

NEWARK INTL AIRPORT NJ

Latitude = 40.70 N

WMO No. 725020

Longitude = 74.17 W

Elevation = 30 feet

Period of Record = 1973 to 1995

Average Pressure = 29.98 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	98	76	102	13.0	W
0.4% Occurrence	94	76	105	12.7	W
1.0% Occurrence	91	73	96	12.4	WSW
2.0% Occurrence	88	72	93	11.3	WSW
Mean Daily Range	16	-	-	-	-
97.5% Occurrence	19	16	8	12.5	NW
99.0% Occurrence	14	12	7	12.8	W
99.6% Occurrence	10	8	5	13.7	W
Median of Extreme Lows	5	3	4	13.8	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	80	92	134	11.4	WSW
0.4% Occurrence	78	90	125	10.8	WSW
1.0% Occurrence	76	86	119	10.1	SW
2.0% Occurrence	75	84	116	9.8	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	144	86	0.95	8.6	W
0.4% Occurrence	128	83	0.85	10.7	WSW
1.0% Occurrence	123	81	0.82	9.1	S
2.0% Occurrence	118	80	0.79	8.3	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		51	803	435	1452

Other Site Data

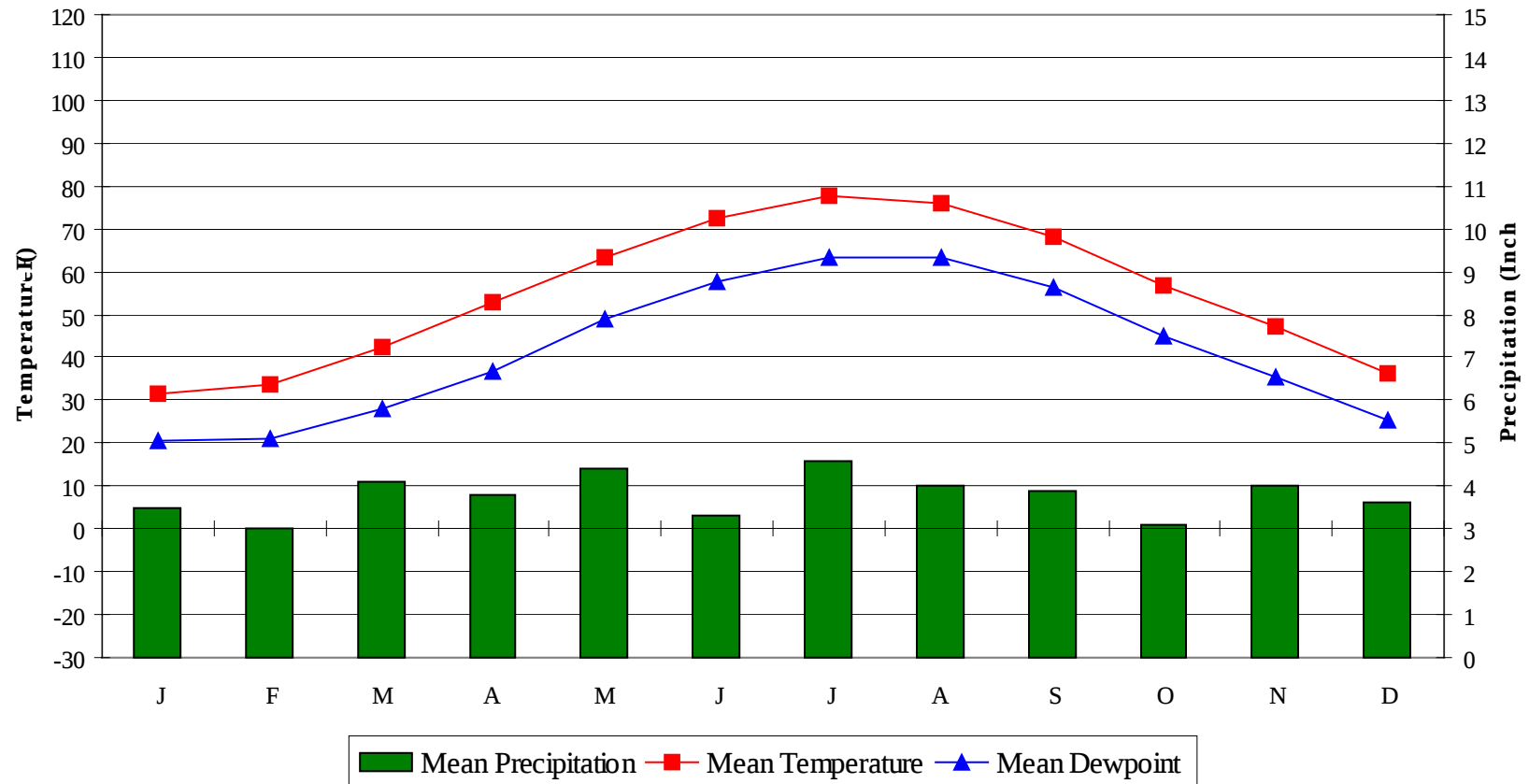
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
7	3.0	110	1.9 + 0.8
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
57.5	38	15	45

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

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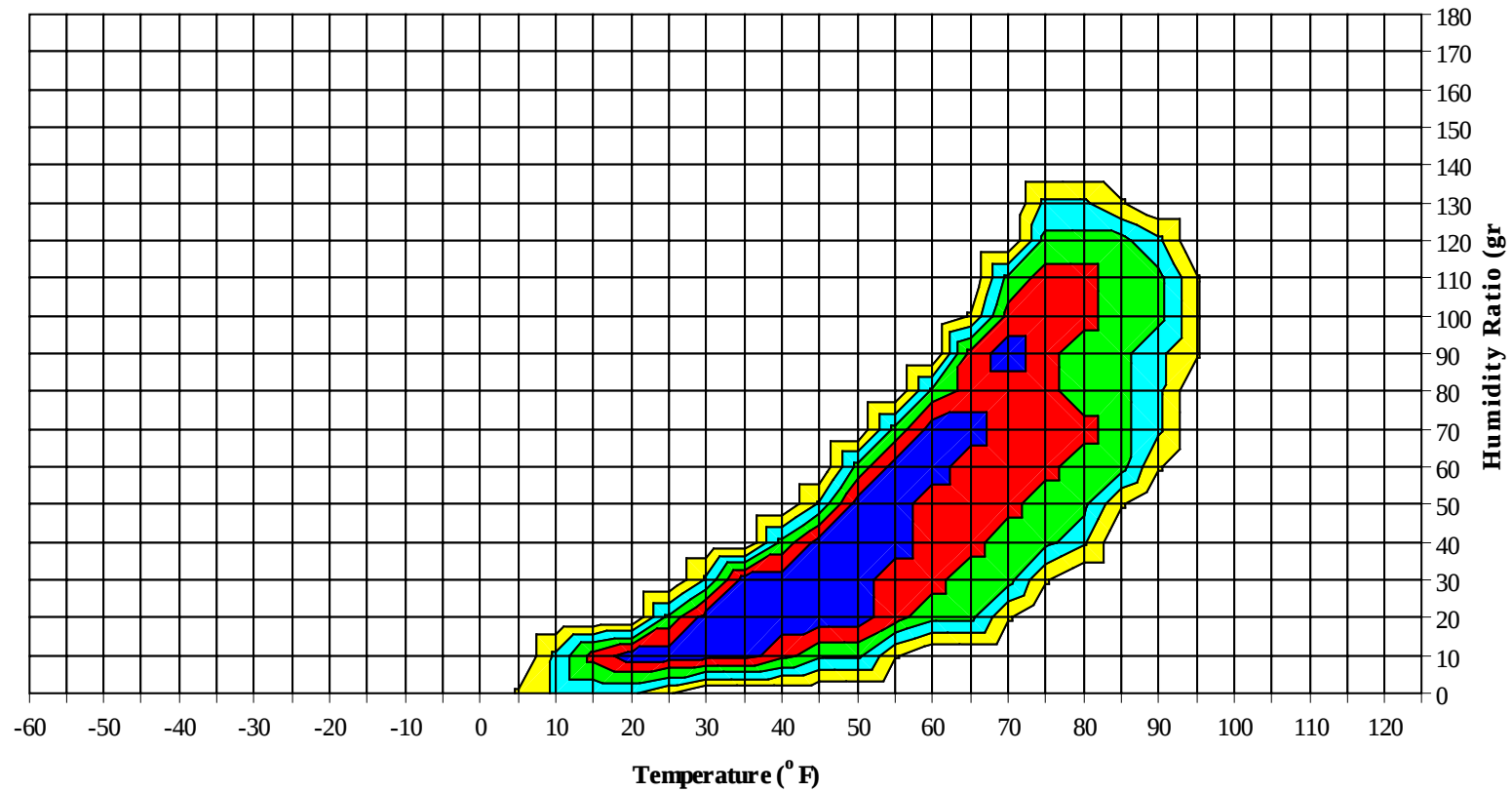
Average Annual Climate



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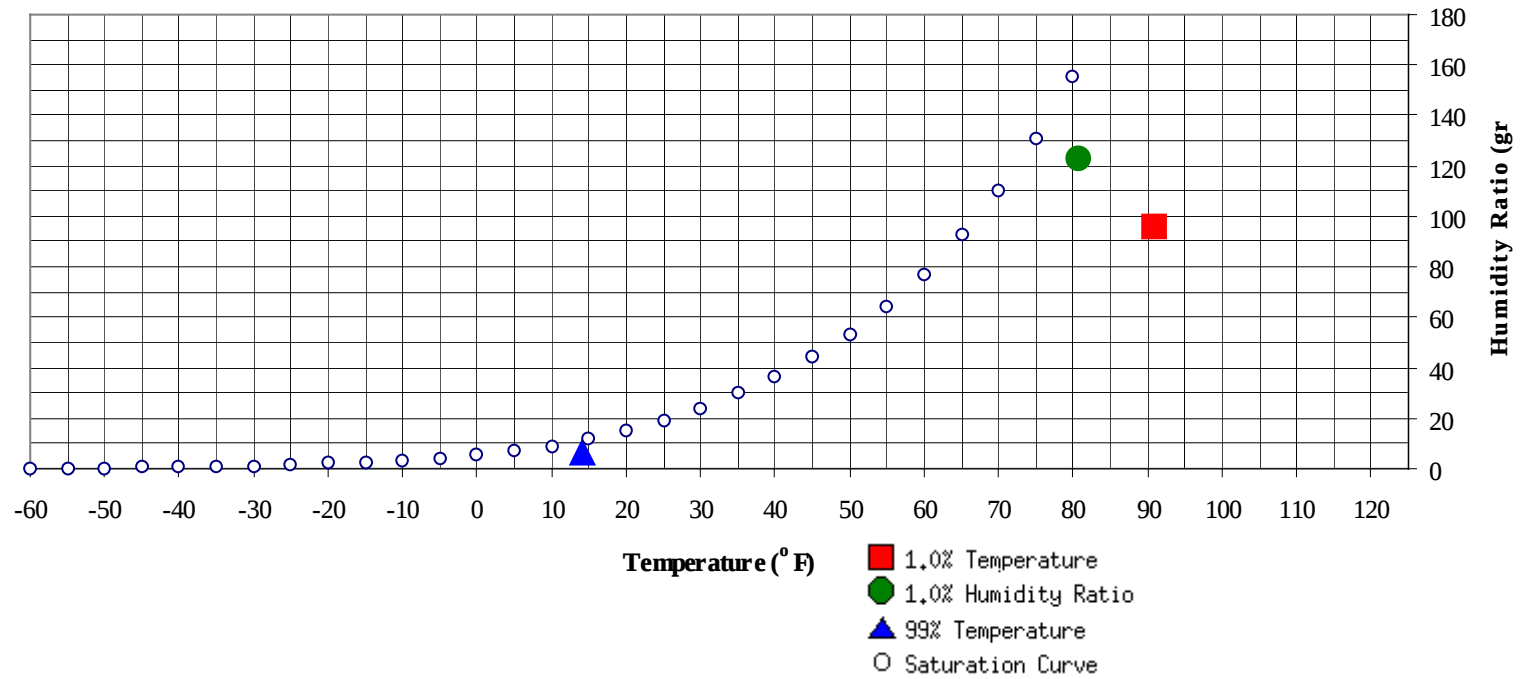
Long Term Psychrometric Summary



- 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

	(°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	14	6.6	4.4	Ratio	123.2	80.8	75.2	73	38.7

	(°F)	MCHR	MCWB	Enthalpy
		(gr/lb)	(°F)	(btu/lb)
1.0% Dry Bulb	91	95.9	73.4	36.9

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

Period of Record = 1973 to 1995

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												0		0	64.7
80 / 84												1	0	1	64.5
75 / 79												2	1	3	60.4
70 / 74							0	0	0	55.3	0	4	2	7	58.1
65 / 69		1	0	1	56.6	0	2	0	2	52.1	1	6	4	12	54.9
60 / 64	1	2	1	5	55.6	1	3	2	6	52.8	2	13	7	22	52.1
55 / 59	2	4	3	10	52.5	1	7	4	12	49.4	6	24	14	43	48.1
50 / 54	3	8	7	18	46.9	5	14	10	29	45.9	15	40	31	86	44.8
45 / 49	6	22	15	44	41.7	9	25	18	52	41.6	32	46	45	123	41.1
40 / 44	19	40	33	93	37.5	20	35	35	90	37.2	53	47	57	157	37.0
35 / 39	48	46	47	141	33.0	37	42	44	123	32.6	56	34	45	135	32.7
30 / 34	47	44	50	141	28.5	46	39	43	128	28.2	41	19	24	84	28.0
25 / 29	38	33	34	105	23.9	35	28	30	93	23.2	22	8	12	43	23.2
20 / 24	32	22	27	82	19.5	34	16	22	72	19.1	13	2	4	19	19.0
15 / 19	25	12	17	54	15.0	23	7	10	41	14.9	6	1	1	8	14.3
10 / 14	15	5	9	29	10.4	10	3	3	16	10.5	2	0	0	2	11.0
5 / 9	7	3	3	13	5.7	3	1	1	5	5.4	0	0	0	0	6.4
0 / 4	3	1	1	6	0.9	1	0	0	2	0.9					
-5 / -1	1	0	0	2	-3.1	0			0	-1.8					
-10 / -6	0	0	0	1	-6.9										

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 2 of 5)

Period of Record = 1973 to 1995

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												0		0	78.5
95 / 99							1	0	1	70.1		4	1	5	74.4
90 / 94		1	0	1	66.1		4	1	5	69.8	0	13	5	18	72.6
85 / 89		2	1	3	64.8	0	11	5	16	68.3	1	27	14	42	70.1
80 / 84		4	2	6	62.5	1	19	10	31	66.2	5	51	28	85	67.9
75 / 79	0	8	4	12	60.5	4	27	19	50	63.6	23	61	46	131	65.9
70 / 74	2	16	9	27	57.6	16	44	27	87	60.7	61	43	65	168	64.2
65 / 69	6	24	14	44	54.2	29	49	41	119	57.7	71	25	45	141	60.9
60 / 64	12	36	28	75	51.4	53	48	56	157	55.4	50	14	26	90	57.1
55 / 59	23	46	39	108	48.6	64	28	51	143	51.8	21	2	8	31	52.6
50 / 54	52	48	56	155	45.7	53	12	29	94	47.7	7	0	1	9	48.8
45 / 49	63	36	48	147	41.8	23	3	7	34	43.3	1			1	43.2
40 / 44	49	13	28	90	37.9	5	1	2	7	38.8					
35 / 39	24	4	8	36	32.3	1		0	1	34.2					
30 / 34	8	1	2	11	28.0										
25 / 29	2	0	1	3	23.2										
20 / 24	0	0	0	1	19.8										
15 / 19	0		0	0	17.1										
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															

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

Period of Record = 1973 to 1995

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	81.3										
100 / 104		1	0	1	78.6		0		0	80.0					
95 / 99	0	9	2	11	76.5	0	5	1	5	76.3		1	0	1	75.4
90 / 94	1	27	12	39	74.4	0	18	5	24	75.1	0	5	1	6	75.7
85 / 89	3	58	30	91	71.8	1	47	19	67	72.8	0	13	4	17	72.1
80 / 84	21	69	55	146	70.1	11	73	48	132	70.5	2	30	14	47	69.9
75 / 79	65	52	71	188	68.8	56	62	78	196	69.0	13	48	32	93	67.5
70 / 74	96	23	58	177	66.5	91	29	67	186	66.5	37	57	54	148	64.6
65 / 69	48	7	16	71	62.2	59	10	23	91	61.9	53	49	58	160	60.8
60 / 64	13	1	3	17	57.3	24	3	8	36	57.9	55	27	49	132	56.6
55 / 59	2	0	0	2	53.7	4	0	1	6	52.8	45	8	20	74	52.7
50 / 54	0			0	49.7	1		0	1	46.7	23	1	7	32	48.0
45 / 49						0			0	45.0	8	0	1	10	43.6
40 / 44											1			1	40.2
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															

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Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1973 to 1995

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															
85 / 89		0	0	1	67.9										
80 / 84		4	1	5	67.1		0		0	65.7					
75 / 79	1	13	4	17	65.0		2	0	3	62.8					
70 / 74	4	32	14	50	62.6		6	2	8	61.2	0	0		0	61.7
65 / 69	15	41	30	86	59.7	3	13	8	24	59.5	0	1	1	2	60.3
60 / 64	34	51	50	135	55.8	11	23	18	53	56.0	2	5	3	10	56.1
55 / 59	40	51	50	141	50.8	18	36	29	83	51.5	4	8	5	18	52.4
50 / 54	55	34	55	145	46.6	36	47	41	124	46.7	8	20	16	44	47.4
45 / 49	51	14	31	96	42.5	37	44	45	127	41.3	14	35	27	76	42.0
40 / 44	36	3	11	50	38.3	48	38	46	132	36.9	36	52	49	136	37.5
35 / 39	10	1	2	13	33.5	48	20	33	100	32.8	49	51	54	154	32.8
30 / 34	3	0	0	3	29.1	28	6	13	46	28.9	56	34	40	130	28.3
25 / 29	0			0	26.2	10	2	4	15	24.1	31	22	26	79	23.7
20 / 24						2	1	1	4	19.6	22	14	16	51	19.1
15 / 19						0	0	0	1	15.3	14	4	10	29	14.7
10 / 14											7	1	2	10	10.6
5 / 9											2	0	1	3	5.9
0 / 4											1	0	0	1	1.2
-5 / -1											0			0	-1.0
-10 / -6															

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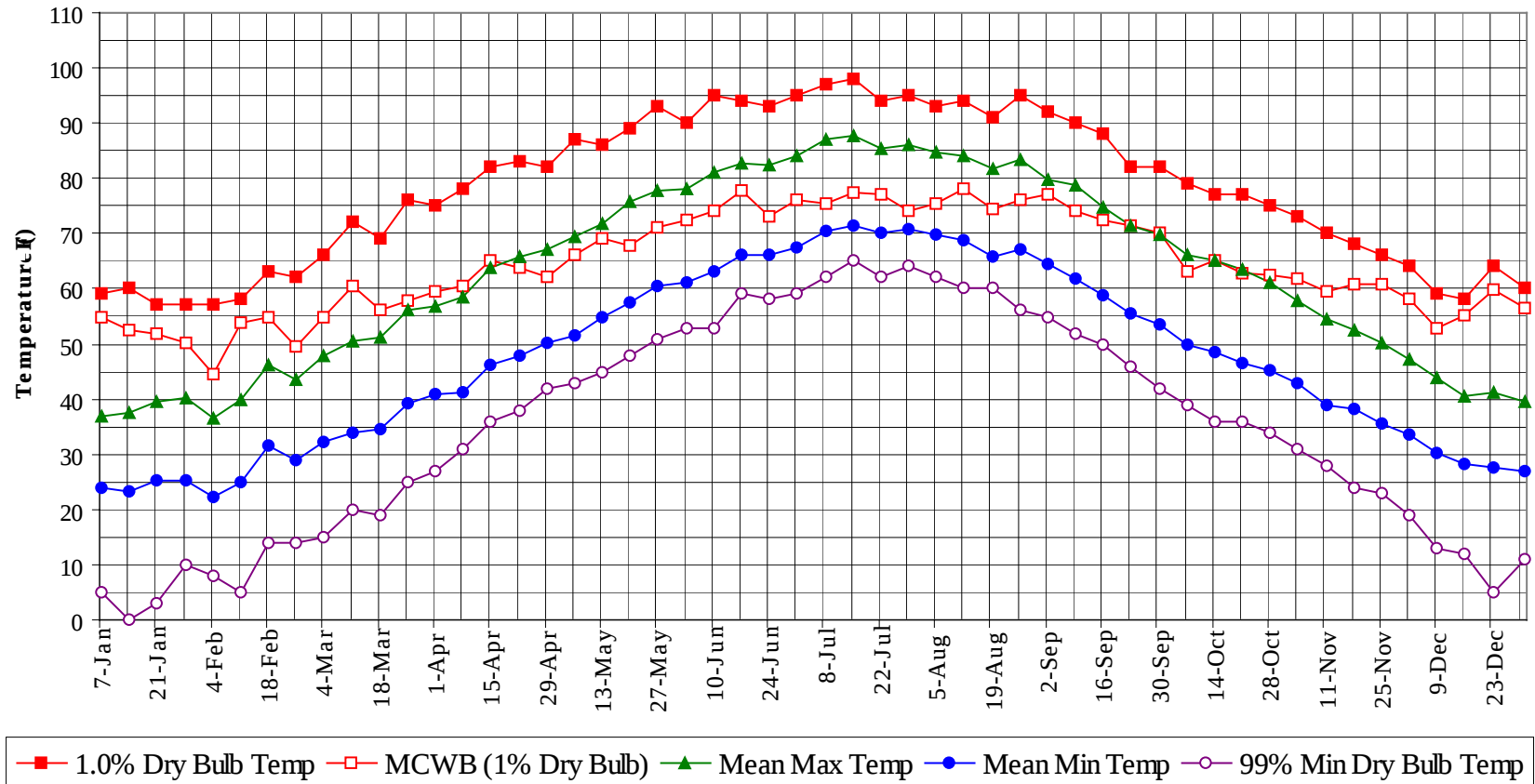
WMO No. 725020

Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)**Period of Record = 1973 to 1995**

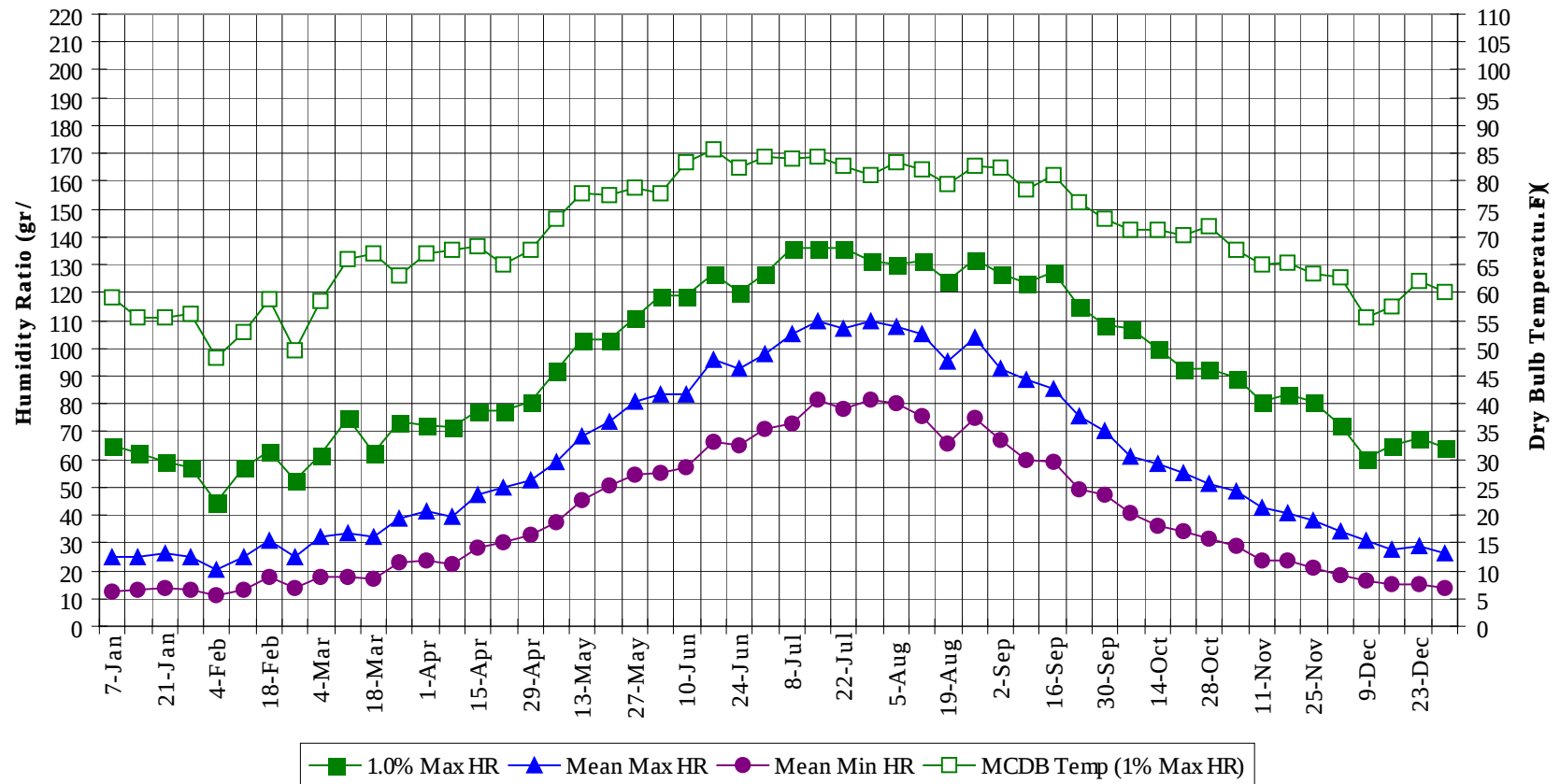
Annual Totals						
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	
	01 To 08	09 To 16	17 To 00			
105 / 109	0			0	81.3	
100 / 104	1			0	2	78.7
95 / 99	0	19	4	23	75.8	
90 / 94	1	68	24	93	74.0	
85 / 89	5	160	72	237	71.5	
80 / 84	41	252	158	452	69.3	
75 / 79	163	274	255	692	67.5	
70 / 74	306	254	298	858	64.5	
65 / 69	285	227	241	753	59.9	
60 / 64	258	225	251	735	55.6	
55 / 59	231	214	225	671	50.9	
50 / 54	259	225	252	736	46.5	
45 / 49	245	225	238	708	41.8	
40 / 44	266	230	260	756	37.4	
35 / 39	273	198	233	705	32.8	
30 / 34	229	143	173	546	28.3	
25 / 29	139	93	108	340	23.6	
20 / 24	104	55	70	229	19.2	
15 / 19	69	25	40	133	14.9	
10 / 14	34	9	14	57	10.5	
5 / 9	13	4	5	22	5.7	
0 / 4	5	2	2	9	1.0	
-5 / -1	2	0	0	2	-2.9	
-10 / -6	0	0	0	1	-6.9	

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



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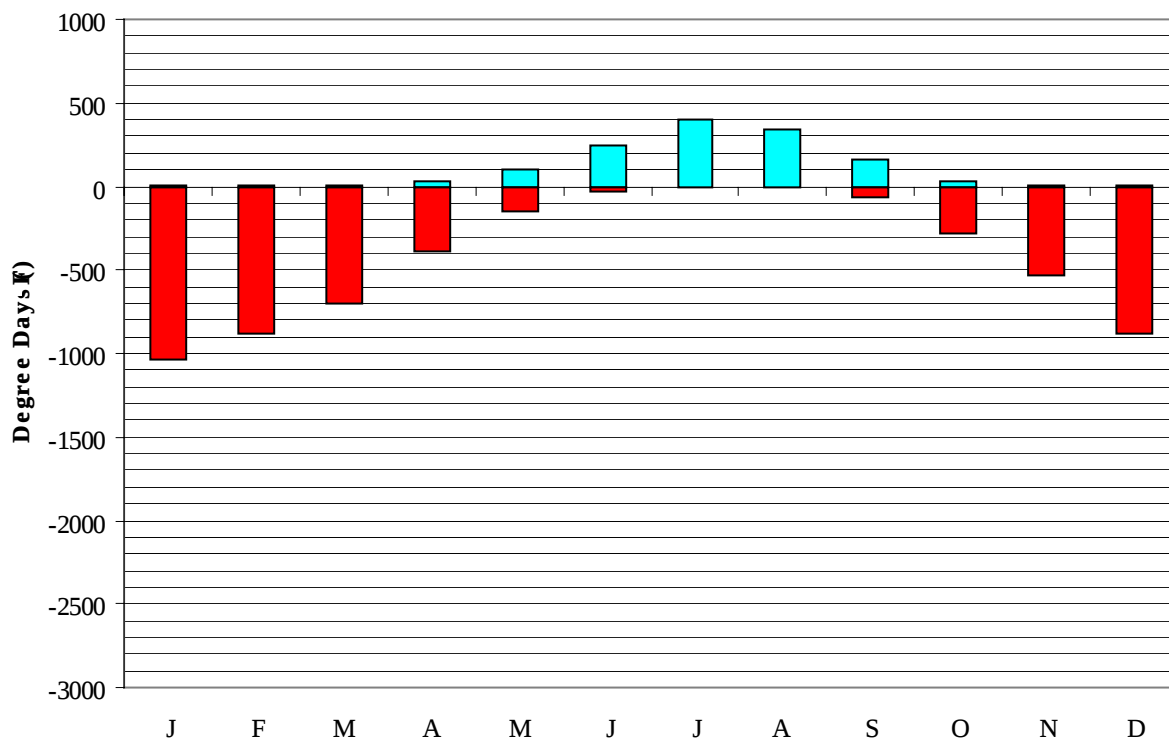
Long Term Dry Bulb Temperature and Humidity Summary

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	59.0	54.8	36.9	23.9	5.0	65.1	59.2	24.8	12.4
14-Jan	60.0	52.5	37.6	23.2	0.0	62.3	55.6	24.8	13.2
21-Jan	57.0	51.8	39.5	25.4	3.0	58.8	55.6	26.3	13.7
28-Jan	57.0	50.1	40.1	25.4	10.0	57.4	56.2	24.9	13.2
4-Feb	57.0	44.6	36.6	22.4	8.0	44.8	48.3	20.5	11.1
11-Feb	58.0	53.9	39.9	25.0	5.0	57.4	53.0	24.9	13.0
18-Feb	63.0	55.0	46.2	31.4	14.0	63.0	58.8	31.0	17.8
25-Feb	62.0	49.5	43.6	28.9	14.0	52.5	49.7	25.1	13.8
4-Mar	66.0	54.9	47.7	32.4	15.0	61.6	58.6	32.1	17.7
11-Mar	72.0	60.6	50.4	34.0	20.0	74.9	66.0	33.6	17.8
18-Mar	69.0	56.0	51.1	34.7	19.0	62.3	67.1	32.2	17.2
25-Mar	76.0	57.7	56.2	39.3	25.0	73.5	62.9	38.9	22.7
1-Apr	75.0	59.5	56.8	40.8	27.0	72.1	67.0	41.1	23.6
8-Apr	78.0	60.5	58.5	41.3	31.0	71.4	67.6	39.5	22.1
15-Apr	82.0	65.3	63.8	46.2	36.0	77.7	68.4	47.3	28.2
22-Apr	83.0	63.8	65.9	47.8	38.0	77.7	65.0	49.8	30.3
29-Apr	82.0	62.3	67.3	50.1	42.0	80.5	67.7	52.6	32.5
6-May	87.0	66.0	69.5	51.6	43.0	91.7	73.4	59.1	37.1
13-May	86.0	69.0	71.9	54.9	45.0	102.9	77.8	68.1	45.1
20-May	89.0	68.0	75.8	57.6	48.0	102.9	77.5	73.7	50.3
27-May	93.0	71.1	77.7	60.4	51.0	111.3	78.7	80.9	54.6
3-Jun	90.0	72.3	78.0	61.2	53.0	119.0	77.7	83.1	55.3
10-Jun	95.0	74.1	81.2	63.1	53.0	119.0	83.3	83.3	57.3
17-Jun	94.0	77.9	82.7	66.0	59.0	126.7	85.8	95.8	66.2
24-Jun	93.0	73.0	82.5	66.0	58.0	120.4	82.4	92.6	65.2
1-Jul	95.0	76.1	84.1	67.6	59.0	126.7	84.4	98.0	71.1
8-Jul	97.0	75.5	86.9	70.3	62.0	135.8	83.9	104.8	73.1
15-Jul	98.0	77.3	87.8	71.3	65.0	135.8	84.5	109.4	81.6
22-Jul	94.0	77.3	85.4	70.0	62.0	135.8	82.7	107.3	78.1
29-Jul	95.0	74.1	86.1	70.8	64.0	131.6	81.1	109.7	81.7
5-Aug	93.0	75.5	84.7	69.7	62.0	130.2	83.4	107.6	80.0
12-Aug	94.0	78.1	83.9	68.9	60.0	131.6	82.1	104.8	75.2
19-Aug	91.0	74.6	81.9	65.9	60.0	123.9	79.6	95.0	66.0
26-Aug	95.0	76.1	83.5	67.3	56.0	132.3	82.7	103.8	74.8
2-Sep	92.0	77.2	79.9	64.6	55.0	126.7	82.3	92.5	66.9
9-Sep	90.0	74.2	78.9	61.8	52.0	123.2	78.4	88.4	59.7
16-Sep	88.0	72.3	74.7	58.9	50.0	127.4	81.2	85.1	59.2
23-Sep	82.0	71.4	71.4	55.4	46.0	114.8	76.1	75.8	49.0
30-Sep	82.0	70.0	69.7	53.5	42.0	108.5	73.2	70.2	47.0
7-Oct	79.0	63.1	66.3	49.8	39.0	107.1	71.4	61.1	40.7
14-Oct	77.0	65.1	65.2	48.4	36.0	100.1	71.4	58.5	36.2
21-Oct	77.0	62.8	63.5	46.7	36.0	92.4	70.2	55.3	34.1
28-Oct	75.0	62.4	61.2	45.1	34.0	92.4	71.9	51.1	31.2
4-Nov	73.0	61.7	57.9	43.0	31.0	89.6	67.7	48.4	28.9
11-Nov	70.0	59.4	54.5	39.0	28.0	80.5	64.9	42.5	23.7
18-Nov	68.0	60.8	52.6	38.3	24.0	83.3	65.2	41.0	24.0
25-Nov	66.0	60.9	50.3	35.5	23.0	80.5	63.3	38.3	21.2
2-Dec	64.0	58.3	47.2	33.5	19.0	72.1	62.8	34.1	18.4
9-Dec	59.0	52.7	43.8	30.3	13.0	60.2	55.4	30.7	16.6
16-Dec	58.0	55.3	40.6	28.2	12.0	65.1	57.6	27.9	15.0
23-Dec	64.0	59.9	41.1	27.6	5.0	67.9	61.9	28.9	15.3
31-Dec	60.0	56.5	39.5	26.9	11.0	64.4	60.2	26.4	13.7

NEWARK INTL AIRPORT NJ

WMO No. 725020

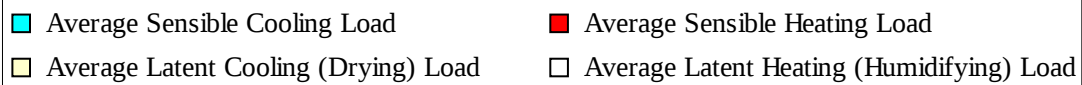
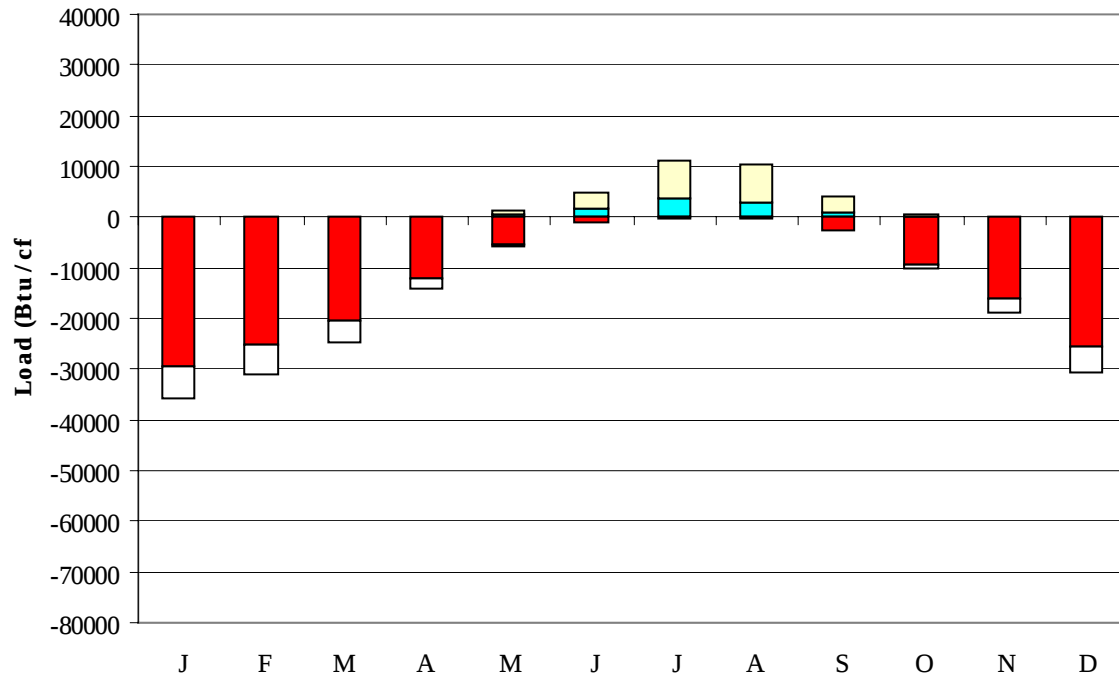
Degree Days, Heating and Cooling (Base 65°F)



■ Mean Cooling Degree Days ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1037
FEB	0	886
MAR	5	702
APR	24	390
MAY	100	148
JUN	247	24
JUL	398	3
AUG	346	6
SEP	157	64
OCT	32	283
NOV	5	538
DEC	0	886
ANN	1314	4967

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	-29288	0	-6514
FEB	0	-25143	0	-5840
MAR	13	-20560	4	-4298
APR	112	-12207	15	-2024
MAY	608	-5415	625	-355
JUN	1806	-1227	3256	-12
JUL	3601	-199	7646	0
AUG	2710	-388	7533	0
SEP	849	-2665	3092	-31
OCT	67	-9359	553	-677
NOV	5	-16210	68	-2484
DEC	0	-25372	4	-5238
ANN	9771	-148033	22796	-27473

Average Annual Solar Radiation – Nearest Available Site

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

City: NEWARK
 State: NJ
 WBAN No: 14734
 Lat(N): 40.7
 Long(W): 74.17
 Elev(ft): 30

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1
 Overhang: 0.554
 Vert Gap: 0.324

AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 11		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Global	610	860	1190	1520	1740	1880	1850	1660	1350	1000	640	500	1230
	Std Dev	39	72	82	113	139	127	108	74	89	71	51	39	31
	Minimum	550	720	1040	1300	1520	1600	1690	1510	1170	880	530	410	1170
	Maximum	700	1020	1400	1740	2000	2080	2110	1820	1500	1150	750	560	1290
	Diffuse	310	420	560	710	860	910	900	800	630	450	330	270	600
Clear Day	Global	850	1190	1670	2160	2470	2580	2500	2220	1790	1290	890	740	1700
NORTH	Global	190	260	340	440	540	610	580	490	380	290	200	170	370
	Diffuse	190	260	340	430	500	540	530	470	380	290	200	170	360
Clear Day	Global	180	250	330	430	580	670	620	480	360	270	200	160	380
EAST	Global	410	560	730	890	970	1030	1030	950	810	640	420	350	730
	Diffuse	240	320	420	520	600	640	640	580	470	360	250	200	440
Clear Day	Global	640	840	1090	1300	1410	1420	1390	1300	1120	880	660	560	1050
SOUTH	Global	990	1080	1070	960	840	790	820	940	1060	1140	930	860	960
	Diffuse	340	420	490	540	580	590	600	580	530	450	350	300	480
Clear Day	Global	1810	1890	1770	1440	1110	970	1020	1270	1590	1790	1760	1720	1510
WEST	Global	420	550	730	870	950	1020	1010	930	790	640	420	340	720
	Diffuse	240	320	420	530	610	650	640	580	480	360	250	200	440
Clear Day	Global	640	840	1090	1300	1410	1420	1390	1300	1120	880	660	560	1050

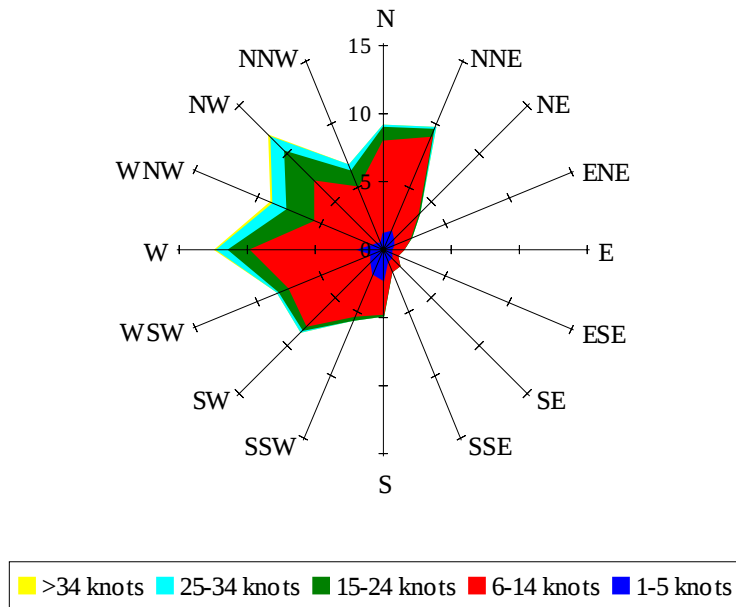
Average Annual Solar Heat and Illumination – Nearest Available Site

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

AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 11		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	390	580	840	1090	1260	1370	1340	1200	960	690	420	320	870
NORTH	Unshaded	130	180	240	300	360	400	390	330	260	200	140	110	250
	Shaded	120	160	210	260	320	350	340	290	230	170	120	99	220
EAST	Unshaded	280	390	520	630	690	730	730	670	570	450	290	230	520
	Shaded	250	340	450	540	580	610	610	570	490	390	260	210	440
SOUTH	Unshaded	740	790	750	630	530	490	510	600	720	830	700	650	660
	Shaded	720	730	590	410	350	360	360	390	520	720	670	630	540
WEST	Unshaded	280	390	520	620	680	720	720	660	560	450	290	230	510
	Shaded	250	340	450	530	570	610	600	560	480	390	250	210	440

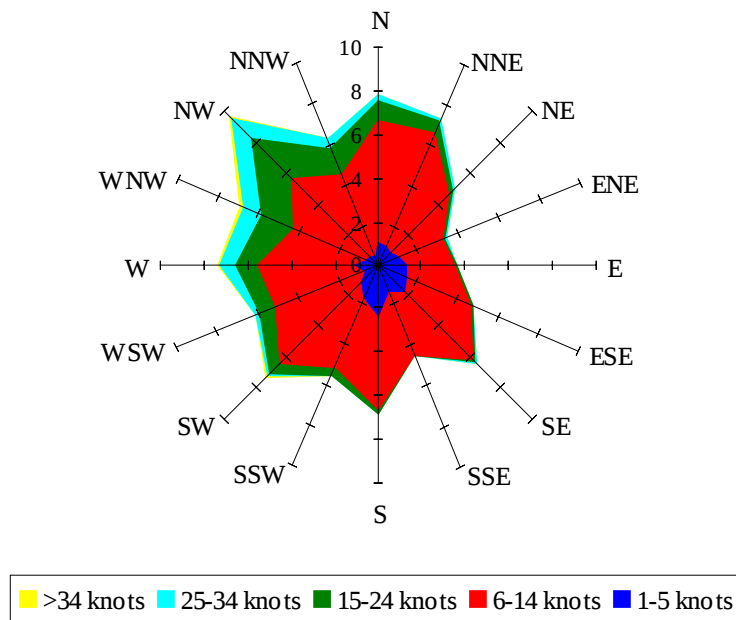
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 11											
		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	39	71	78	60	23	48	84	99	93	64
	M.Cloudy	22	43	46	36	14	29	53	67	64	43
NORTH	M.Clear	10	14	15	13	7	17	17	17	18	15
	M.Cloudy	9	15	16	13	6	13	18	20	19	15
EAST	M.Clear	70	53	15	13	7	74	70	29	18	15
	M.Cloudy	24	28	16	13	6	30	39	25	19	15
SOUTH	M.Clear	40	73	81	62	23	13	35	49	43	20
	M.Cloudy	17	35	39	30	10	12	25	35	32	17
WEST	M.Clear	10	14	25	65	57	13	17	17	54	75
	M.Cloudy	9	15	19	31	19	12	18	20	38	42
M.Clear	(% hrs)	38	34	34	35	35	39	37	33	29	32
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	28	65	82	73	42	14	38	42	24	0
	M.Cloudy	17	40	54	49	27	8	22	25	15	0
NORTH	M.Clear	9	15	16	16	12	5	10	10	7	0
	M.Cloudy	7	15	18	16	11	4	9	10	6	0
EAST	M.Clear	61	66	26	16	12	35	35	10	7	0
	M.Cloudy	20	32	22	16	11	10	15	10	6	0
SOUTH	M.Clear	22	58	75	66	35	34	76	82	53	0
	M.Cloudy	10	29	43	38	18	10	26	29	17	0
WEST	M.Clear	9	15	16	54	67	5	10	22	42	1
	M.Cloudy	7	15	18	33	29	4	9	13	15	0
M.Clear	(% hrs)	43	44	39	37	39	33	33	32	32	35

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



Percent Calm = 2.89

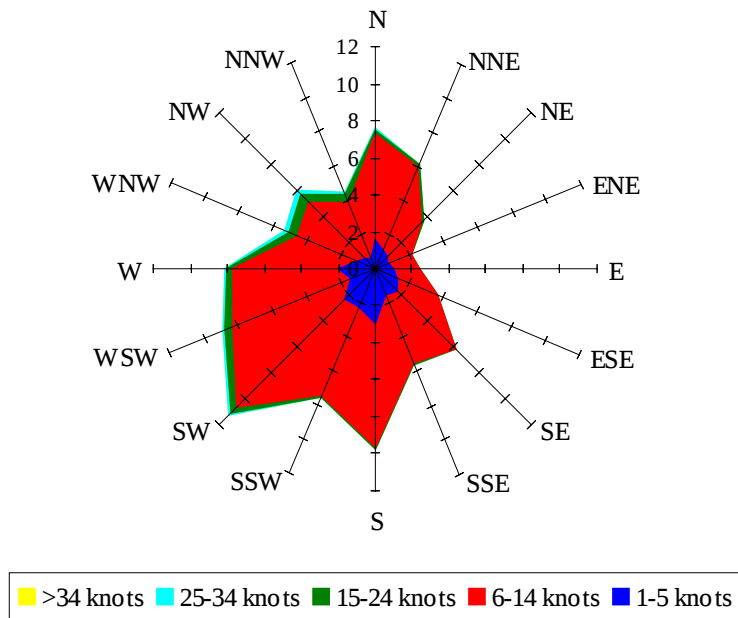
Wind Summary - March, April, and May **Labels of Percent Frequency on North Axis**



Percent Calm = 1.87

Wind Summary - June, July, and August

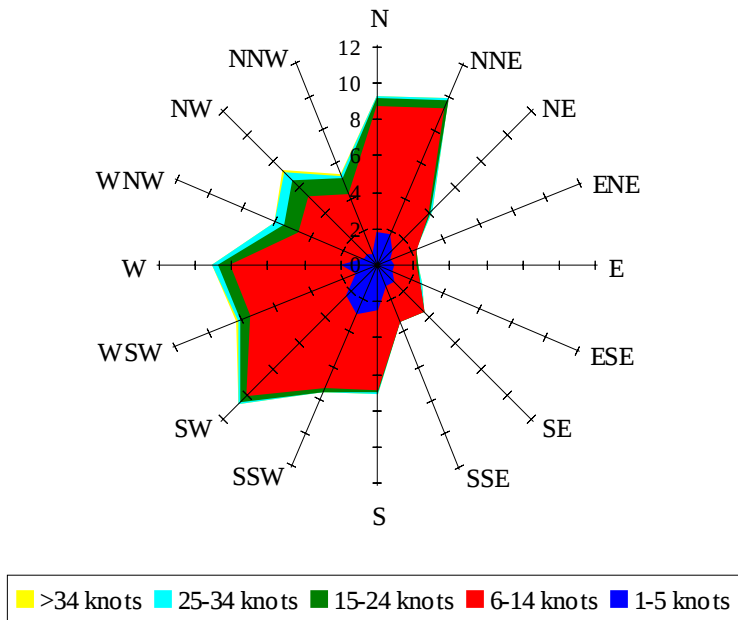
Labels of Percent Frequency on North Axis



Percent Calm = 1.79

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 2.66