

BIRMINGHAM AL

Latitude = 33.57 N

Longitude = 86.75 W

Period of Record = 1973 to 1996

WMO No. 722280

Elevation = 630 feet

Average Pressure = 29.36 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	97	76	101	8.5	W
0.4% Occurrence	95	76	104	8.5	W
1.0% Occurrence	93	75	106	8.3	W
2.0% Occurrence	91	75	107	8.1	W
Mean Daily Range	21	-	-	-	-
97.5% Occurrence	28	26	16	5.5	N
99.0% Occurrence	22	20	11	6.4	N
99.6% Occurrence	18	16	9	6.2	N
Median of Extreme Lows	11	10	6	7.2	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	80	91	135	7.9	W
0.4% Occurrence	78	89	127	7.4	W
1.0% Occurrence	77	87	123	7.3	W
2.0% Occurrence	77	87	123	7.3	W
	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	153	84	1.00	6.7	ENE
0.4% Occurrence	134	83	0.88	6.2	S
1.0% Occurrence	130	82	0.85	5.9	S
2.0% Occurrence	127	81	0.82	6.3	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		91	1291	1129	2772

Other Site Data

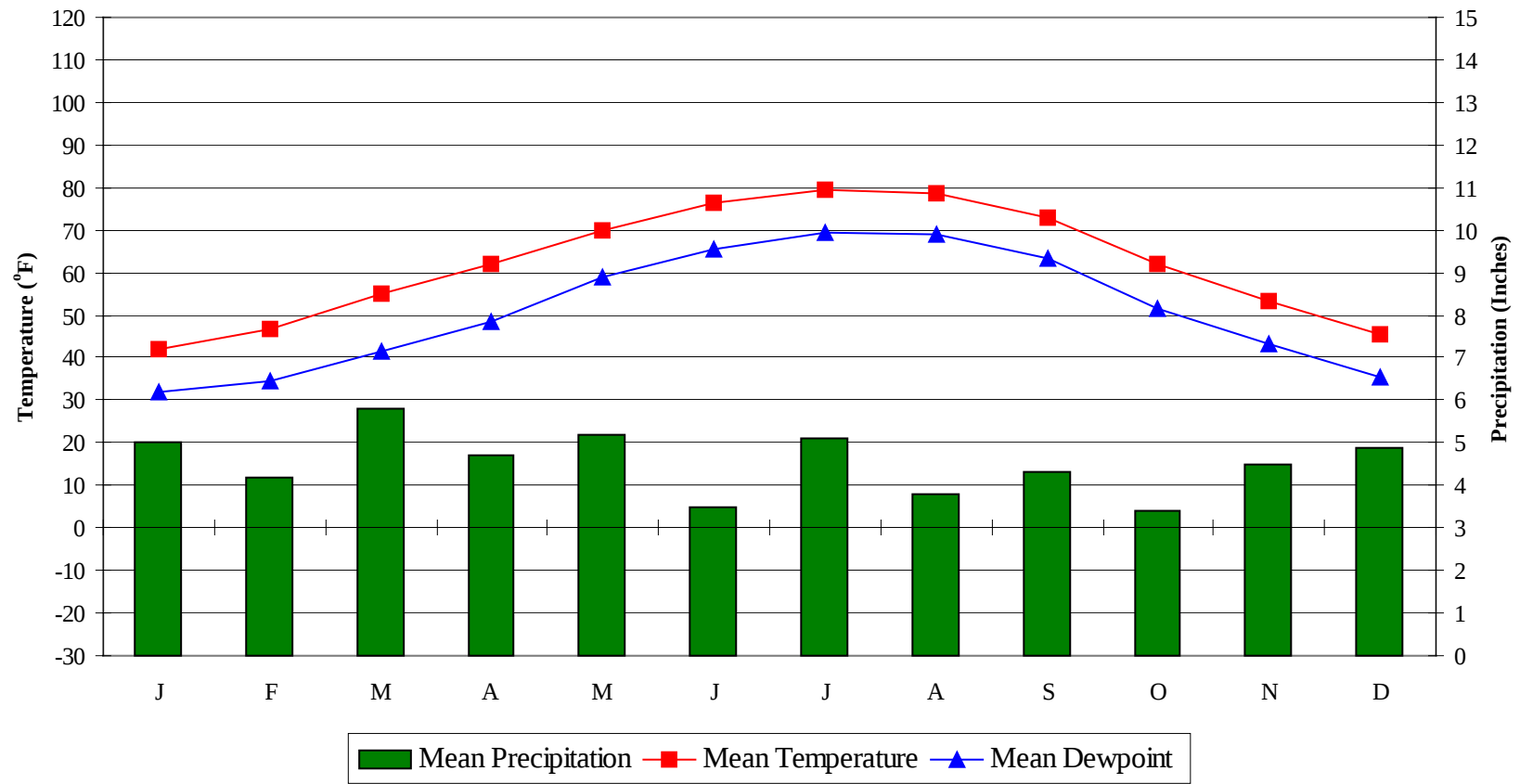
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
8	3.3	90	4.5 + 1.4
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
64.5	6	3	38

*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

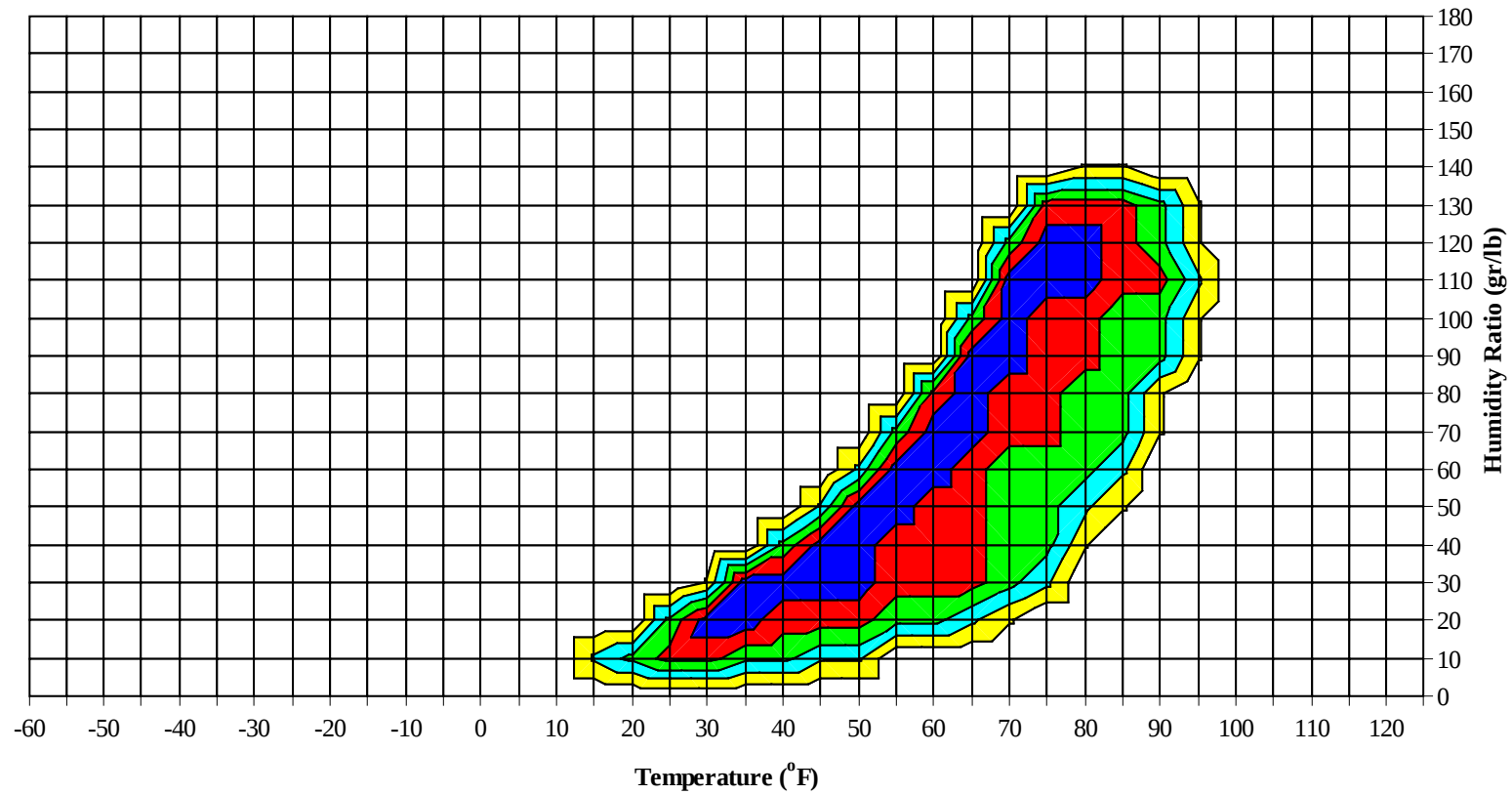


BIRMINGHAM

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WMO No. 722280

Long Term Psychrometric Summary

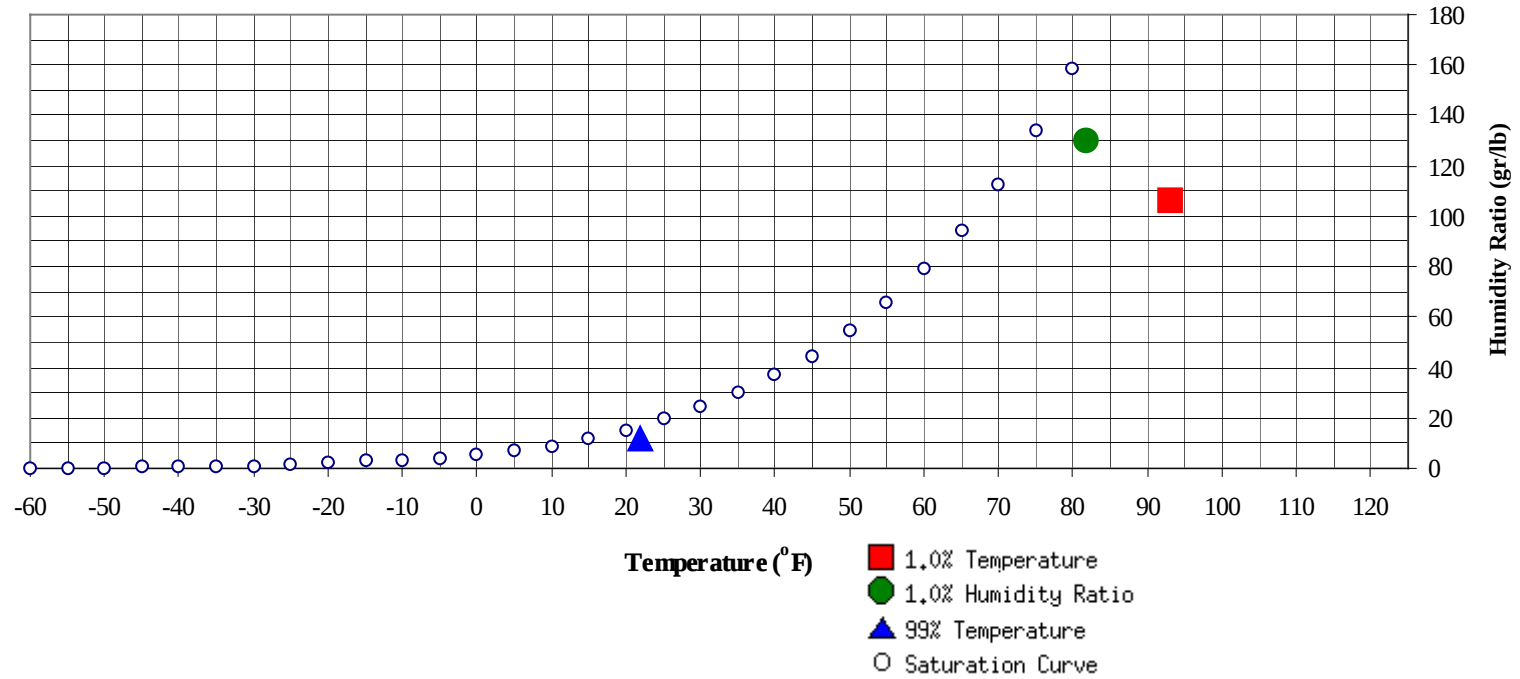


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
99% Dry Bulb	22	11.5	7.0		130.2	81.8	76.1	74	40.0

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	93	106.4	75.4	39.1

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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															
85 / 89												1	0	1	65.5
80 / 84							0	0	0	61.5		8	1	9	64.2
75 / 79		0	0	0	65.6		4	1	5	61.2	0	23	8	31	61.5
70 / 74		3	0	3	61.4	0	12	4	16	59.7	4	33	19	56	60.1
65 / 69	2	10	5	16	59.5	5	22	12	40	57.7	14	40	27	82	57.5
60 / 64	10	22	13	45	56.0	13	32	22	67	54.7	33	41	40	114	54.8
55 / 59	15	30	20	65	51.4	22	31	25	78	50.8	33	35	36	105	50.5
50 / 54	17	39	31	87	46.7	22	30	28	79	46.0	39	28	39	105	46.7
45 / 49	32	42	36	110	42.5	25	28	32	85	41.9	36	18	29	83	42.5
40 / 44	31	35	40	105	37.9	31	25	31	87	37.7	31	12	24	67	38.1
35 / 39	38	30	38	106	33.5	32	20	30	82	33.3	28	6	15	49	34.0
30 / 34	36	17	29	83	29.1	30	10	20	61	29.0	19	2	7	27	30.0
25 / 29	31	11	23	65	24.6	22	6	14	42	24.6	7	1	1	9	25.4
20 / 24	21	6	10	36	20.1	13	2	4	19	20.1	2	0	1	3	20.0
15 / 19	10	2	3	14	15.4	7	1	1	9	16.0	1	0	1	2	15.7
10 / 14	4	1	1	6	10.9	1	0	0	2	10.8	0	0	0	1	11.8
5 / 9	1	1	0	1	5.1	1	0	0	1	6.4	0			0	6.7
0 / 4	1	0	0	1	1.0										
-5 / -1	0		0	0	-3.3										
-10 / -6	0			0	-6.6										

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.

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WMO No. 722280

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															
100 / 104															
95 / 99												5	1	6	75.2
90 / 94		0		0	64.5		4	0	4	74.0		31	6	37	74.0
85 / 89		7	1	7	65.1	0	31	5	37	71.1	1	75	21	97	72.9
80 / 84		31	7	38	64.8	1	64	20	86	68.7	11	70	38	120	71.7
75 / 79	0	43	18	61	63.0	11	60	35	106	66.9	41	37	58	136	70.4
70 / 74	11	46	34	91	61.4	44	46	59	149	65.6	90	18	75	182	68.7
65 / 69	33	42	42	116	59.3	69	29	58	156	62.9	59	4	29	92	64.7
60 / 64	45	35	41	121	56.1	54	11	36	100	58.7	25	0	10	35	59.8
55 / 59	36	21	37	94	51.6	32	2	20	54	54.0	9		2	12	55.3
50 / 54	38	11	28	78	47.6	23	1	10	33	49.8	3		0	3	51.1
45 / 49	33	4	20	57	43.7	11		3	14	45.7	0			0	46.2
40 / 44	23	1	9	33	39.4	4		0	4	41.9					
35 / 39	15	0	3	18	35.3	0			0	37.3					
30 / 34	5		1	6	30.9										
25 / 29	1		0	1	27.2										
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															

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WMO No. 722280

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	77.4										
100 / 104		2	0	3	76.8		2		2	76.4					
95 / 99		16	3	19	76.2		10	1	11	75.6		4	0	4	73.5
90 / 94	0	59	13	72	76.0		52	8	60	75.3		19	2	21	73.6
85 / 89	3	80	29	112	75.1	1	87	26	114	74.7	0	49	9	59	72.8
80 / 84	21	55	49	126	74.0	15	64	48	127	73.5	3	62	23	88	71.2
75 / 79	72	26	85	183	72.6	61	25	79	166	72.4	23	51	48	123	69.8
70 / 74	122	8	62	191	70.1	122	7	71	201	69.8	81	32	75	187	68.1
65 / 69	24	0	6	31	65.9	39	1	11	52	65.4	57	12	39	109	63.8
60 / 64	6		1	7	61.3	8	0	2	10	60.7	37	6	24	67	59.0
55 / 59	0			0	57.6	1		0	2	56.1	23	3	13	39	54.6
50 / 54						0			0	53.7	11	0	5	16	50.0
45 / 49											5		1	6	45.8
40 / 44											1			1	42.0
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															

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WMO No. 722280

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															
95 / 99															
90 / 94		0		0	72.4										
85 / 89		7	0	7	69.8										
80 / 84	0	28	3	31	67.5		2		2	66.9					
75 / 79	2	49	11	63	64.9	0	16	1	17	64.2	0	1	0	1	67.3
70 / 74	17	55	31	103	63.5	3	29	11	43	62.6	1	9	3	13	64.2
65 / 69	34	48	41	123	60.6	17	44	26	87	60.2	7	19	11	37	60.7
60 / 64	42	33	48	124	56.7	34	41	34	109	56.6	16	29	22	67	56.5
55 / 59	41	18	40	99	53.1	27	36	33	97	51.3	20	36	25	80	51.4
50 / 54	38	7	35	80	48.8	29	31	36	96	46.8	24	44	30	97	46.3
45 / 49	35	1	25	61	44.7	33	21	34	88	42.6	25	38	35	99	42.1
40 / 44	24	1	11	36	40.4	34	13	30	76	38.7	34	32	39	104	38.2
35 / 39	13	1	2	15	36.0	30	5	23	57	34.7	34	21	35	90	33.7
30 / 34	2		0	3	32.2	21	1	11	33	30.2	38	10	29	77	29.3
25 / 29						12	0	2	14	26.4	28	4	15	47	24.9
20 / 24						1	0	0	1	21.4	12	2	5	19	20.4
15 / 19						0			0	16.2	4	1	2	7	15.3
10 / 14											2	1	1	3	10.3
5 / 9											1	0	1	2	5.4
0 / 4											1	0	0	1	2.0
-5 / -1															
-10 / -6															

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

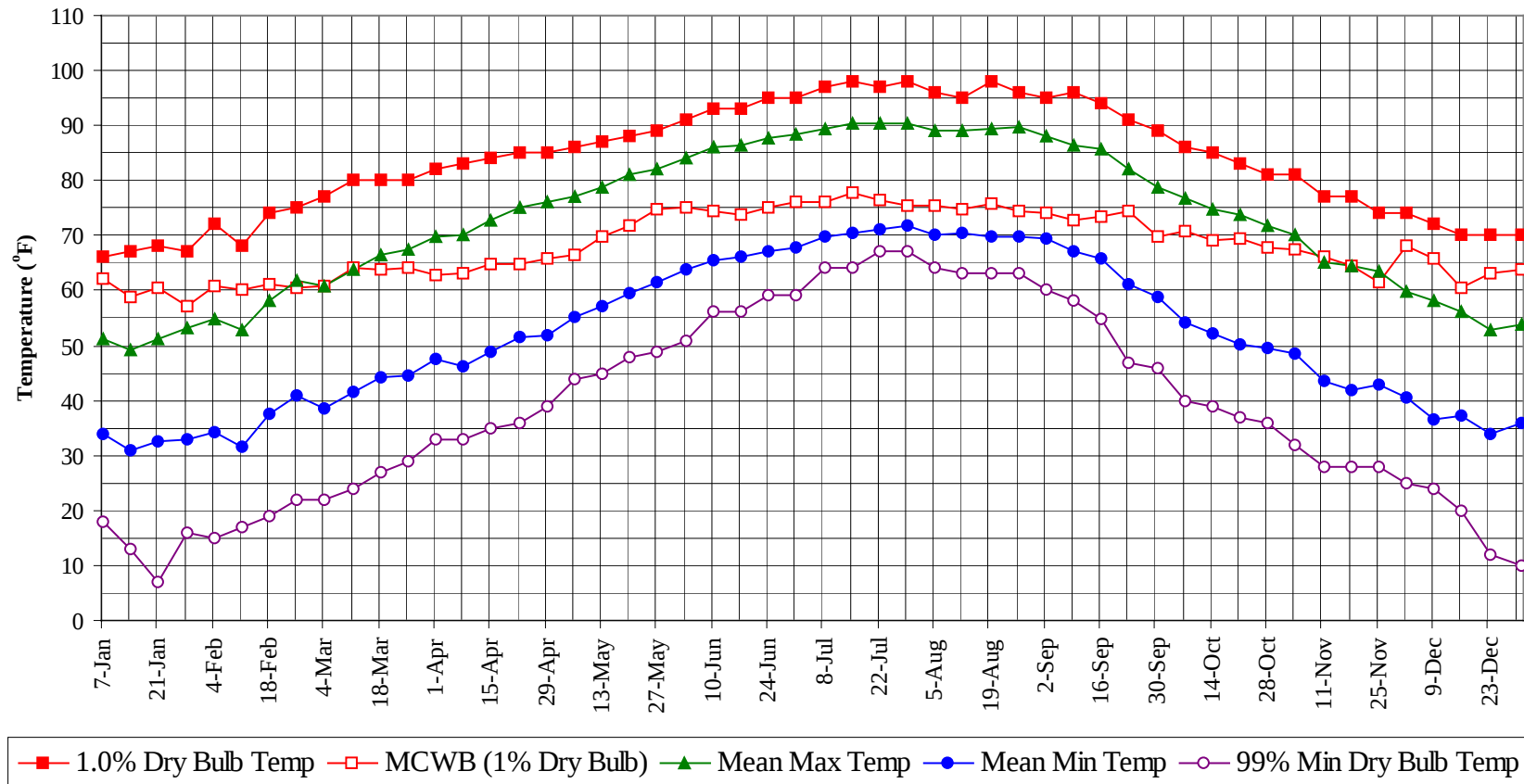
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
105 / 109		0		0	77.4
100 / 104		4	0	5	76.6
95 / 99		35	5	40	75.6
90 / 94	0	165	30	194	75.1
85 / 89	6	334	92	432	73.6
80 / 84	52	383	191	625	71.3
75 / 79	211	335	344	889	69.3
70 / 74	493	298	443	1234	66.9
65 / 69	360	273	307	940	61.6
60 / 64	323	250	294	866	56.8
55 / 59	261	213	252	726	51.9
50 / 54	244	191	241	676	47.2
45 / 49	236	153	215	604	42.8
40 / 44	214	118	183	515	38.4
35 / 39	190	83	146	418	33.9
30 / 34	152	40	98	290	29.4
25 / 29	101	22	54	177	24.9
20 / 24	49	10	19	78	20.2
15 / 19	23	3	6	32	15.6
10 / 14	7	2	2	11	10.8
5 / 9	2	1	1	4	5.5
0 / 4	2	0	0	2	1.5
-5 / -1	0		0	0	-3.3
-10 / -6	0			0	-6.6

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Annual Summary of Temperatures

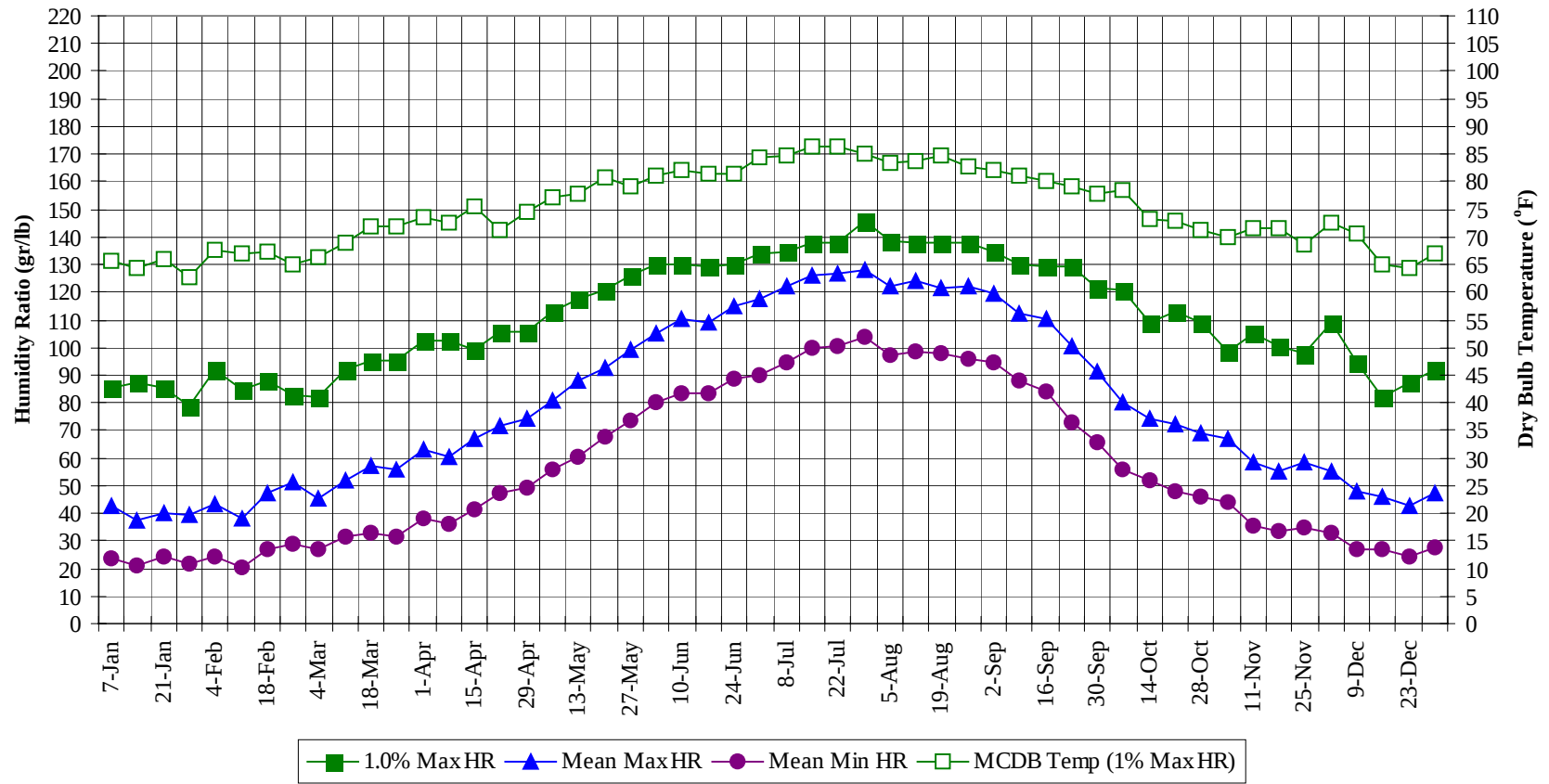


BIRMINGHAM

AL

WMO No. 722280

Long Term Humidity and Dry Bulb Temperature Summary



BIRMINGHAM**AL****WMO No. 722280****Long Term Dry Bulb Temperature and Humidity Summary**

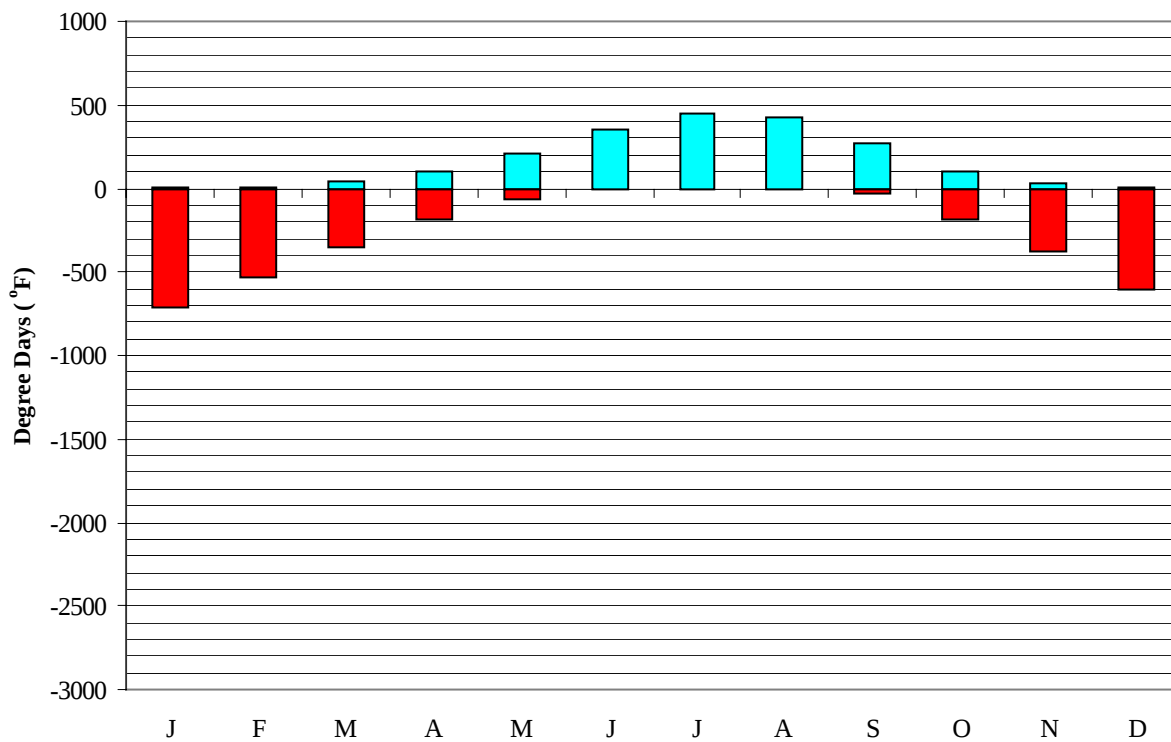
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	66.0	62.1	51.3	33.9	18.0	85.4	65.6	42.5	23.6
14-Jan	67.0	58.9	49.2	31.0	13.0	87.5	64.3	37.1	21.2
21-Jan	68.0	60.5	51.2	32.7	7.0	85.4	66.1	40.2	24.3
28-Jan	67.0	57.0	53.3	33.0	16.0	79.1	62.6	39.6	21.9
4-Feb	72.0	60.9	55.0	34.4	15.0	91.7	67.6	43.1	24.3
11-Feb	68.0	60.2	52.8	31.5	17.0	84.7	66.9	38.4	20.6
18-Feb	74.0	61.1	58.1	37.5	19.0	88.2	67.3	47.0	26.9
25-Feb	75.0	60.6	61.9	41.0	22.0	82.6	65.1	51.3	29.2
4-Mar	77.0	60.8	60.9	38.5	22.0	81.9	66.4	45.4	26.8
11-Mar	80.0	64.1	63.9	41.5	24.0	91.7	69.1	51.9	31.3
18-Mar	80.0	63.9	66.6	44.4	27.0	95.2	72.0	57.0	32.8
25-Mar	80.0	64.0	67.5	44.5	29.0	95.2	71.8	56.1	31.3
1-Apr	82.0	62.7	69.7	47.5	33.0	102.2	73.6	62.7	38.1
8-Apr	83.0	63.2	70.0	46.2	33.0	102.2	72.6	60.2	36.0
15-Apr	84.0	64.7	72.9	48.9	35.0	99.4	75.7	67.1	41.6
22-Apr	85.0	64.9	75.3	51.5	36.0	105.7	71.4	71.4	47.6
29-Apr	85.0	66.0	76.1	52.0	39.0	105.7	74.7	74.1	49.4
6-May	86.0	66.6	77.2	55.2	44.0	112.7	77.1	80.9	55.6
13-May	87.0	69.7	78.9	57.1	45.0	117.6	77.7	88.1	60.3
20-May	88.0	71.9	81.1	59.3	48.0	121.1	80.7	92.4	67.5
27-May	89.0	74.8	82.1	61.4	49.0	126.0	79.2	99.5	73.9
3-Jun	91.0	75.1	84.1	63.8	51.0	130.2	81.2	105.4	79.9
10-Jun	93.0	74.3	85.9	65.5	56.0	130.2	81.9	110.5	83.6
17-Jun	93.0	73.9	86.5	66.1	56.0	129.5	81.3	109.2	83.2
24-Jun	95.0	75.2	87.7	67.2	59.0	130.2	81.5	115.1	88.7
1-Jul	95.0	76.0	88.3	68.0	59.0	133.7	84.5	117.3	89.8
8-Jul	97.0	76.2	89.2	69.7	64.0	134.4	84.9	122.2	94.6
15-Jul	98.0	77.7	90.4	70.6	64.0	137.9	86.4	126.0	99.6
22-Jul	97.0	76.5	90.5	71.1	67.0	137.9	86.2	126.9	100.2
29-Jul	98.0	75.4	90.3	71.7	67.0	145.6	85.0	128.2	104.1
5-Aug	96.0	75.3	89.2	70.3	64.0	138.6	83.5	122.2	97.0
12-Aug	95.0	74.9	89.1	70.3	63.0	137.9	83.6	124.3	98.5
19-Aug	98.0	75.8	89.5	69.8	63.0	137.9	84.6	121.6	98.0
26-Aug	96.0	74.5	89.7	69.7	63.0	137.9	82.7	121.9	95.9
2-Sep	95.0	74.0	88.1	69.4	60.0	134.4	82.0	119.4	94.5
9-Sep	96.0	72.9	86.5	67.0	58.0	130.2	81.0	112.2	88.1
16-Sep	94.0	73.4	85.8	65.9	55.0	129.5	80.3	110.6	84.4
23-Sep	91.0	74.5	82.1	61.3	47.0	129.5	79.2	100.4	73.1
30-Sep	89.0	69.9	78.7	58.8	46.0	121.8	77.8	91.3	65.8
7-Oct	86.0	70.9	76.7	54.2	40.0	121.1	78.6	79.8	55.6
14-Oct	85.0	69.2	74.7	52.2	39.0	109.2	73.1	74.1	51.7
21-Oct	83.0	69.3	73.7	50.3	37.0	112.7	72.7	72.0	48.1
28-Oct	81.0	67.8	71.8	49.5	36.0	109.2	71.3	68.8	46.2
4-Nov	81.0	67.4	70.2	48.7	32.0	98.7	69.9	67.3	44.3
11-Nov	77.0	66.3	65.3	43.5	28.0	105.0	71.5	58.4	35.6
18-Nov	77.0	64.5	64.5	41.7	28.0	100.8	71.4	55.2	33.8
25-Nov	74.0	61.5	63.4	42.8	28.0	98.0	68.5	58.3	34.9
2-Dec	74.0	68.1	59.8	40.5	25.0	109.2	72.6	55.2	33.1
9-Dec	72.0	65.8	58.2	36.6	24.0	94.5	70.7	48.3	27.2
16-Dec	70.0	60.4	56.0	37.2	20.0	81.9	64.9	46.0	26.8
23-Dec	70.0	63.2	52.9	34.0	12.0	87.5	64.5	42.5	24.4
31-Dec	70.0	63.8	54.0	35.8	10.0	91.7	66.9	47.3	27.6

BIRMINGHAM

AL

WMO No. 722280

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



■ Mean Cooling Degree Days
 ■ Mean Heating Degree Days

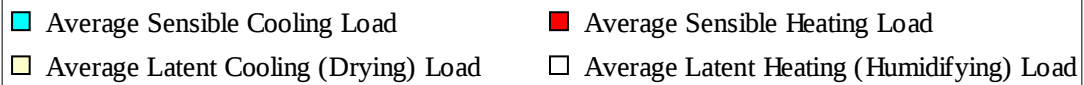
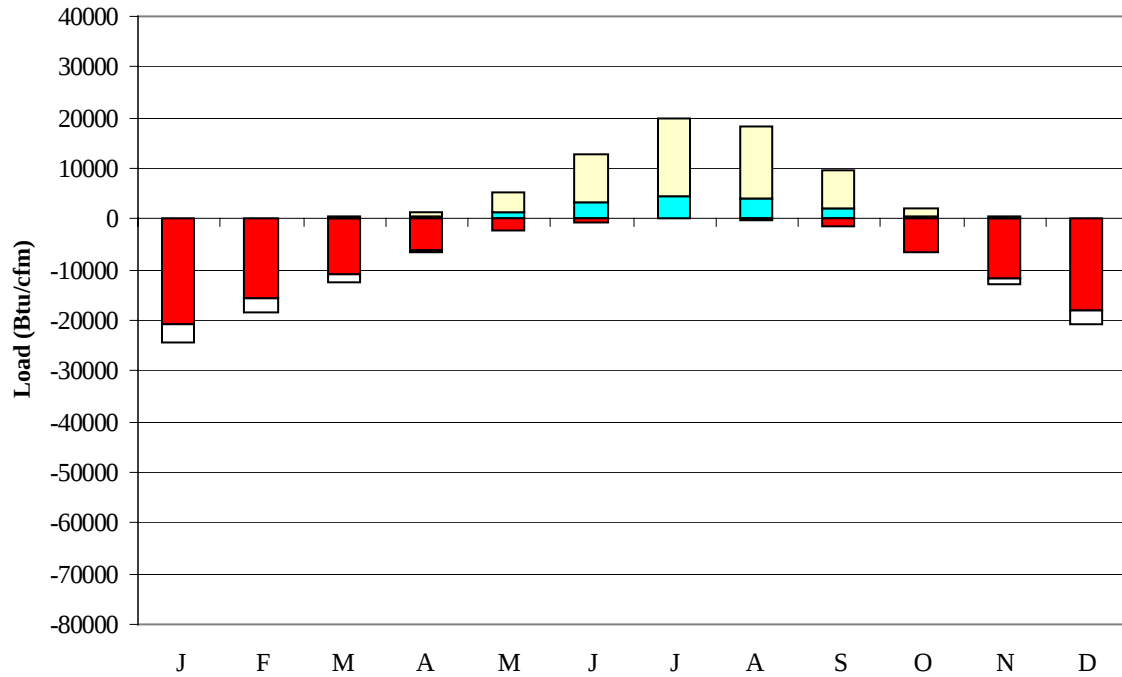
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	2	711
FEB	10	530
MAR	43	351
APR	97	189
MAY	206	61
JUN	351	9
JUL	453	1
AUG	426	2
SEP	269	34
OCT	96	190
NOV	27	373
DEC	7	607
ANN	1988	3058

BIRMINGHAM

AL

WMO No. 722280

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	0	-20798	43	-3657
FEB	10	-15788	85	-2813
MAR	120	-11057	230	-1434
APR	472	-6352	701	-400
MAY	1343	-2420	4093	-7
JUN	3166	-474	9565	0
JUL	4553	-59	15457	0
AUG	4122	-118	14081	0
SEP	2072	-1398	7546	0
OCT	413	-6452	1496	-139
NOV	37	-11659	487	-1196
DEC	1	-18034	169	-2832
ANN	16309	-94609	53953	-12478

Average Annual Solar Radiation – Nearest Available Site

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

City: BIRMINGHAM
 State: AL
 WBAN No: 13876
 Lat(N): 33.57
 Long(W): 86.75
 Elev(ft): 630

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1
 Overhang: 0.354
 Vert Gap: 0.271

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	810	1050	1380	1730	1900	1970	1870	1780	1510	1270	900	740	1410
	Std Dev	58	89	111	121	120	146	134	109	101	112	77	55	40
	Minimum	710	880	1170	1480	1690	1680	1670	1510	1260	1020	700	620	1330
	Maximum	950	1260	1640	1940	2170	2270	2160	2000	1710	1470	1020	840	1470
	Diffuse	380	470	600	720	850	920	930	850	700	500	400	350	640
Clear Day	Global	1180	1510	1930	2310	2520	2580	2510	2300	1970	1560	1210	1060	1890
NORTH	Global	240	300	370	460	560	630	590	500	410	330	260	220	410
	Diffuse	240	300	370	450	510	540	530	490	410	330	260	220	390
Clear Day	Global	220	270	340	440	590	680	630	490	390	310	240	210	400
EAST	Global	510	640	800	960	1030	1060	1020	1000	860	760	550	460	800
	Diffuse	290	350	450	550	620	650	640	610	510	410	310	260	470
Clear Day	Global	830	1010	1200	1330	1380	1370	1340	1270	1150	970	810	750	1120
SOUTH	Global	1080	1130	1070	930	740	670	690	840	1020	1250	1140	1060	970
	Diffuse	380	430	510	540	560	560	570	580	560	490	410	360	500
Clear Day	Global	2040	1970	1670	1210	870	730	790	1040	1430	1750	1910	1960	1450
WEST	Global	530	670	830	980	1030	1040	960	950	870	770	570	490	810
	Diffuse	290	360	460	550	630	660	640	610	520	410	320	270	480
Clear Day	Global	830	1010	1200	1330	1380	1370	1340	1270	1150	970	810	750	1120

Average Annual Solar Heat and Illumination – Nearest Available Site

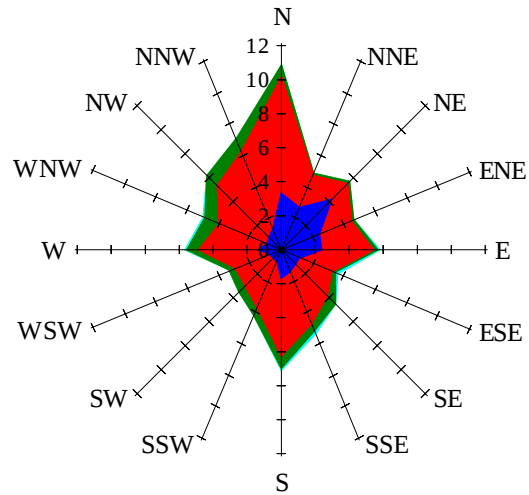
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	540	730	980	1250	1380	1440	1360	1290	1090	900	610	490	1010
NORTH	Unshaded	170	210	260	310	370	410	390	340	290	230	180	150	270
	Shaded	150	190	240	290	340	370	360	320	270	210	170	140	250
EAST	Unshaded	350	450	570	680	730	750	720	710	610	530	380	320	570
	Shaded	330	410	520	620	660	680	650	640	560	490	360	300	520
SOUTH	Unshaded	800	810	720	580	450	410	430	520	670	880	840	800	660
	Shaded	790	770	610	440	360	360	360	400	540	800	820	780	580
WEST	Unshaded	370	470	580	700	730	730	680	670	610	550	400	340	570
	Shaded	340	430	540	640	670	670	610	620	560	510	370	310	520

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	50	82	89	66	24	50	88	103	92	61
	M.Cloudy	28	51	57	41	15	34	61	76	72	45
NORTH	M.Clear	11	15	15	13	7	21	18	17	18	19
	M.Cloudy	11	17	18	14	7	16	19	19	19	17
EAST	M.Clear	79	53	15	13	7	74	68	25	18	16
	M.Cloudy	29	31	18	14	7	38	44	24	19	15
SOUTH	M.Clear	43	71	76	57	21	14	27	37	31	16
	M.Cloudy	19	38	43	31	10	13	24	31	28	15
WEST	M.Clear	11	15	31	73	63	14	18	17	57	74
	M.Cloudy	11	17	24	36	23	13	19	19	45	47
M.Clear	(% hrs)	35	32	31	32	35	44	42	28	29	34
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	35	74	90	78	42	27	54	57	34	3
	M.Cloudy	21	49	64	56	30	14	30	33	19	2
NORTH	M.Clear	10	16	17	17	12	8	11	12	9	2
	M.Cloudy	9	17	19	18	12	6	12	13	8	1
EAST	M.Clear	66	66	23	17	12	55	38	12	9	2
	M.Cloudy	25	38	22	18	12	14	19	13	8	1
SOUTH	M.Clear	23	55	69	58	29	54	87	90	63	6
	M.Cloudy	13	33	45	39	19	14	31	35	21	2
WEST	M.Clear	10	16	17	59	68	8	11	30	57	10
	M.Cloudy	9	17	19	40	35	6	12	18	19	3
M.Clear	(% hrs)	44	43	33	35	42	34	35	35	35	38

Wind Summary - December, January, and February

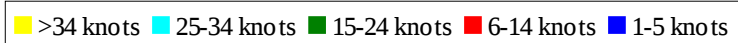
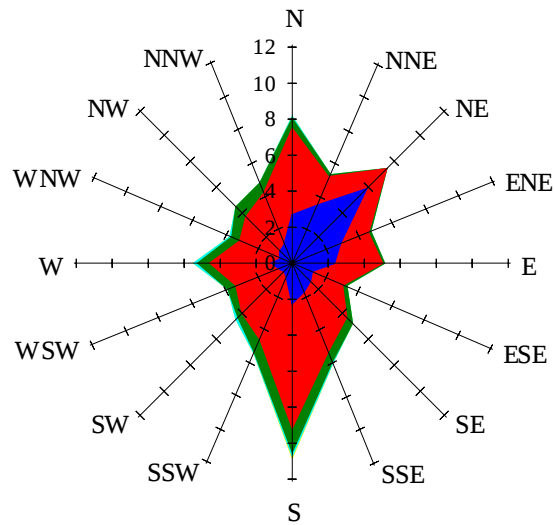
Labels of Percent Frequency on North Axis



Percent Calm = 13.88

Wind Summary - March, April, and May

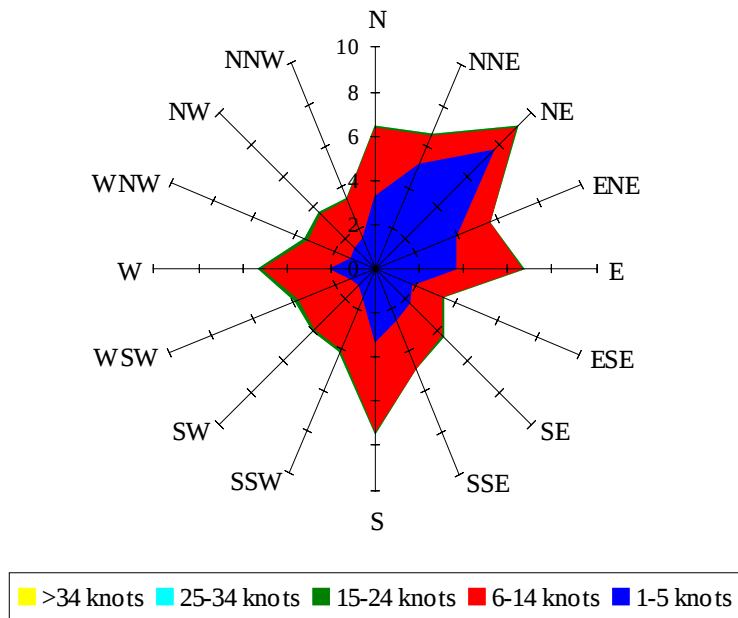
Labels of Percent Frequency on North Axis



Percent Calm = 13.53

Wind Summary - June, July, and August

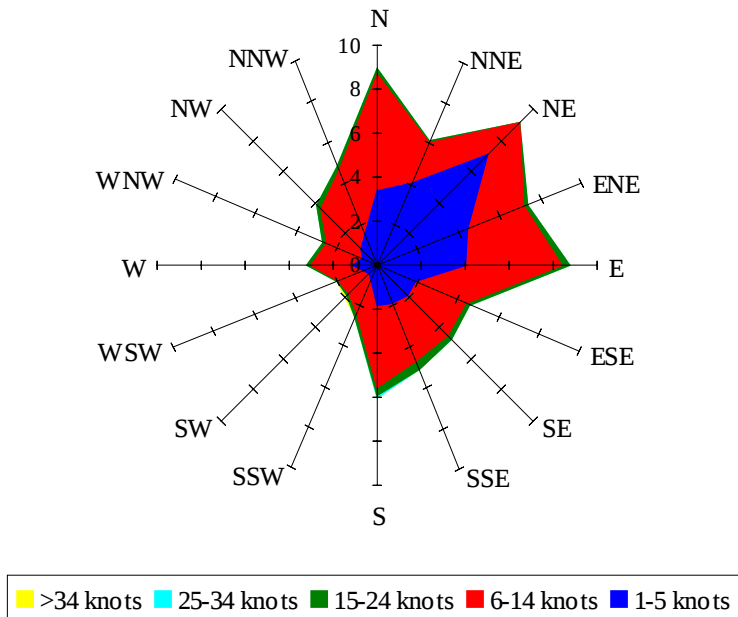
Labels of Percent Frequency on North Axis



Percent Calm = 18.43

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 18.30