	960	730	610	1040
	Diffuse	310	390	490	560	610	620	630	590	500	430	330	280	480
Clear Day	Global	820	1010	1230	1410	1480	1490	1450	1390	1260	1060	850	760	1180

Average Annual Solar Heat and Illumination – Nearest Available Site

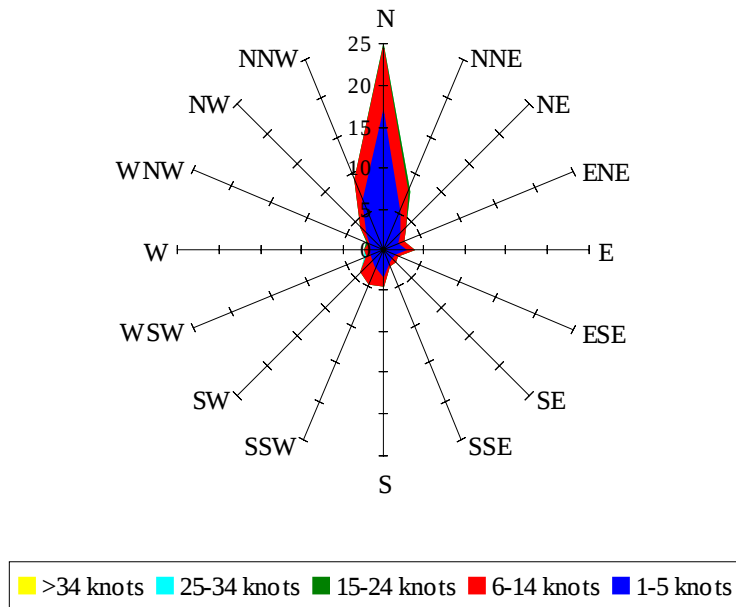
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	680	940	1260	1640	1870	1960	1780	1650	1400	1100	780	620	1310
NORTH	Unshaded	170	220	270	310	380	440	400	330	270	230	180	160	280
	Shaded	150	190	240	290	340	380	350	300	250	210	160	140	250
EAST	Unshaded	470	610	760	940	1010	1020	890	880	810	690	530	430	750
	Shaded	400	520	630	750	800	800	690	690	650	560	450	370	610
SOUTH	Unshaded	1160	1150	950	700	480	400	440	580	850	1140	1200	1160	850
	Shaded	1100	920	460	330	330	330	330	330	340	770	1090	1130	620
WEST	Unshaded	460	590	740	910	980	1020	910	880	800	670	510	420	740
	Shaded	390	490	600	720	770	800	710	690	640	560	430	360	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	36	77	94	81	42	62	97	110	97	60
	M.Cloudy	24	57	72	61	30	50	81	95	84	50
NORTH	M.Clear	9	14	16	15	10	19	16	16	16	20
	M.Cloudy	9	16	18	17	10	19	19	18	19	19
EAST	M.Clear	78	69	19	15	10	86	65	16	16	13
	M.Cloudy	38	47	20	17	10	62	55	19	19	14
SOUTH	M.Clear	31	65	79	68	36	13	28	37	28	13
	M.Cloudy	19	45	58	49	23	14	28	36	29	14
WEST	M.Clear	9	14	16	65	81	13	16	17	67	85
	M.Cloudy	9	16	18	46	45	14	19	19	58	62
M.Clear	(% hrs)	61	59	52	50	50	82	83	84	83	83

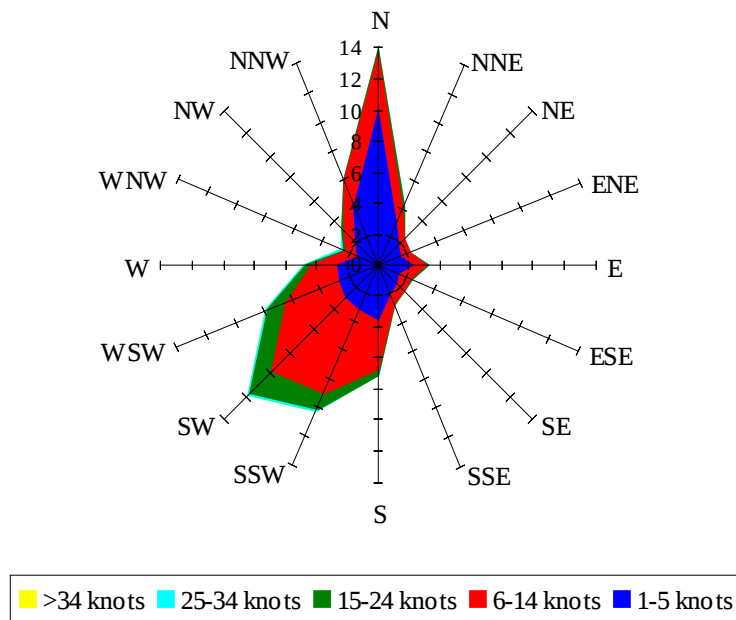
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	45	83	96	80	38	15	48	61	46	10
	M.Cloudy	33	64	75	61	28	10	34	45	33	8
NORTH	M.Clear	11	15	17	15	10	5	11	12	10	4
	M.Cloudy	12	18	19	17	10	4	11	14	11	4
EAST	M.Clear	80	64	17	15	10	44	50	12	10	4
	M.Cloudy	44	47	19	17	10	18	30	14	11	4
SOUTH	M.Clear	31	60	71	58	26	34	80	95	78	25
	M.Cloudy	21	45	55	43	17	15	44	57	44	11
WEST	M.Clear	11	15	20	68	75	5	11	15	54	34
	M.Cloudy	12	18	21	49	40	4	11	15	32	14
M.Clear	(% hrs)	75	76	76	76	74	55	57	54	54	53

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



Percent Calm = 18.78

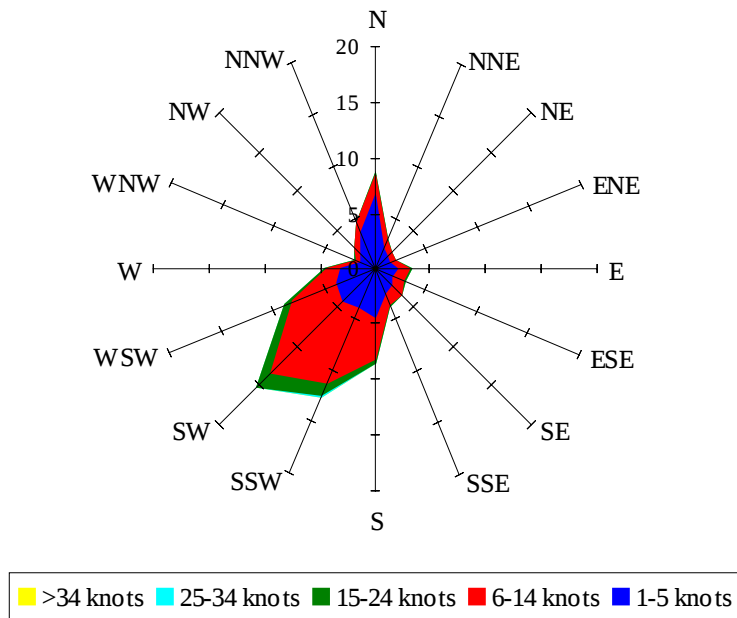
Wind Summary - March, April, and May **Labels of Percent Frequency on North Axis**



Percent Calm = 13.43

Wind Summary - June, July, and August

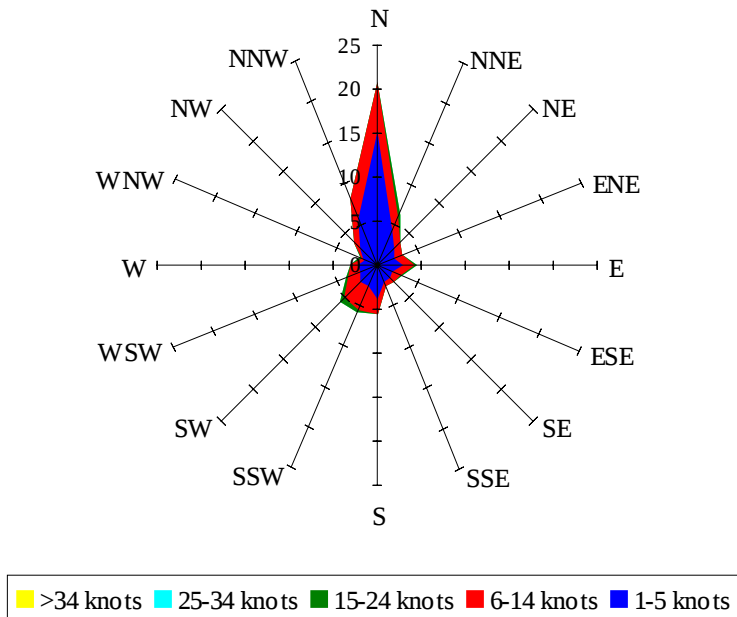
Labels of Percent Frequency on North Axis



Percent Calm = 13.03

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 17.14