

CINCINNATI/LUNKIN OH

Latitude = 39.10 N

WMO No. 724297

Longitude = 84.42 W

Elevation = 482 feet

Period of Record = 1973 to 1996

Average Pressure = 29.50 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	95	76	106	10.0	W
0.4% Occurrence	93	75	106	9.6	S
1.0% Occurrence	90	74	104	9.4	S
2.0% Occurrence	88	73	100	9.3	S
Mean Daily Range	19	-	-	-	-
97.5% Occurrence	17	15	9	8.0	W
99.0% Occurrence	10	9	6	8.1	W
99.6% Occurrence	4	3	5	8.3	W
Median of Extreme Lows	0	-1	4	7.9	W
	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	81	91	140	7.9	S
0.4% Occurrence	78	88	127	8.1	S
1.0% Occurrence	76	85	120	7.8	S
2.0% Occurrence	75	84	117	7.5	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	149	85	0.97	9.5	SW
0.4% Occurrence	133	83	0.88	4.8	S
1.0% Occurrence	126	81	0.82	6.4	S
2.0% Occurrence	121	80	0.79	6.6	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		37	814	526	1683

Other Site Data

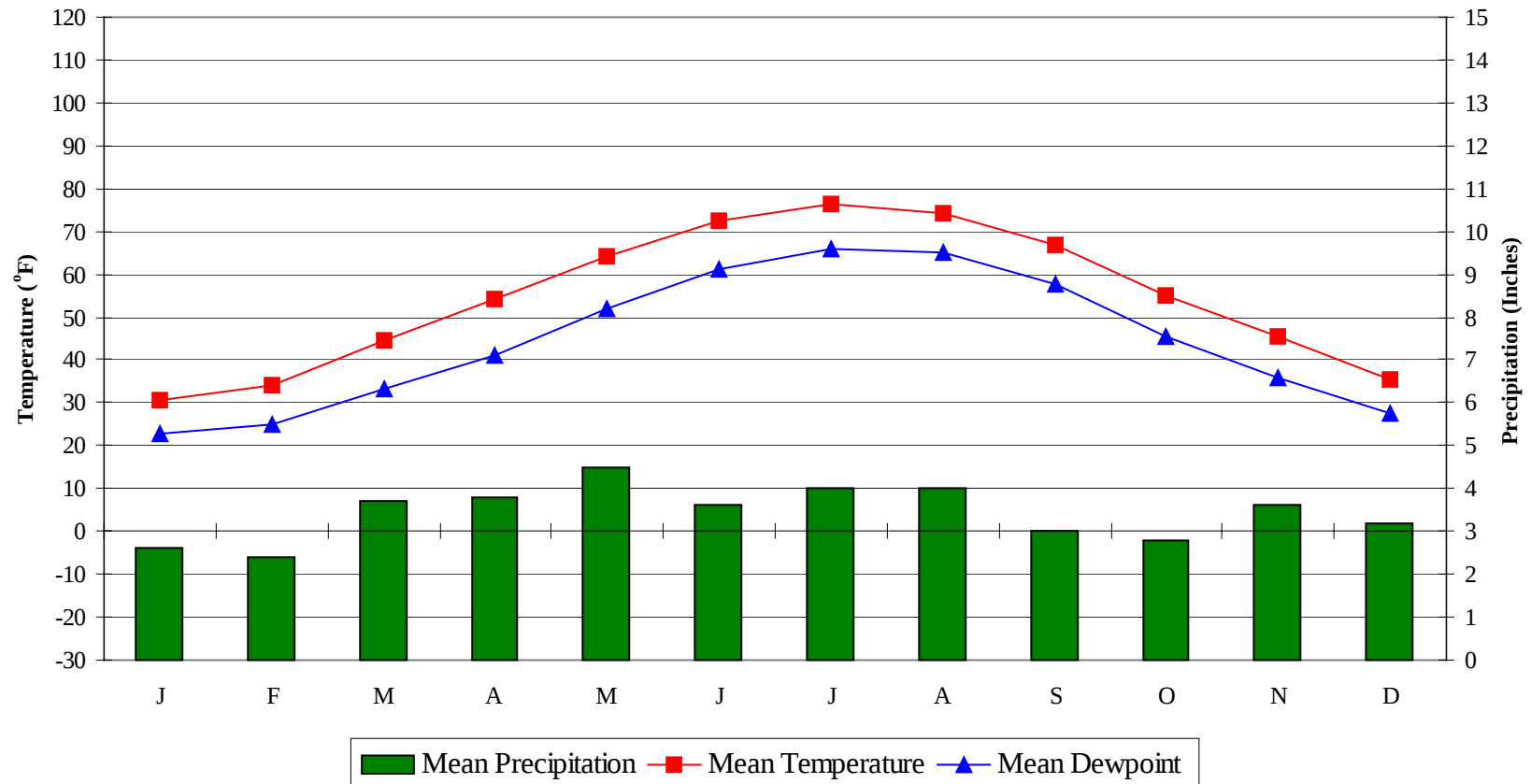
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
7	3.0	90	2.5 + 0.8
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
57.0	38	15	57

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

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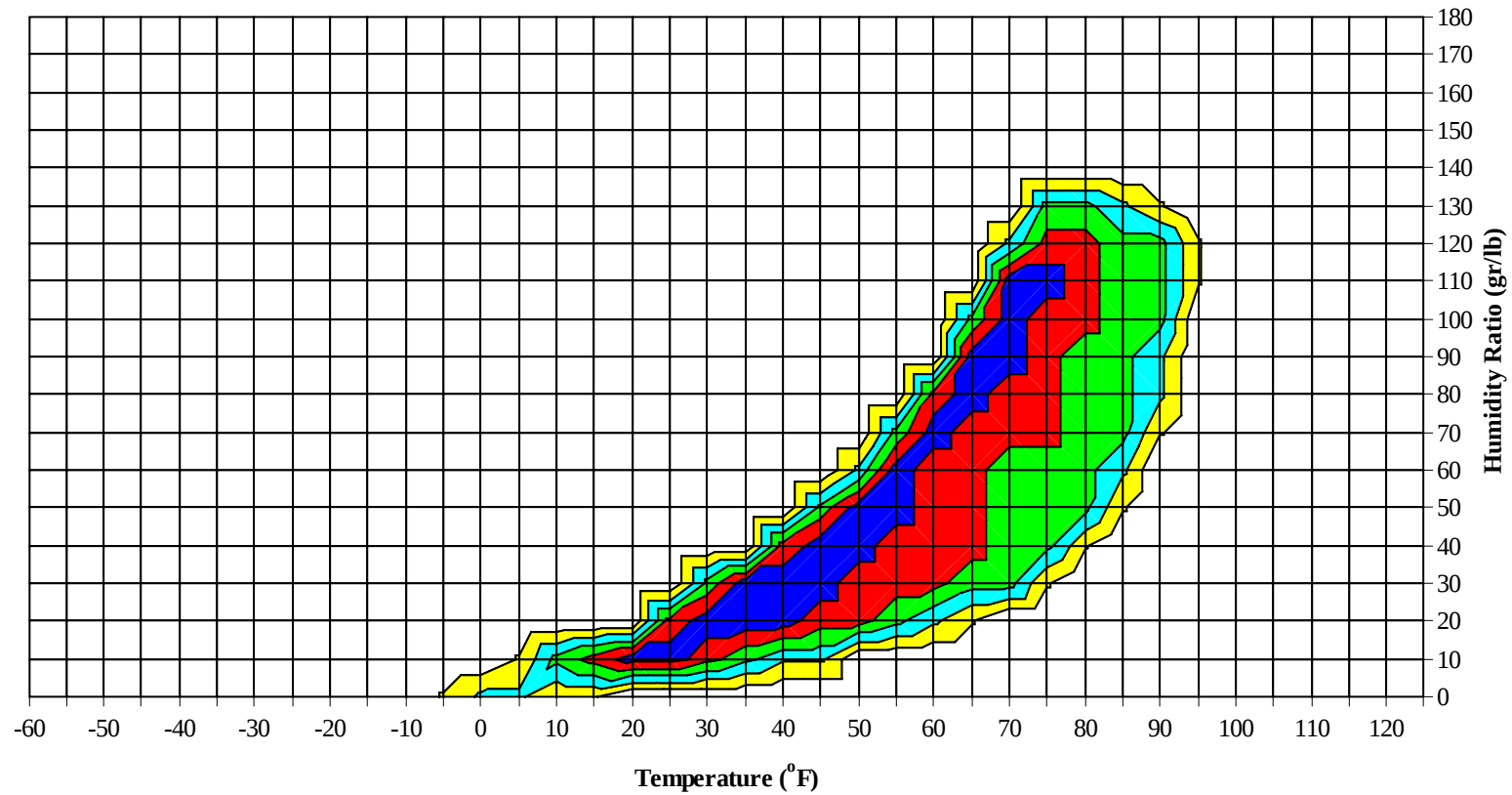
Average Annual Climate



CINCINNATI/LUNKIN OH

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Long Term Psychrometric Summary

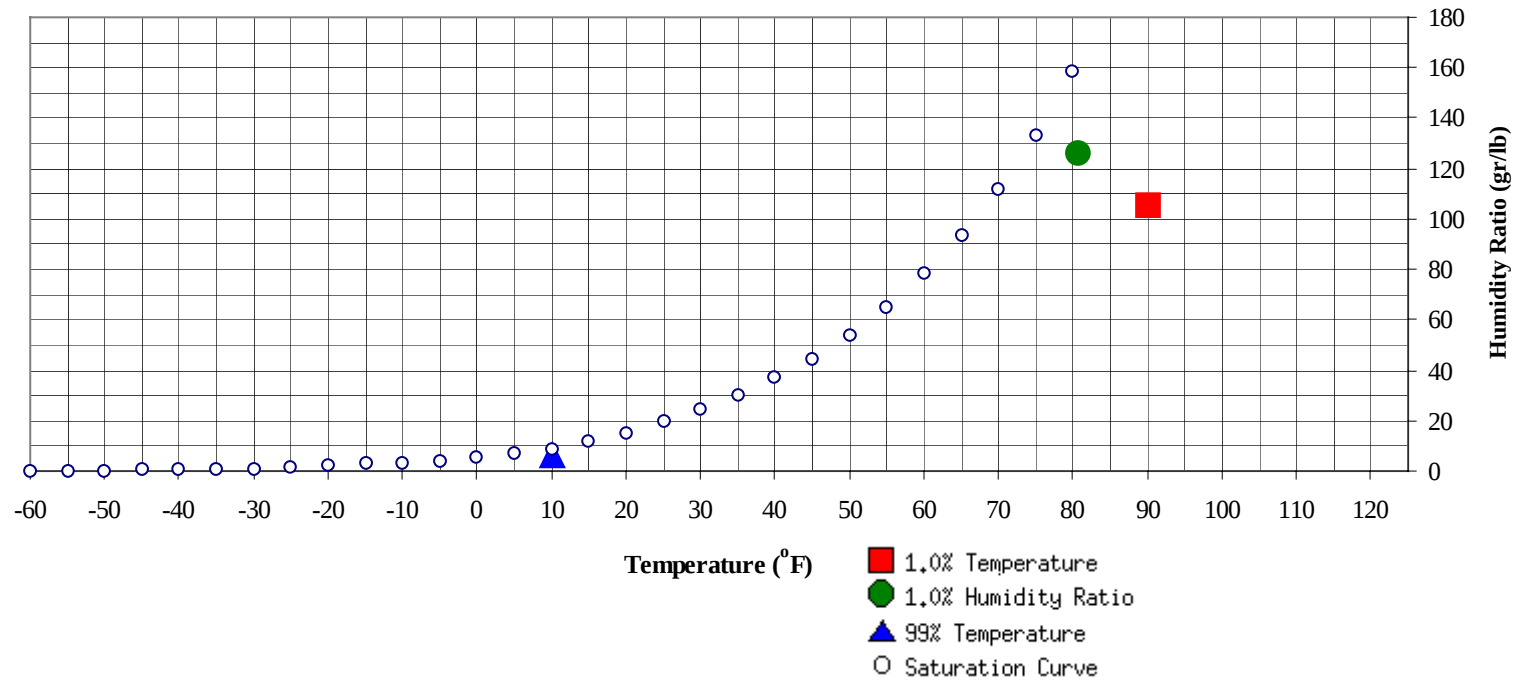


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values



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)
	10	6.3	3.4		126	80.8	75.3	73.1	39.1

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	90	105.1	74.5	38.1

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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		
100 / 104															
95 / 99															
90 / 94															
85 / 89												0		0	62.0
80 / 84												1	1	2	61.4
75 / 79												6	3	9	60.6
70 / 74		0		0	60.0		1	0	1	57.7	1	10	7	18	58.2
65 / 69	0	1	0	1	59.4	0	4	2	6	54.5	3	15	13	31	55.8
60 / 64	1	3	2	6	55.1	1	7	5	13	52.9	10	18	17	45	53.8
55 / 59	3	6	5	14	51.0	4	14	10	28	49.8	13	26	24	63	49.8
50 / 54	6	11	9	26	46.5	8	14	14	36	46.1	19	31	32	82	46.0
45 / 49	11	15	15	41	42.9	12	21	21	54	42.2	29	36	36	101	42.0
40 / 44	14	28	23	65	38.1	19	30	29	78	38.0	35	34	39	108	37.8
35 / 39	35	47	43	125	34.0	32	36	36	104	33.7	44	35	35	114	33.7
30 / 34	47	45	50	142	29.7	41	33	38	112	29.4	44	20	26	90	29.7
25 / 29	41	35	37	113	24.8	39	28	29	96	24.9	29	9	11	49	25.1
20 / 24	33	22	27	82	20.3	22	15	17	54	20.0	13	3	3	19	20.5
15 / 19	24	15	16	55	15.5	17	12	12	41	15.0	5	1	2	8	15.4
10 / 14	14	9	10	33	10.6	12	6	7	25	10.6	2	0	0	2	11.0
5 / 9	9	5	5	19	6.0	9	3	2	14	6.2	1	0	0	1	7.5
0 / 4	6	2	2	10	1.2	5	1	1	7	1.5	0	0	0	0	1.8
-5 / -1	2	1	1	4	-3.2	1	0	0	1	-2.6	0			0	-2.5
-10 / -6	2	1	1	4	-7.5	0	0		0	-6.8	0			0	-6.0
-15 / -11	1	1	1	3	-11.7										
-20 / -16	1	0		1	-16.5										
-25 / -21	0	0		0	-21.0										

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.

CINCINNATI/LUNKIN OH

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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	0	75.3
95 / 99												1	0	1	73.2
90 / 94			0	0	65.0		2	0	2	71.3		12	4	16	73.3
85 / 89		2	1	3	64.6		16	5	21	69.0	0	41	20	61	71.8
80 / 84		10	4	14	63.8		29	15	44	67.1	2	56	35	93	69.7
75 / 79		17	10	27	61.9	2	37	26	65	64.7	12	56	51	119	67.8
70 / 74	1	23	18	42	59.4	11	44	40	95	62.4	53	42	58	153	66.5
65 / 69	10	31	26	67	56.9	38	45	51	134	60.6	73	23	42	138	63.1
60 / 64	21	35	37	93	54.4	51	34	44	129	56.8	50	8	21	79	58.9
55 / 59	29	34	36	99	50.4	46	23	34	103	52.4	32	2	7	41	54.5
50 / 54	35	31	36	102	46.5	46	13	21	80	48.4	13	0	2	15	50.5
45 / 49	44	29	33	106	42.4	34	4	10	48	44.6	4		0	4	46.4
40 / 44	43	18	25	86	38.5	16	1	2	19	40.3	0			0	43.3
35 / 39	34	8	11	53	34.4	5	0	0	5	35.9					
30 / 34	18	2	3	23	30.0	0			0	31.8					
25 / 29	5	0	0	5	25.7										
20 / 24	0			0	21.5										
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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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		0	0	0	74.7		0	0	0	77.8					
95 / 99		6	2	8	76.1		3	1	4	76.4		0		0	74.0
90 / 94		30	12	42	75.4		22	7	29	75.6		6	1	7	74.2
85 / 89	0	58	32	90	73.3		48	22	70	73.2		21	7	28	71.7
80 / 84	7	61	51	119	71.4	2	60	40	103	71.2	0	33	18	51	69.8
75 / 79	36	54	65	155	70.3	23	57	61	141	70.0	5	47	33	85	67.6
70 / 74	90	31	57	178	68.6	80	39	69	189	68.5	32	48	48	128	66.0
65 / 69	66	6	23	95	64.6	70	14	31	115	64.5	50	39	48	137	62.6
60 / 64	35	1	6	42	60.0	45	3	14	63	60.1	43	26	38	107	58.3
55 / 59	12		1	13	55.8	22	0	2	24	55.7	43	14	28	85	54.1
50 / 54	2		0	2	51.3	5		0	5	51.5	39	5	13	57	50.1
45 / 49						1		0	1	46.4	19	1	4	24	45.9
40 / 44						0			0	43.3	7	0	1	8	41.4
35 / 39											2		0	2	37.3
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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CINCINNATI/LUNKIN OH

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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															
95 / 99															
90 / 94			0	0	71.0										
85 / 89		1	0	1	67.4										
80 / 84		7	1	8	66.4		1		1	61.9					
75 / 79	0	19	7	26	64.3		2	0	2	63.5		0		0	64.5
70 / 74	3	30	17	50	61.7	0	9	3	12	60.2		0	0	0	63.3
65 / 69	11	38	28	77	59.2	4	15	11	30	58.9	1	3	1	5	59.2
60 / 64	23	39	41	103	56.0	14	21	20	55	56.1	3	7	6	16	56.5
55 / 59	34	42	45	121	51.9	16	28	23	67	51.6	8	13	9	30	51.9
50 / 54	39	35	43	117	47.8	25	33	30	88	47.1	10	16	13	39	47.4
45 / 49	48	22	37	107	43.8	28	37	35	100	42.5	17	26	20	63	43.0
40 / 44	41	9	19	69	40.0	34	38	39	111	38.3	20	37	33	90	38.3
35 / 39	30	3	9	42	35.9	43	34	40	117	33.9	44	51	57	152	34.2
30 / 34	13	1	2	16	31.3	40	17	26	83	30.0	49	38	43	130	29.7
25 / 29	4		0	4	27.2	25	5	10	40	25.8	38	26	32	96	25.0
20 / 24	1			1	22.1	9	1	2	12	20.9	25	13	14	52	20.4
15 / 19						2	0	1	3	16.2	16	7	10	33	15.4
10 / 14						0	0	0	0	10.9	8	5	5	18	10.7
5 / 9						0			0	7.0	6	2	3	11	6.0
0 / 4											2	1	1	4	1.3
-5 / -1											1	1	0	2	-3.2
-10 / -6											1	1	0	2	-7.1
-15 / -11											0	0	0	0	-12.5
-20 / -16															
-25 / -21															

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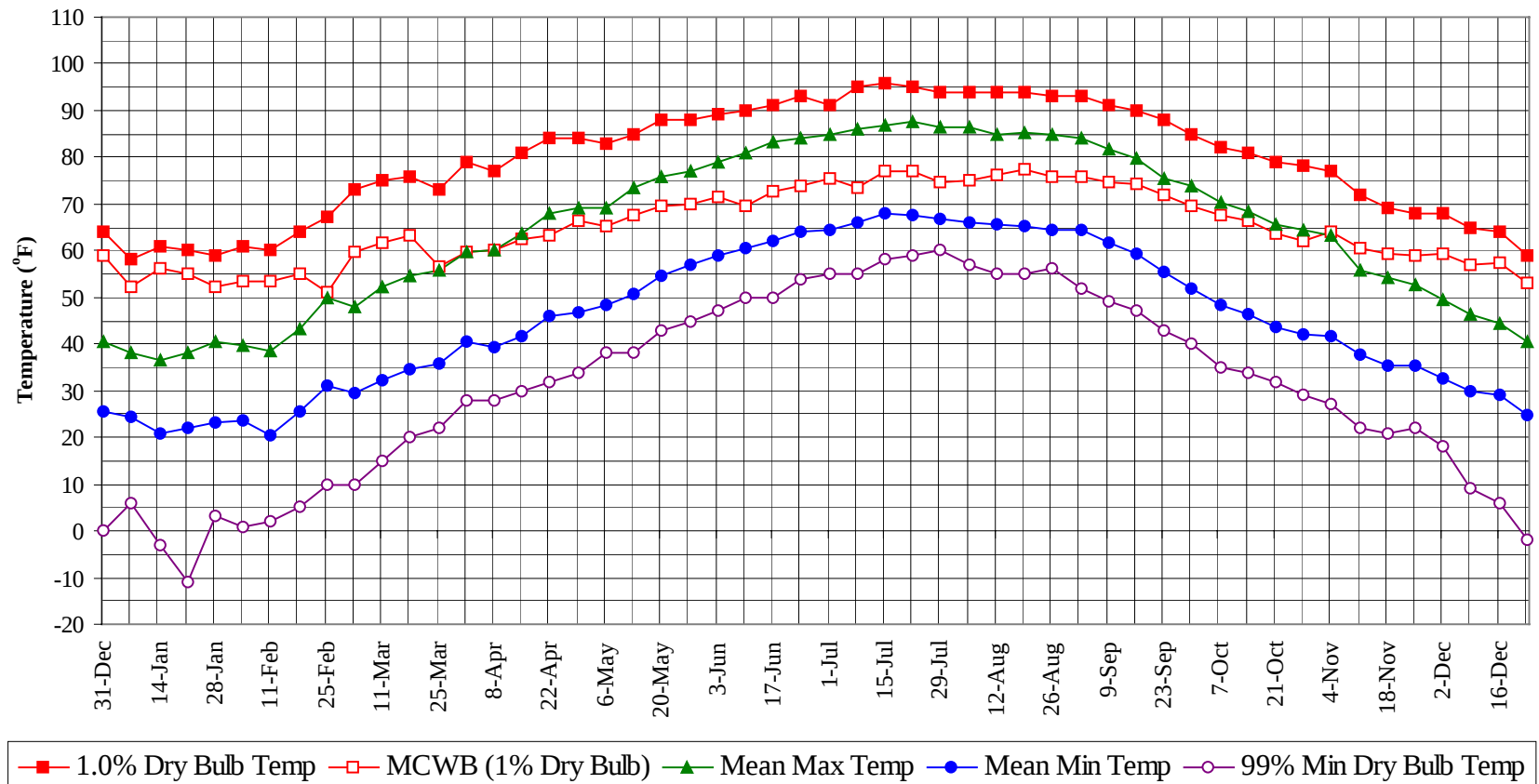
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

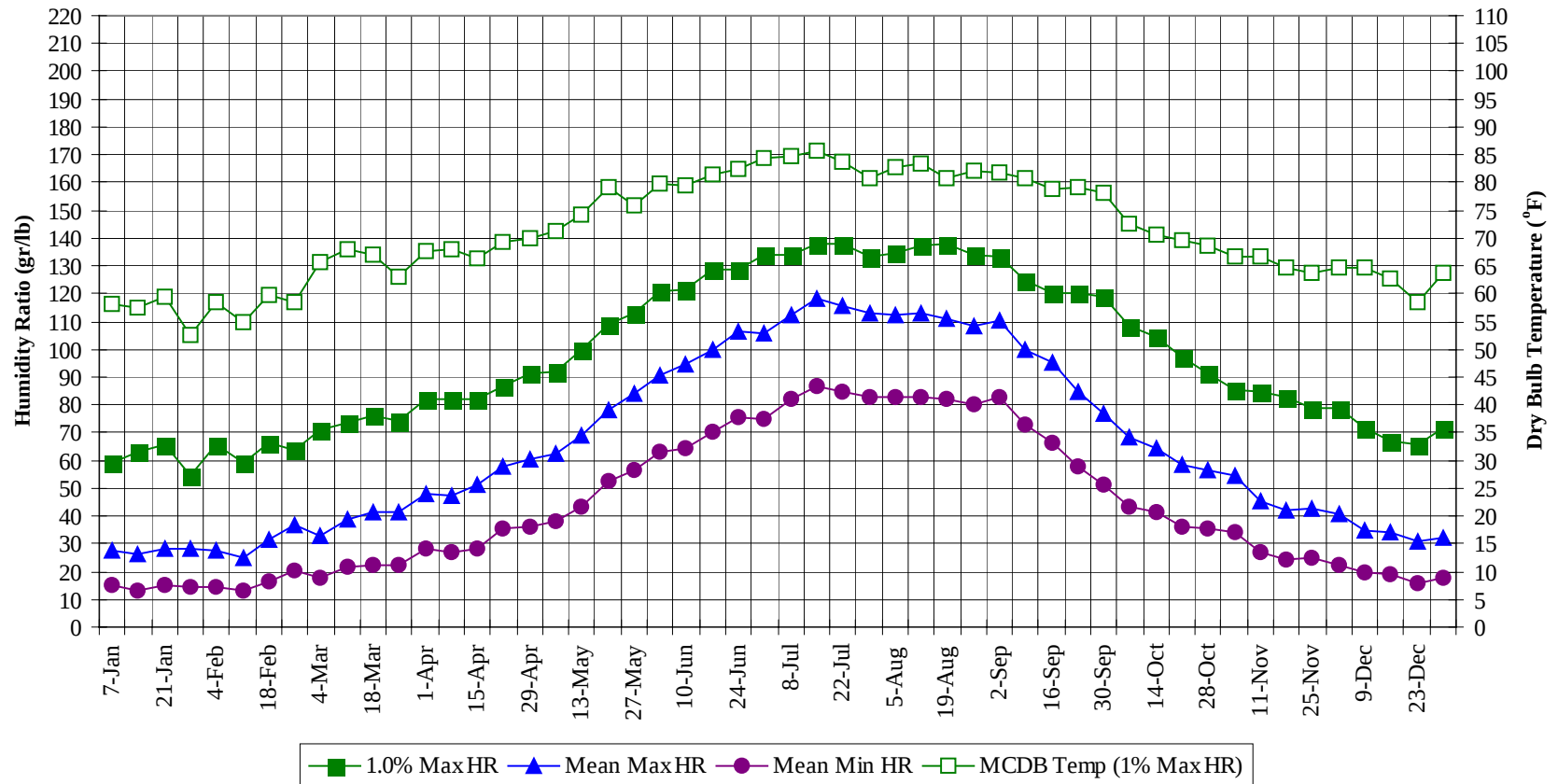
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104		1	0	1	76.3
95 / 99		11	3	14	76.0
90 / 94		71	24	95	74.9
85 / 89	0	187	86	273	72.3
80 / 84	11	257	166	434	70.0
75 / 79	77	294	255	626	68.0
70 / 74	271	276	317	864	65.9
65 / 69	323	233	276	832	61.6
60 / 64	299	203	251	753	57.0
55 / 59	262	203	224	689	52.1
50 / 54	246	189	213	648	47.5
45 / 49	246	192	211	649	43.0
40 / 44	229	196	211	636	38.5
35 / 39	268	214	231	713	34.1
30 / 34	252	157	189	598	29.7
25 / 29	183	104	119	406	25.0
20 / 24	103	56	64	223	20.3
15 / 19	64	36	41	141	15.4
10 / 14	37	20	22	79	10.7
5 / 9	26	10	10	46	6.1
0 / 4	13	4	5	22	1.3
-5 / -1	5	2	2	9	-3.1
-10 / -6	3	2	1	6	-7.3
-15 / -11	2	1	1	4	-11.8
-20 / -16	1	0		1	-16.5
-25 / -21	0	0		0	-21.0

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

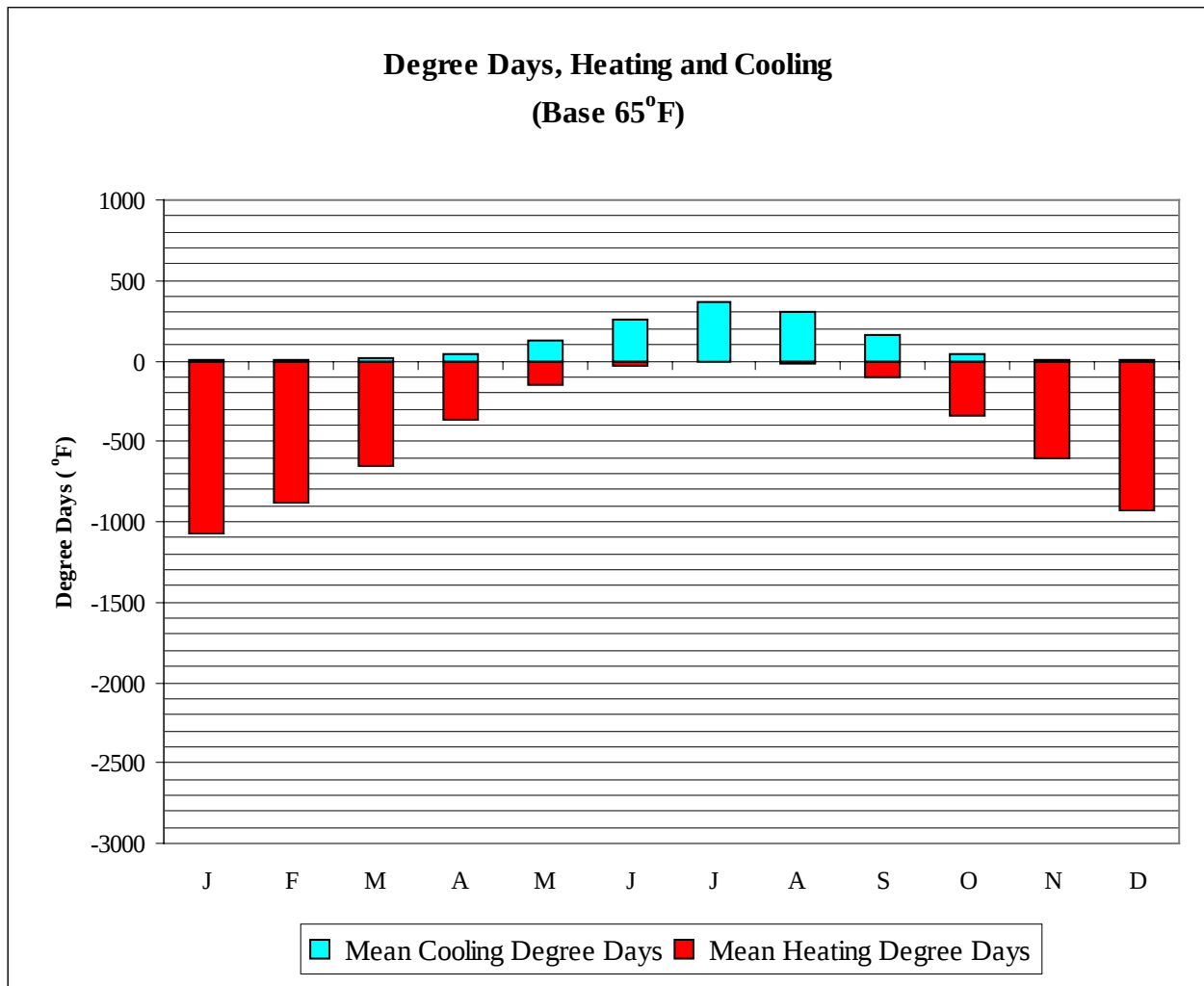


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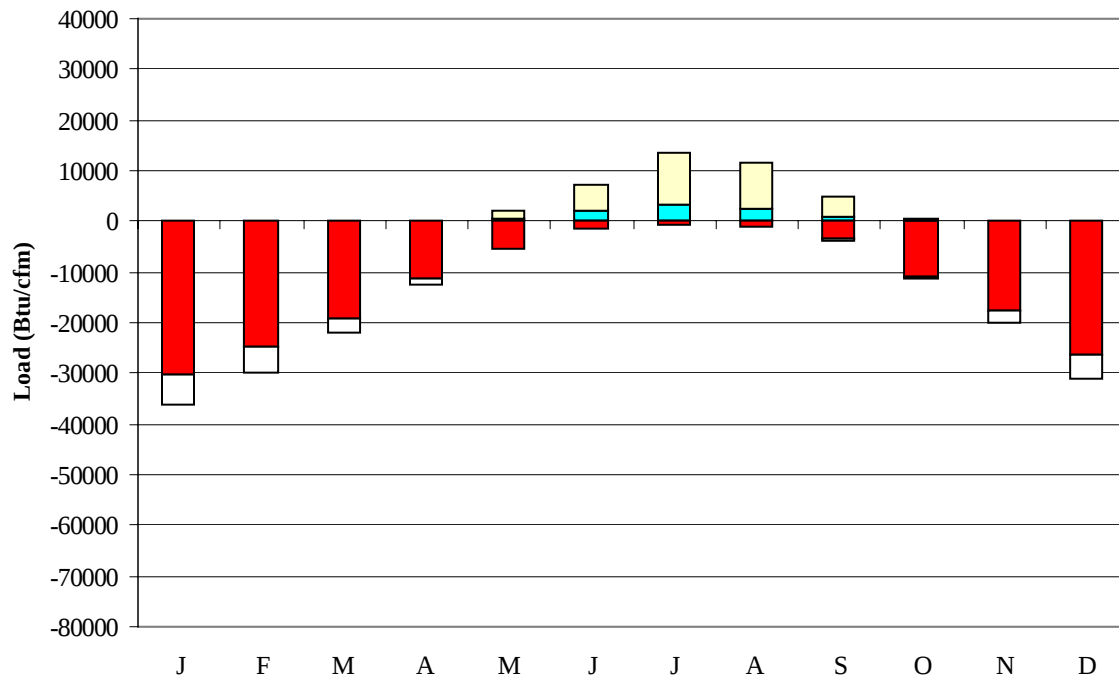
Long Term Dry Bulb Temperature and Humidity Summary

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	58.0	52.3	38.0	24.3	6.0	58.8	58.2	27.4	15.3
14-Jan	61.0	56.3	36.7	21.0	-3.0	63.0	57.3	26.1	13.0
21-Jan	60.0	54.9	37.9	21.9	-11.0	65.8	59.3	28.1	15.1
28-Jan	59.0	52.4	40.4	23.1	3.0	54.6	52.6	28.4	14.6
4-Feb	61.0	53.6	39.7	23.5	1.0	65.8	58.5	27.3	14.7
11-Feb	60.0	53.5	38.4	20.5	2.0	58.8	54.9	25.1	12.8
18-Feb	64.0	54.9	43.3	25.5	5.0	66.5	59.7	31.2	16.5
25-Feb	67.0	51.1	50.0	31.1	10.0	63.7	58.4	36.5	20.2
4-Mar	73.0	59.8	48.0	29.3	10.0	70.7	65.8	32.7	18.0
11-Mar	75.0	61.7	52.2	32.1	15.0	73.5	67.9	38.7	21.5
18-Mar	76.0	63.2	54.6	34.5	20.0	76.3	66.9	41.1	22.1
25-Mar	73.0	56.7	56.0	35.6	22.0	74.2	63.2	41.2	22.2
1-Apr	79.0	59.8	59.6	40.5	28.0	81.9	67.8	47.6	28.1
8-Apr	77.0	60.3	60.0	39.5	28.0	81.9	68.0	47.6	26.6
15-Apr	81.0	62.4	63.9	41.7	30.0	81.9	66.3	51.2	28.4
22-Apr	84.0	63.5	68.1	45.9	32.0	86.8	69.2	58.0	35.2
29-Apr	84.0	66.4	69.3	46.7	34.0	91.0	70.1	60.4	36.1
6-May	83.0	65.4	69.3	48.4	38.0	91.7	71.2	62.4	37.9
13-May	85.0	67.6	73.4	50.8	38.0	100.1	74.2	69.2	43.3
20-May	88.0	69.4	75.9	54.4	43.0	109.2	79.1	78.1	52.4
27-May	88.0	69.9	77.2	56.9	45.0	112.7	76.0	84.0	56.5
3-Jun	89.0	71.4	78.9	58.8	47.0	121.1	79.9	90.8	62.8
10-Jun	90.0	69.7	80.9	60.4	50.0	121.8	79.5	94.7	64.2
17-Jun	91.0	72.8	83.3	62.1	50.0	128.8	81.4	99.9	70.5
24-Jun	93.0	73.9	84.0	64.1	54.0	128.8	82.3	106.4	75.5
1-Jul	91.0	75.4	84.8	64.3	55.0	133.7	84.4	105.7	75.0
8-Jul	95.0	73.3	86.2	66.0	55.0	133.7	84.6	112.1	81.8
15-Jul	96.0	77.0	87.0	67.9	58.0	137.9	85.6	118.5	86.4
22-Jul	95.0	77.1	87.8	67.6	59.0	137.9	83.9	115.6	84.8
29-Jul	94.0	74.8	86.4	66.9	60.0	133.0	80.8	113.3	82.9
5-Aug	94.0	75.2	86.3	66.0	57.0	134.4	82.9	112.0	82.8
12-Aug	94.0	76.3	85.0	65.8	55.0	137.2	83.5	112.7	82.9
19-Aug	94.0	77.3	85.1	65.4	55.0	137.9	80.8	110.9	82.1
26-Aug	93.0	75.8	84.7	64.5	56.0	133.7	82.0	108.1	80.0
2-Sep	93.0	75.7	84.1	64.4	52.0	133.0	81.6	110.3	82.5
9-Sep	91.0	74.7	81.9	61.7	49.0	124.6	80.8	99.9	72.8
16-Sep	90.0	74.3	79.7	59.4	47.0	120.4	78.7	95.5	66.2
23-Sep	88.0	71.9	75.6	55.4	43.0	120.4	79.3	84.7	57.6
30-Sep	85.0	69.5	73.8	51.8	40.0	119.0	78.0	76.6	51.0
7-Oct	82.0	67.7	70.4	48.5	35.0	108.5	72.7	68.2	43.1
14-Oct	81.0	66.6	68.4	46.5	34.0	104.3	70.6	64.4	41.6
21-Oct	79.0	63.5	65.6	43.8	32.0	97.3	69.7	58.6	36.1
28-Oct	78.0	62.1	64.5	42.3	29.0	91.0	68.7	56.6	35.2
4-Nov	77.0	63.9	63.1	41.8	27.0	85.4	66.7	54.4	33.8
11-Nov	72.0	60.7	55.9	37.6	22.0	84.7	66.6	45.5	27.1
18-Nov	69.0	59.4	54.3	35.3	21.0	82.6	64.9	41.8	24.0
25-Nov	68.0	58.8	52.7	35.4	22.0	79.1	63.7	42.6	25.1
2-Dec	68.0	59.5	49.4	32.7	18.0	79.1	64.8	40.7	22.2
9-Dec	65.0	56.9	46.3	29.8	9.0	71.4	64.6	35.1	19.6
16-Dec	64.0	57.4	44.4	29.0	6.0	67.2	62.7	33.9	19.3
23-Dec	59.0	52.9	40.6	24.8	-2.0	65.8	58.4	30.7	15.8
31-Dec	64.0	59.1	40.7	25.7	0.0	71.4	63.7	32.3	17.5



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1073
FEB	1	875
MAR	13	647
APR	42	363
MAY	120	150
JUN	254	33
JUL	361	9
AUG	308	17
SEP	158	97
OCT	38	344
NOV	7	601
DEC	1	924
ANN	1303	5133

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	Average Sensible Heating Load	Average Latent Cooling Load	Average Latent Heating Load
	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)
JAN	0	-30215	0	-6062
FEB	0	-24869	1	-4981
MAR	30	-19030	9	-3076
APR	190	-11336	73	-1166
MAY	723	-5325	1469	-151
JUN	1966	-1465	5463	-6
JUL	3262	-502	10165	0
AUG	2511	-869	9045	0
SEP	1005	-3607	3786	-13
OCT	112	-10907	436	-512
NOV	7	-17824	32	-2295
DEC	0	-26343	2	-4602
ANN	9806	-152292	30481	-22864

Average Annual Solar Radiation – Nearest Available Site

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

City: COVINGTON
 State: KY
 WBAN No: 93814
 Lat(N): 39.07
 Long(W): 84.67
 Elev(ft): 889

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.507
 Vert Gap: 0.316

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	610	860	1150	1510	1800	1970	1900	1740	1420	1050	660	510	1270
	Std Dev	48	66	85	150	137	114	112	92	92	73	60	47	38
	Minimum	520	740	980	1210	1520	1790	1680	1550	1270	880	530	430	1190
	Maximum	730	1040	1290	1830	2080	2390	2100	1900	1640	1260	810	610	1380
	Diffuse	350	460	600	730	830	880	860	770	620	460	360	310	600
Clear Day	Global	930	1280	1750	2220	2520	2620	2540	2270	1860	1380	980	820	1770
NORTH	Global	200	270	350	440	550	620	590	490	390	290	220	180	380
	Diffuse	200	270	350	430	500	540	520	470	380	290	220	180	360
Clear Day	Global	190	250	330	430	580	680	620	480	360	280	200	170	380
EAST	Global	400	540	690	890	1020	1080	1070	1000	850	660	420	330	750
	Diffuse	250	330	430	520	600	640	630	580	480	360	260	210	440
Clear Day	Global	690	890	1140	1330	1420	1450	1410	1330	1150	930	700	620	1090
SOUTH	Global	880	980	970	920	820	770	800	940	1080	1140	870	750	910
	Diffuse	350	420	490	540	570	580	580	570	530	450	350	310	480
Clear Day	Global	1900	1950	1780	1400	1060	900	960	1220	1580	1830	1840	1820	1520
WEST	Global	400	540	690	860	980	1080	1050	1000	850	650	420	330	740
	Diffuse	250	330	430	530	600	650	640	580	480	360	260	210	450
Clear Day	Global	690	890	1140	1330	1420	1450	1410	1330	1150	930	700	620	1090

Average Annual Solar Heat and Illumination – Nearest Available Site

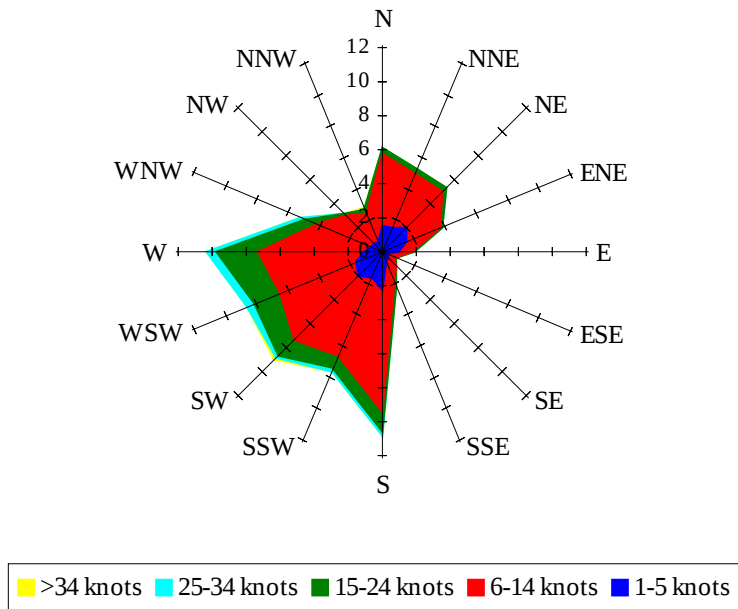
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	400	590	810	1090	1300	1430	1380	1260	1010	730	440	330	900
NORTH	Unshaded	140	190	240	300	360	410	390	330	270	200	150	120	260
	Shaded	120	170	220	270	320	360	350	300	240	180	130	110	230
EAST	Unshaded	270	380	490	630	730	770	760	710	600	470	290	230	530
	Shaded	240	330	430	540	630	660	650	620	530	410	260	200	460
SOUTH	Unshaded	660	720	670	600	510	470	490	590	730	820	650	570	620
	Shaded	640	660	540	410	350	360	360	390	530	720	620	550	510
WEST	Unshaded	280	370	490	610	700	770	750	710	600	460	290	230	520
	Shaded	250	330	420	530	600	660	650	620	530	410	260	200	450

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	27	64	81	72	39	34	75	98	99	77
	M.Cloudy	15	37	48	43	23	22	49	70	72	55
NORTH	M.Clear	8	13	15	14	10	21	16	17	17	16
	M.Cloudy	6	14	17	15	9	13	16	19	19	17
EAST	M.Clear	65	66	23	14	10	67	78	46	17	16
	M.Cloudy	17	29	19	15	9	28	44	35	19	17
SOUTH	M.Clear	26	64	82	72	39	10	24	43	45	27
	M.Cloudy	10	29	38	34	17	9	20	34	35	23
WEST	M.Clear	8	13	15	56	73	10	16	17	38	73
	M.Cloudy	6	14	17	29	26	9	16	19	32	47
M.Clear	(% hrs)	28	25	25	22	22	38	40	33	28	31
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	15	57	82	82	58	6	35	48	36	8
	M.Cloudy	9	34	55	56	37	4	19	26	21	5
NORTH	M.Clear	6	13	16	16	13	3	9	11	9	4
	M.Cloudy	4	13	17	18	13	2	8	11	9	3
EAST	M.Clear	44	74	43	16	13	23	45	12	9	4
	M.Cloudy	14	32	30	18	13	5	15	11	9	3
SOUTH	M.Clear	10	47	71	72	48	18	70	88	72	22
	M.Cloudy	5	23	42	44	27	4	20	27	23	6
WEST	M.Clear	6	13	16	40	72	3	9	11	44	27
	M.Cloudy	4	13	17	29	36	2	8	11	16	7
M.Clear	(% hrs)	43	45	38	35	38	24	24	21	22	22

Wind Summary - December, January, and February

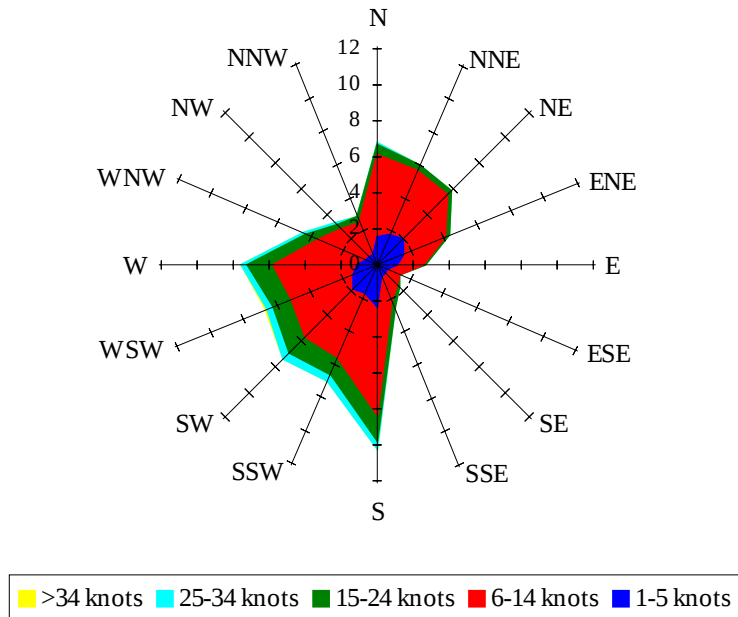
Labels of Percent Frequency on North Axis



Percent Calm = 16.69

Wind Summary - March, April, and May

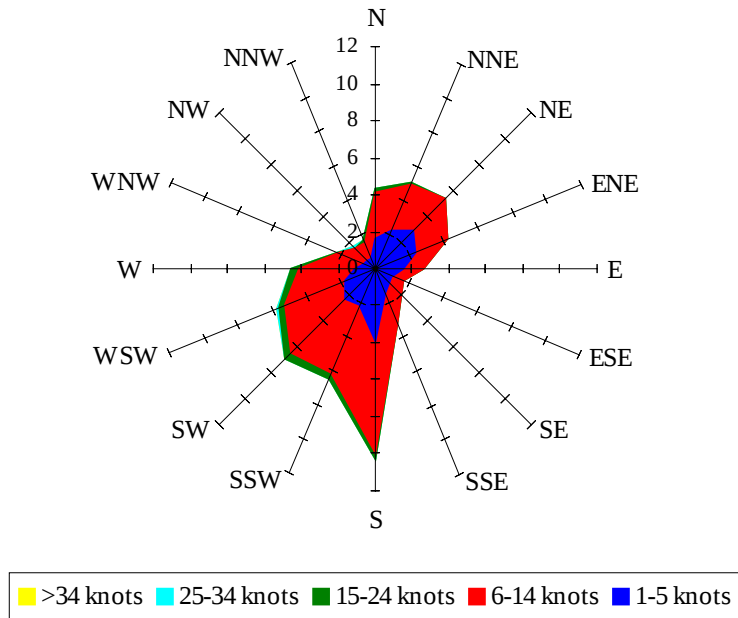
Labels of Percent Frequency on North Axis



Percent Calm = 20.38

Wind Summary - June, July, and August

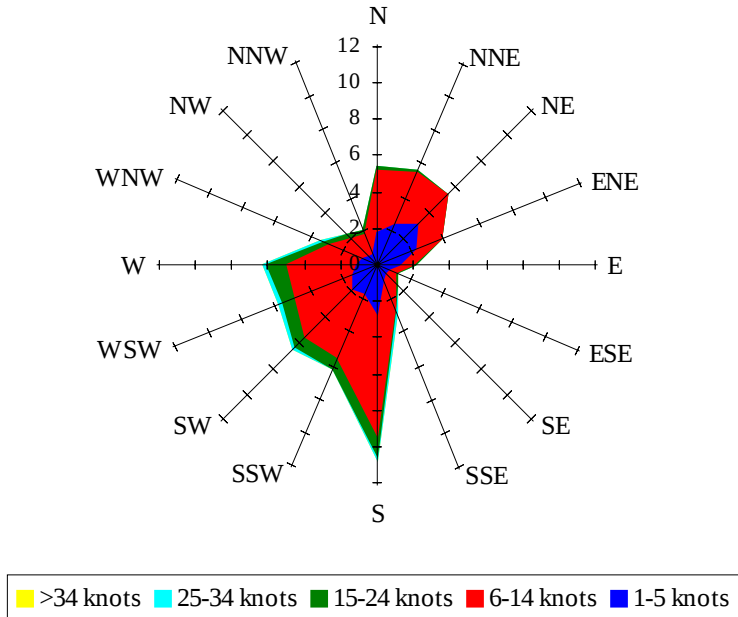
Labels of Percent Frequency on North Axis



Percent Calm = 31.97

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 29.42