SIGONELLA NAS ITALY	
Latitude = 37.40 N	WMO No. 164594
Longitude = 14.93 E	Elevation = 72 feet
Period of Record = 1979 to 1996	Average Pressure = 29.88 inches Hg

Design Criteria Data

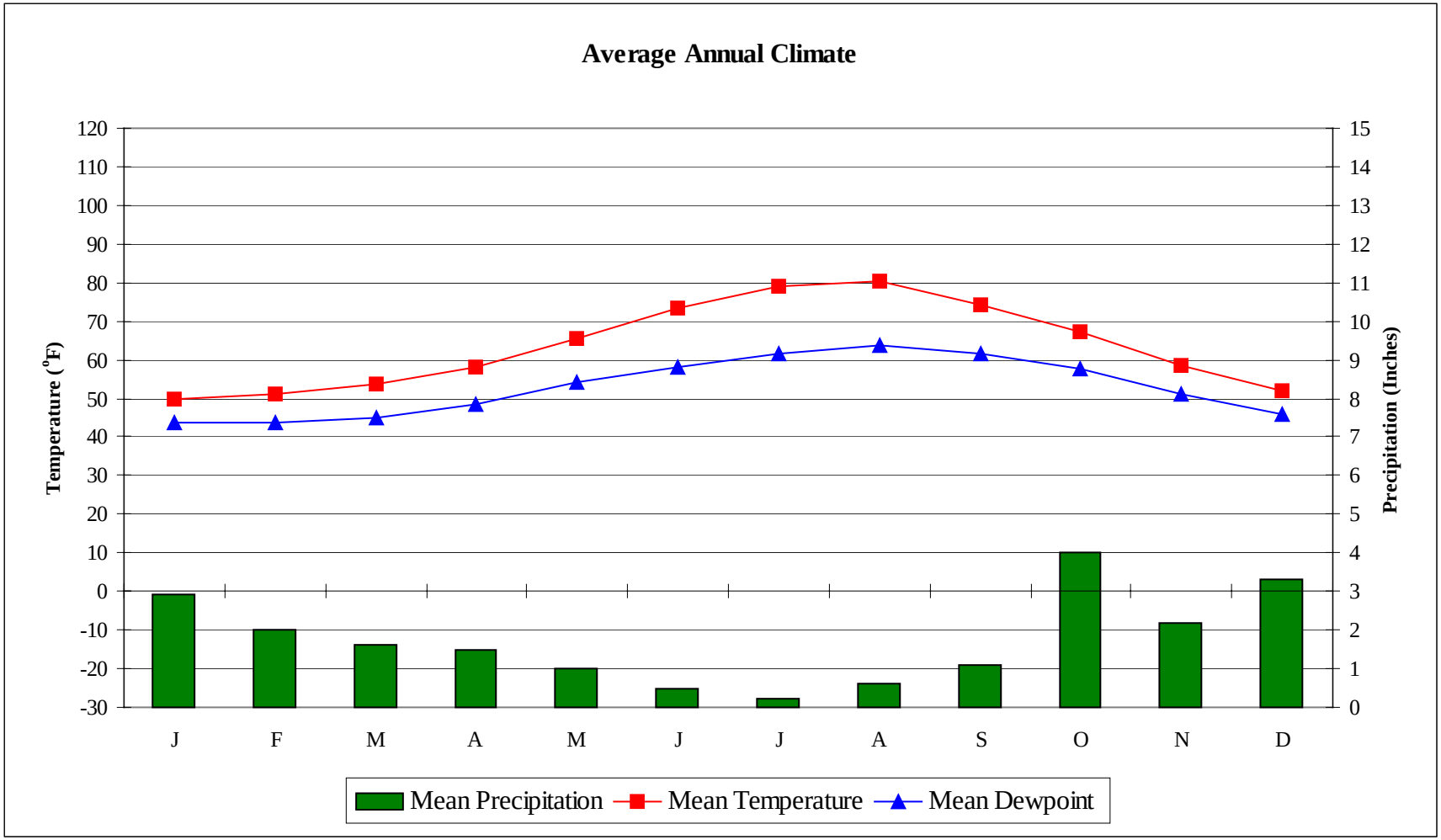
		Mean Coincident (Average) Values			
Dry Bulb Temperature (T)	**Design Value (^oF)**	Wet Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	106	73	68	11.9	WSW
0.4% Occurrence	99	72	75	10.3	E
1.0% Occurrence	95	73	84	10.0	E
2.0% Occurrence	91	72	87	9.9	E
Mean Daily Range	22	-	-	-	-
97.5% Occurrence	39	38	30	3.2	W
99.0% Occurrence	37	36	28	3.1	W
99.6% Occurrence	34	33	25	3.0	W
Median of Extreme Lows	30	29	21	2.7	W
		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	80	91	132	11.5	E
0.4% Occurrence	77	89	116	10.4	E
1.0% Occurrence	75	88	108	9.3	E
2.0% Occurrence	74	87	104	8.8	E
		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	141	83	0.94	7.3	E
0.4% Occurrence	125	82	0.83	7.3	E
1.0% Occurrence	117	81	0.78	6.8	E
2.0% Occurrence	110	80	0.74	6.7	E
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	162	1212	383	1731

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	1.2 + 1.3
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 (#)**
66.2	N/A	N/A	2

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

SIGONELLA NAS ITALY WMO No. 164594



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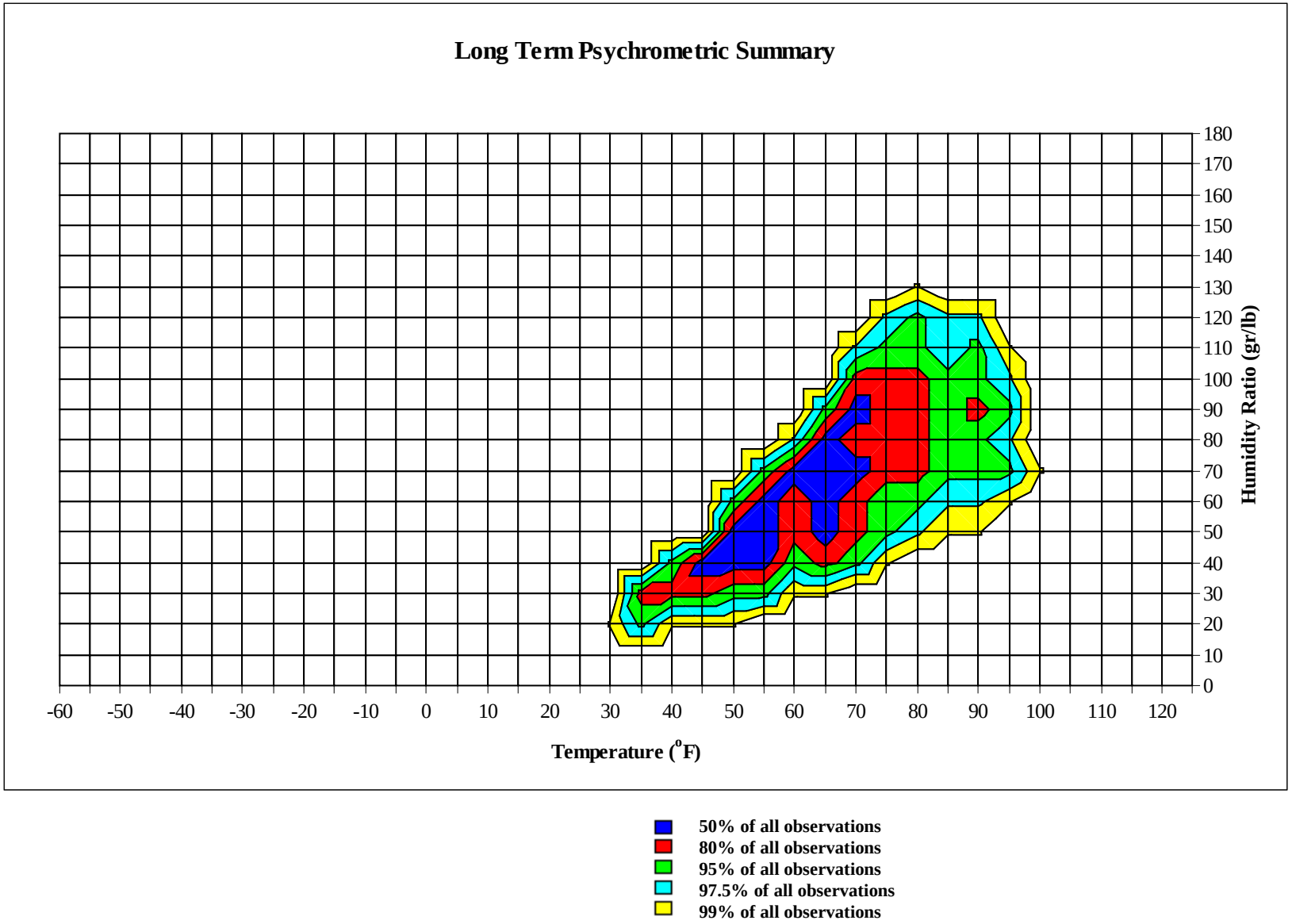

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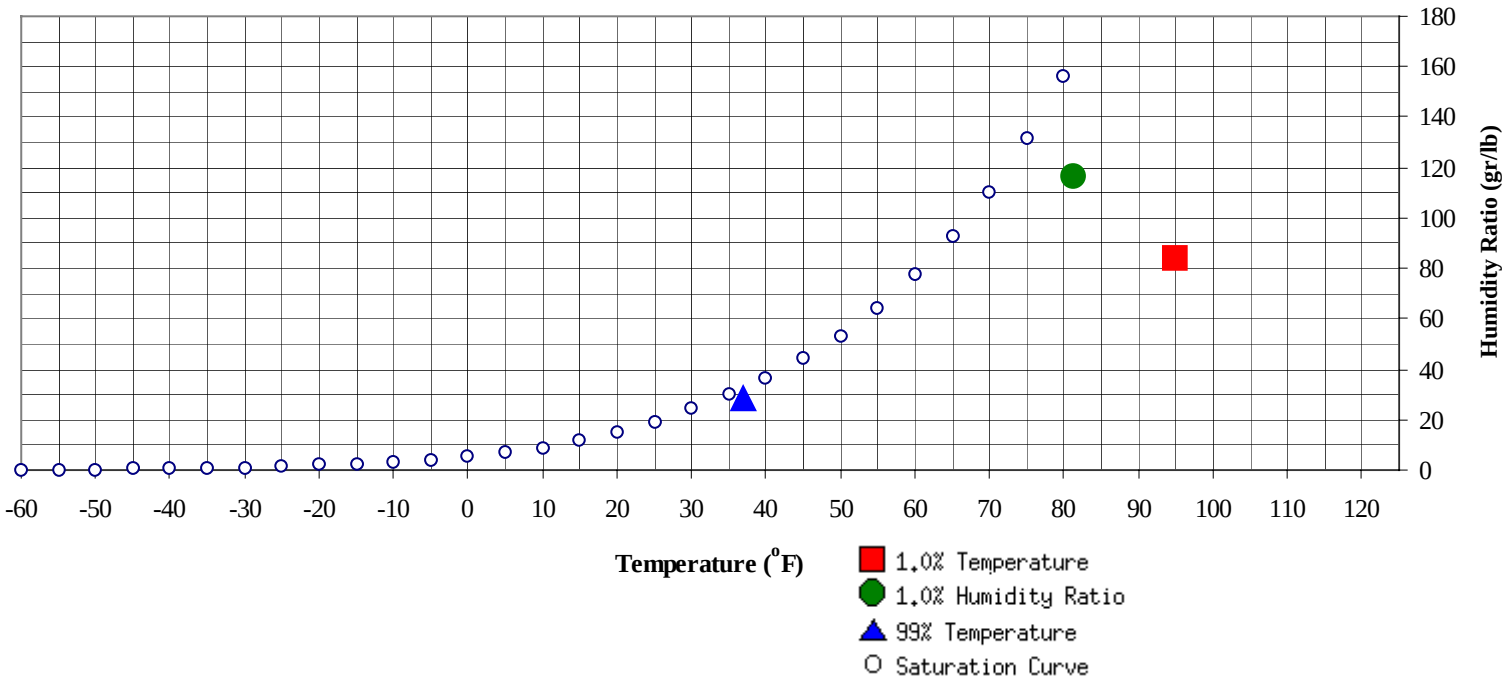
Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	37	28.3	13.2

	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	116.9	81.3	74.5	71.6	37.8

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	95	84	72.6	36.0

SIGONELLA NAS ITALY WMO No. 164594

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

Period of Record = 1979 to 1996

Temperature Range (°F)	January Hour Group (LST) 01 To 08	January 09 To 16	January 17 To 00	January Total Obs	January MCWB (°F)	February Hour Group (LST) 01 To 08	February 09 To 16	February 17 To 00	February Total Obs	February MCWB (°F)	March Hour Group (LST) 01 To 08	March 09 To 16	March 17 To 00	March Total Obs	March MCWB (°F)
115 / 119															
110 / 114															
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84												0		0	61.8
75 / 79												5		5	60.6
70 / 74		4		4	59.4		10	0	10	58.8		36	1	37	58.9
65 / 69		10	0	10	58.0		17	1	18	57.0	0	37	3	40	57.4
60 / 64	1	70	6	76	54.8	1	69	12	81	54.5	2	83	29	114	55.2
55 / 59	12	74	39	124	52.0	9	64	44	117	51.5	25	52	72	149	52.3
50 / 54	45	56	91	192	48.9	39	43	77	159	48.6	55	26	75	155	48.9
45 / 49	75	27	78	180	44.4	73	19	65	157	44.2	84	8	49	141	44.3
40 / 44	44	5	23	72	40.6	45	1	16	62	40.5	38	1	12	51	40.3
35 / 39	61	2	10	73	36.7	49	0	10	59	36.9	37	0	7	44	36.5
30 / 34	12		1	13	31.8	7		0	7	32.6	7		1	8	31.5
25 / 29	0		0	0	27.2						0			0	28.0

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.

SIGONELLA NAS ITALY WMO No. 164594

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

Period of Record = 1979 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)
115 / 119															
110 / 114															
105 / 109												0		0	74.0
100 / 104							1		1	68.2		1		1	71.4
95 / 99							2		2	68.5		4		4	70.5
90 / 94		0		0	66.0		6	1	7	68.1		31	2	33	70.0
85 / 89		0		0	63.6	0	8	1	9	67.7	0	43	3	46	68.9
80 / 84		3	0	3	63.9	0	38	3	41	66.2	4	102	27	133	67.5
75 / 79	0	18	1	19	62.1	2	77	14	93	64.0	14	45	47	105	65.7
70 / 74	0	77	6	83	59.5	8	76	40	124	61.9	42	11	88	141	64.0
65 / 69	1	50	11	62	57.4	16	18	41	75	60.7	42	2	42	86	61.8
60 / 64	17	67	62	146	56.0	68	18	92	178	58.4	99	1	29	129	58.8
55 / 59	46	21	78	145	53.1	81	3	42	127	54.5	35	0	3	38	54.7
50 / 54	72	4	61	137	49.3	51	0	14	65	50.4	4		0	4	50.6
45 / 49	78	0	19	96	44.9	22		1	23	45.5					
40 / 44	20		2	22	40.9										
35 / 39	7		0	7	37.6										
30 / 34															
25 / 29															

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.

SIGONELLA NAS ITALY WMO No. 164594

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

Period of Record = 1979 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)
115 / 119							0		0	74.0					
110 / 114							0		0	72.0					
105 / 109		4	0	4	73.0		3	0	3	72.6		0		0	73.0
100 / 104		6	1	7	72.7		8	0	8	72.1		2		2	71.3
95 / 99		27	1	28	72.6		34	2	36	72.8		6	0	6	72.9
90 / 94	1	96	12	108	71.7	0	106	12	118	72.8		31	1	32	71.7
85 / 89	1	54	18	72	70.5	1	44	21	66	72.2	0	41	3	44	70.5
80 / 84	14	51	65	130	69.4	15	45	74	134	71.1	1	93	26	120	69.6
75 / 79	37	7	81	125	67.9	46	8	92	146	69.4	14	47	71	132	68.3
70 / 74	98	2	61	161	64.9	128	1	44	173	66.1	70	17	97	184	65.9
65 / 69	59	1	8	68	62.2	42		3	45	63.0	62	2	27	91	62.9
60 / 64	35		2	37	59.3	15		0	15	59.6	80	0	15	95	59.3
55 / 59	2			2	54.5	1			1	54.3	13		0	13	54.5
50 / 54											0			0	51.3
45 / 49															
40 / 44															
35 / 39															
30 / 34															
25 / 29															

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.

SIGONELLA NAS ITALY WMO No. 164594

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

Period of Record = 1979 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)
115 / 119															
110 / 114															
105 / 109															
100 / 104															
95 / 99															
90 / 94		2		2	70.4										
85 / 89		7		7	69.9		0		0						
80 / 84		47	2	49	68.5		1		1	69.7					
75 / 79	1	77	15	92	66.3		15	0	15	65.4					
70 / 74	18	77	72	167	64.5	1	65	6	72	62.6		12		12	60.7
65 / 69	27	20	47	94	62.3	2	42	15	59	60.5		20	1	21	58.3
60 / 64	100	17	82	200	59.3	26	69	71	166	58.0	4	77	16	97	55.7
55 / 59	69	1	25	95	54.5	61	36	79	176	54.0	22	70	66	157	52.7
50 / 54	26	0	4	30	50.1	74	10	48	133	49.9	65	45	84	194	49.6
45 / 49	7		1	8	45.1	56	1	19	76	44.9	78	20	57	155	44.6
40 / 44	1			1	40.6	12	0	2	14	40.5	39	3	16	58	40.6
35 / 39	0			0	39.0	7		1	8	36.6	35	1	7	43	36.9
30 / 34						1			1	31.2	6	0	1	7	32.0
25 / 29											0			0	28.0

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.

SIGONELLA NAS ITALY WMO No. 164594

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

Period of Record = 1979 to 1996

Annual Totals

Temperature Range (°F)	Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
115 / 119		0		0	74.0
110 / 114		0		0	72.0
105 / 109		7	0	7	72.8
100 / 104		17	1	18	72.1
95 / 99		72	4	76	72.5
90 / 94	1	273	27	301	71.9
85 / 89	2	197	45	243	70.5
80 / 84	35	380	196	610	69.1
75 / 79	113	299	317	728	67.0
70 / 74	363	392	410	1165	63.9
65 / 69	249	222	197	668	60.9
60 / 64	445	471	420	1336	57.5
55 / 59	377	318	452	1148	53.2
50 / 54	436	181	457	1074	49.3
45 / 49	474	75	286	836	44.5
40 / 44	198	10	71	278	40.5
35 / 39	195	4	35	234	36.8
30 / 34	33	0	3	36	31.9
25 / 29	1		0	1	27.6

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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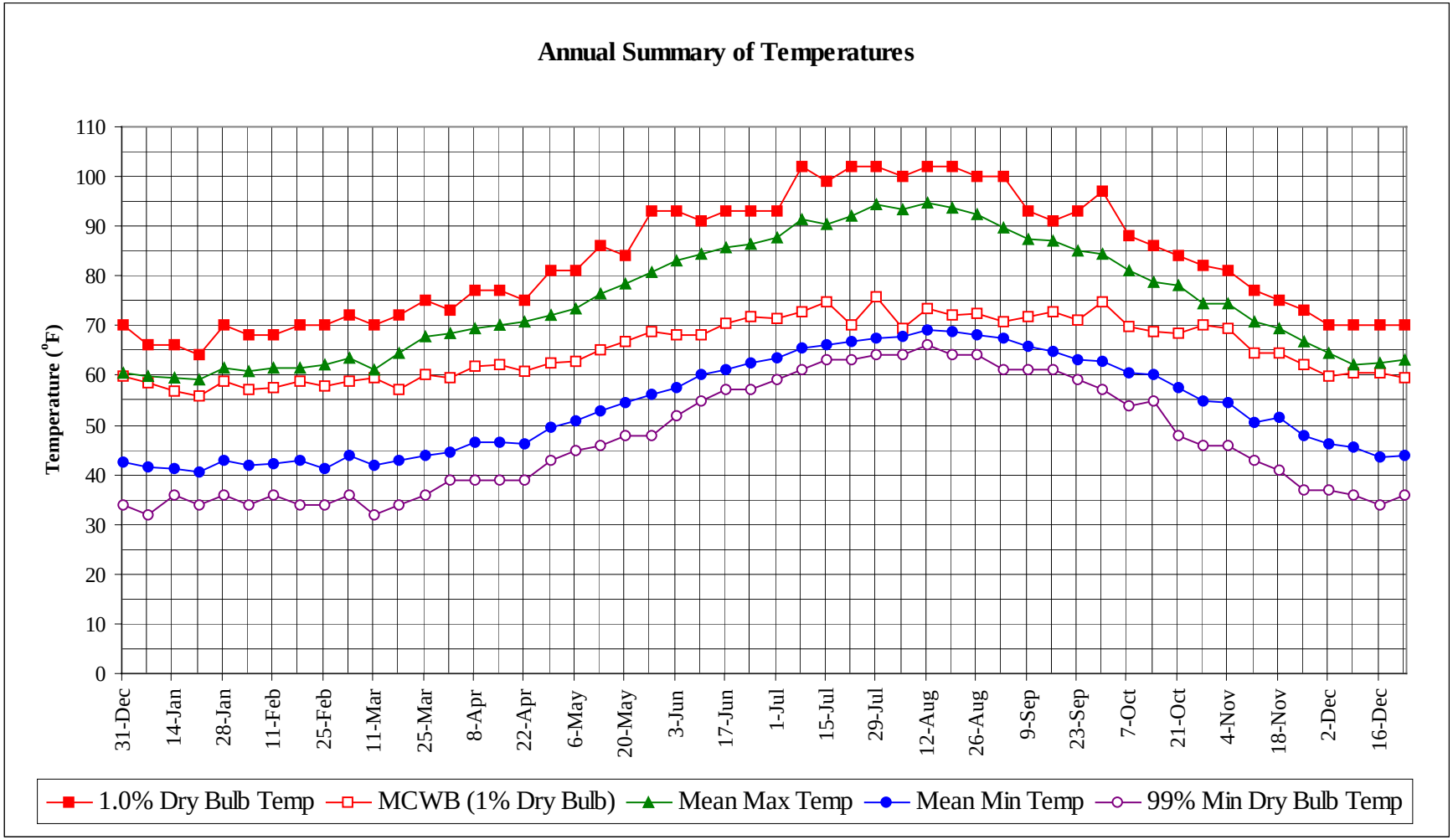

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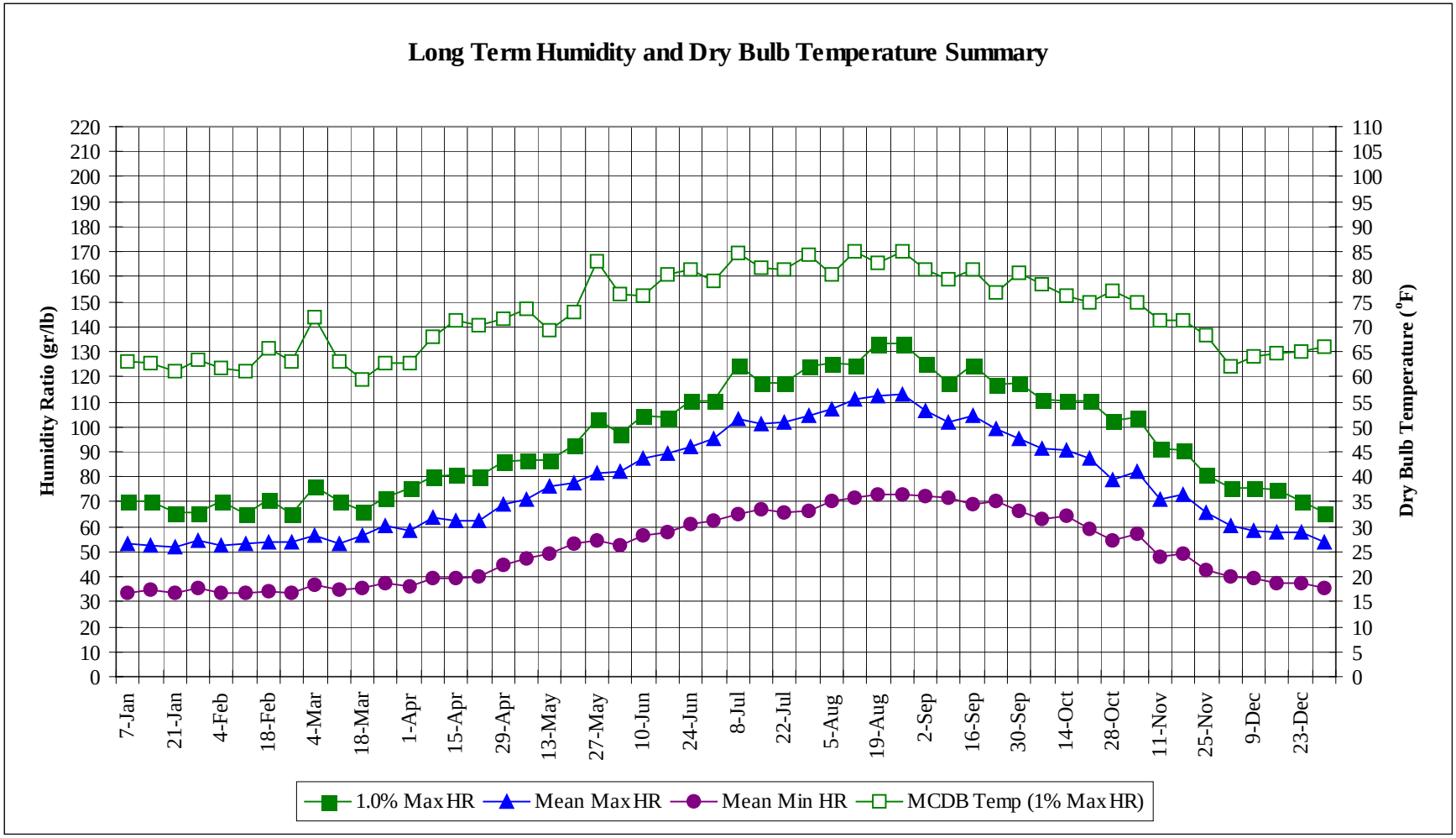
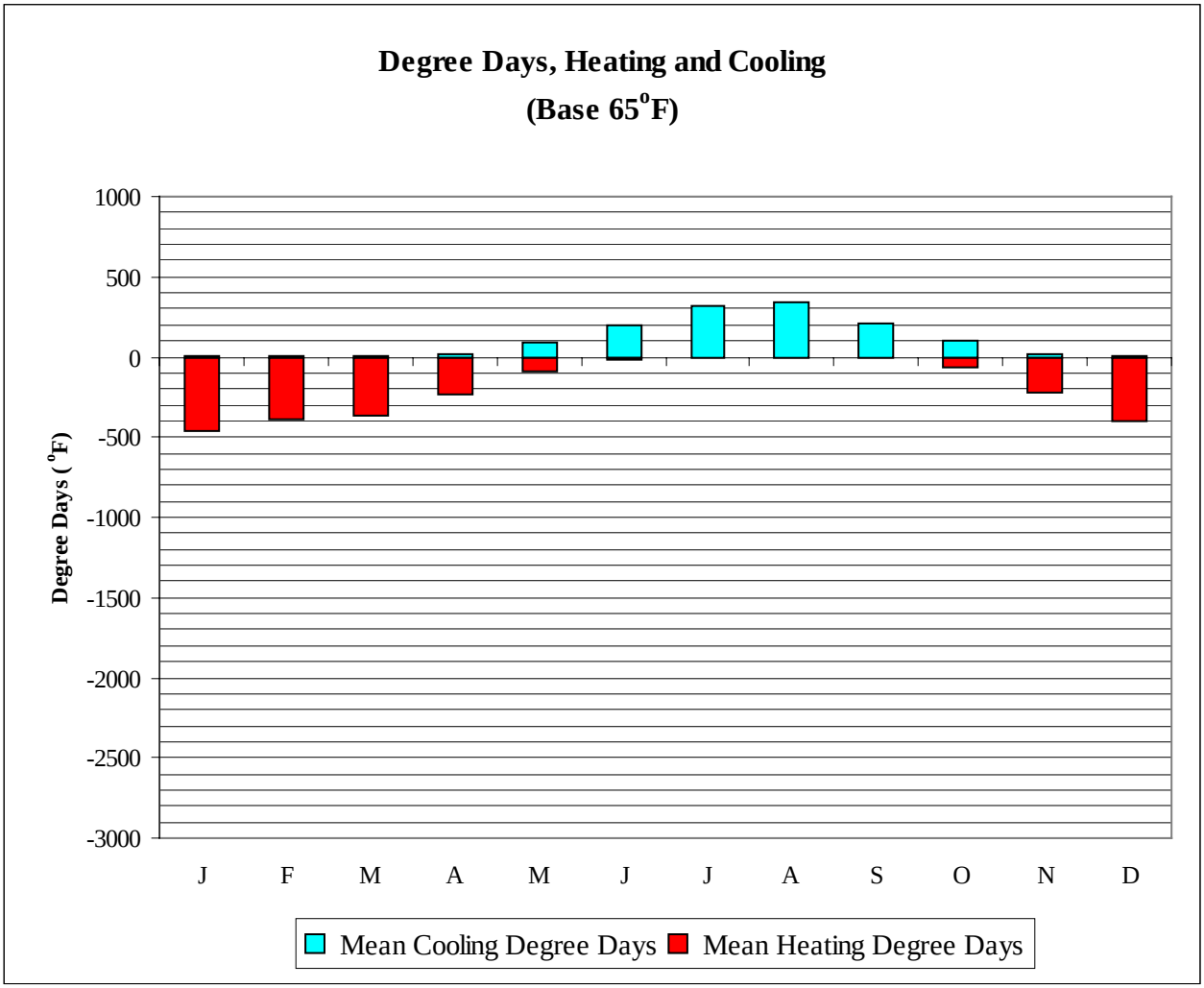


SIGONELLA NAS ITALY WMO No. 164594

Long Term Dry Bulb Temperature and Humidity Summary

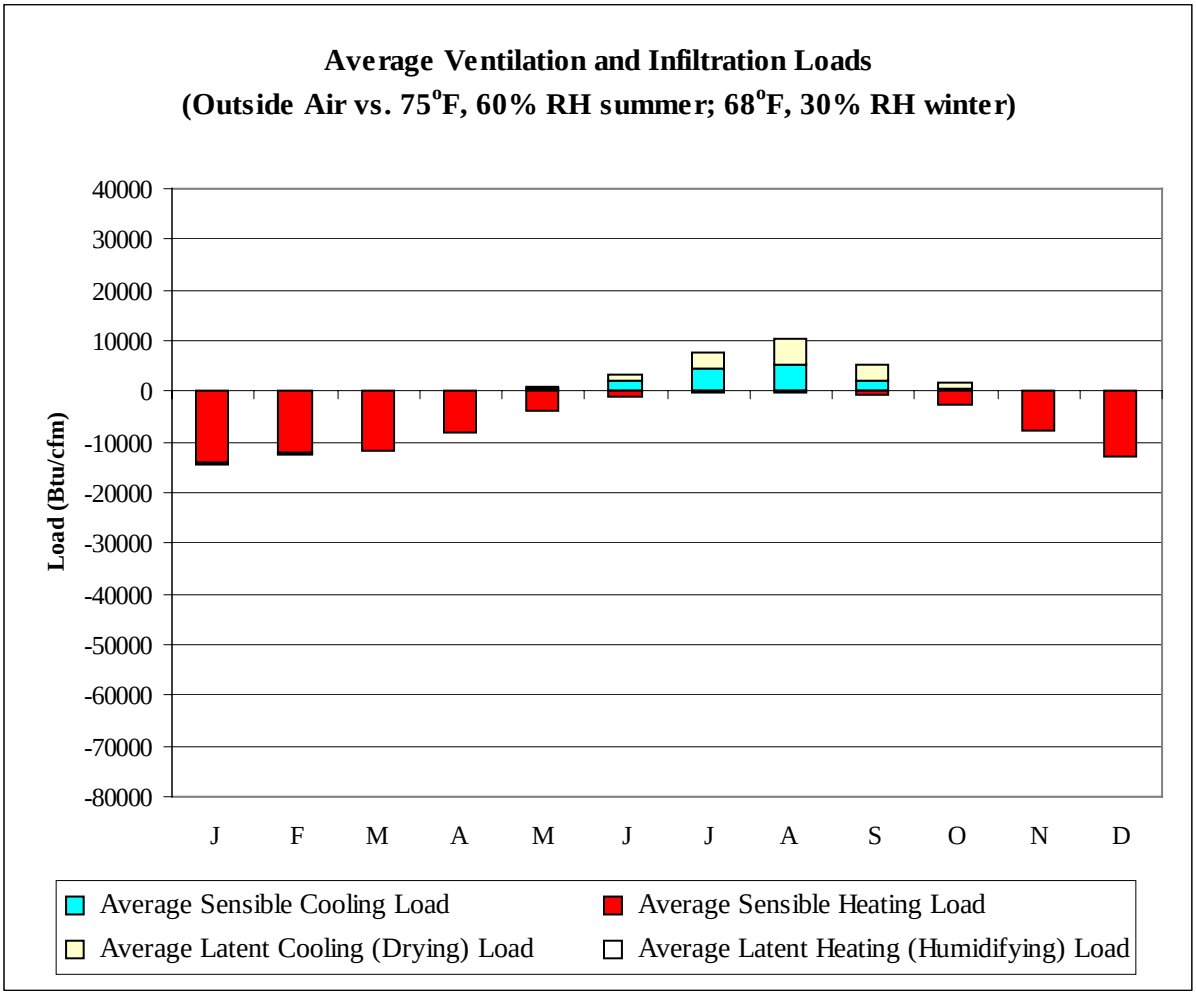
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	66.0	58.4	59.9	41.6	32.0	70.0	63.1	53.1	33.7
14-Jan	66.0	56.7	59.6	41.3	36.0	70.0	62.8	52.7	34.7
21-Jan	64.0	55.8	59.3	40.5	34.0	65.8	61.2	51.8	33.4
28-Jan	70.0	58.9	61.4	42.8	36.0	65.8	63.5	54.7	35.3
4-Feb	68.0	57.1	60.9	41.9	34.0	70.0	61.8	52.6	33.6
11-Feb	68.0	57.4	61.5	42.2	36.0	65.1	61.2	53.1	33.8
18-Feb	70.0	58.9	61.6	42.8	34.0	70.7	65.6	54.0	34.4
25-Feb	70.0	57.8	62.2	41.3	34.0	65.1	63.1	53.6	33.6
4-Mar	72.0	58.9	63.4	43.8	36.0	76.3	72.0	56.3	36.5
11-Mar	70.0	59.6	61.3	41.8	32.0	70.0	63.0	53.3	34.5
18-Mar	72.0	57.1	64.5	42.9	34.0	66.5	59.4	56.4	35.8
25-Mar	75.0	60.0	67.8	43.8	36.0	71.4	62.6	60.4	37.5
1-Apr	73.0	59.4	68.3	44.7	39.0	75.6	62.7	58.6	35.9
8-Apr	77.0	61.7	69.5	46.4	39.0	79.8	67.9	63.4	39.5
15-Apr	77.0	62.2	70.0	46.5	39.0	80.5	71.3	62.7	39.1
22-Apr	75.0	60.9	70.8	46.2	39.0	79.8	70.4	62.4	40.0
29-Apr	81.0	62.6	72.1	49.5	43.0	86.1	71.6	68.8	44.9
6-May	81.0	62.9	73.3	50.8	45.0	86.8	73.5	71.2	47.4
13-May	86.0	65.0	76.5	53.0	46.0	86.8	69.2	75.9	49.5
20-May	84.0	66.7	78.4	54.5	48.0	92.4	72.8	77.8	53.0
27-May	93.0	68.8	80.7	56.0	48.0	102.9	83.1	81.5	54.7
3-Jun	93.0	68.1	83.2	57.5	52.0	97.3	76.6	82.3	52.2
10-Jun	91.0	68.3	84.3	60.2	55.0	104.3	76.3	87.3	56.5
17-Jun	93.0	70.4	85.8	61.0	57.0	103.6	80.5	89.2	57.9
24-Jun	93.0	71.6	86.5	62.6	57.0	110.6	81.5	91.9	60.9
1-Jul	93.0	71.6	87.7	63.5	59.0	110.6	79.3	95.0	62.4
8-Jul	102.0	72.8	91.4	65.6	61.0	124.6	84.7	103.1	64.9
15-Jul	99.0	74.9	90.4	66.1	63.0	117.6	81.8	101.1	67.1
22-Jul	102.0	70.0	92.1	66.8	63.0	117.6	81.5	102.1	65.6
29-Jul	102.0	75.6	94.4	67.6	64.0	123.9	84.4	104.7	66.3
5-Aug	100.0	69.6	93.5	67.8	64.0	125.3	80.4	107.2	70.3
12-Aug	102.0	73.3	94.6	69.3	66.0	124.6	84.9	111.3	71.3
19-Aug	102.0	72.3	93.6	68.7	64.0	133.0	82.6	112.2	73.0
26-Aug	100.0	72.6	92.3	68.1	64.0	133.0	85.1	113.1	73.1
2-Sep	100.0	70.7	89.9	67.6	61.0	125.3	81.4	106.2	72.1
9-Sep	93.0	71.8	87.5	65.7	61.0	117.6	79.6	101.8	71.8
16-Sep	91.0	72.9	87.1	64.8	61.0	124.6	81.5	104.5	68.7
23-Sep	93.0	71.2	85.1	63.1	59.0	116.9	76.9	99.4	70.4
30-Sep	97.0	74.6	84.5	62.9	57.0	117.6	80.8	95.4	66.6
7-Oct	88.0	70.0	81.2	60.5	54.0	111.3	78.5	91.0	63.0
14-Oct	86.0	68.9	78.9	60.2	55.0	110.6	76.3	90.4	64.6
21-Oct	84.0	68.4	78.0	57.4	48.0	110.6	74.9	87.6	59.2
28-Oct	82.0	70.2	74.5	54.9	46.0	102.2	77.1	78.8	54.7
4-Nov	81.0	69.4	74.4	54.5	46.0	103.6	74.8	82.2	57.4
11-Nov	77.0	64.4	70.7	50.4	43.0	91.4	71.4	70.7	48.0
18-Nov	75.0	64.3	69.3	51.4	41.0	90.3	71.2	72.8	49.4
25-Nov	73.0	62.1	66.7	47.7	37.0	80.5	68.1	65.6	42.5
2-Dec	70.0	60.0	64.5	46.1	37.0	75.6	62.1	60.3	40.3
9-Dec	70.0	60.5	62.2	45.5	36.0	75.6	64.0	58.4	39.2
16-Dec	70.0	60.5	62.6	43.6	34.0	74.9	64.8	57.5	37.3
23-Dec	70.0	59.6	63.1	43.9	36.0	70.0	64.9	58.0	37.3
31-Dec	70.0	59.9	60.5	42.6	34.0	65.8	66.0	53.6	35.3

SIGONELLA NAS ITALY WMO No. 164594



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	1	460
FEB	2	391
MAR	8	361
APR	22	234
MAY	86	95
JUN	195	20
JUL	315	2
AUG	342	1
SEP	213	9
OCT	97	61
NOV	18	219
DEC	3	402
ANN	1302	2255

SIGONELLA NAS ITALY WMO No. 164594



	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	-14228	2	-161
FEB	0	-12273	1	-114
MAR	6	-11565	20	-133
APR	44	-8008	27	-12
MAY	612	-3768	328	-1
JUN	2111	-1040	1287	0
JUL	4630	-225	3147	0
AUG	5204	-99	5237	0
SEP	2210	-585	3206	0
OCT	473	-2703	1256	0
NOV	22	-7617	218	-20
DEC	0	-12727	7	-96
ANN	15312	-74838	14736	-537

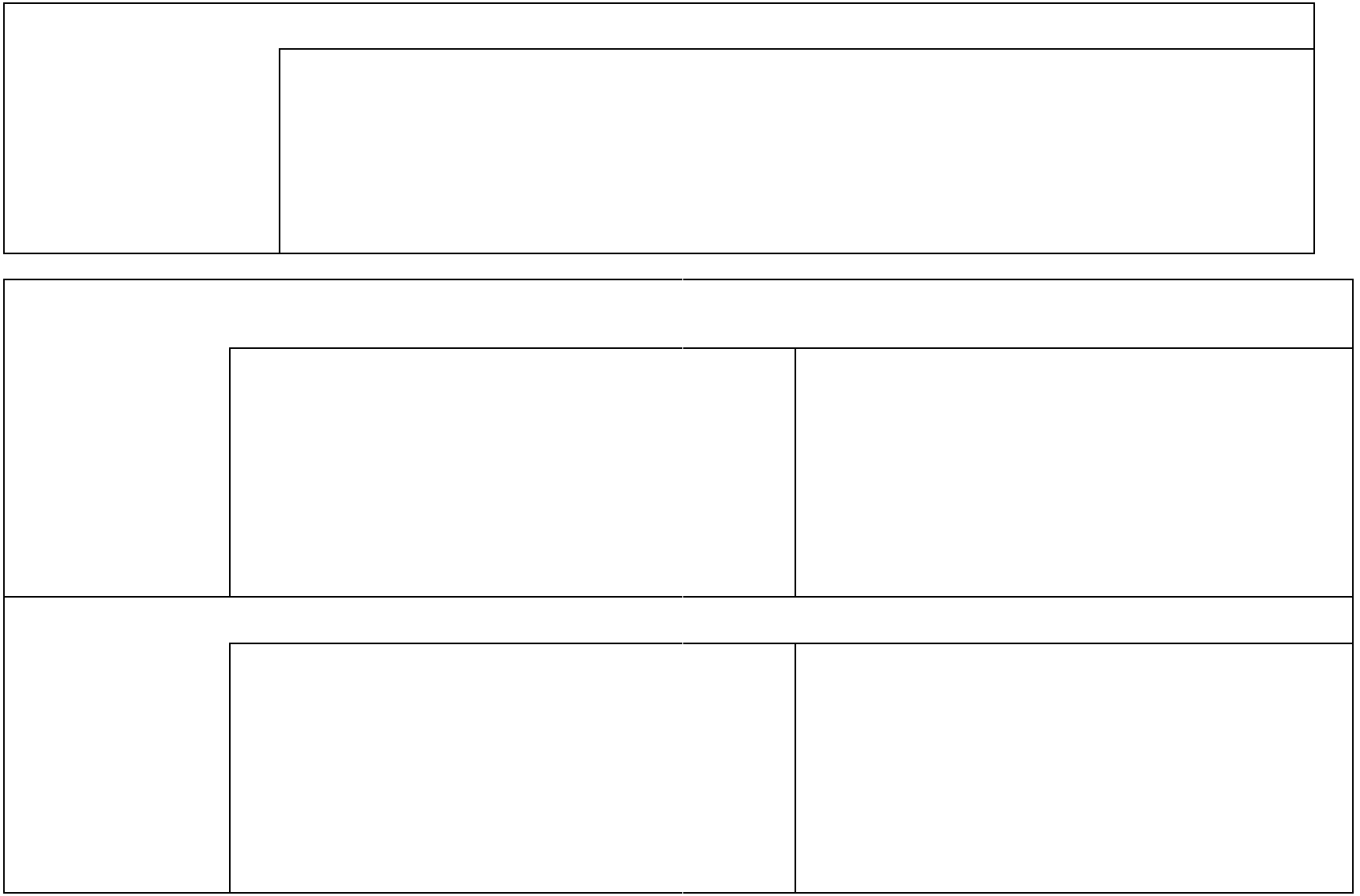
Average Annual Solar Radiation – Nearest Available Site

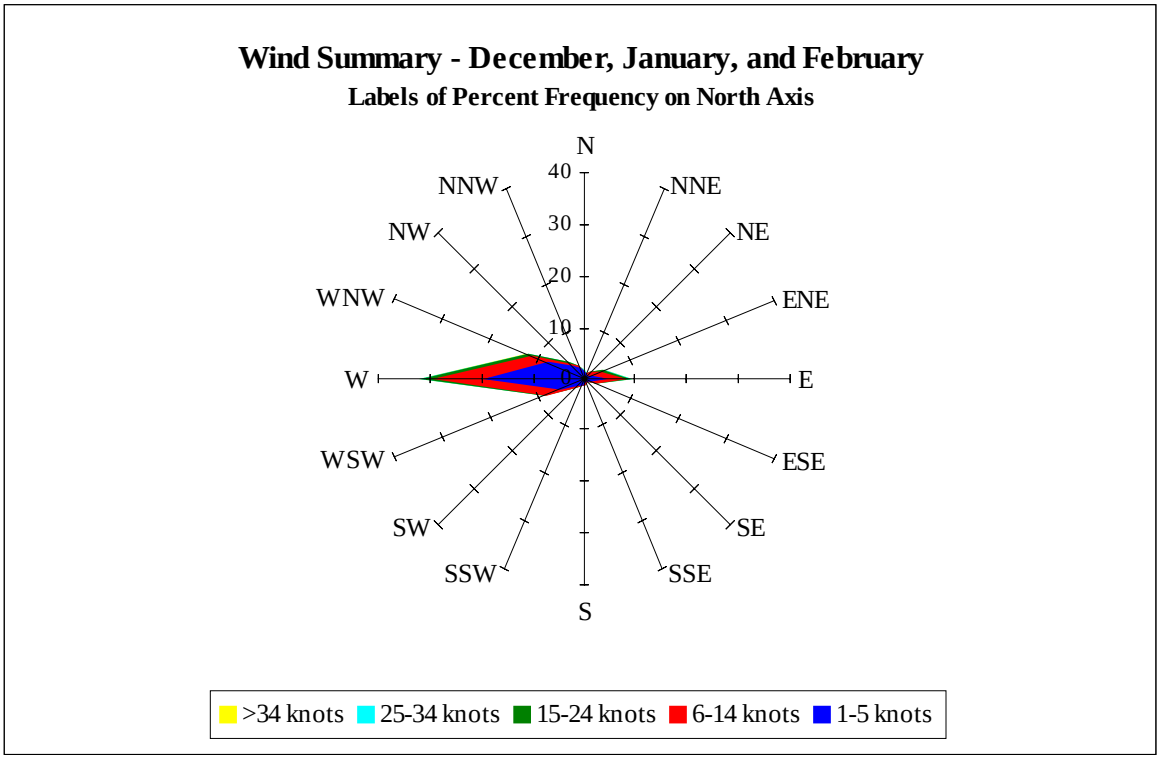
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

No Solar Radiation
Data Available

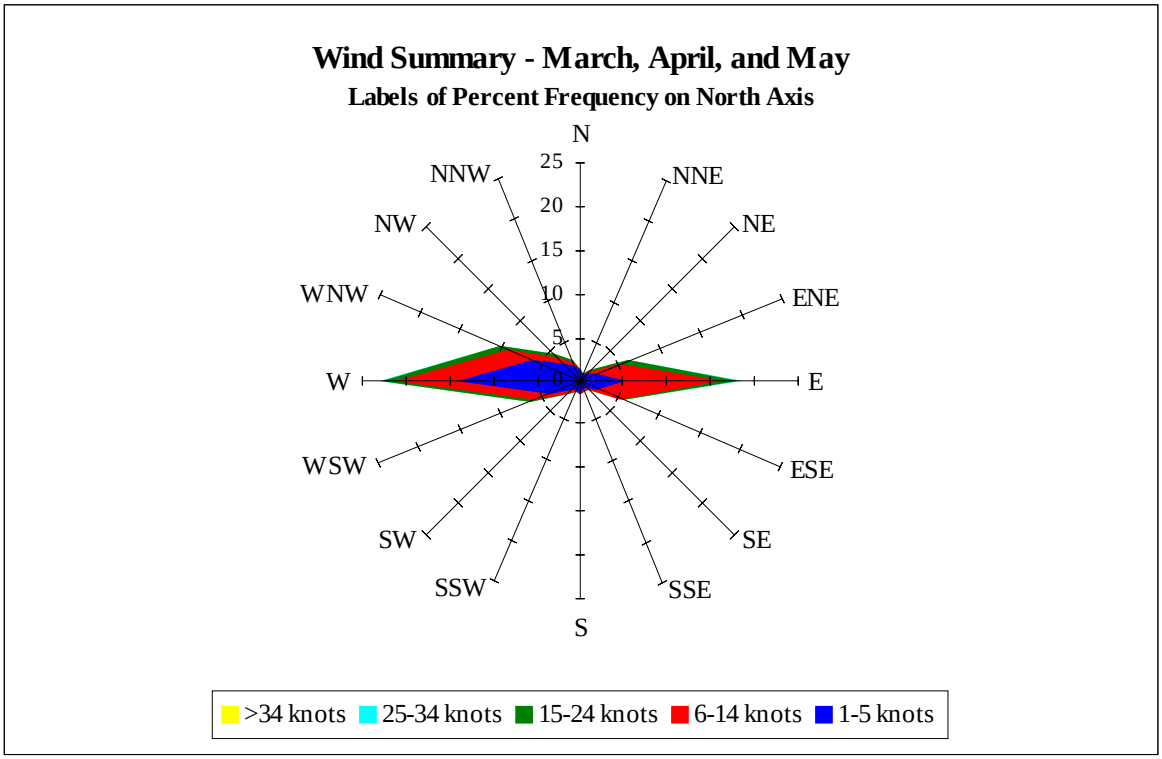
Average Annual Solar Heat and Illumination – Nearest Available Site

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

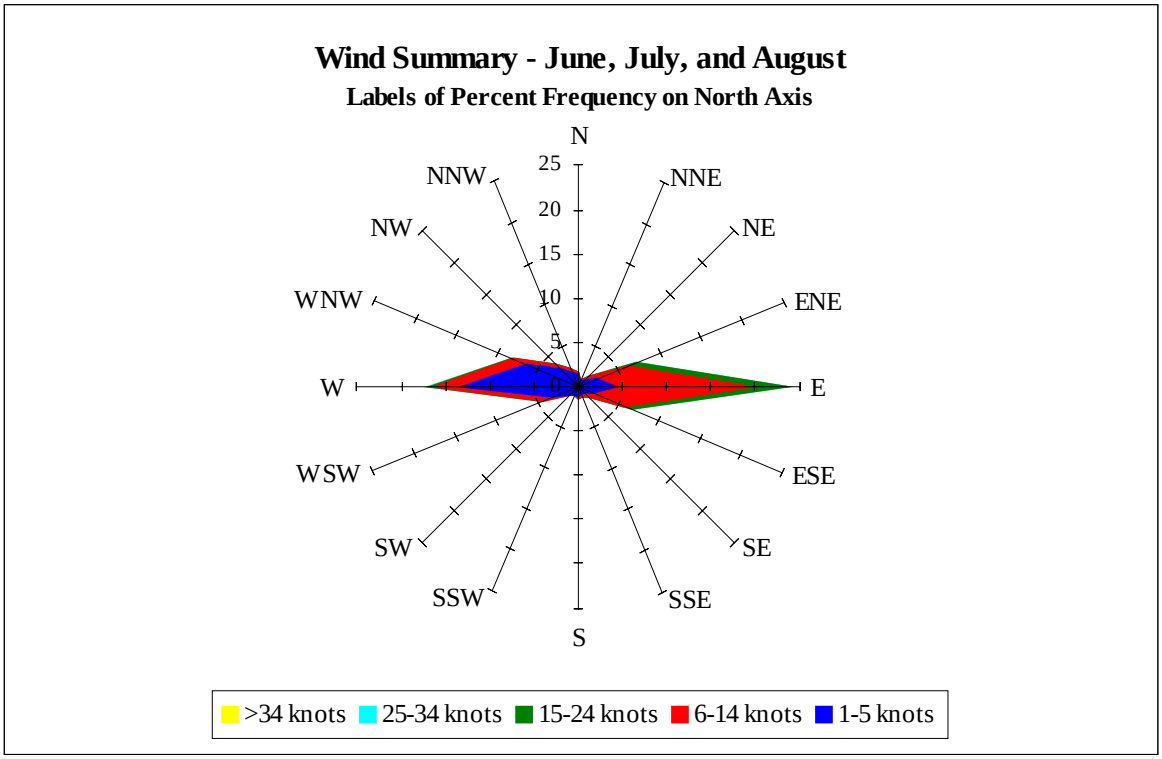




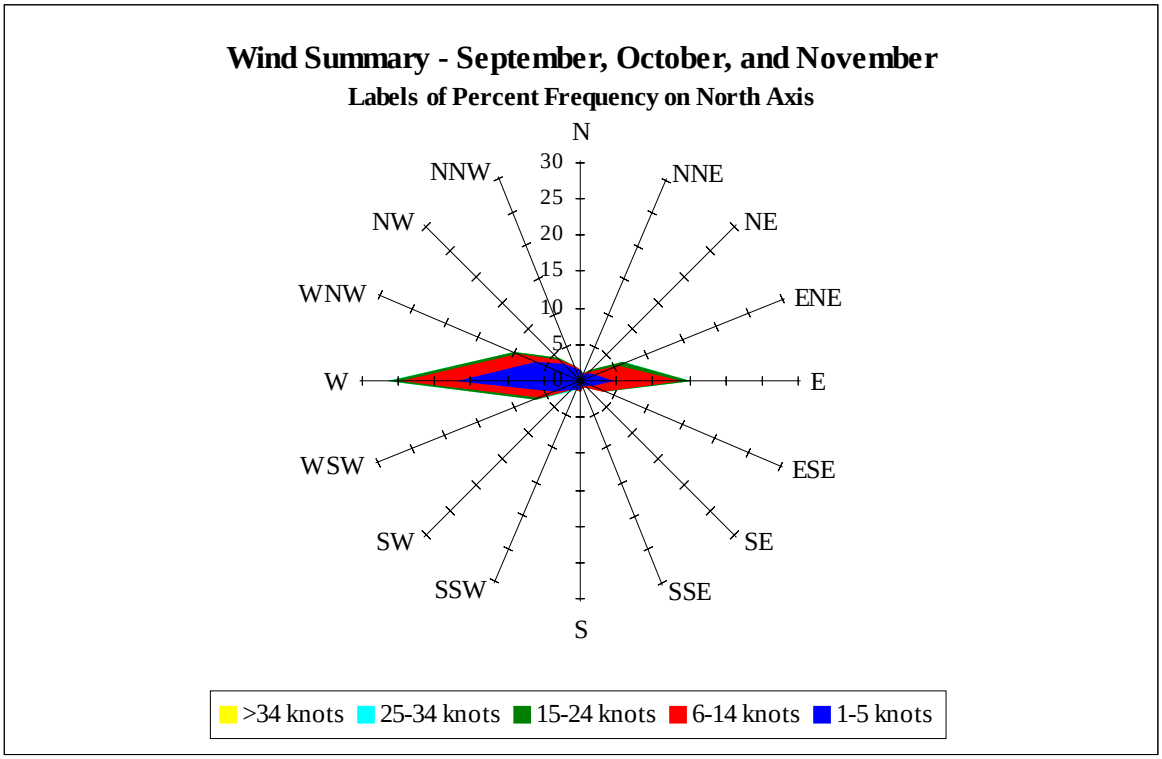
Percent Calm = 16.03



Percent Calm = 14.79



Percent Calm = 17.81



Percent Calm = 16.82