NAPLES, ITALY	
Latitude = 40.85 N	WMO No. 162890
Longitude = 14.30 E	Elevation = 236 feet
Period of Record = 1973 to 1996	Average Pressure = 29.69 inches Hg

Design Criteria Data

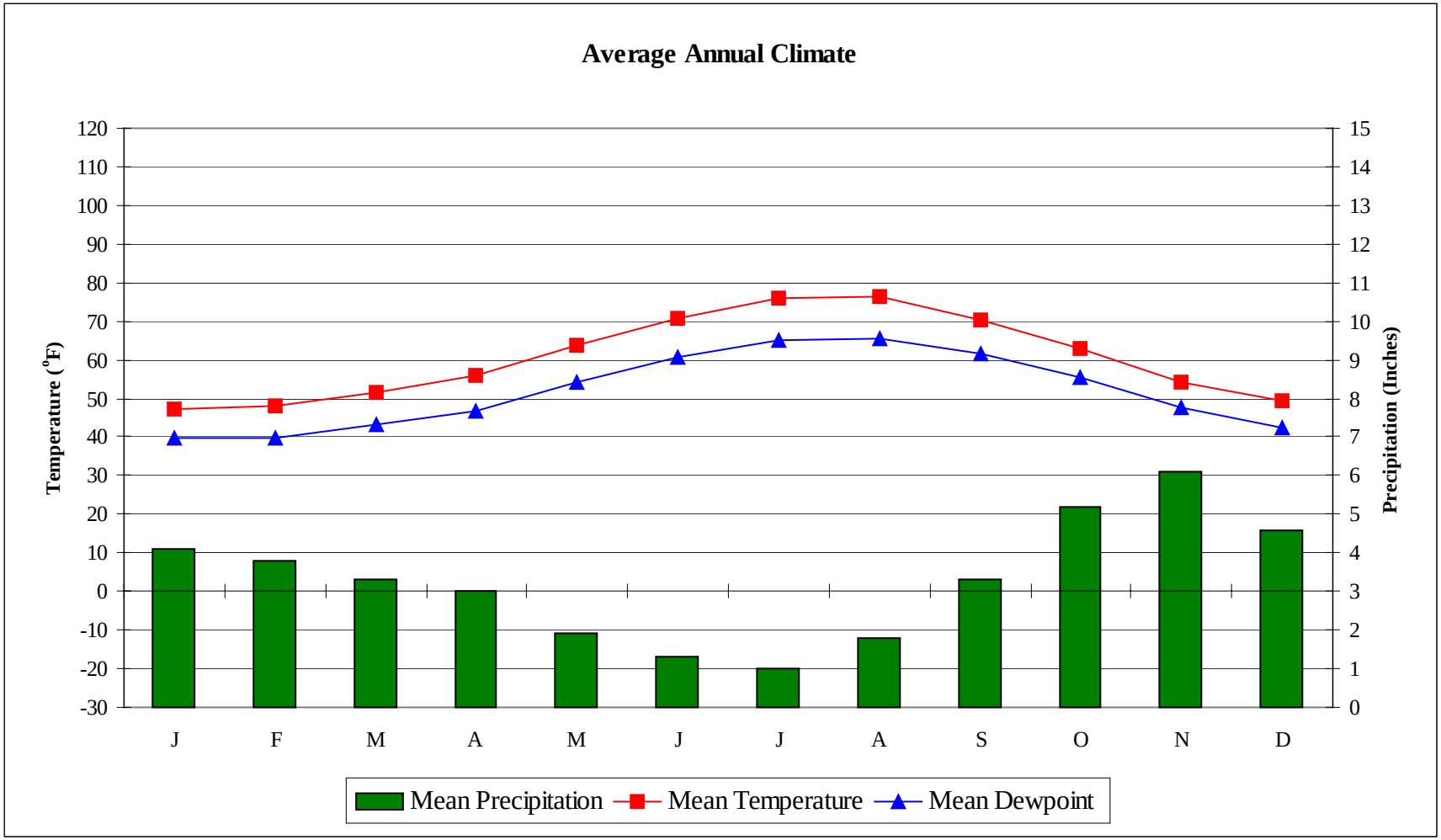
		Mean Coincident (Average) Values			
Dry Bulb Temperature (T)	**Design Value (^oF)**	Wet Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	97	73	86	6.4	SSW
0.4% Occurrence	91	73	97	7.7	S
1.0% Occurrence	88	73	99	7.9	SSW
2.0% Occurrence	86	72	98	7.5	SSW
Mean Daily Range	16	-	-	-	-
97.5% Occurrence	37	34	25	3.8	N
99.0% Occurrence	36	34	25	3.8	N
99.6% Occurrence	32	30	20	3.5	N
Median of Extreme Lows	28	26	16	3.1	NNE
		Mean Coincident (Average) Values			
Wet Bulb Temperature (T_{wb})	**Design Value (^oF)**	Dry Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	82	87	155	7.8	S
0.4% Occurrence	79	85	138	7.2	SSW
1.0% Occurrence	77	84	128	6.5	SSW
2.0% Occurrence	75	82	119	5.7	SSW
		Mean Coincident (Average) Values			
Humidity Ratio (HR)	**Design Value (gr/lb)**	Dry Bulb Temperature (^oF)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	155	84	1.02	7.3	SSW
0.4% Occurrence	141	83	0.94	6.1	SSW
1.0% Occurrence	132	82	0.88	5.4	SSW
2.0% Occurrence	124	80	0.83	4.8	SSW
Air Conditioning/		$T \geq 93^oF$	$T \geq 80^oF$	$T_{wb} \geq 73^oF$	$T_{wb} \geq 67^oF$
Humid Area Criteria	# of Hours	21	681	425	1615

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	N/A	N/A	2.3 + 0.7
Ground Water Temperature (^oF) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft^2)	Average Annual Freeze-Thaw Cycles (#)
63.0	N/A	N/A	4

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

NAPLES, ITALY WMO No. 162890



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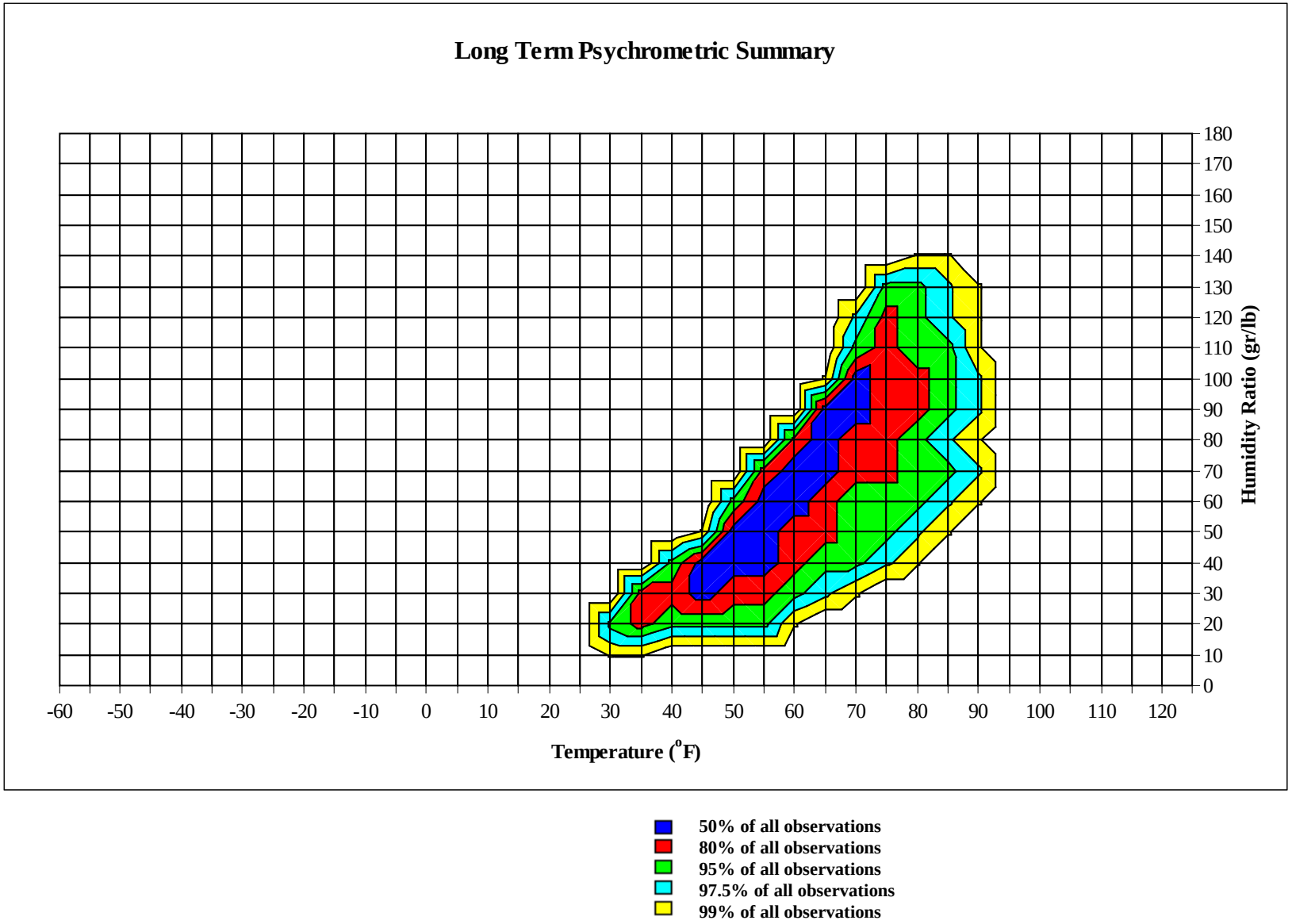

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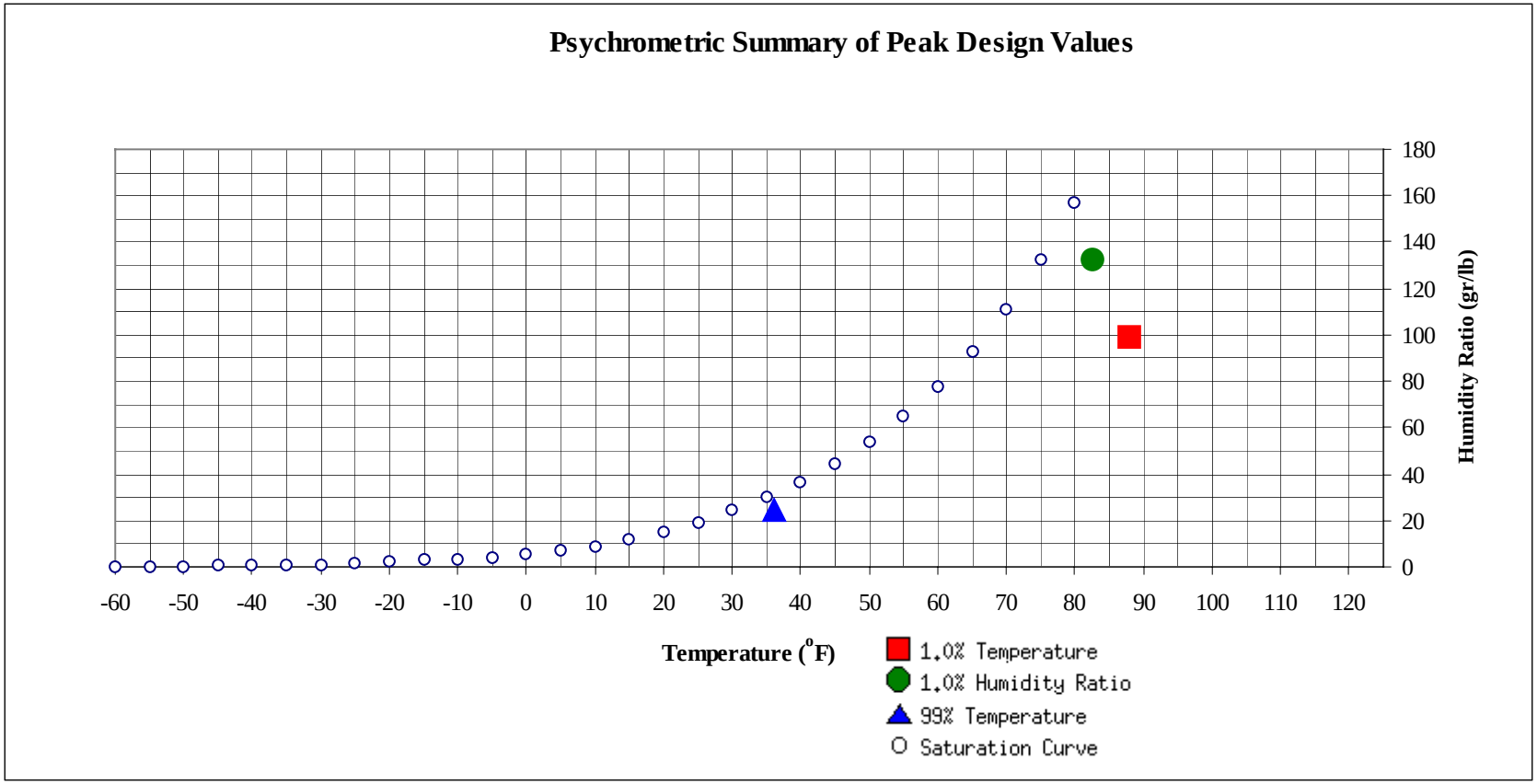


	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	36	24.4	12.4

	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	132.3	82.5	77.2	75.1	40.5

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	88	98.8	72.9	36.6

NAPLES, ITALY WMO No. 162890

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

Period of Record = 1973 to 1996

Temperature Range (°F)	January Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	February Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	March Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84												0		0	61.0
75 / 79											0	2	1	3	57.9
70 / 74							0	0	0	56.1	0	4	1	5	55.3
65 / 69		1		1	56.3	0	1	1	2	54.2	1	9	3	13	55.3
60 / 64	1	11	2	14	54.9	1	15	3	19	52.8	1	47	17	65	54.1
55 / 59	14	63	31	108	51.8	9	65	34	108	51.3	19	90	70	179	51.9
50 / 54	37	77	70	185	48.0	33	66	69	168	47.8	66	60	91	217	48.6
45 / 49	64	53	76	194	43.7	65	46	68	179	43.5	87	27	47	161	44.2
40 / 44	57	24	41	122	39.4	54	20	29	103	39.4	43	6	12	61	39.4
35 / 39	56	14	21	91	35.2	46	9	18	73	35.1	23	3	5	31	35.1
30 / 34	17	4	6	27	30.4	16	2	2	20	30.6	6	1	1	8	28.9
25 / 29	2	0	1	3	25.6	0			0	27.0	1		0	1	24.8
20 / 24	0	0		0	20.4										

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.

NAPLES, ITALY WMO No. 162890

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	April Hour Group (LST) 01 To 08	April 09 To 16	April 17 To 00	April Total Obs	April MCWB (°F)	May Hour Group (LST) 01 To 08	May 09 To 16	May 17 To 00	May Total Obs	May MCWB (°F)	June Hour Group (LST) 01 To 08	June 09 To 16	June 17 To 00	June Total Obs	June MCWB (°F)
100 / 104															
95 / 99												0	0	0	71.3
90 / 94							0	0	0	69.7	0	3	1	4	70.0
85 / 89							2	0	2	66.1	0	11	3	14	69.3
80 / 84		0		0	59.7	0	15	4	19	64.9	0	48	18	66	68.8
75 / 79		4	0	4	58.7	0	39	16	55	63.7	5	91	52	148	67.3
70 / 74	0	19	5	24	57.4	5	69	38	112	61.9	38	64	82	184	65.5
65 / 69	1	28	12	41	56.3	15	51	49	114	60.4	64	15	53	132	63.6
60 / 64	7	74	43	124	55.0	65	53	79	197	58.5	96	7	26	129	60.8
55 / 59	45	75	88	208	52.6	100	17	51	168	55.2	35	1	4	40	56.1
50 / 54	95	33	67	195	49.4	53	3	11	67	50.9	3		0	3	50.4
45 / 49	69	8	22	99	44.9	10	0	0	10	46.1	0			0	47.0
40 / 44	20	0	2	22	40.7										
35 / 39	4	0	0	4	36.8										
30 / 34	0		0	0	32.3										
25 / 29															
20 / 24															

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.

NAPLES, ITALY WMO No. 162890

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

Period of Record = 1973 to 1996

Temperature Range (°F)	July Hour Group (LST) 01 To 08	July 09 To 16	July 17 To 00	July Total Obs	July MCWB (°F)	August Hour Group (LST) 01 To 08	August 09 To 16	August 17 To 00	August Total Obs	August MCWB (°F)	September Hour Group (LST) 01 To 08	September 09 To 16	September 17 To 00	September Total Obs	September MCWB (°F)
100 / 104		0	0	0	74.9		0		0	75.0					
95 / 99		4	1	5	72.9		4	0	4	73.5		0	0	0	73.5
90 / 94		18	6	24	73.7		25	6	31	73.5		2	0	2	72.3
85 / 89		49	16	65	72.6	0	53	18	71	73.4		11	2	13	70.0
80 / 84	2	99	58	159	71.2	2	85	55	142	71.9	1	54	14	69	69.4
75 / 79	31	60	86	177	69.9	33	59	89	181	70.5	2	83	49	134	68.4
70 / 74	95	16	63	174	67.7	100	18	60	179	68.1	25	55	84	164	66.6
65 / 69	78	2	13	93	64.7	68	4	15	87	64.8	68	23	50	141	64.2
60 / 64	37	0	4	41	61.0	40	1	4	45	61.0	98	11	34	144	60.6
55 / 59	5		0	5	56.9	4	0	0	4	56.7	41	1	6	48	55.9
50 / 54			0	0		0	0		0	54.0	4	0	0	4	51.1
45 / 49											0			0	47.0
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															

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.

NAPLES, ITALY WMO No. 162890

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)				MCWB	Hour Group (LST)				MCWB	Hour Group (LST)				MCWB
	01 To 08	09 To 16	17 To 00	Total Obs	(°F)	01 To 08	09 To 16	17 To 00	Total Obs	(°F)	01 To 08	09 To 16	17 To 00	Total Obs	(°F)
100 / 104															
95 / 99															
90 / 94															
85 / 89		0		0	67.0										
80 / 84		8	1	9	67.0										
75 / 79	1	33	8	42	66.0		1		1	63.6					
70 / 74	7	65	36	108	64.3	0	8	1	9	62.2		0		0	57.8
65 / 69	17	54	47	118	62.0	3	27	7	37	60.3	0	1	0	1	56.7
60 / 64	62	54	77	194	59.2	14	68	36	118	57.1	6	29	9	44	56.6
55 / 59	85	25	55	165	55.0	39	67	68	174	53.5	26	74	47	147	53.1
50 / 54	56	8	21	85	50.4	70	45	73	188	49.4	46	68	72	186	48.6
45 / 49	19	0	2	21	45.7	69	19	39	127	44.8	69	48	69	186	43.8
40 / 44	1		0	1	41.7	28	4	10	42	40.0	48	17	30	95	39.6
35 / 39	0			0		15	2	5	22	35.8	42	10	17	69	35.4
30 / 34						2	0	0	2	31.1	10	1	3	14	30.4
25 / 29						0			0	26.0	1	0	0	1	25.6
20 / 24															

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.

NAPLES, ITALY WMO No. 162890

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

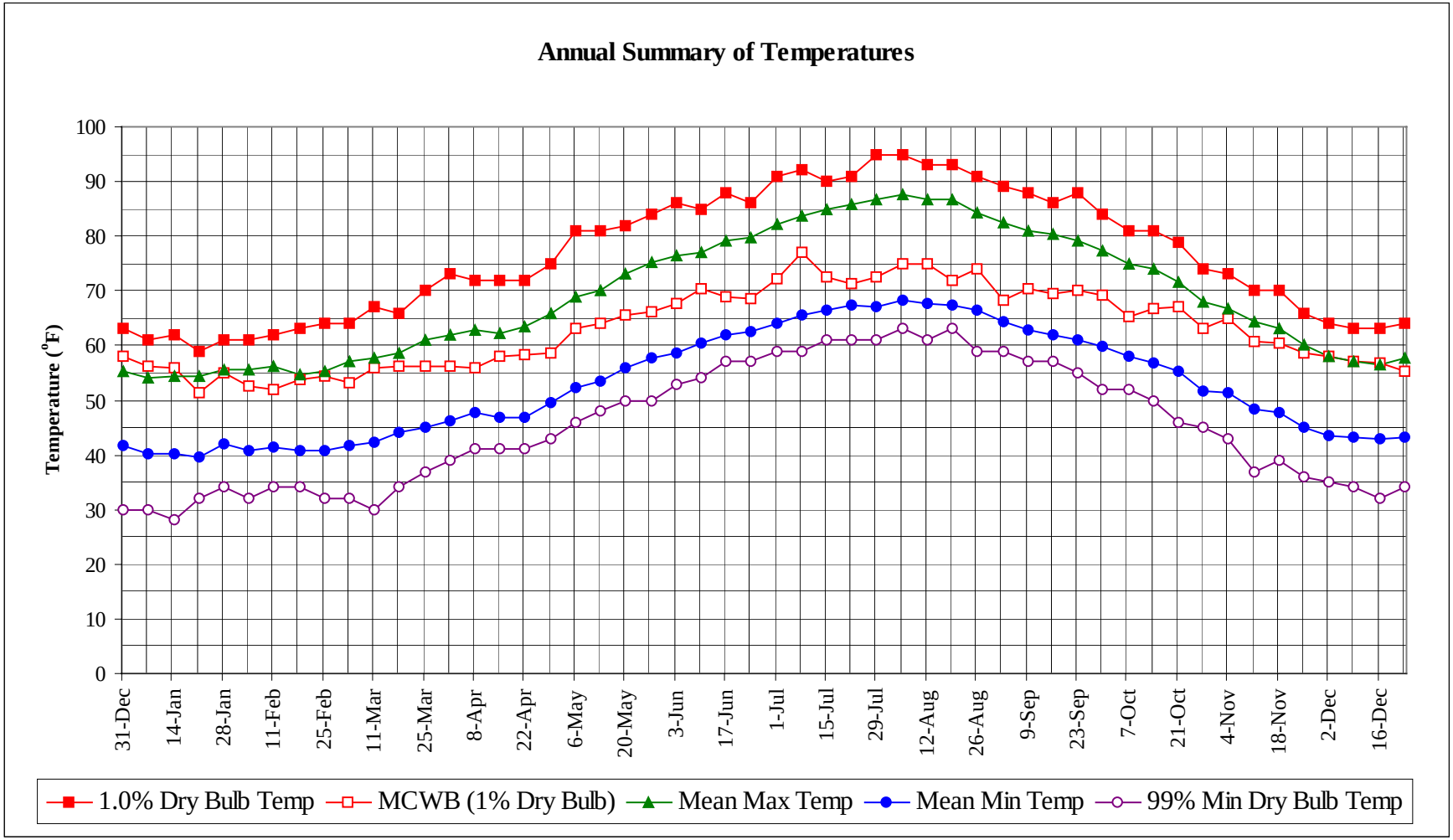
Period of Record = 1973 to 1996

Annual Totals

Temperature Range (°F)	Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
100 / 104		1	0	1	74.9
95 / 99		8	1	9	73.1
90 / 94	0	49	14	63	73.3
85 / 89	0	125	39	164	72.4
80 / 84	5	308	148	461	70.4
75 / 79	71	368	299	738	68.4
70 / 74	269	318	370	957	65.7
65 / 69	314	216	249	778	62.5
60 / 64	427	370	335	1132	58.4
55 / 59	422	477	455	1355	53.4
50 / 54	466	362	478	1306	48.9
45 / 49	452	201	327	980	44.1
40 / 44	252	72	126	450	39.6
35 / 39	186	37	65	288	35.3
30 / 34	51	8	12	71	30.3
25 / 29	5	1	1	7	25.6
20 / 24	0	0		0	20.4

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.

NAPLES, ITALY WMO No. 162890



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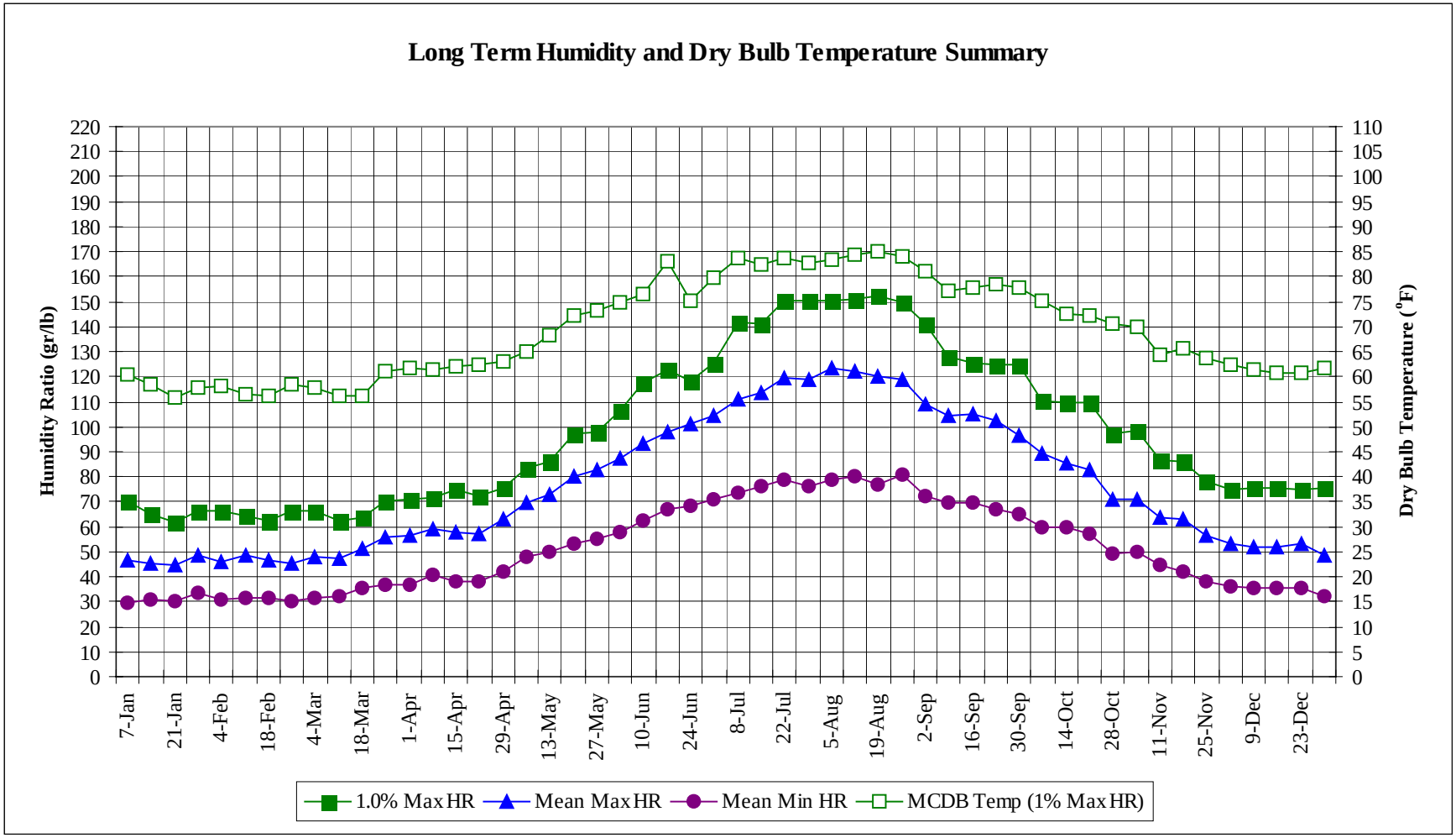
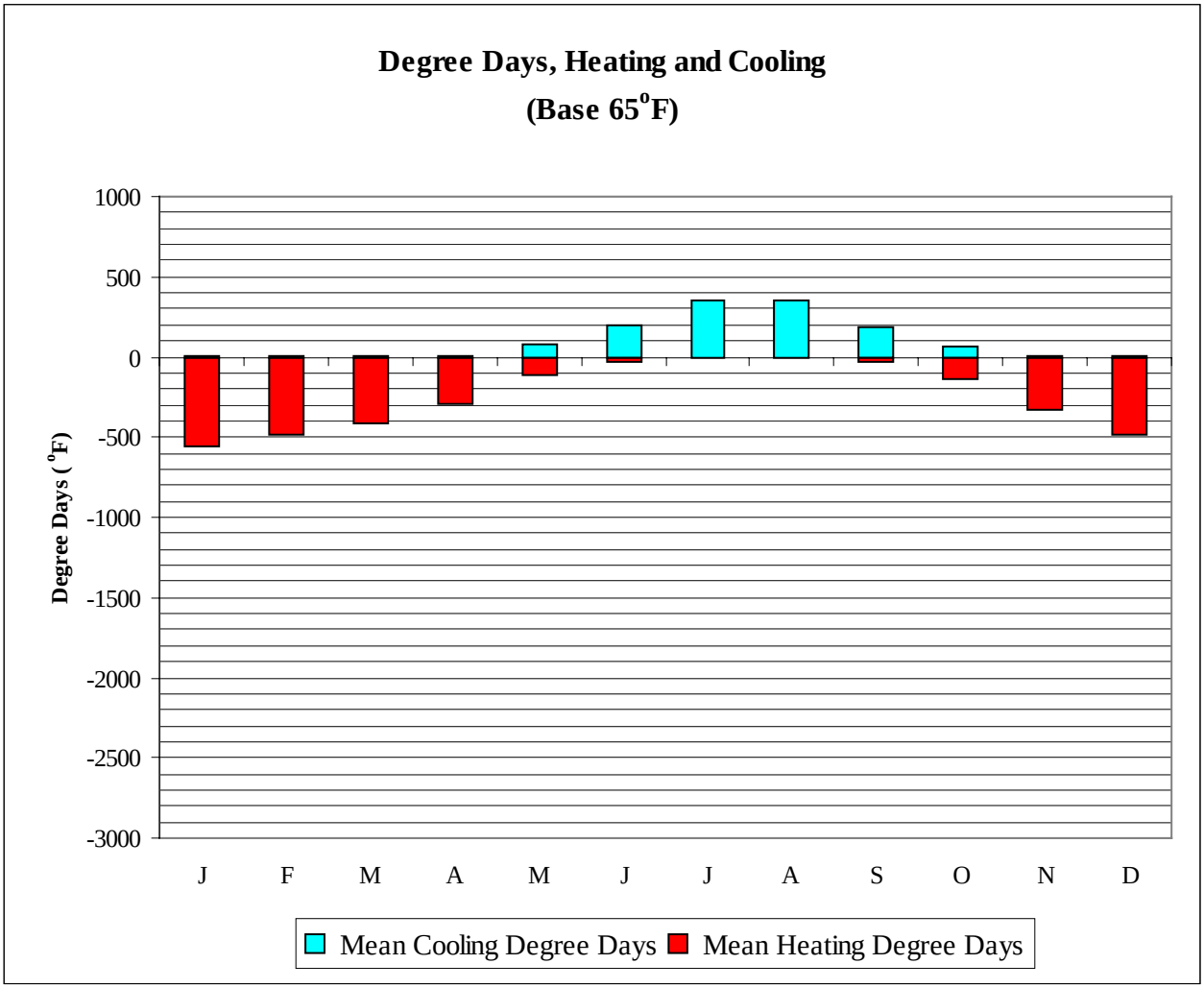


NAPLES, ITALY WMO No. 162890

Long Term Dry Bulb Temperature and Humidity Summary

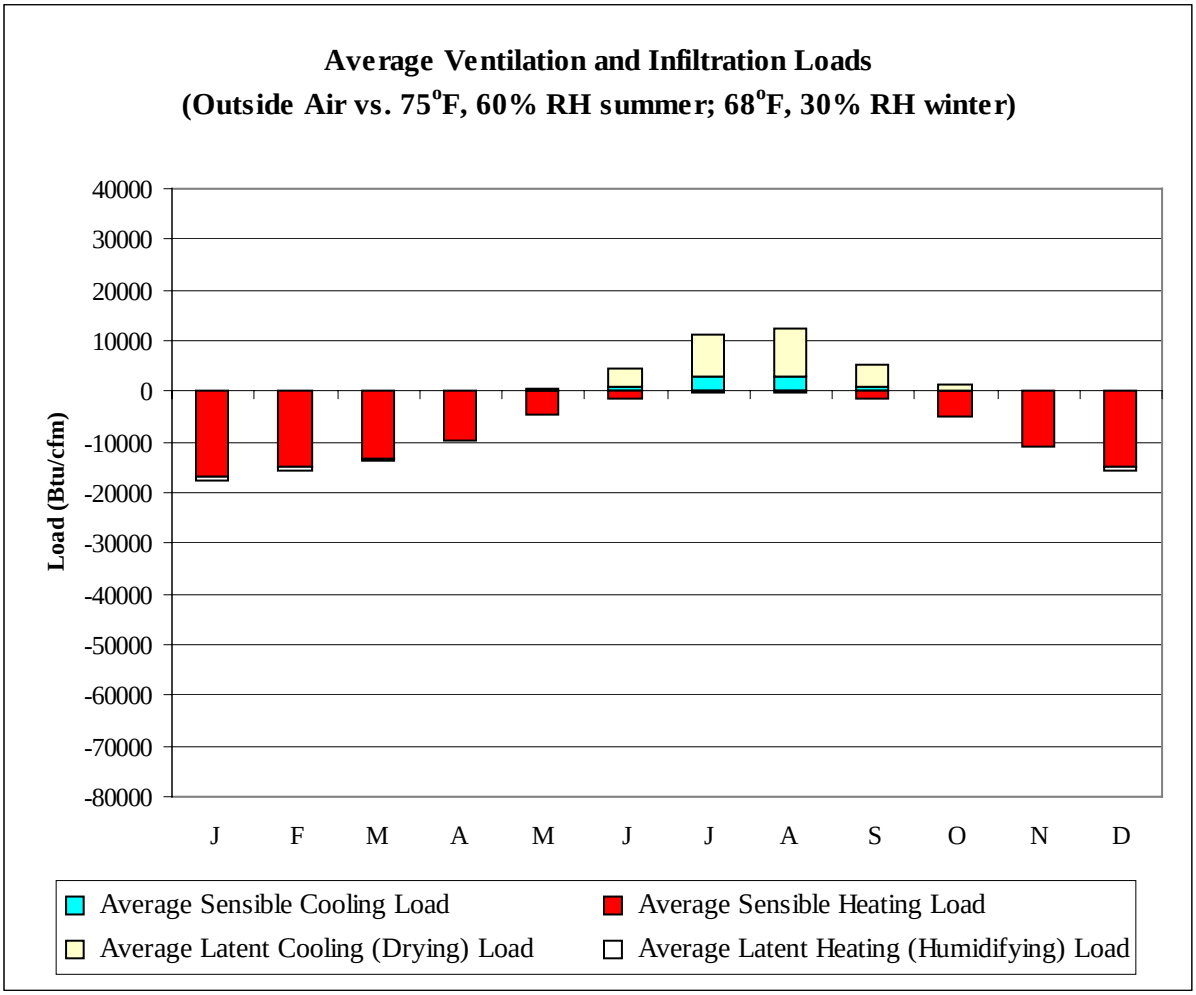
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	61.0	56.2	54.2	40.1	30.0	70.0	60.5	46.5	29.8
14-Jan	62.0	56.0	54.3	40.1	28.0	65.1	58.4	45.2	30.9
21-Jan	59.0	51.5	54.4	39.6	32.0	61.6	55.8	44.9	30.0
28-Jan	61.0	54.9	55.5	42.1	34.0	66.5	57.9	48.8	33.5
4-Feb	61.0	52.5	55.6	40.8	32.0	66.5	58.1	46.3	30.8
11-Feb	62.0	52.0	56.3	41.4	34.0	64.4	56.3	48.4	31.7
18-Feb	63.0	53.9	54.6	40.9	34.0	62.3	56.1	46.6	31.2
25-Feb	64.0	54.5	55.3	40.8	32.0	66.5	58.3	45.0	30.2
4-Mar	64.0	53.2	57.0	41.8	32.0	66.5	58.0	48.0	31.7
11-Mar	67.0	56.0	57.7	42.4	30.0	62.3	56.2	47.5	32.4
18-Mar	66.0	56.1	58.8	44.1	34.0	63.7	56.2	51.4	35.7
25-Mar	70.0	56.1	61.1	45.0	37.0	70.0	60.9	55.8	36.5
1-Apr	73.0	56.1	62.0	46.2	39.0	70.7	61.7	56.5	36.8
8-Apr	72.0	56.0	62.9	47.7	41.0	71.4	61.3	59.4	40.5
15-Apr	72.0	57.9	62.4	46.7	41.0	74.9	61.9	57.5	38.2
22-Apr	72.0	58.2	63.5	46.9	41.0	72.1	62.3	57.4	38.2
29-Apr	75.0	58.6	65.8	49.7	43.0	75.6	63.0	63.1	41.8
6-May	81.0	63.1	69.0	52.3	46.0	83.3	65.0	69.3	47.7
13-May	81.0	63.9	70.0	53.5	48.0	86.1	68.4	72.9	49.8
20-May	82.0	65.7	73.0	55.9	50.0	97.3	72.3	80.0	53.3
27-May	84.0	66.1	75.3	57.8	50.0	98.0	73.3	82.7	55.0
3-Jun	86.0	67.6	76.5	58.7	53.0	106.4	74.8	87.3	57.7
10-Jun	85.0	70.5	77.0	60.4	54.0	117.6	76.5	93.3	62.6
17-Jun	88.0	68.9	79.2	62.0	57.0	122.5	83.0	97.6	66.7
24-Jun	86.0	68.5	79.8	62.6	57.0	118.3	75.1	101.2	68.3
1-Jul	91.0	72.1	82.2	64.2	59.0	125.3	79.8	104.5	70.7
8-Jul	92.0	77.0	83.7	65.4	59.0	142.1	83.8	111.1	73.5
15-Jul	90.0	72.5	84.9	66.5	61.0	141.4	82.5	113.8	76.3
22-Jul	91.0	71.5	85.8	67.5	61.0	150.5	83.6	119.3	78.8
29-Jul	95.0	72.6	86.7	67.1	61.0	150.5	82.9	118.8	76.0
5-Aug	95.0	75.1	87.7	68.2	63.0	150.5	83.5	123.3	78.5
12-Aug	93.0	74.9	86.9	67.8	61.0	151.2	84.4	122.0	80.3
19-Aug	93.0	72.0	86.7	67.4	63.0	152.6	85.1	120.4	77.1
26-Aug	91.0	73.9	84.3	66.5	59.0	149.8	84.0	118.7	80.5
2-Sep	89.0	68.3	82.5	64.5	59.0	141.4	81.0	109.3	72.1
9-Sep	88.0	70.4	81.0	62.8	57.0	128.1	77.1	104.7	69.8
16-Sep	86.0	69.4	80.5	61.9	57.0	125.3	77.8	105.3	69.7
23-Sep	88.0	70.2	79.3	61.0	55.0	124.6	78.6	102.2	67.2
30-Sep	84.0	69.2	77.2	59.9	52.0	124.6	77.8	96.3	65.2
7-Oct	81.0	65.4	75.0	57.9	52.0	110.6	75.3	89.6	59.8
14-Oct	81.0	66.9	73.9	56.9	50.0	109.9	72.5	85.1	59.5
21-Oct	79.0	67.0	71.5	55.2	46.0	109.9	72.2	83.0	57.5
28-Oct	74.0	63.3	67.8	51.6	45.0	97.3	70.5	70.7	49.3
4-Nov	73.0	65.0	66.7	51.3	43.0	98.7	70.0	71.1	50.1
11-Nov	70.0	60.7	64.4	48.2	37.0	86.8	64.4	63.9	44.9
18-Nov	70.0	60.5	63.0	47.9	39.0	86.1	65.5	63.1	42.4
25-Nov	66.0	58.8	60.0	44.9	36.0	78.4	63.8	56.7	38.1
2-Dec	64.0	58.1	58.0	43.5	35.0	74.9	62.4	53.3	36.1
9-Dec	63.0	57.2	57.1	43.1	34.0	75.6	61.3	51.8	35.6
16-Dec	63.0	56.9	56.5	43.0	32.0	75.6	60.7	51.8	35.6
23-Dec	64.0	55.2	57.7	43.2	34.0	74.9	60.7	53.3	35.7
31-Dec	63.0	57.9	55.4	41.8	30.0	75.6	61.7	48.7	32.4

NAPLES, ITALY WMO No. 162890



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	552
FEB	0	483
MAR	3	415
APR	11	288
MAY	82	114
JUN	199	24
JUL	351	4
AUG	355	4
SEP	187	29
OCT	64	133
NOV	5	335
DEC	0	488
ANN	1257	2869

NAPLES, ITALY WMO No. 162890



	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	-16719	0	-907
FEB	0	-14708	0	-795
MAR	5	-13131	0	-542
APR	4	-9632	3	-130
MAY	262	-4503	434	-10
JUN	1005	-1305	3410	-1
JUL	2906	-333	8361	0
AUG	3002	-348	9542	0
SEP	963	-1512	4474	-1
OCT	124	-5090	1145	-6
NOV	0	-10926	61	-172
DEC	0	-15044	2	-608
ANN	8271	-93251	27432	-3172

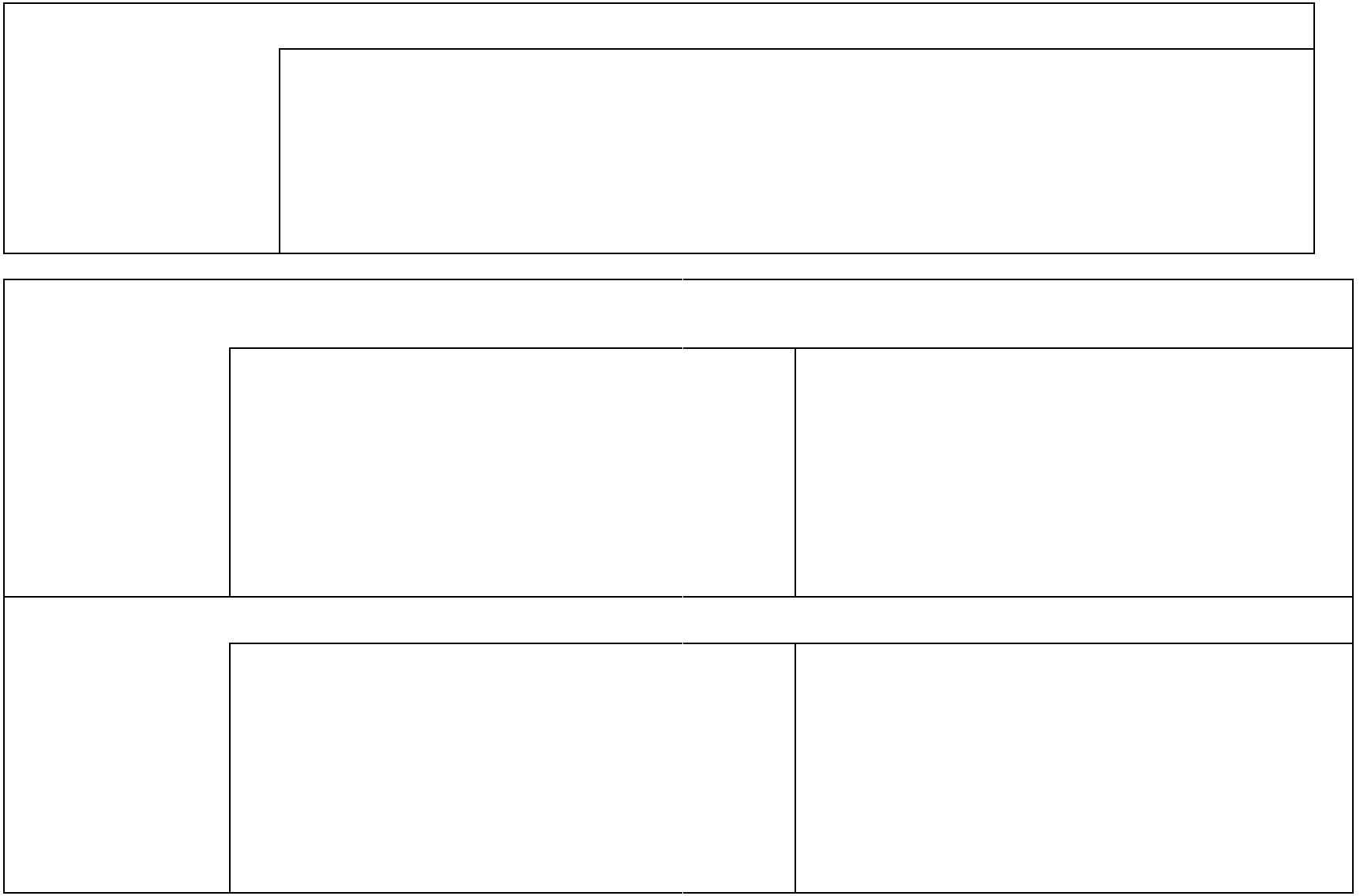
Average Annual Solar Radiation – Nearest Available Site

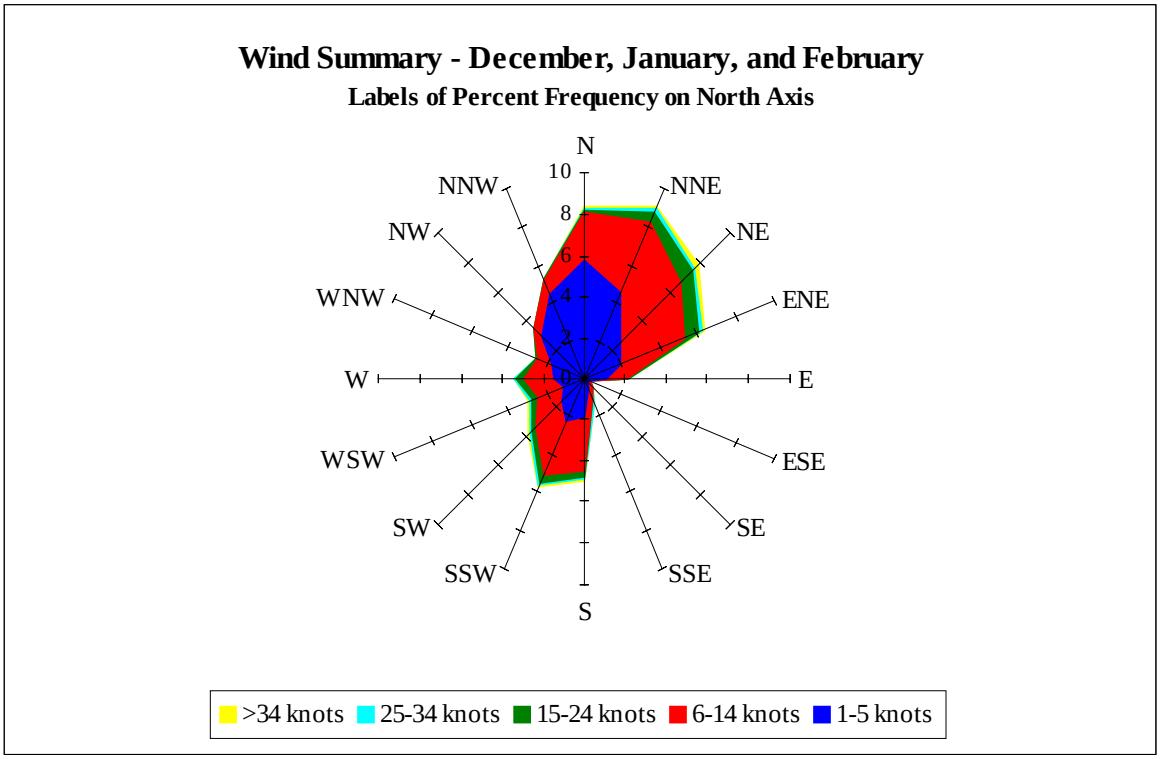
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

No Solar Radiation
Data Available

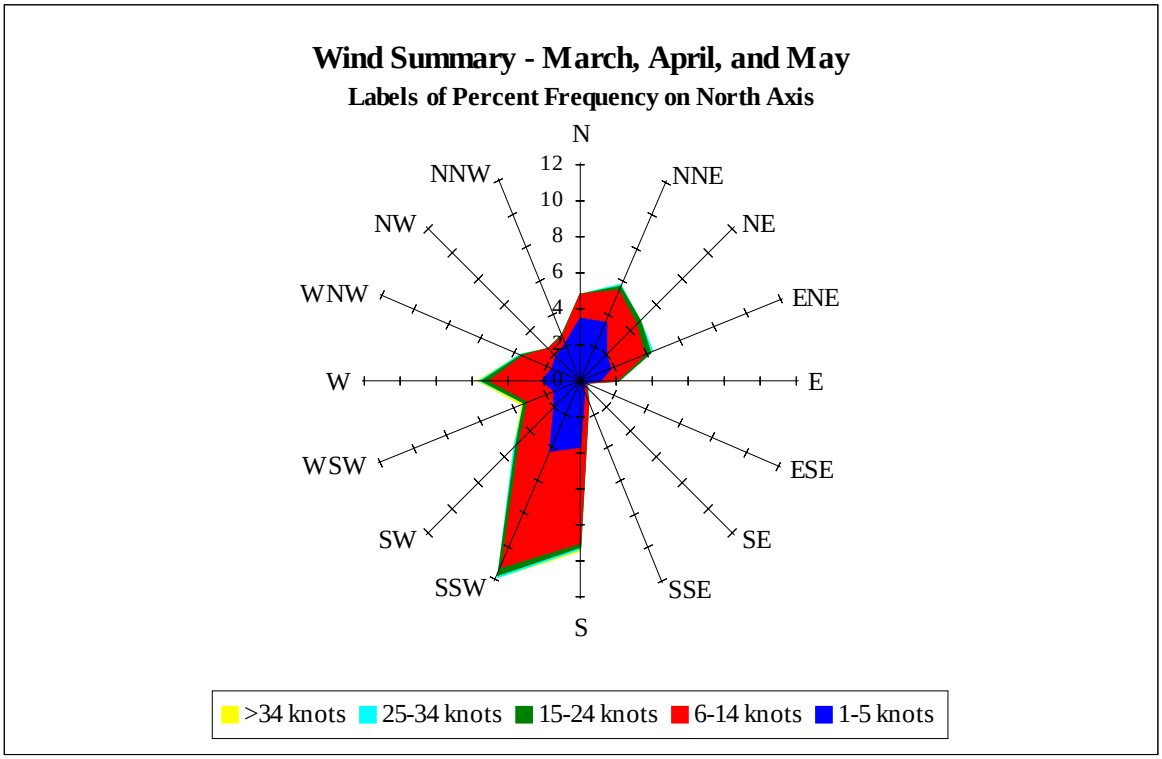
Average Annual Solar Heat and Illumination – Nearest Available Site

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

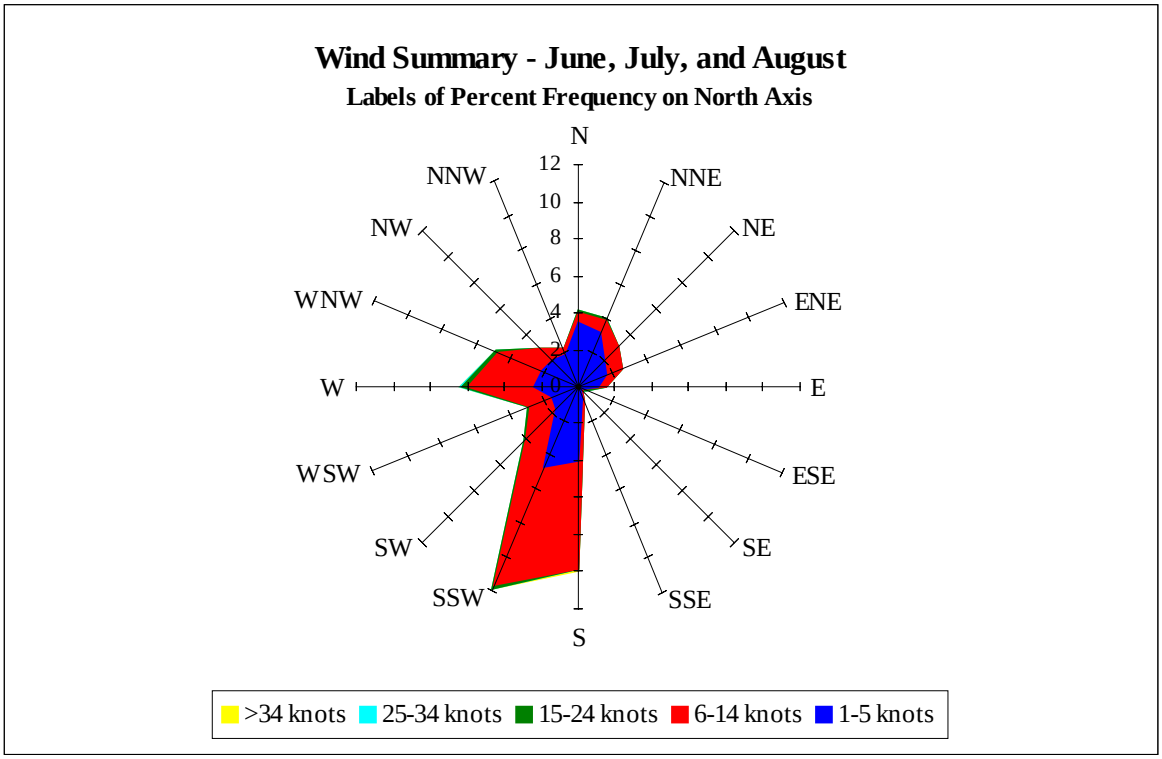




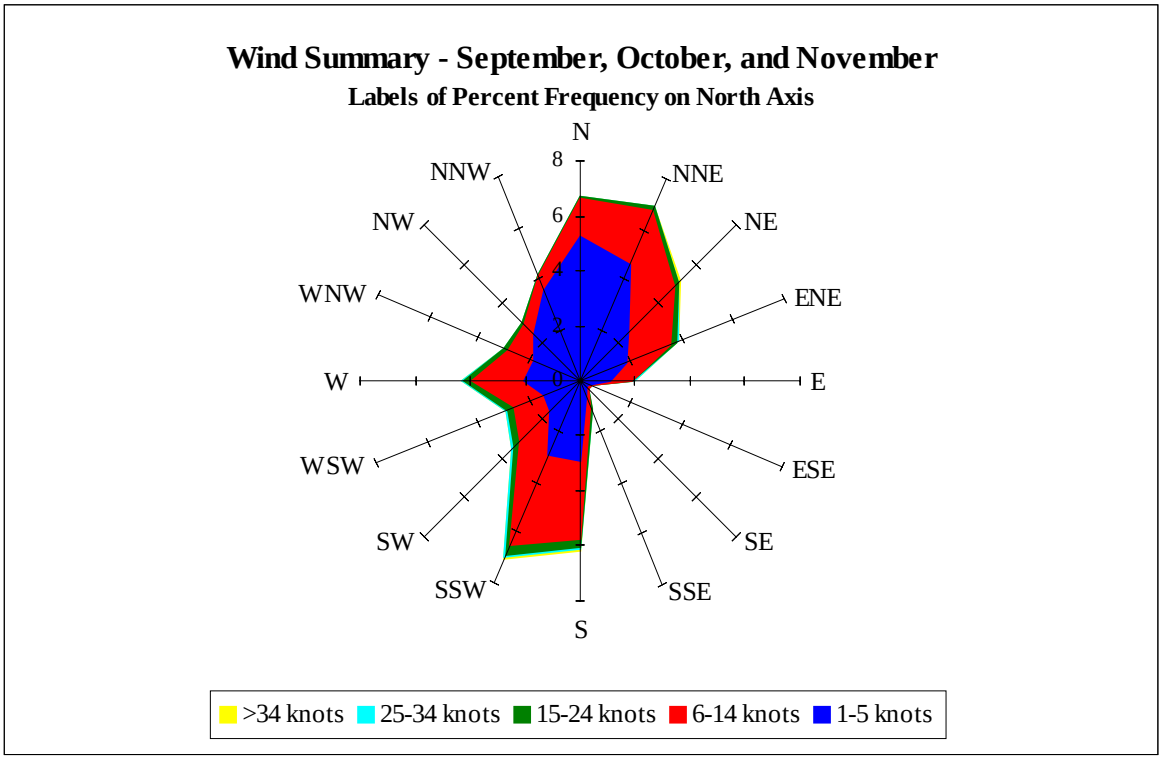
Percent Calm = 32.27



Percent Calm = 32.41



Percent Calm = 37.98



Percent Calm = 39.30