

INDIANAPOLIS IN

Latitude = 39.73 N

Longitude = 86.27 W

Period of Record = 1973 to 1996

WMO No. 724380

Elevation = 807 feet

Average Pressure = 29.15 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	94	77	114	10.5	WSW
0.4% Occurrence	91	76	114	10.3	SW
1.0% Occurrence	89	75	111	10.1	SW
2.0% Occurrence	87	74	107	9.9	SW
Mean Daily Range	18	-	-	-	-
97.5% Occurrence	11	10	7	9.5	W
99.0% Occurrence	3	2	5	9.5	W
99.6% Occurrence	-3	-4	3	8.2	W
Median of Extreme Lows	-8	-8	3	9.5	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	90	146	9.4	SW
0.4% Occurrence	78	87	132	9.7	SW
1.0% Occurrence	77	86	128	9.5	SW
2.0% Occurrence	76	84	125	9.2	SW
	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	151	86	0.97	7.7	SW
0.4% Occurrence	139	84	0.90	8.0	SW
1.0% Occurrence	131	82	0.85	8.7	SW
2.0% Occurrence	126	81	0.82	8.2	SW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		21	721	513	1564

Other Site Data

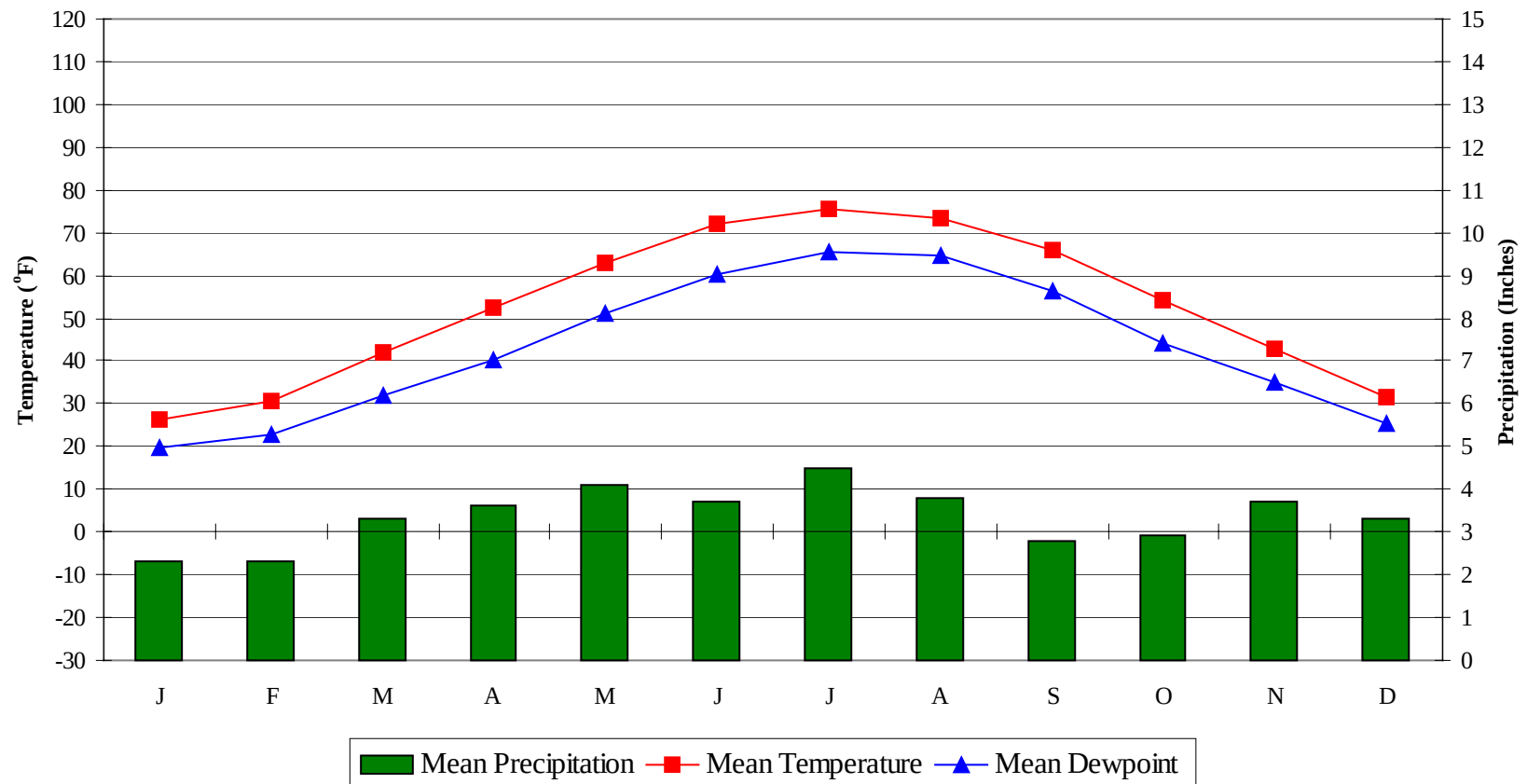
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
6	3.2	90	2.5 + 0.7
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
55.0	N/A	22	57

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

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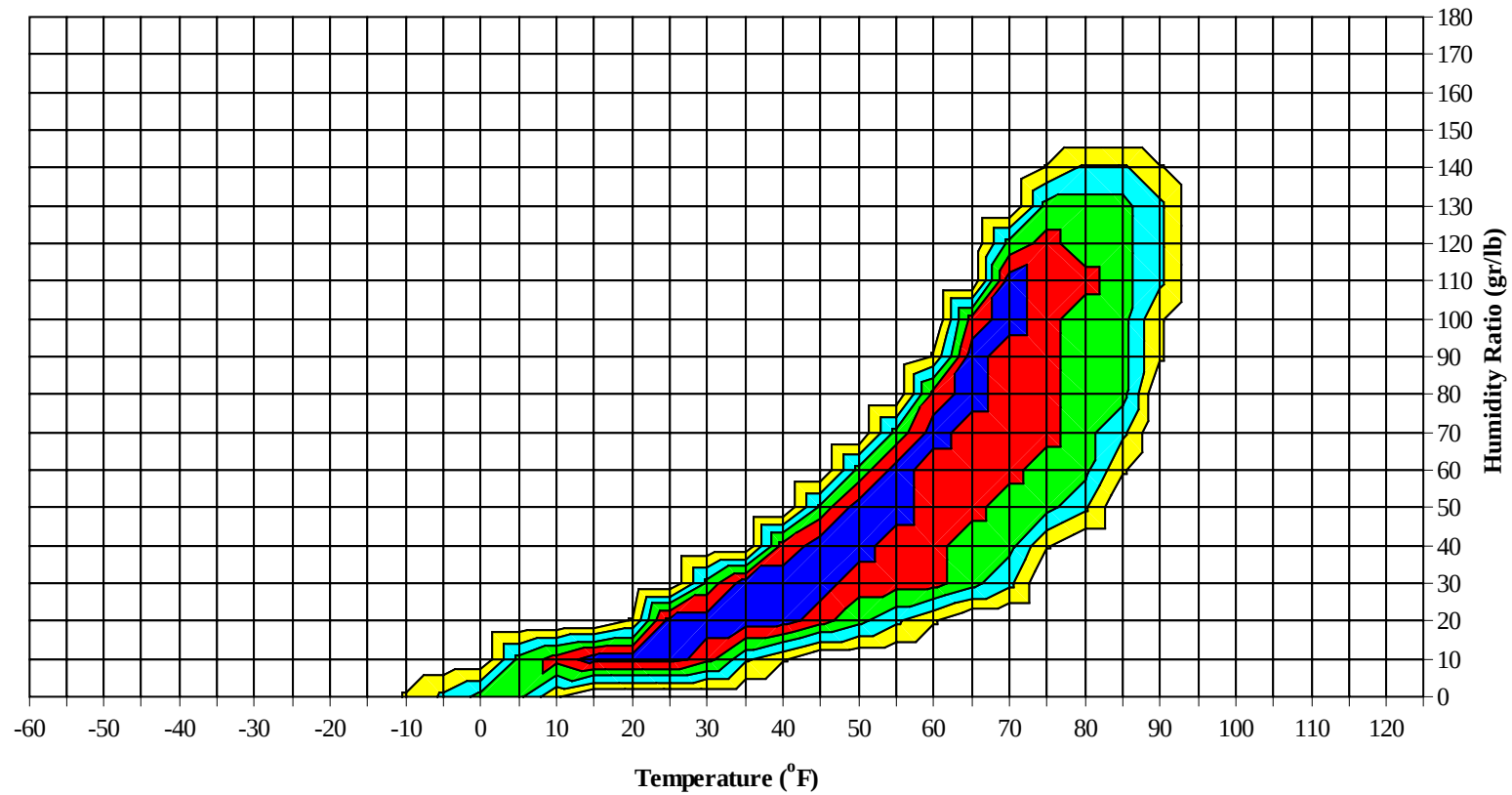
Average Annual Climate



INDIANAPOLIS IN

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Long Term Psychrometric Summary

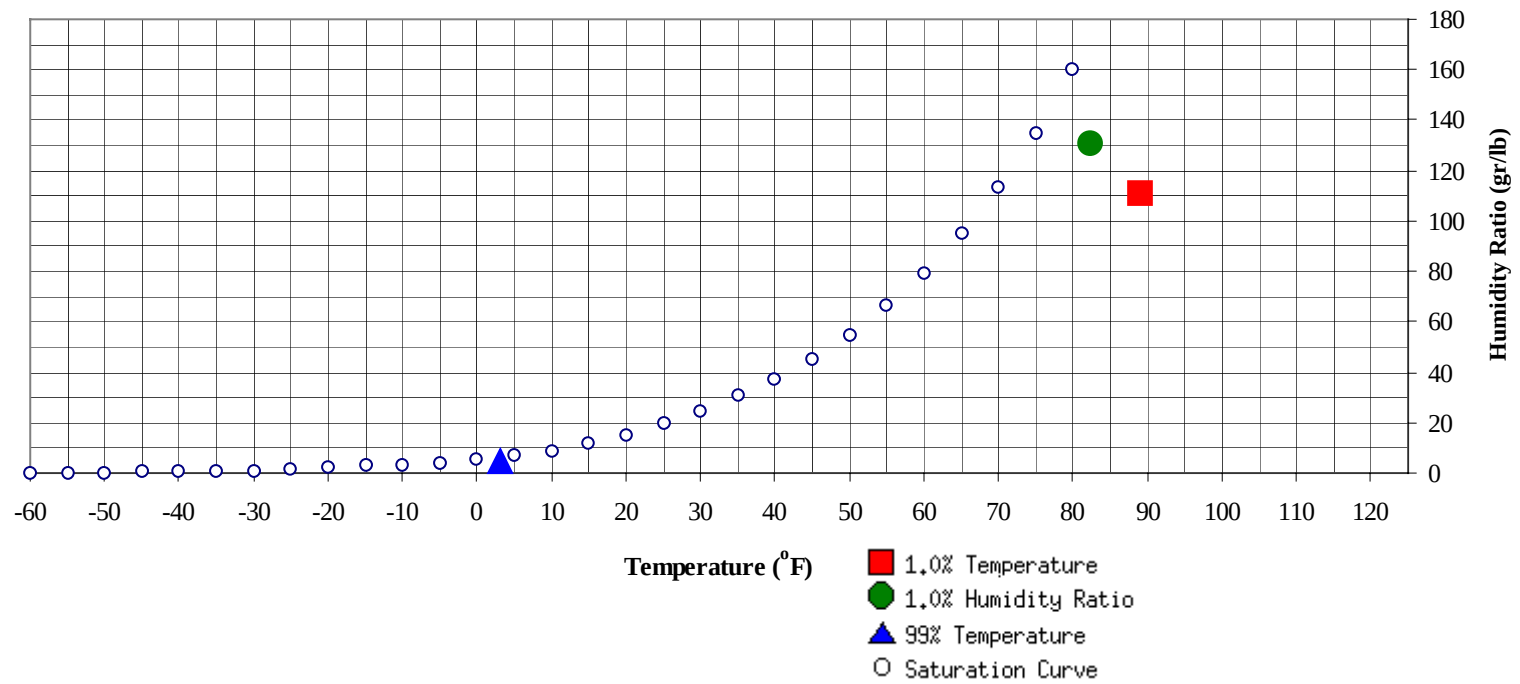


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

INDIANAPOLIS IN

WMO No. 724380

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	3	4.6	1.4		130.9	82.4	76.3	74	40.3

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	89	111.1	74.9	38.8

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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															
80 / 84												1	0	1	60.8
75 / 79												3	1	4	61.2
70 / 74							0		0	63.5		7	4	11	59.2
65 / 69	0	0		0	59.2		2	1	3	54.9	2	13	9	24	57.4
60 / 64	1	1	1	3	57.3	0	5	2	7	53.4	8	15	15	38	54.7
55 / 59	2	3	3	8	53.1	2	7	6	15	50.3	11	21	21	53	50.7
50 / 54	4	6	5	15	48.3	5	10	10	25	46.9	18	26	26	70	46.3
45 / 49	5	9	9	23	43.4	8	17	15	40	42.8	22	33	30	85	42.2
40 / 44	10	20	17	47	39.1	16	27	24	67	38.4	33	38	39	110	38.0
35 / 39	24	36	31	91	34.2	31	34	37	102	34.2	40	38	40	118	33.9
30 / 34	46	47	48	141	30.0	41	36	40	117	29.8	50	31	31	112	29.5
25 / 29	43	39	43	125	25.1	36	29	33	98	24.8	33	13	20	66	24.9
20 / 24	36	30	31	97	20.3	28	21	21	70	20.3	16	6	7	29	20.3
15 / 19	22	21	24	67	15.6	14	15	14	43	15.3	9	3	3	15	15.7
10 / 14	20	13	16	49	11.0	14	9	10	33	10.8	3	1	1	5	10.8
5 / 9	14	9	9	32	6.1	12	6	7	25	6.2	2	0	0	2	6.5
0 / 4	11	6	6	23	1.3	9	3	3	15	1.5	1	0	0	1	1.6
-5 / -1	5	2	2	9	-2.9	4	1	1	6	-2.9	0			0	-1.0
-10 / -6	3	2	1	6	-7.3	2	1	1	4	-7.1	0			0	-7.5
-15 / -11	1	1	1	3	-12.4	1	0		1	-11.5					
-20 / -16	2	1	0	3	-16.5	0	0		0	-16.6					
-25 / -21	1	0	0	1	-21.5	0			0	-20.0					
-30 / -26	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.

INDIANAPOLIS IN

WMO No. 724380

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	76.4
95 / 99												1	0	1	73.8
90 / 94							0	0	0	67.6		8	3	11	72.9
85 / 89		0		0	65.7		10	4	14	69.8	0	35	16	51	72.1
80 / 84		7	3	10	64.7		23	11	34	68.0	1	58	37	96	69.7
75 / 79		11	6	17	62.7	1	34	24	59	65.5	13	58	51	122	67.5
70 / 74	1	18	14	33	60.3	12	47	39	98	62.5	56	44	60	160	65.9
65 / 69	7	29	25	61	57.7	36	46	47	129	60.2	70	23	43	135	62.5
60 / 64	24	34	33	91	54.9	47	39	47	134	56.4	48	10	20	78	58.2
55 / 59	27	37	36	100	50.4	48	26	37	112	52.0	33	2	8	43	53.6
50 / 54	32	34	35	101	46.4	44	14	23	82	48.0	15	1	2	18	49.7
45 / 49	39	32	35	106	42.4	33	6	11	50	43.9	4		0	4	45.2
40 / 44	45	22	28	95	38.5	18	1	3	22	39.5	1			1	41.1
35 / 39	33	10	15	58	34.0	8	0	1	9	35.3	0			0	36.0
30 / 34	23	4	7	34	29.9	1		0	1	31.6					
25 / 29	9	1	1	11	25.6										
20 / 24	2	0	0	2	20.9										
15 / 19	0			0	18.0										
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															

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INDIANAPOLIS IN

WMO No. 724380

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	75.1										
95 / 99		4	2	6	76.0		1	0	1	78.4		0		0	75.0
90 / 94		19	8	27	76.8		12	4	16	77.1		3	1	4	74.4
85 / 89	0	52	27	79	74.2		39	17	57	74.9	0	16	5	21	72.5
80 / 84	4	74	53	130	71.8	1	66	40	107	72.0	0	34	14	48	69.7
75 / 79	35	56	65	156	70.1	22	63	63	147	69.9	3	43	30	76	67.5
70 / 74	87	32	60	179	68.2	70	46	69	184	68.1	28	48	49	125	65.6
65 / 69	70	8	25	103	64.2	77	17	37	132	64.3	43	40	45	128	62.1
60 / 64	35	2	8	45	59.7	45	4	15	64	59.8	44	29	40	113	57.8
55 / 59	14	0	1	15	55.6	25	0	3	28	55.5	45	17	30	92	53.7
50 / 54	2		0	2	51.3	7	0	0	7	51.5	38	7	17	62	49.6
45 / 49						1	0		1	46.7	25	2	6	33	45.5
40 / 44						0			0	43.0	11	0	2	13	41.0
35 / 39											4		0	4	36.4
30 / 34											0			0	32.8
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															

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INDIANAPOLIS IN

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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															
85 / 89		1	0	1	65.9										
80 / 84		5	1	6	65.7										
75 / 79	0	14	4	18	63.9		1		1	62.8					
70 / 74	2	27	13	42	61.7	0	6	2	8	61.9		0	0	0	65.0
65 / 69	10	33	27	70	59.7	2	11	8	21	59.7	0	1	1	2	59.9
60 / 64	22	42	40	104	56.0	11	17	16	44	57.3	2	5	3	10	57.5
55 / 59	35	43	43	121	51.6	18	24	20	62	52.4	6	9	7	22	53.1
50 / 54	38	36	43	117	47.2	19	31	21	71	47.3	7	8	8	23	48.2
45 / 49	47	27	35	109	43.4	26	35	36	97	42.9	9	17	13	39	43.3
40 / 44	39	13	26	78	39.3	31	35	36	102	38.7	20	30	25	75	39.0
35 / 39	29	5	11	45	35.0	40	38	42	120	34.0	35	46	46	127	34.4
30 / 34	20	1	4	25	31.1	44	28	34	106	29.7	52	52	59	163	30.1
25 / 29	5	0	0	5	26.3	30	10	18	58	25.4	44	31	33	108	25.3
20 / 24	1			1	21.9	13	3	5	21	20.9	25	19	22	66	20.5
15 / 19						5	1	1	7	16.5	19	12	12	43	15.8
10 / 14						1	0	0	1	11.1	12	7	10	29	10.8
5 / 9						1	0	0	1	7.3	7	4	4	15	6.3
0 / 4											3	3	3	9	1.2
-5 / -1											3	1	1	5	-3.0
-10 / -6											2	1	1	4	-7.4
-15 / -11											1	0	1	2	-12.4
-20 / -16											0	0	0	0	-15.7
-25 / -21											0	0	0	0	-21.4
-30 / -26															

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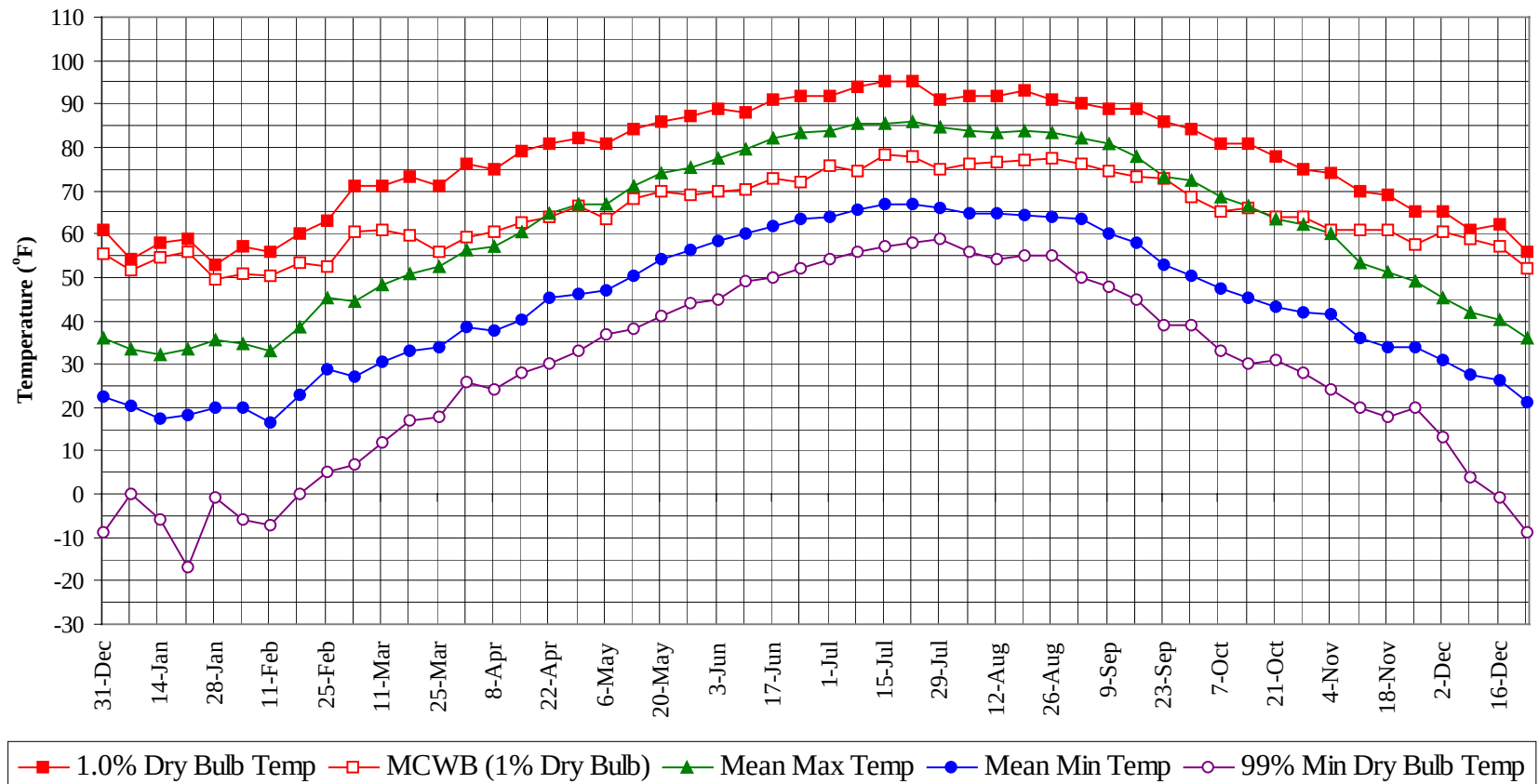
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

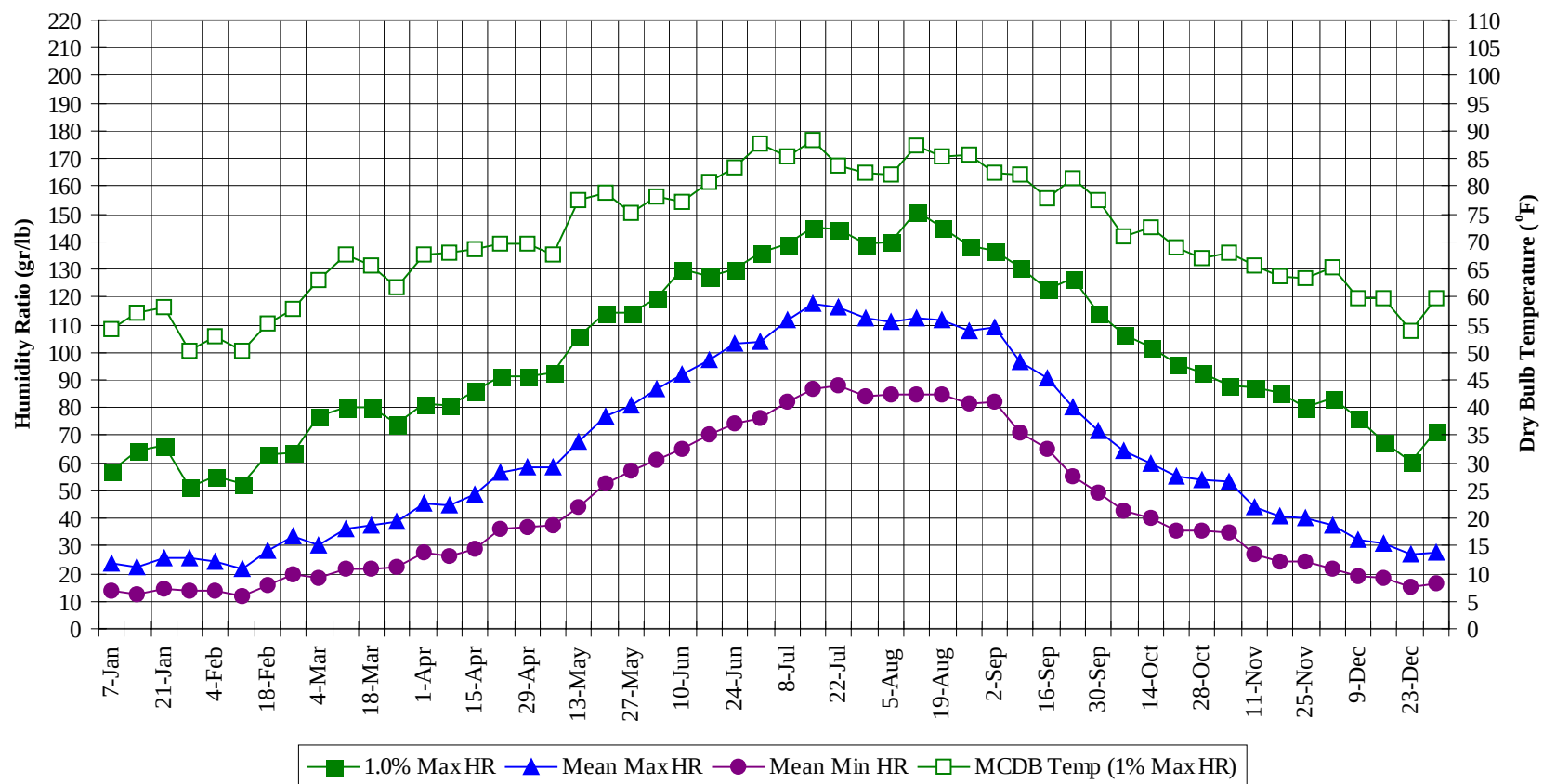
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104		0	0	0	75.6
95 / 99		6	2	8	76.2
90 / 94		43	17	60	75.9
85 / 89	0	154	69	223	73.4
80 / 84	7	266	160	433	70.6
75 / 79	74	281	242	597	68.3
70 / 74	255	273	307	835	65.9
65 / 69	316	223	267	806	61.7
60 / 64	285	203	239	727	57.0
55 / 59	267	191	215	673	52.2
50 / 54	228	173	190	591	47.5
45 / 49	218	178	189	585	43.1
40 / 44	222	186	202	610	38.7
35 / 39	244	209	224	677	34.2
30 / 34	277	202	224	703	29.9
25 / 29	199	125	149	473	25.1
20 / 24	122	81	86	289	20.4
15 / 19	69	52	55	176	15.6
10 / 14	50	31	39	120	10.9
5 / 9	36	20	21	77	6.2
0 / 4	25	13	13	51	1.3
-5 / -1	13	5	5	23	-2.9
-10 / -6	8	3	3	14	-7.3
-15 / -11	3	2	2	7	-12.3
-20 / -16	2	1	1	4	-16.4
-25 / -21	1	0	0	1	-21.4
-30 / -26	0			0	-25.0

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



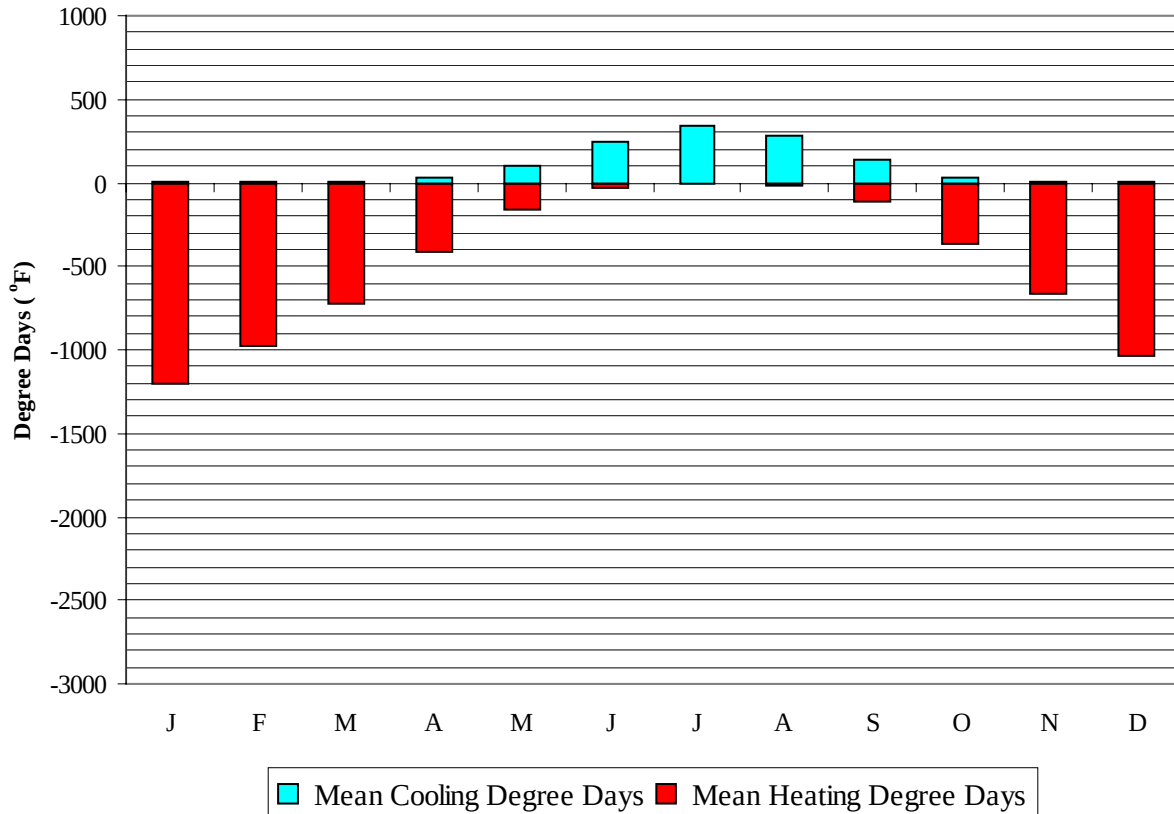
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Long Term Dry Bulb Temperature and Humidity Summary

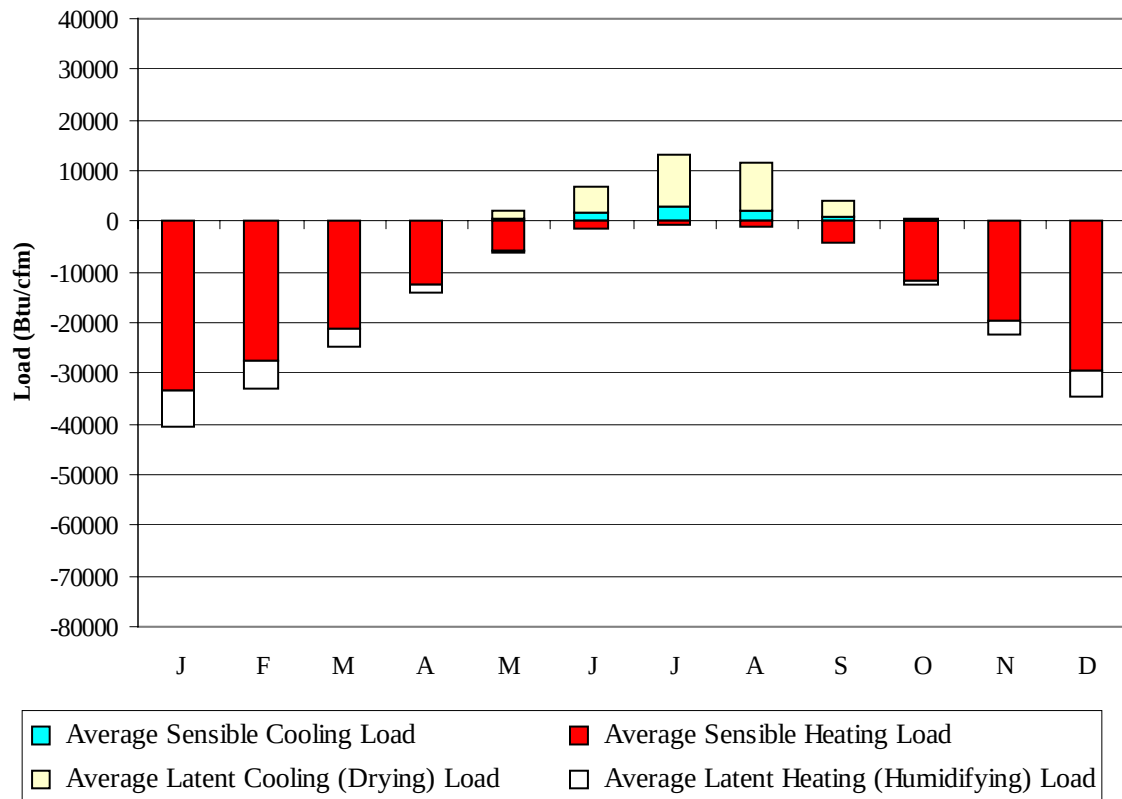
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	54.0	51.6	33.5	20.2	0.0	57.4	54.2	23.4	13.6
14-Jan	58.0	54.6	32.0	17.6	-6.0	64.4	57.1	22.5	12.3
21-Jan	59.0	55.7	33.6	18.4	-17.0	66.5	58.3	25.8	14.4
28-Jan	53.0	49.4	35.6	19.9	-1.0	51.1	50.2	25.8	13.8
4-Feb	57.0	50.8	34.8	19.8	-6.0	55.3	52.9	24.3	13.6
11-Feb	56.0	50.3	33.2	16.5	-7.0	52.5	50.1	21.9	11.8
18-Feb	60.0	53.3	38.6	22.9	0.0	63.0	55.2	28.3	15.9
25-Feb	63.0	52.5	45.1	28.9	5.0	63.7	57.6	33.7	19.7
4-Mar	71.0	60.7	44.2	27.1	7.0	77.0	63.0	30.5	18.1
11-Mar	71.0	61.1	48.1	30.6	12.0	79.8	67.5	36.2	21.5
18-Mar	73.0	59.8	50.8	32.9	17.0	79.8	65.7	37.4	21.8
25-Mar	71.0	55.7	52.6	33.9	18.0	74.2	61.6	38.7	22.2
1-Apr	76.0	59.2	56.1	38.6	26.0	81.2	67.5	45.5	27.9
8-Apr	75.0	60.6	56.9	37.7	24.0	80.5	68.0	44.6	26.2
15-Apr	79.0	62.5	60.6	40.4	28.0	86.1	68.6	48.4	28.9
22-Apr	81.0	63.9	64.9	45.4	30.0	91.0	69.6	56.2	36.2
29-Apr	82.0	66.4	66.9	46.2	33.0	91.0	69.8	58.5	37.0
6-May	81.0	63.5	67.0	47.1	37.0	92.4	67.7	58.2	37.7
13-May	84.0	68.0	71.1	50.5	38.0	105.7	77.5	67.7	44.2
20-May	86.0	69.9	74.1	54.0	41.0	114.1	78.8	76.7	52.7
27-May	87.0	68.9	75.3	56.1	44.0	114.1	75.3	80.7	57.2
3-Jun	89.0	69.9	77.5	58.5	45.0	119.7	78.1	86.8	61.0
10-Jun	88.0	70.1	79.7	60.0	49.0	130.2	77.2	92.1	64.9
17-Jun	91.0	72.8	82.1	62.0	50.0	127.4	80.7	97.3	70.1
24-Jun	92.0	71.8	83.4	63.5	52.0	130.2	83.5	103.3	74.1
1-Jul	92.0	75.7	83.8	64.1	54.0	135.8	87.8	104.1	76.5
8-Jul	94.0	74.3	85.5	65.8	56.0	139.3	85.4	111.4	82.2
15-Jul	95.0	78.4	85.6	66.9	57.0	144.9	88.5	117.6	86.8
22-Jul	95.0	77.8	85.8	66.9	58.0	144.2	83.7	116.0	88.3
29-Jul	91.0	75.0	84.7	65.8	59.0	139.3	82.4	112.2	84.1
5-Aug	92.0	76.3	83.7	64.9	56.0	140.0	82.1	111.0	84.4
12-Aug	92.0	76.8	83.4	64.6	54.0	151.2	87.3	112.6	84.6
19-Aug	93.0	77.0	83.6	64.5	55.0	144.9	85.3	111.8	84.5
26-Aug	91.0	77.3	83.4	63.9	55.0	138.6	85.8	107.8	81.5
2-Sep	90.0	76.2	82.2	63.5	50.0	136.5	82.4	108.7	82.3
9-Sep	89.0	74.5	80.8	60.2	48.0	130.9	82.0	96.7	71.1
16-Sep	89.0	73.3	77.9	57.9	45.0	122.5	77.9	90.7	65.2
23-Sep	86.0	72.7	73.4	53.1	39.0	126.7	81.4	80.0	55.0
30-Sep	84.0	68.5	72.3	50.2	39.0	114.1	77.6	71.5	49.5
7-Oct	81.0	65.1	68.6	47.2	33.0	106.4	71.0	64.4	42.7
14-Oct	81.0	66.0	66.5	45.4	30.0	101.5	72.4	59.5	40.0
21-Oct	78.0	63.8	63.4	43.3	31.0	95.9	68.9	55.1	35.4
28-Oct	75.0	64.0	62.2	41.7	28.0	92.4	67.0	54.1	35.2
4-Nov	74.0	61.1	60.2	41.5	24.0	88.2	68.1	53.4	34.7
11-Nov	70.0	61.1	53.2	35.9	20.0	87.5	65.8	44.0	26.9
18-Nov	69.0	61.1	51.4	34.0	18.0	85.4	63.7	40.5	24.3
25-Nov	65.0	57.5	49.0	33.7	20.0	79.8	63.2	40.3	24.6
2-Dec	65.0	60.5	45.1	31.0	13.0	83.3	65.2	37.3	21.7
9-Dec	61.0	58.8	41.9	27.4	4.0	76.3	59.8	32.3	19.0
16-Dec	62.0	57.2	40.2	26.4	-1.0	67.9	59.7	31.1	18.5
23-Dec	56.0	52.1	35.9	21.3	-9.0	60.2	53.9	27.0	15.2
31-Dec	61.0	55.4	35.8	22.3	-9.0	71.4	59.8	27.8	16.1

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



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1199
FEB	0	977
MAR	7	726
APR	28	408
MAY	103	166
JUN	244	35
JUL	340	10
AUG	285	21
SEP	141	117
OCT	30	371
NOV	4	670
DEC	0	1037
ANN	1183	5737

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	0	-33487	0	-7045
FEB	0	-27507	0	-5604
MAR	11	-21140	10	-3467
APR	94	-12627	86	-1283
MAY	531	-5803	1480	-185
JUN	1784	-1518	4998	-9
JUL	2885	-579	10262	0
AUG	2117	-991	9399	0
SEP	821	-4218	3432	-29
OCT	80	-11677	371	-717
NOV	0	-19631	51	-2709
DEC	0	-29291	2	-5397
ANN	8323	-168469	30091	-26445

Average Annual Solar Radiation – Nearest Available Site

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

City: INDIANAPOLIS
 State: IN
 WBAN No: 93819
 Lat(N): 39.73
 Long(W): 86.28
 Elev(ft): 807

Stn Type: Primary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.526
 Vert Gap: 0.319

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	620	880	1160	1540	1870	2050	1990	1790	1440	1050	650	510	1300
	Std Dev	45	71	79	142	153	115	111	108	81	75	61	54	37
	Minimum	520	720	1010	1310	1600	1860	1790	1600	1280	870	540	420	1240
	Maximum	740	1040	1310	1810	2180	2430	2200	2030	1630	1200	810	620	1410
	Diffuse	350	480	630	760	860	920	890	790	640	470	370	310	620
Clear Day	Global	900	1250	1730	2200	2510	2620	2540	2260	1850	1350	950	790	1750
NORTH	Global	210	280	360	450	560	640	610	500	390	300	220	180	390
	Diffuse	210	280	360	440	520	560	540	480	390	300	220	180	370
Clear Day	Global	190	250	330	430	580	680	630	480	360	270	200	170	380
EAST	Global	410	560	710	910	1060	1130	1110	1030	860	670	420	340	770
	Diffuse	250	340	440	540	620	670	650	590	490	370	260	220	450
Clear Day	Global	680	880	1130	1330	1420	1460	1430	1330	1160	910	690	610	1090
SOUTH	Global	920	1030	990	950	870	820	850	970	1120	1150	880	770	940
	Diffuse	360	440	510	560	590	610	600	590	550	460	360	310	500
Clear Day	Global	1890	1940	1790	1410	1080	930	980	1240	1600	1830	1830	1800	1520
WEST	Global	410	550	690	870	1020	1120	1110	1030	870	650	420	330	760
	Diffuse	250	340	440	540	630	680	660	600	500	370	260	220	460
Clear Day	Global	680	880	1130	1330	1420	1460	1430	1330	1160	910	690	610	1090

Average Annual Solar Heat and Illumination – Nearest Available Site

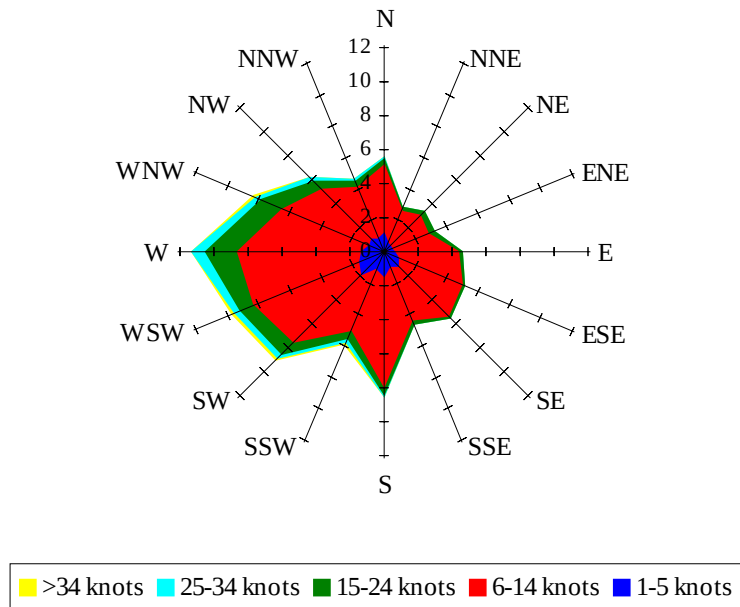
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	410	600	820	1100	1350	1490	1450	1290	1030	730	440	330	920
NORTH	Unshaded	140	190	250	310	370	420	400	340	270	210	150	130	270
	Shaded	130	170	220	270	330	370	360	300	240	180	130	110	230
EAST	Unshaded	280	390	500	650	750	800	790	730	610	470	290	230	540
	Shaded	250	340	440	560	640	680	670	630	530	410	260	210	470
SOUTH	Unshaded	690	750	690	620	540	500	520	620	760	830	650	580	640
	Shaded	660	690	550	420	360	370	370	400	550	720	620	560	520
WEST	Unshaded	280	380	480	620	720	790	790	730	620	460	290	230	530
	Shaded	250	340	420	530	620	680	670	630	540	400	260	200	460

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	24	62	81	72	40	54	88	102	93	62
	M.Cloudy	15	38	49	45	25	37	63	76	71	46
NORTH	M.Clear	7	13	15	14	10	17	17	17	17	15
	M.Cloudy	6	14	17	16	10	15	19	20	20	15
EAST	M.Clear	60	68	26	14	10	80	68	24	17	15
	M.Cloudy	19	31	21	16	10	41	46	24	20	15
SOUTH	M.Clear	24	63	83	74	40	13	35	48	40	17
	M.Cloudy	10	29	41	36	18	13	29	39	34	17
WEST	M.Clear	7	13	15	54	71	13	17	17	59	78
	M.Cloudy	6	14	17	29	27	13	19	20	44	48
M.Clear	(% hrs)	27	25	22	22	23	40	37	28	28	32
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	34	71	85	74	40	5	32	46	37	9
	M.Cloudy	21	47	59	52	28	3	19	27	21	6
NORTH	M.Clear	10	15	16	15	11	2	9	11	9	4
	M.Cloudy	9	16	18	17	11	2	8	11	9	3
EAST	M.Clear	69	65	21	15	11	17	45	14	9	4
	M.Cloudy	25	37	21	17	11	4	16	12	9	3
SOUTH	M.Clear	27	61	76	65	32	13	67	88	74	24
	M.Cloudy	13	35	47	41	19	3	21	29	24	6
WEST	M.Clear	10	15	16	59	71	2	9	11	43	29
	M.Cloudy	9	16	18	38	34	2	8	11	17	7
M.Clear	(% hrs)	42	41	36	36	41	23	23	22	21	22

Wind Summary - December, January, and February

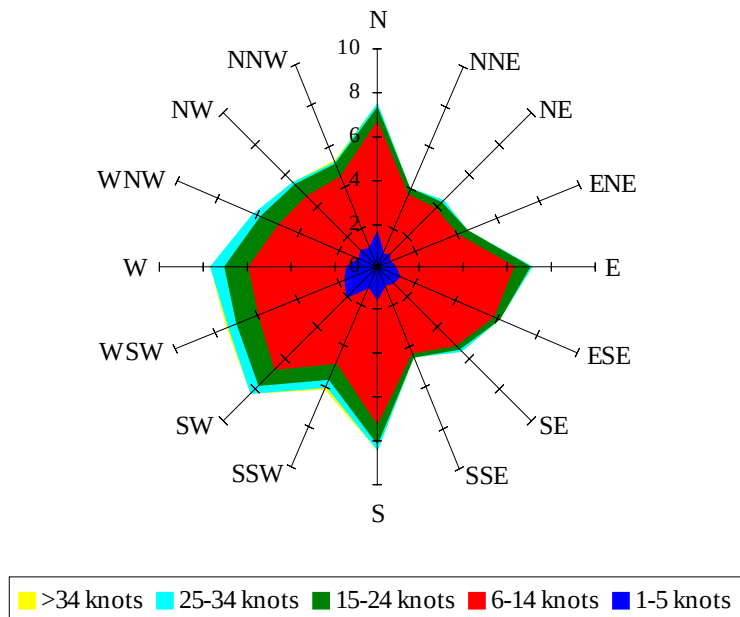
Labels of Percent Frequency on North Axis



Percent Calm = 2.99

Wind Summary - March, April, and May

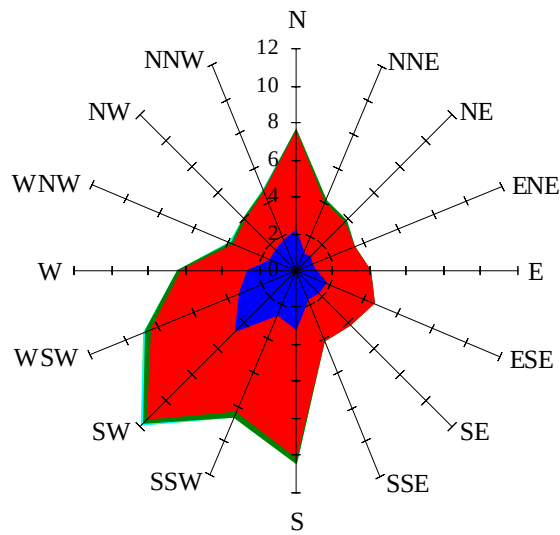
Labels of Percent Frequency on North Axis



Percent Calm = 2.57

Wind Summary - June, July, and August

Labels of Percent Frequency on North Axis

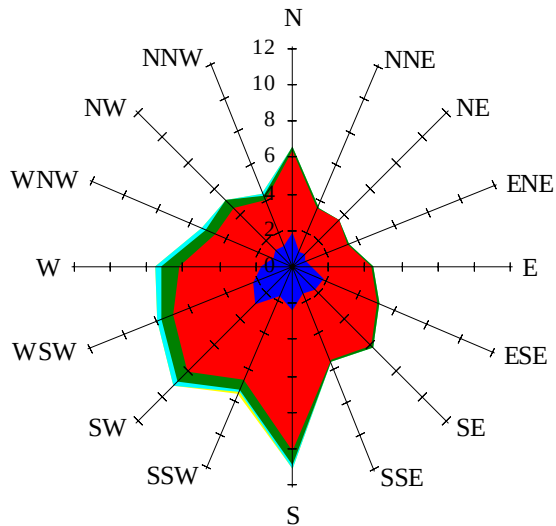


>34 knots 25-34 knots 15-24 knots 6-14 knots 1-5 knots

Percent Calm = 5.77

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



>34 knots 25-34 knots 15-24 knots 6-14 knots 1-5 knots

Percent Calm = 4.76