DENVER/STAPLETON CO	
Latitude = 39.75 N	WMO No. 724690
Longitude =104.80 W	Elevation = 5332 feet
Period of Record = 1973 to 1995	Average Pressure = 24.66 inches Hg

Design Criteria Data

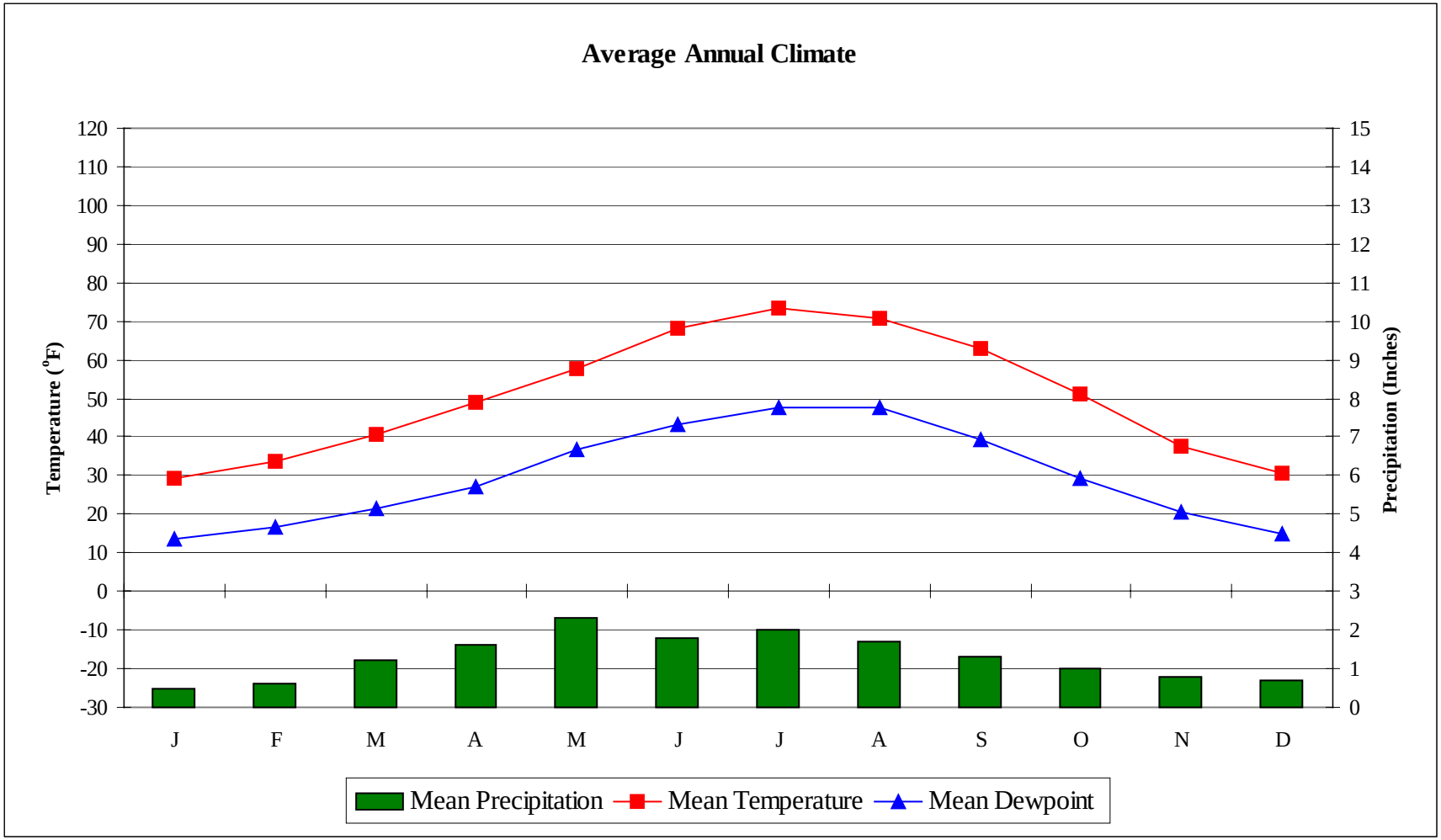
		Mean Coincident (Average) Values			
Dry Bulb Temperature (T)	**Design Value (^oF)**	Wet Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	97	60	37	9.7	S
0.4% Occurrence	93	60	41	9.1	SE
1.0% Occurrence	91	60	42	9.0	N
2.0% Occurrence	88	59	46	8.9	E
Mean Daily Range	25	-	-	-	-
97.5% Occurrence	12	11	9	6.1	S
99.0% Occurrence	4	3	6	5.9	S
99.6% Occurrence	-2	-3	4	5.2	S
Median of Extreme Lows	-9	-10	3	6.4	S
		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	68	83	95	9.0	N
0.4% Occurrence	64	81	78	8.5	N
1.0% Occurrence	63	80	74	8.5	N
2.0% Occurrence	62	79	71	8.5	N
		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	104	71	0.58	7.4	NNW
0.4% Occurrence	94	68	0.52	7.2	N
1.0% Occurrence	87	68	0.49	7.1	S
2.0% Occurrence	81	68	0.45	7.5	S
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	45	641	0	6

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	2.3	N/A	0.0 + 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 (#)
52.7	52	18	105

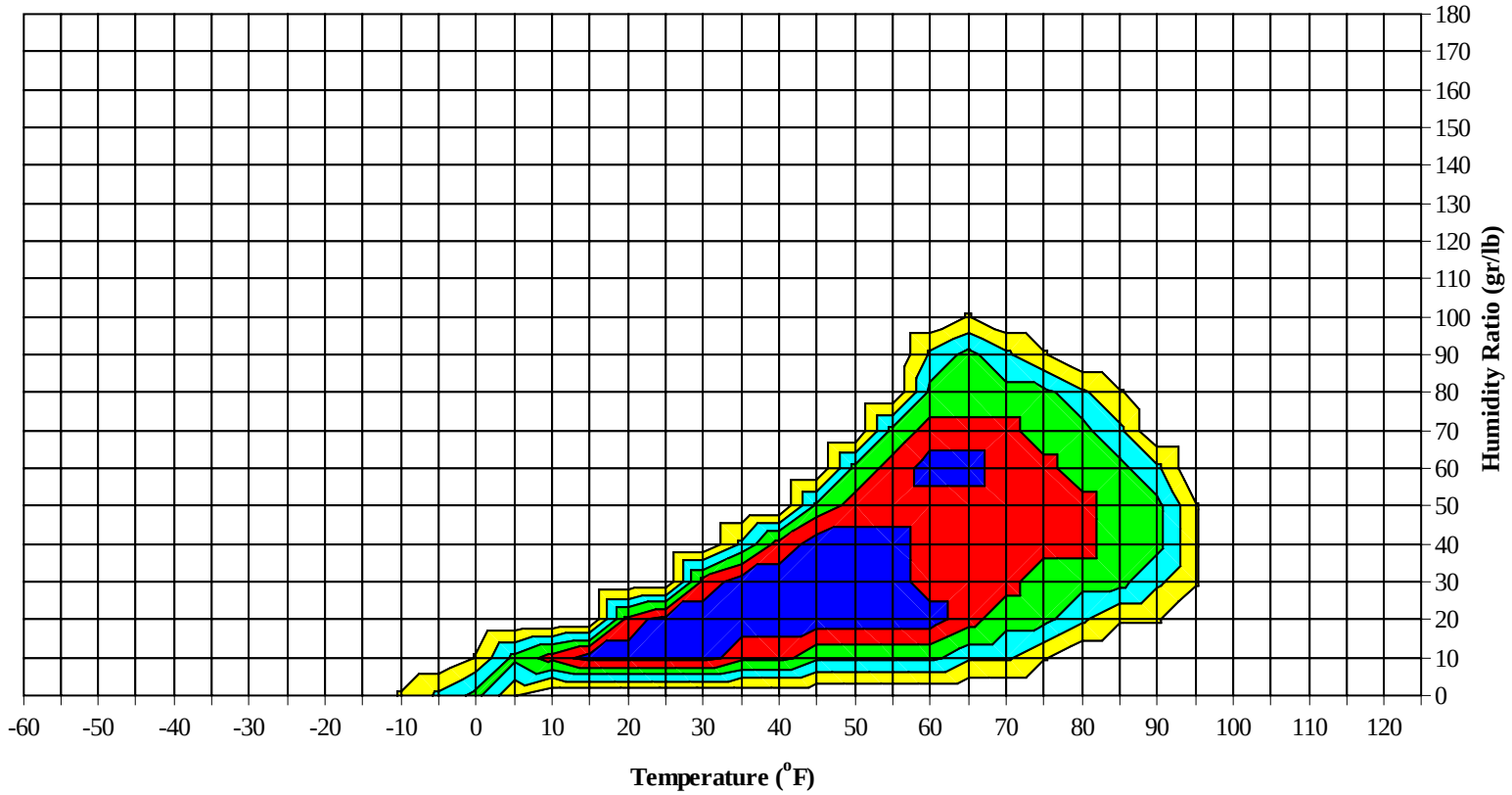
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

DENVER/STAPLETON CO WMO No. 724690



DENVER/STAPLETON CO WMO No. 724690

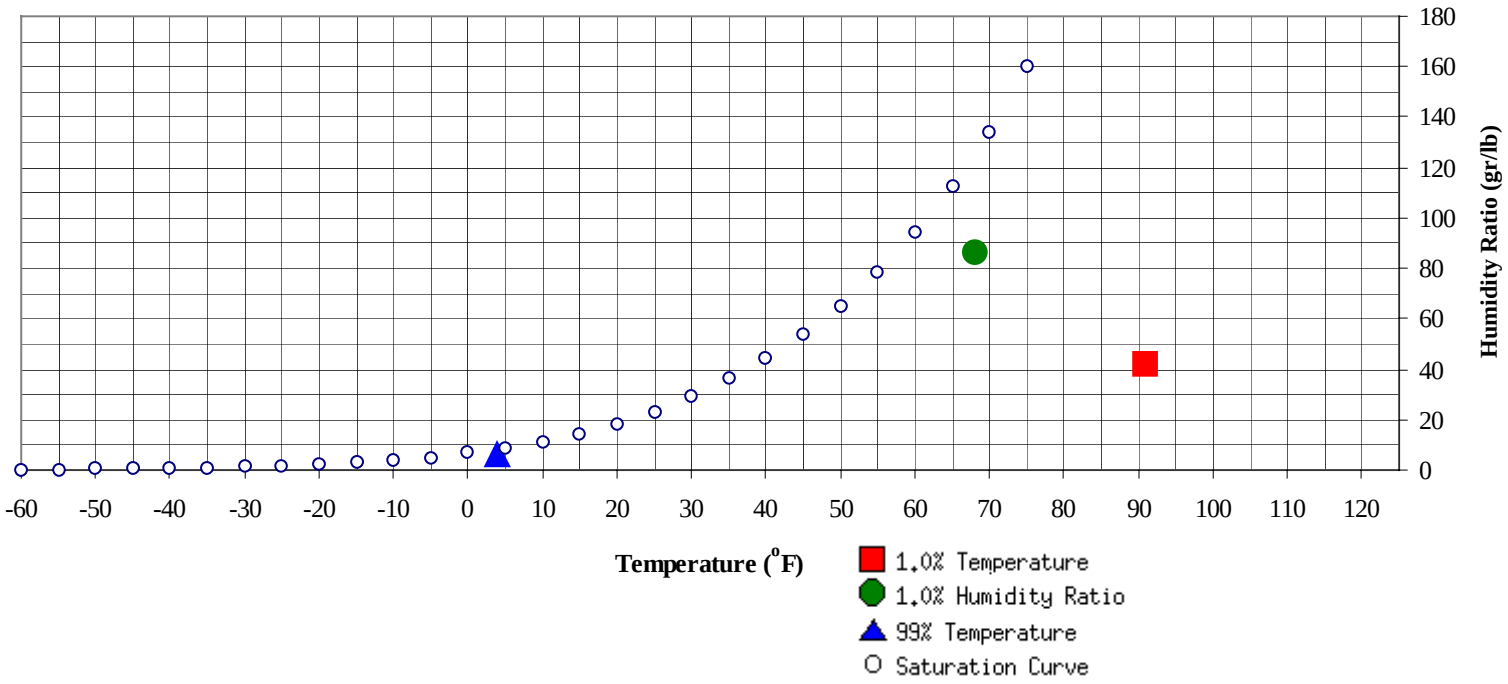
Long Term Psychrometric Summary



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

DENVER/STAPLETON CO WMO No. 724690

Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	4	6.1	1.9

	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	86.8	68.1	61.3	57.9	29.9

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	91	42.2	59.6	28.5

DENVER/STAPLETON CO WMO No. 724690

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

Period of Record = 1973 to 1995

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)
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79												2	0	2	48.5
70 / 74		0		0	46.2		1		1	46.2		7	1	8	46.9
65 / 69		1	0	1	43.4		5	0	5	44.5		17	4	21	44.2
60 / 64		5	0	5	41.7		11	2	13	42.1	0	25	9	34	42.6
55 / 59	0	15	2	17	39.7	0	25	6	31	40.0	2	32	17	51	40.6
50 / 54	1	24	5	30	37.4	2	27	12	41	37.7	7	32	26	65	38.6
45 / 49	6	30	14	50	35.1	6	29	19	54	35.4	13	34	34	81	36.3
40 / 44	10	34	25	69	32.5	12	30	29	71	32.9	29	30	41	100	34.2
35 / 39	22	33	36	91	29.8	30	26	41	97	30.2	57	28	44	129	31.6
30 / 34	35	30	43	108	26.8	46	23	40	109	27.7	64	21	37	122	28.6
25 / 29	51	24	40	115	23.5	49	18	29	96	24.2	40	11	19	70	24.9
20 / 24	45	20	30	95	19.5	35	12	20	67	20.1	19	6	9	34	20.2
15 / 19	25	12	19	56	15.2	17	5	9	31	15.4	9	3	4	16	15.9
10 / 14	18	9	15	42	10.5	11	5	5	21	10.8	4	1	2	7	10.9
5 / 9	15	6	11	32	5.8	6	2	5	13	6.0	2	0	1	3	6.3
0 / 4	11	3	7	21	0.9	4	1	3	8	1.3	1		0	1	1.8
-5 / -1	5	0	1	6	-2.8	3	1	2	6	-3.2	0			0	-1.3
-10 / -6	3	0	1	4	-7.2	2	0	1	3	-7.4					
-15 / -11	1		0	1	-12.1	1	1	0	2	-11.9					
-20 / -16	0			0	-16.5	1	0	0	1	-15.6					
-25 / -21						0			0	-22.0					

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.

DENVER/STAPLETON CO WMO No. 724690

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)				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												0	0	0	61.2
95 / 99												4	1	5	60.1
90 / 94							1		1	55.6		20	4	24	58.9
85 / 89		1	0	1	54.0		4	1	5	55.4	0	36	11	47	58.3
80 / 84		4	1	5	51.6		18	4	22	54.4	1	42	21	64	58.2
75 / 79		13	3	16	50.2	0	34	11	45	53.2	5	43	31	79	57.1
70 / 74		23	7	30	48.7	1	41	20	62	52.1	16	38	42	96	55.7
65 / 69	1	30	14	45	46.9	7	43	30	80	50.6	37	26	46	109	54.2
60 / 64	4	30	24	58	45.2	20	35	42	97	49.2	58	15	40	113	52.7
55 / 59	10	32	32	74	43.2	40	27	47	114	47.5	62	8	24	94	50.4
50 / 54	26	34	37	97	41.4	63	19	44	126	45.3	40	5	15	60	47.3
45 / 49	40	27	38	105	39.0	57	13	27	97	42.3	16	2	5	23	43.7
40 / 44	55	17	34	106	36.1	38	7	15	60	38.6	5	1	1	7	40.4
35 / 39	47	15	25	87	32.8	15	3	5	23	34.3	0	0		0	37.0
30 / 34	34	9	17	60	29.4	6	1	2	9	31.2					
25 / 29	14	4	6	24	25.0	0		0	0	27.1					
20 / 24	5	1	3	9	20.3	0			0	24.0					
15 / 19	2	0	0	2	15.6										
10 / 14	1	0	0	1	11.4										
5 / 9	0			0	7.7										
0 / 4	0			0	1.4										
-5 / -1															
-10 / -6															
-15 / -11															
-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.

DENVER/STAPLETON CO WMO No. 724690

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)				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		1	0	1	61.3										
95 / 99		10	1	11	60.2		2	0	2	60.5		0		0	59.3
90 / 94		37	9	46	60.3		19	3	22	59.9		5	0	5	59.1
85 / 89	0	55	19	74	60.2		51	12	62	59.8		20	3	23	57.4
80 / 84	2	56	29	87	59.9	0	64	22	86	59.6		44	9	53	55.9
75 / 79	10	42	43	95	59.1	4	50	37	90	59.1	0	43	20	63	55.0
70 / 74	29	27	53	109	58.0	20	32	54	107	57.8	3	38	31	72	53.6
65 / 69	73	13	57	143	56.7	56	18	63	138	56.6	16	32	42	90	52.4
60 / 64	91	5	30	126	55.4	90	8	42	141	54.9	42	21	45	109	50.9
55 / 59	36	1	7	44	53.1	59	3	12	74	52.2	56	15	37	109	48.7
50 / 54	7	0	1	8	49.4	17	1	3	21	49.1	55	11	27	94	45.7
45 / 49	1	0		1	46.2	1		0	1	44.2	36	5	14	55	42.4
40 / 44											18	3	6	27	38.7
35 / 39											8	1	3	12	34.5
30 / 34											3	1	1	5	30.8
25 / 29											1	1	0	2	24.5
20 / 24											0		0	0	21.1
15 / 19											0			0	17.3
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-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.

DENVER/STAPLETON CO WMO No. 724690

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)				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		1		1	53.4										
80 / 84		10	1	11	52.3										
75 / 79		24	3	27	50.7		2	0	2	48.5					
70 / 74	0	32	6	38	49.2		8	0	8	47.2		1		1	45.8
65 / 69	1	38	14	53	47.7	0	14	1	15	45.7		4	0	4	44.2
60 / 64	5	37	21	63	46.0	0	20	4	24	43.6	0	11	1	12	42.0
55 / 59	12	31	36	79	44.1	2	25	9	36	41.2	0	16	4	20	40.2
50 / 54	31	26	50	107	42.1	6	30	16	52	39.0	2	25	7	34	37.7
45 / 49	52	18	46	116	39.7	11	29	25	65	36.7	6	28	13	47	35.2
40 / 44	59	12	32	103	36.6	27	25	38	90	34.1	14	32	25	71	32.5
35 / 39	46	9	20	75	33.3	39	27	40	106	31.4	25	36	35	96	29.8
30 / 34	27	7	13	47	29.7	51	27	41	119	28.3	37	33	45	115	26.9
25 / 29	11	1	4	16	25.4	45	18	34	97	24.6	53	23	44	120	23.7
20 / 24	2	1	1	4	20.2	31	8	18	57	20.3	45	15	27	86	19.7
15 / 19	1	0	0	1	15.9	13	4	8	25	15.4	27	10	19	56	15.4
10 / 14	1	0	0	1	11.0	8	1	4	13	11.1	15	6	9	30	10.8
5 / 9	0		0	0	7.8	4	1	2	7	6.3	8	4	9	21	6.2
0 / 4						1	0	1	2	1.5	8	2	5	15	1.6
-5 / -1						1		0	1	-2.8	3	1	2	6	-2.7
-10 / -6						0		0	0	-6.4	2	2	1	5	-7.7
-15 / -11											1	1	2	4	-12.5
-20 / -16											1	0	1	2	-16.4
-25 / -21											0	0		0	-21.1

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.

DENVER/STAPLETON CO WMO No. 724690

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

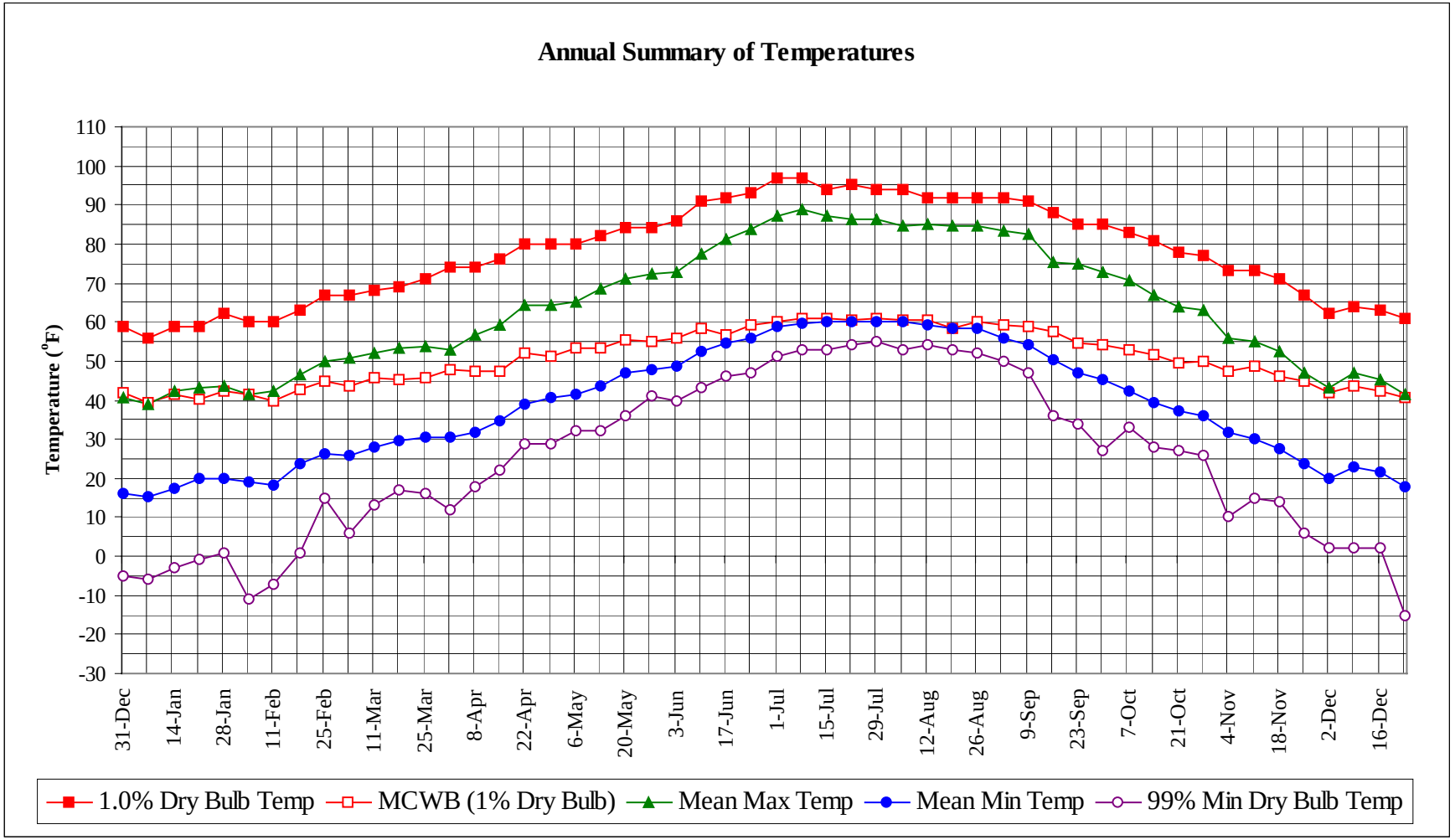
Period of Record = 1973 to 1995

Annual Totals

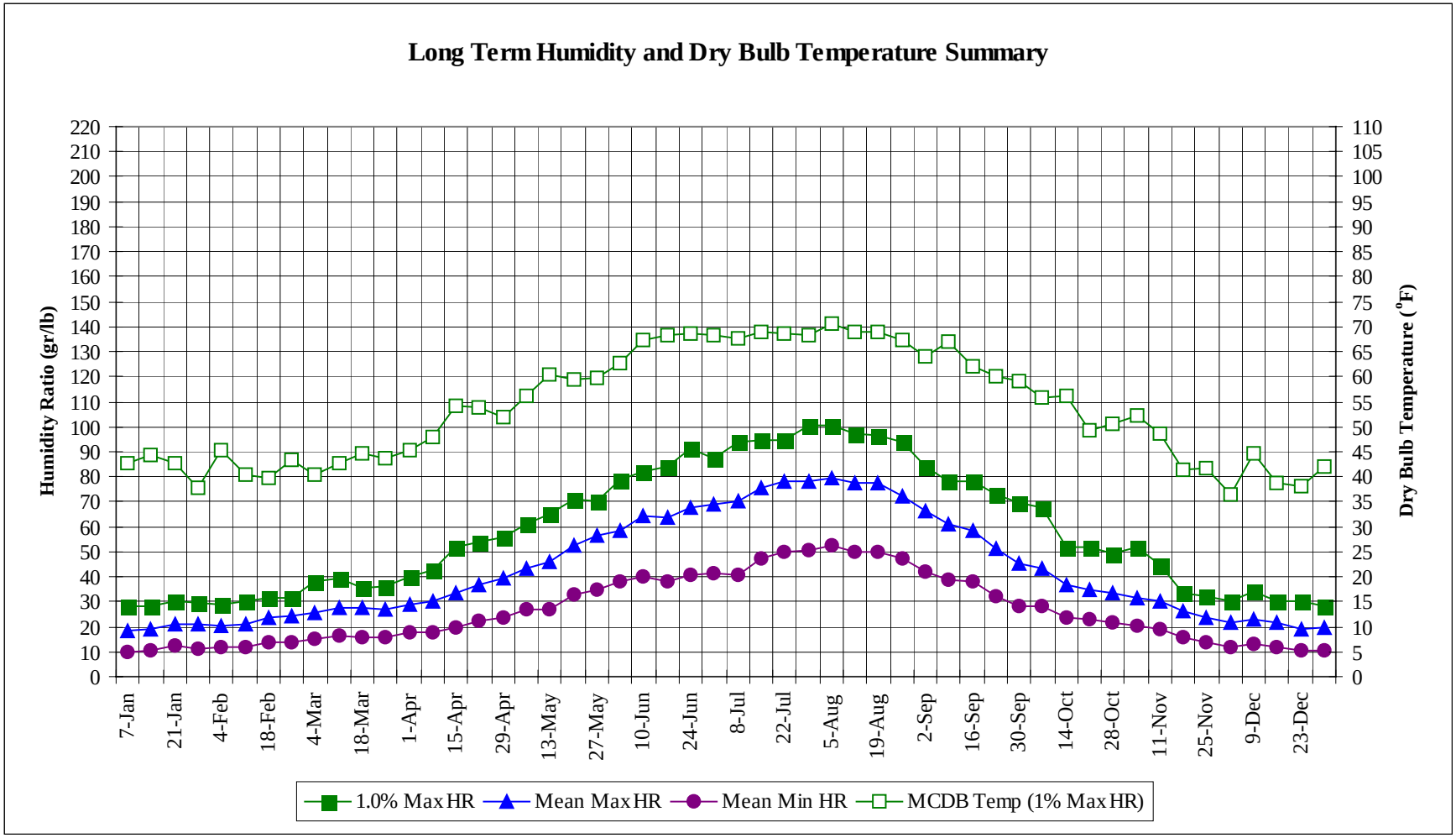
Temperature Range (°F)	Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
100 / 104		1	0	1	61.2
95 / 99		16	2	18	60.2
90 / 94		80	15	95	59.7
85 / 89	0	164	45	209	59.2
80 / 84	3	233	85	321	58.1
75 / 79	19	249	146	414	56.5
70 / 74	69	244	211	524	54.7
65 / 69	189	242	268	699	52.9
60 / 64	305	224	256	785	50.6
55 / 59	276	232	230	738	46.5
50 / 54	256	238	241	735	42.5
45 / 49	245	218	235	698	38.7
40 / 44	268	195	247	710	34.9
35 / 39	292	182	253	727	31.3
30 / 34	307	155	241	703	28.0
25 / 29	267	100	181	548	24.1
20 / 24	185	64	109	358	19.9
15 / 19	96	35	60	191	15.4
10 / 14	59	23	36	118	10.7
5 / 9	36	13	28	77	6.0
0 / 4	25	6	16	47	1.2
-5 / -1	12	3	6	21	-2.9
-10 / -6	7	2	4	13	-7.4
-15 / -11	4	1	2	7	-12.2
-20 / -16	2	0	1	3	-16.1
-25 / -21	0	0		0	-21.3

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.

DENVER/STAPLETON CO WMO No. 724690



DENVER/STAPLETON CO WMO No. 724690

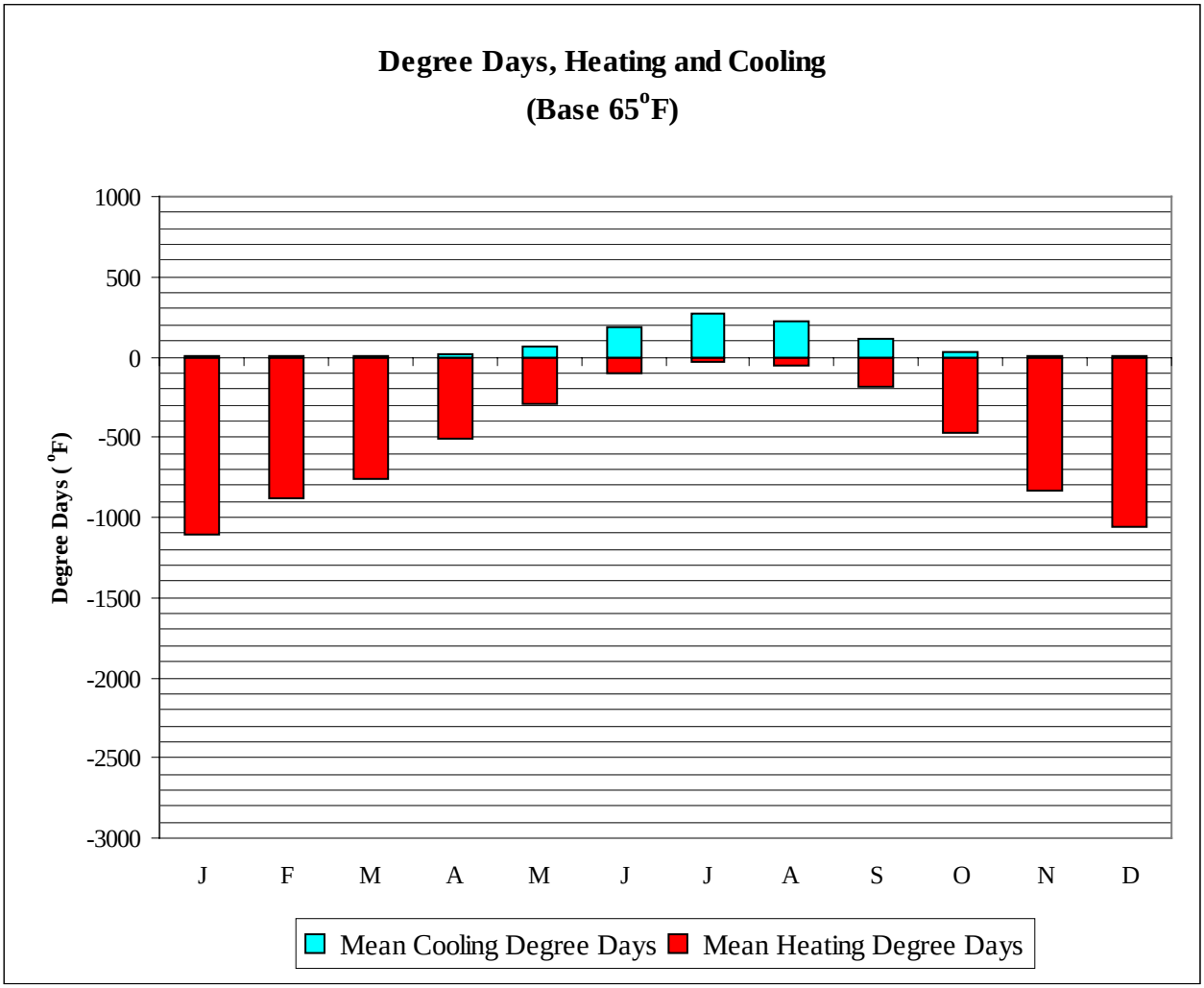


DENVER/STAPLETON CO WMO No. 724690

Long Term Dry Bulb Temperature and Humidity Summary

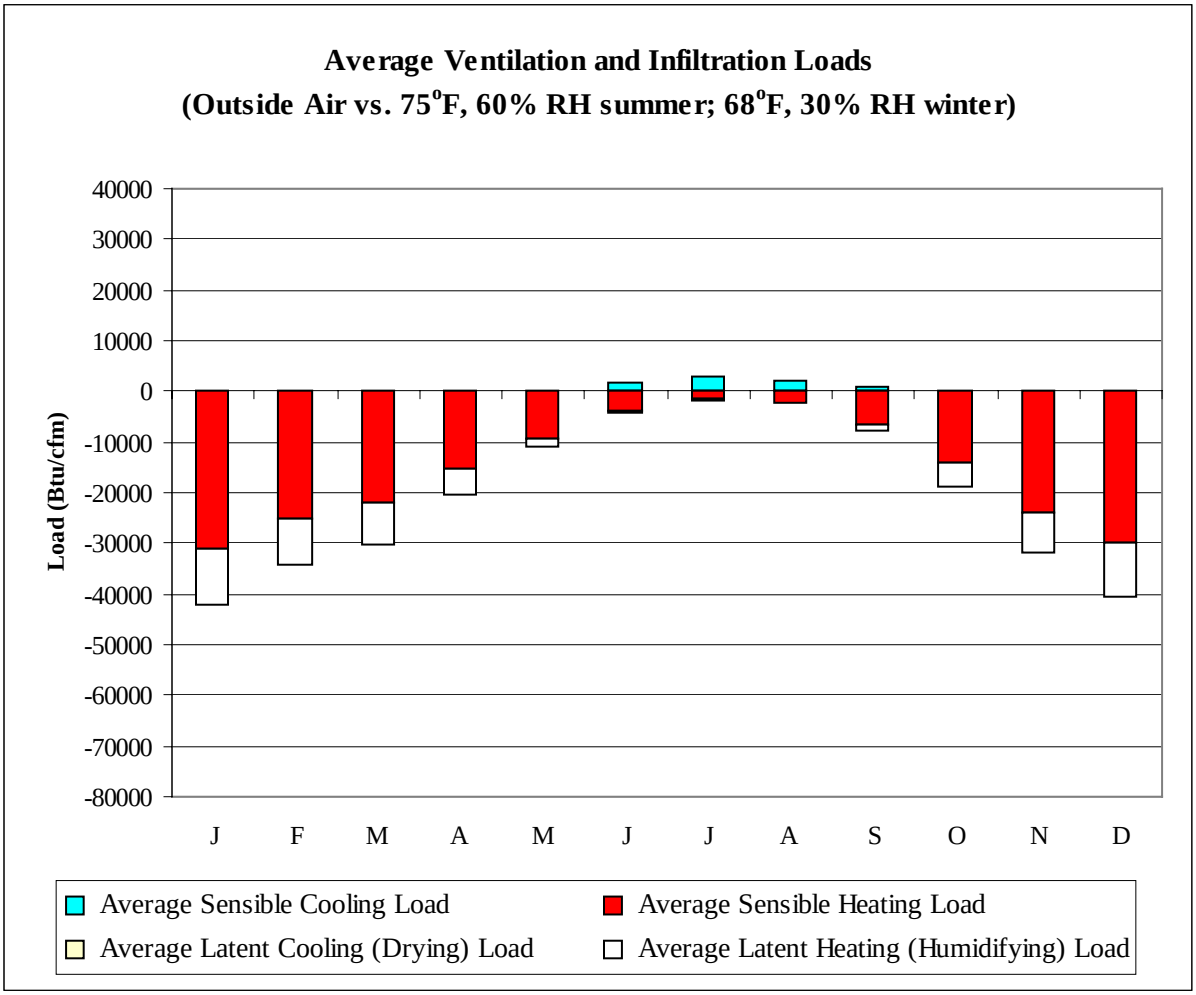
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	56.0	39.2	39.0	15.1	-6.0	28.0	42.7	18.2	9.9
14-Jan	59.0	41.7	42.2	17.5	-3.0	28.0	44.4	19.3	10.3
21-Jan	59.0	40.4	43.0	19.7	-1.0	30.1	42.6	21.3	12.3
28-Jan	62.0	42.1	43.8	20.1	1.0	29.4	37.7	20.9	11.3
4-Feb	60.0	41.4	41.6	19.2	-11.0	28.7	45.2	20.4	11.8
11-Feb	60.0	39.6	42.5	18.1	-7.0	30.1	40.4	21.0	11.7
18-Feb	63.0	42.9	46.7	23.9	1.0	31.5	39.9	23.4	13.5
25-Feb	67.0	45.0	50.0	26.1	15.0	31.5	43.5	24.2	13.6
4-Mar	67.0	43.8	51.0	26.0	6.0	37.8	40.4	25.8	15.2
11-Mar	68.0	45.9	51.9	27.8	13.0	39.2	42.9	27.4	16.4
18-Mar	69.0	45.4	53.4	29.4	17.0	35.7	44.7	27.3	16.0
25-Mar	71.0	45.9	53.9	30.3	16.0	36.4	43.8	26.7	15.6
1-Apr	74.0	47.7	53.0	30.5	12.0	39.9	45.3	28.6	17.4
8-Apr	74.0	47.4	56.7	31.9	18.0	42.7	47.8	30.5	17.7
15-Apr	76.0	47.2	59.2	34.9	22.0	51.8	54.1	33.6	19.9
22-Apr	80.0	51.9	64.2	39.1	29.0	53.9	53.7	37.0	22.7
29-Apr	80.0	51.1	64.2	40.5	29.0	56.0	51.8	39.1	23.7
6-May	80.0	53.2	65.3	41.5	32.0	60.9	56.3	43.4	27.2
13-May	82.0	53.5	68.6	43.5	32.0	65.1	60.5	46.1	27.0
20-May	84.0	55.4	71.0	47.0	36.0	70.7	59.5	52.8	33.2
27-May	84.0	54.9	72.3	47.9	41.0	70.0	59.7	56.8	34.9
3-Jun	86.0	55.9	72.8	48.8	40.0	79.1	62.7	58.7	37.8
10-Jun	91.0	58.3	77.5	52.4	43.0	81.9	67.4	64.2	39.8
17-Jun	92.0	56.6	81.3	54.4	46.0	84.0	68.4	63.6	38.0
24-Jun	93.0	59.5	83.9	56.0	47.0	91.0	68.5	68.0	40.4
1-Jul	97.0	60.1	87.2	58.8	51.0	87.5	68.2	69.2	41.5
8-Jul	97.0	60.8	88.9	59.8	53.0	93.8	67.6	70.2	40.5
15-Jul	94.0	61.0	87.0	60.1	53.0	94.5	68.8	75.5	47.4
22-Jul	95.0	60.4	86.4	59.9	54.0	94.5	68.6	78.1	50.0
29-Jul	94.0	60.8	86.2	60.1	55.0	100.8	68.3	78.3	50.8
5-Aug	94.0	60.6	84.7	59.9	53.0	100.8	70.5	79.2	52.8
12-Aug	92.0	60.7	85.0	59.1	54.0	97.3	68.8	77.3	49.9
19-Aug	92.0	58.5	84.5	58.4	53.0	96.6	69.1	77.3	50.2
26-Aug	92.0	60.2	84.6	58.2	52.0	93.8	67.4	72.5	47.6
2-Sep	92.0	59.2	83.3	55.9	50.0	84.0	64.0	66.5	41.9
9-Sep	91.0	59.0	82.6	54.3	47.0	78.4	67.0	61.3	38.7
16-Sep	88.0	57.4	75.3	50.3	36.0	78.4	62.2	58.7	38.3
23-Sep	85.0	54.4	74.8	46.8	34.0	72.8	60.0	51.0	31.9
30-Sep	85.0	54.0	72.9	45.3	27.0	69.3	59.2	45.2	28.4
7-Oct	83.0	53.1	70.6	42.4	33.0	67.9	55.9	43.1	28.1
14-Oct	81.0	51.8	67.1	39.3	28.0	51.8	56.0	36.8	23.6
21-Oct	78.0	49.4	63.9	37.2	27.0	51.8	49.3	35.1	22.8
28-Oct	77.0	49.9	63.2	35.8	26.0	49.0	50.6	33.6	21.4
4-Nov	73.0	47.5	56.1	31.9	10.0	51.8	52.1	31.4	20.1
11-Nov	73.0	48.7	55.0	30.3	15.0	44.8	48.6	30.5	18.8
18-Nov	71.0	46.1	52.5	27.6	14.0	33.6	41.5	26.0	15.8
25-Nov	67.0	44.7	47.0	23.8	6.0	32.2	41.6	23.4	13.6
2-Dec	62.0	42.1	43.3	20.1	2.0	30.1	36.5	21.6	11.8
9-Dec	64.0	43.4	47.1	22.9	2.0	34.3	44.5	23.0	13.3
16-Dec	63.0	42.4	45.3	21.5	2.0	30.1	38.7	21.4	11.8
23-Dec	61.0	40.5	41.3	18.0	-15.0	30.1	38.2	19.4	10.6
31-Dec	59.0	41.8	40.5	16.1	-5.0	28.0	42.0	19.5	10.8

DENVER/STAPLETON CO WMO No. 724690



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1103
FEB	1	884
MAR	4	762
APR	22	512
MAY	62	289
JUN	185	99
JUL	272	32
AUG	222	49
SEP	117	191
OCT	34	470
NOV	4	829
DEC	0	1062
ANN	924	6282

DENVER/STAPLETON CO WMO No. 724690



	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	-30990	0	-11112
FEB	0	-25092	0	-9057
MAR	2	-22105	0	-8121
APR	67	-15349	0	-5127
MAY	309	-9330	0	-1786
JUN	1736	-3679	2	-588
JUL	2842	-1579	28	-181
AUG	1987	-2192	24	-158
SEP	897	-6396	0	-1206
OCT	130	-14266	0	-4493
NOV	2	-23757	0	-8084
DEC	0	-29926	0	-10746
ANN	7972	-184661	54	-60659

Average Annual Solar Radiation – Nearest Available Site

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

City: BOULDER
State: CO
WBAN No: 94018
Lat(N): 40.02
Long(W): 105.25
Elev(ft): 5361

Stn Type: Primary
SHADING GEOMETRY IN DIMENSIONLESS UNITS
Window: 1
Overhang: 0.534
Vert Gap: 0.321

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	750	1030	1390	1750	1960	2160	2120	1890	1580	1200	830	670	1450
	Std Dev	52	51	96	115	152	164	116	115	119	95	46	41	54
	Minimum	660	880	1170	1510	1530	1810	1780	1590	1250	990	730	610	1340
	Maximum	850	1110	1570	1940	2270	2460	2350	2100	1760	1340	900	740	1520
	Diffuse	280	380	520	630	710	670	650	580	450	340	290	250	480
Clear Day	Global	950	1310	1830	2330	2650	2770	2680	2390	1950	1440	1020	840	1850
NORTH	Global	200	260	350	440	550	630	580	460	350	270	210	180	370
	Diffuse	200	260	350	420	480	490	480	430	350	270	210	180	340
Clear Day	Global	170	230	310	410	590	720	650	460	320	250	190	160	370
EAST	Global	550	710	910	1110	1200	1320	1340	1220	1020	820	590	490	940
	Diffuse	250	330	430	520	570	570	570	520	420	340	270	220	420
Clear Day	Global	750	960	1240	1460	1570	1590	1560	1460	1270	1020	780	680	1190
SOUTH	Global	1370	1410	1300	1110	890	810	850	1020	1270	1460	1370	1330	1180
	Diffuse	360	430	500	540	540	520	520	510	460	410	370	330	460
Clear Day	Global	2060	2100	1920	1470	1080	920	980	1270	1690	2000	2050	2010	1630
WEST	Global	520	680	840	980	1020	1070	1010	970	920	780	570	480	820
	Diffuse	250	330	440	530	580	590	570	520	430	340	270	220	420
Clear Day	Global	750	960	1240	1460	1570	1590	1560	1460	1270	1020	780	680	1190

Average Annual Solar Heat and Illumination – Nearest Available Site

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

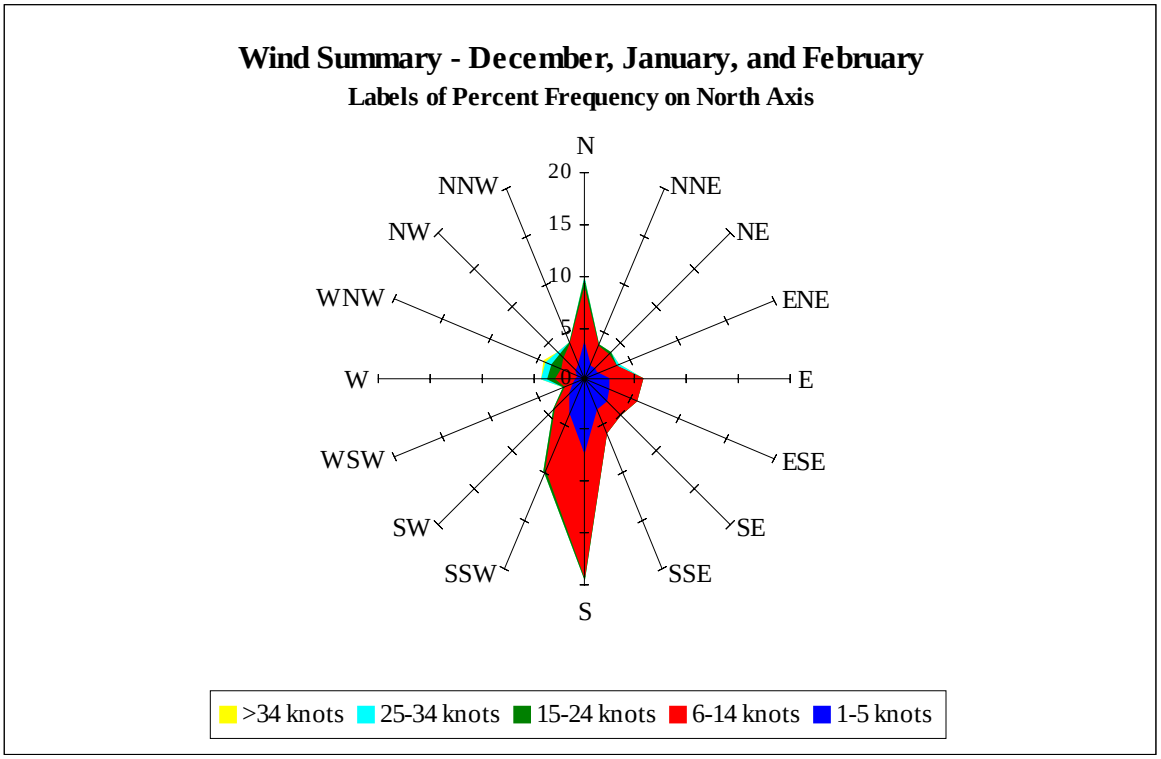
AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	480	700	980	1260	1420	1580	1550	1380	1130	830	540	420	1020
NORTH	Unshaded	140	180	240	300	360	400	370	310	240	190	150	120	250
	Shaded	120	170	220	270	320	360	340	280	220	170	130	110	230
EAST	Unshaded	370	500	650	790	860	950	960	880	730	580	410	330	670
	Shaded	340	450	570	690	730	800	810	760	640	520	370	300	580
SOUTH	Unshaded	1030	1040	900	710	540	470	500	640	850	1050	1030	1010	810
	Shaded	1010	970	710	450	340	330	330	370	600	930	1000	990	670
WEST	Unshaded	360	470	590	690	720	760	710	690	650	550	390	330	580
	Shaded	330	420	520	600	610	640	610	590	570	490	360	300	500

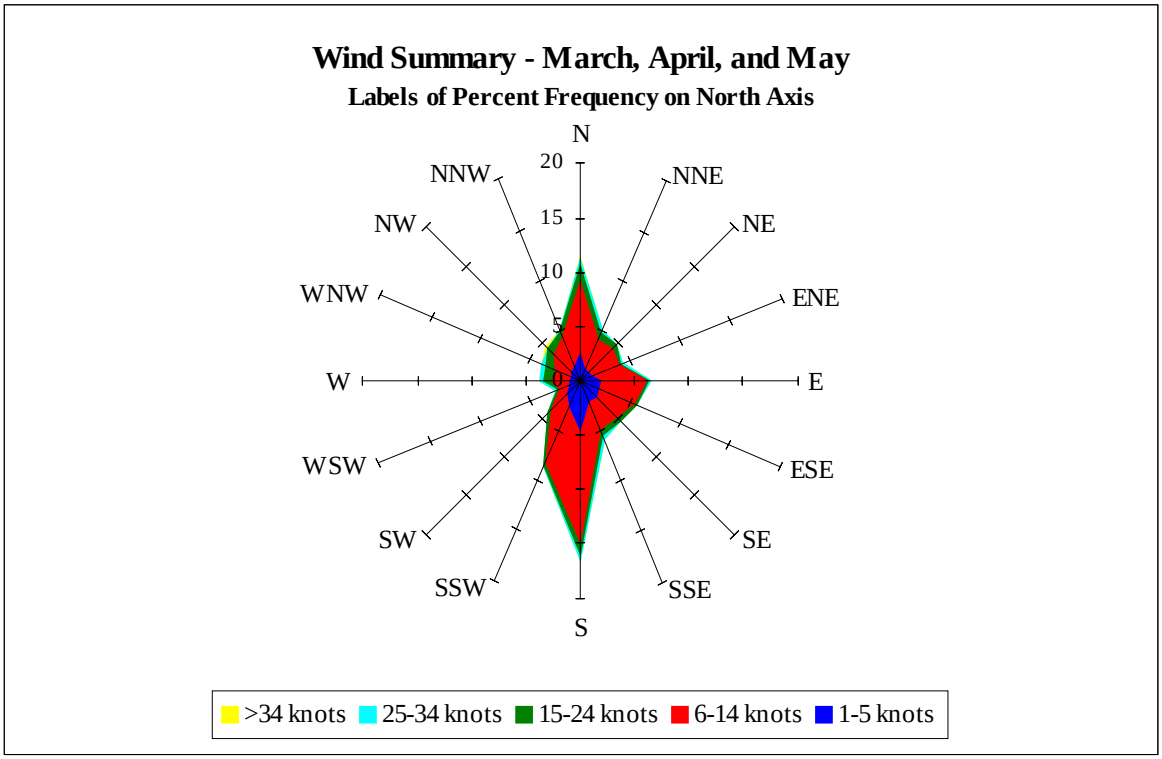
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9

		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	42	73	82	65	27	51	84	101	95	68
	M.Cloudy	28	51	59	44	18	34	63	78	67	46
NORTH	M.Clear	10	13	15	13	8	18	14	16	16	14
	M.Cloudy	10	15	17	14	7	14	16	17	17	14
EAST	M.Clear	81	56	15	13	8	86	70	29	16	14
	M.Cloudy	38	37	17	14	7	46	51	26	17	14
SOUTH	M.Clear	44	74	85	67	28	11	31	46	41	20
	M.Cloudy	24	46	55	39	14	11	27	38	32	17
WEST	M.Clear	10	13	24	68	70	11	14	16	52	79
	M.Cloudy	10	15	21	40	29	11	16	17	38	47
M.Clear	(% hrs)	38	38	32	30	29	59	60	51	36	28

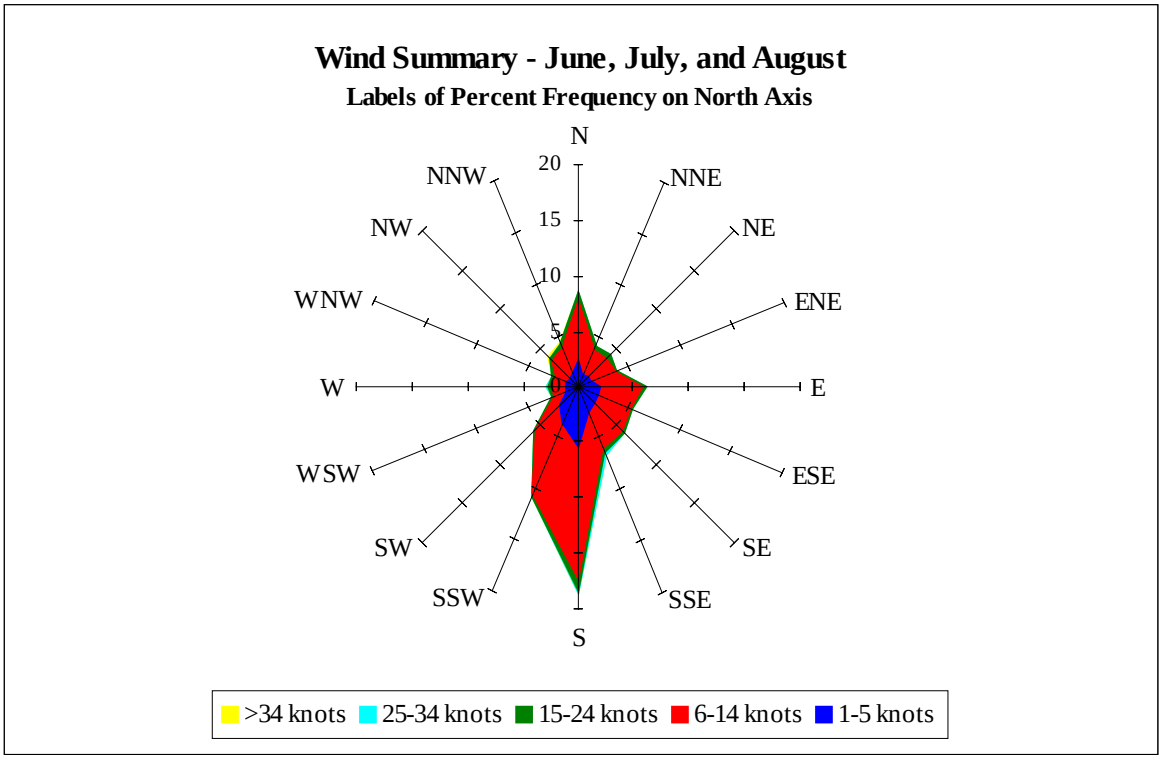
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	31	69	84	77	47	16	43	48	29	2
	M.Cloudy	18	45	60	52	31	10	29	34	20	2
NORTH	M.Clear	8	13	14	14	10	5	10	10	8	1
	M.Cloudy	7	14	16	15	11	5	10	11	8	1
EAST	M.Clear	77	71	26	14	10	47	41	10	8	1
	M.Cloudy	28	41	23	15	11	18	24	11	8	1
SOUTH	M.Clear	24	59	75	69	39	44	87	94	67	5
	M.Cloudy	12	35	50	42	23	17	44	50	31	2
WEST	M.Clear	8	13	14	54	77	5	10	23	52	8
	M.Cloudy	7	14	16	35	39	5	10	17	25	3
M.Clear	(% hrs)	57	58	57	50	44	41	44	44	42	43



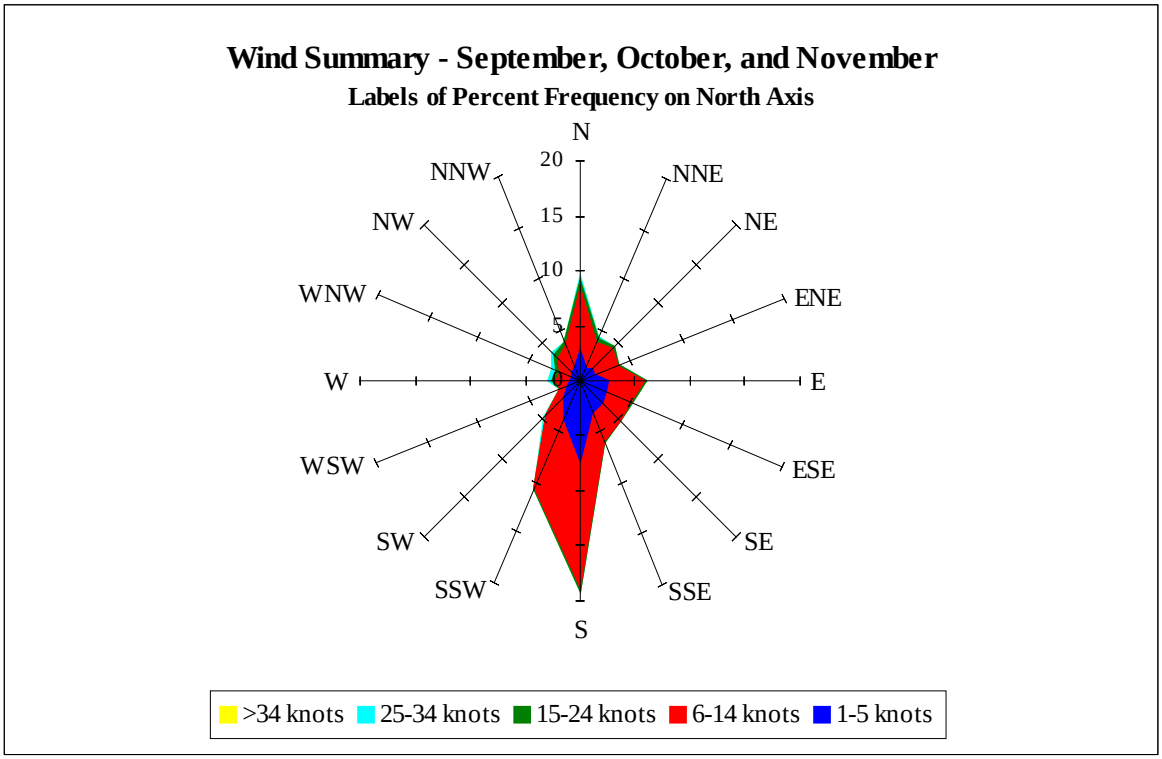
Percent Calm = 7.06



Percent Calm = 4.15



Percent Calm = 4.61



Percent Calm = 6.55