

BUCKLEY ANGB/DENVER CO

Latitude = 39.72 N

WMO No. 724695

Longitude = 104.70 W

Elevation = 5663 feet

Period of Record = 1967 to 1996

Average Pressure = 24.35 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	61	39	9.0	S
0.4% Occurrence	92	59	40	7.5	N
1.0% Occurrence	90	59	42	7.6	E
2.0% Occurrence	87	59	45	7.3	N
Mean Daily Range	24	-	-	-	-
97.5% Occurrence	12	10	9	5.7	S
99.0% Occurrence	5	4	6	5.2	S
99.6% Occurrence	0	-1	5	4.7	S
Median of Extreme Lows	-8	-9	3	5.0	S
	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	67	83	91	7.2	E
0.4% Occurrence	64	80	82	6.8	N
1.0% Occurrence	63	80	77	7.0	S
2.0% Occurrence	61	79	69	7.1	S
	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	102	71	0.56	4.7	S
0.4% Occurrence	91	67	0.50	5.7	S
1.0% Occurrence	85	67	0.47	5.2	S
2.0% Occurrence	80	67	0.44	6.7	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		31	582	0	4

Other Site Data

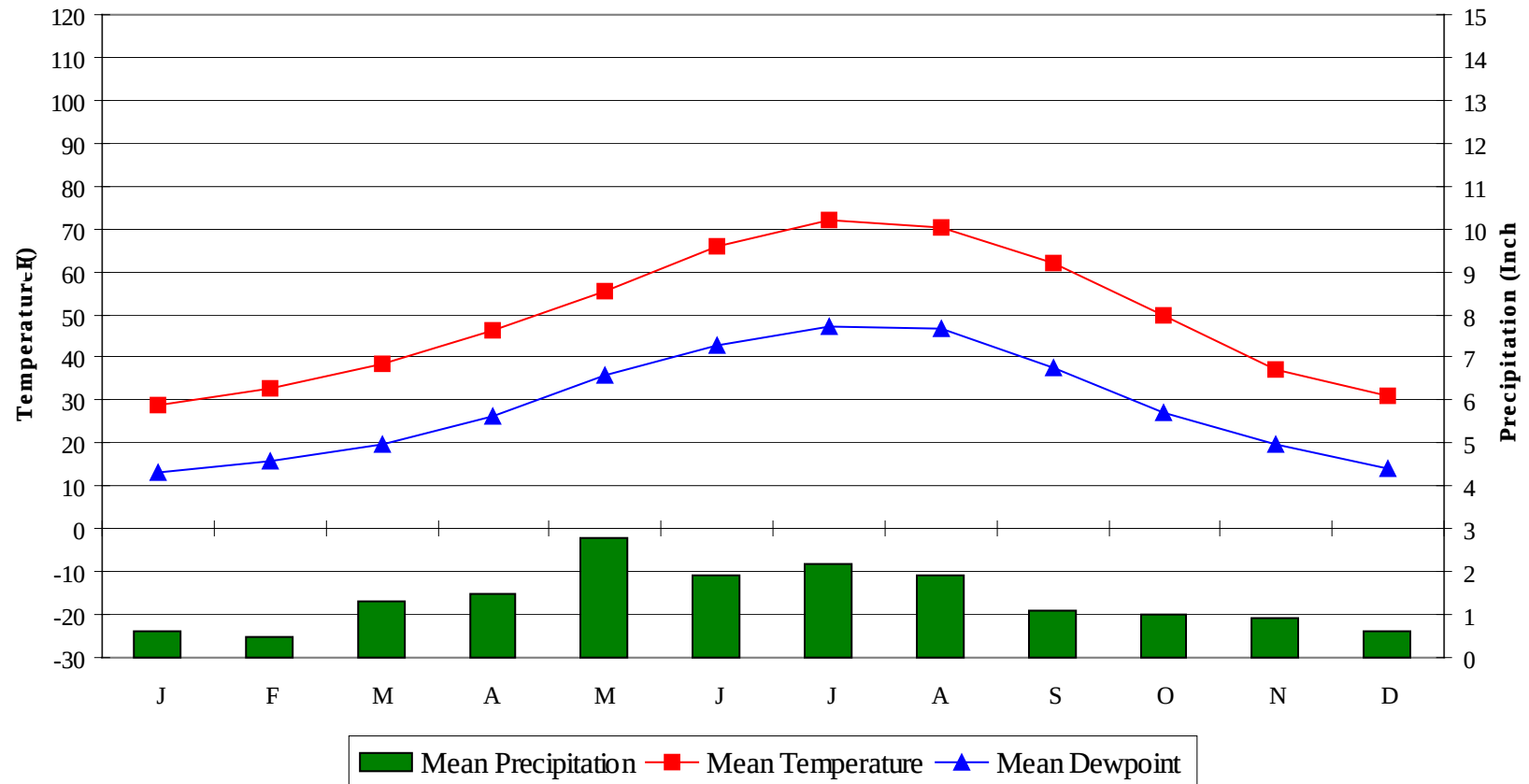
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
6	2.0	N/A	0.0 + 0.6
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
51.8	52	18	102

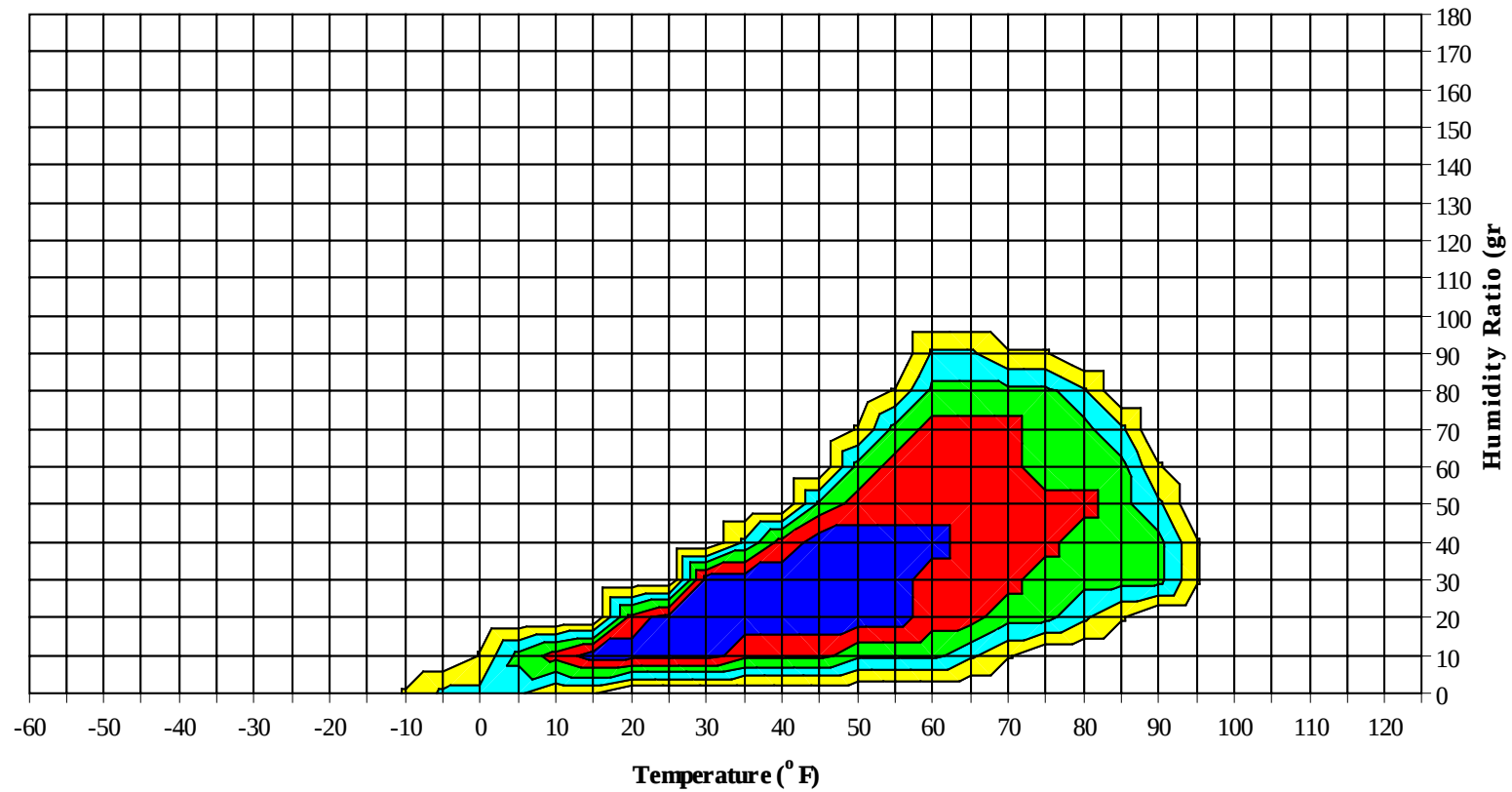
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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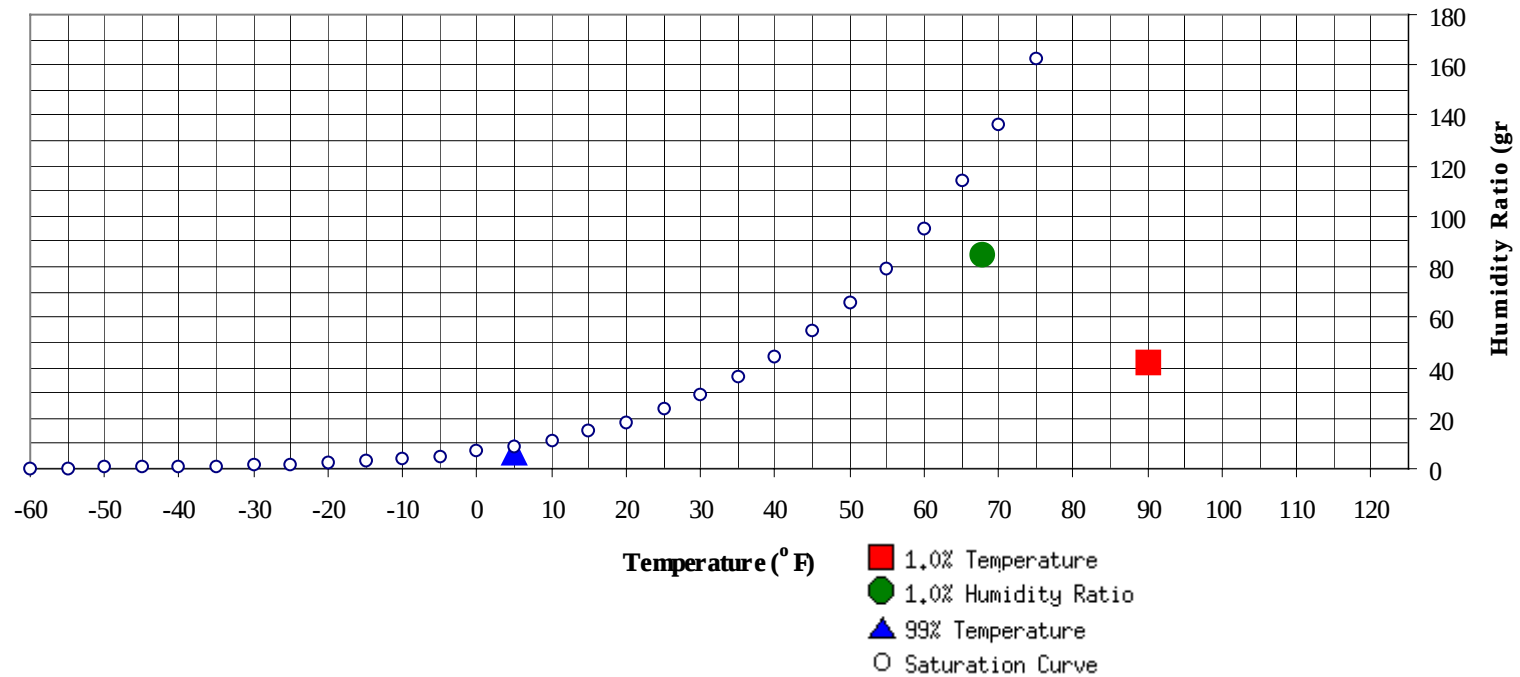
Average Annual Climate



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

Psychrometric Summary of Peak Design Values



99% Dry Bulb	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
	5	6	2.1		84.7	67.7	60.6	57	29.4

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	90	42.1	59.2	28.2

BUCKLEY ANGB/DENVER CO

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

Period of Record = 1967 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															
75 / 79												0		0	47.4
70 / 74		0		0	45.0		0		0	46.6		5	0	6	46.4
65 / 69		1		1	44.2		3	0	3	44.4		11	2	13	44.0
60 / 64		4	0	4	41.7		10	1	11	41.9	0	24	6	30	42.3
55 / 59	0	11	1	12	39.6		19	3	22	39.7	1	29	11	41	40.3
50 / 54	1	21	3	25	37.4	1	28	9	38	37.5	5	31	21	57	38.4
45 / 49	4	30	11	45	35.3	5	32	17	54	35.2	13	32	30	76	36.0
40 / 44	11	38	25	75	32.6	15	32	29	75	32.8	29	32	39	100	33.8
35 / 39	30	31	38	100	29.7	31	27	40	98	29.9	49	26	42	117	31.1
30 / 34	41	31	41	114	26.6	46	24	44	115	27.1	58	26	44	128	28.2
25 / 29	47	26	38	111	23.1	46	19	32	97	23.8	44	17	27	88	24.4
20 / 24	40	20	32	92	19.1	34	13	21	68	19.6	24	7	14	46	20.0
15 / 19	25	14	20	59	14.7	18	7	11	36	15.3	12	4	6	22	15.3
10 / 14	20	10	16	46	10.4	12	5	7	24	10.6	6	2	3	11	11.1
5 / 9	12	6	10	29	5.8	6	3	4	13	5.9	3	1	2	6	5.7
0 / 4	10	5	7	22	1.0	4	1	3	8	1.2	2	0	1	2	1.4
-5 / -1	4	0	2	7	-3.0	2	1	1	4	-3.5	1			1	-2.8
-10 / -6	2	0	1	3	-7.3	1	1	1	3	-7.6	0			0	-5.7
-15 / -11	0			0	-11.6	1	0	1	2	-12.3					
-20 / -16						0			0	-15.7					
-25 / -21															
-30 / -26															

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.

BUCKLEY ANGB/DENVER CO

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

Period of Record = 1967 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	60.3
95 / 99												2	0	2	59.9
90 / 94							0	0	0	55.2		12	2	15	58.7
85 / 89		0	0	0	53.3		3	0	3	55.1	0	30	7	38	57.8
80 / 84		1	0	1	51.5		12	2	14	54.2	1	39	14	54	57.6
75 / 79		8	1	9	50.0	0	28	6	34	53.2	4	41	23	69	56.8
70 / 74	0	20	5	25	48.3	2	39	14	55	51.9	12	39	34	85	55.4
65 / 69	1	27	9	37	46.5	5	38	22	65	50.5	26	32	42	100	53.8
60 / 64	3	32	16	50	44.8	15	39	36	90	48.8	52	21	48	121	52.1
55 / 59	7	30	25	62	43.0	30	29	45	103	47.0	63	10	33	106	50.1
50 / 54	19	35	35	88	40.7	55	25	48	128	44.8	48	7	23	78	47.3
45 / 49	36	29	39	104	38.5	61	17	39	117	42.2	25	4	9	37	43.7
40 / 44	49	23	41	113	36.0	46	11	23	80	38.5	8	1	3	12	39.7
35 / 39	48	15	31	95	32.6	21	4	8	33	34.3	1	0	0	2	35.9
30 / 34	45	13	24	82	29.2	11	2	4	18	30.4		0		0	32.0
25 / 29	20	4	9	33	24.7	1	0	1	2	26.5					
20 / 24	7	3	4	14	20.2	0			0	21.7					
15 / 19	2	0	1	4	15.8	0			0	18.0					
10 / 14	1	0	0	1	10.6										
5 / 9	0			0	6.8										
0 / 4	0			0	2.5										
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															

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Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)**Period of Record = 1967 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	0	60.9		0		0	61.7					
95 / 99		6	1	7	60.0		3	0	4	60.9		0		0	58.2
90 / 94		32	6	38	59.6		19	3	21	59.5	0	4	0	4	58.5
85 / 89	0	55	15	70	59.6	0	49	10	59	59.1	0	19	3	21	56.8
80 / 84	3	60	25	88	59.5	1	64	21	86	59.0	0	39	7	46	55.3
75 / 79	10	42	36	88	58.8	7	49	32	88	58.4	1	44	15	60	54.2
70 / 74	28	28	53	109	57.6	21	32	51	103	57.3	4	40	26	70	53.0
65 / 69	57	15	55	127	56.1	52	18	59	129	55.9	16	30	38	85	51.7
60 / 64	89	7	44	140	54.8	86	9	51	147	54.3	42	23	48	113	50.0
55 / 59	48	2	13	62	52.7	60	3	16	79	51.7	56	15	40	111	48.1
50 / 54	11	1	2	14	48.7	19	1	4	25	48.4	52	13	30	95	45.0
45 / 49	1	0	0	2	44.1	2	0	0	2	44.5	39	6	18	64	41.8
40 / 44											18	4	7	29	38.2
35 / 39											7	2	3	12	33.9
30 / 34											3	1	2	7	30.2
25 / 29											1	0	0	2	24.9
20 / 24											0	0	0	1	19.7
15 / 19											0			0	16.0
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															

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

Period of Record = 1967 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		0		0	54.0										
80 / 84		7	0	8	51.9										
75 / 79		18	2	20	50.4		1		1	48.2					
70 / 74	0	32	5	37	48.7		5		5	46.7		0		0	47.2
65 / 69	1	35	10	46	47.0		13	0	14	45.3		3		3	44.0
60 / 64	5	37	20	63	45.3	0	21	2	23	43.4		9	0	9	42.2
55 / 59	15	31	32	78	43.2	1	26	6	33	41.2	0	16	1	18	39.9
50 / 54	34	27	45	106	41.0	7	30	16	53	38.8	2	22	6	30	37.5
45 / 49	52	20	47	119	38.7	18	29	27	74	36.2	7	29	13	50	35.0
40 / 44	50	14	36	101	36.0	33	27	39	99	33.6	19	32	24	75	32.3
35 / 39	42	12	23	77	32.6	39	24	39	101	30.8	30	35	36	102	29.4
30 / 34	29	10	19	58	29.3	45	27	37	109	27.9	44	34	44	123	26.5
25 / 29	13	2	6	21	24.9	41	21	36	98	24.2	46	26	45	118	23.1
20 / 24	4	1	2	6	20.5	25	9	21	55	19.9	40	15	32	86	19.4
15 / 19	1	1	1	2	16.5	18	4	11	33	15.6	26	10	19	55	15.1
10 / 14	0	0	1	1	11.8	7	2	4	13	10.8	14	7	11	32	10.5
5 / 9	1		0	1	7.0	2	1	1	4	6.2	9	4	8	22	5.8
0 / 4	0			0	2.3	1	0	1	2	2.0	5	1	4	10	1.3
-5 / -1						0	0	0	1	-3.3	2	1	1	4	-3.3
-10 / -6						0	0	0	1	-6.8	2	1	1	4	-7.6
-15 / -11						0			0	-12.0	1	1	1	3	-12.5
-20 / -16											0	0	1	1	-16.6
-25 / -21											0	0		1	-21.0
-30 / -26											0			0	-25.0

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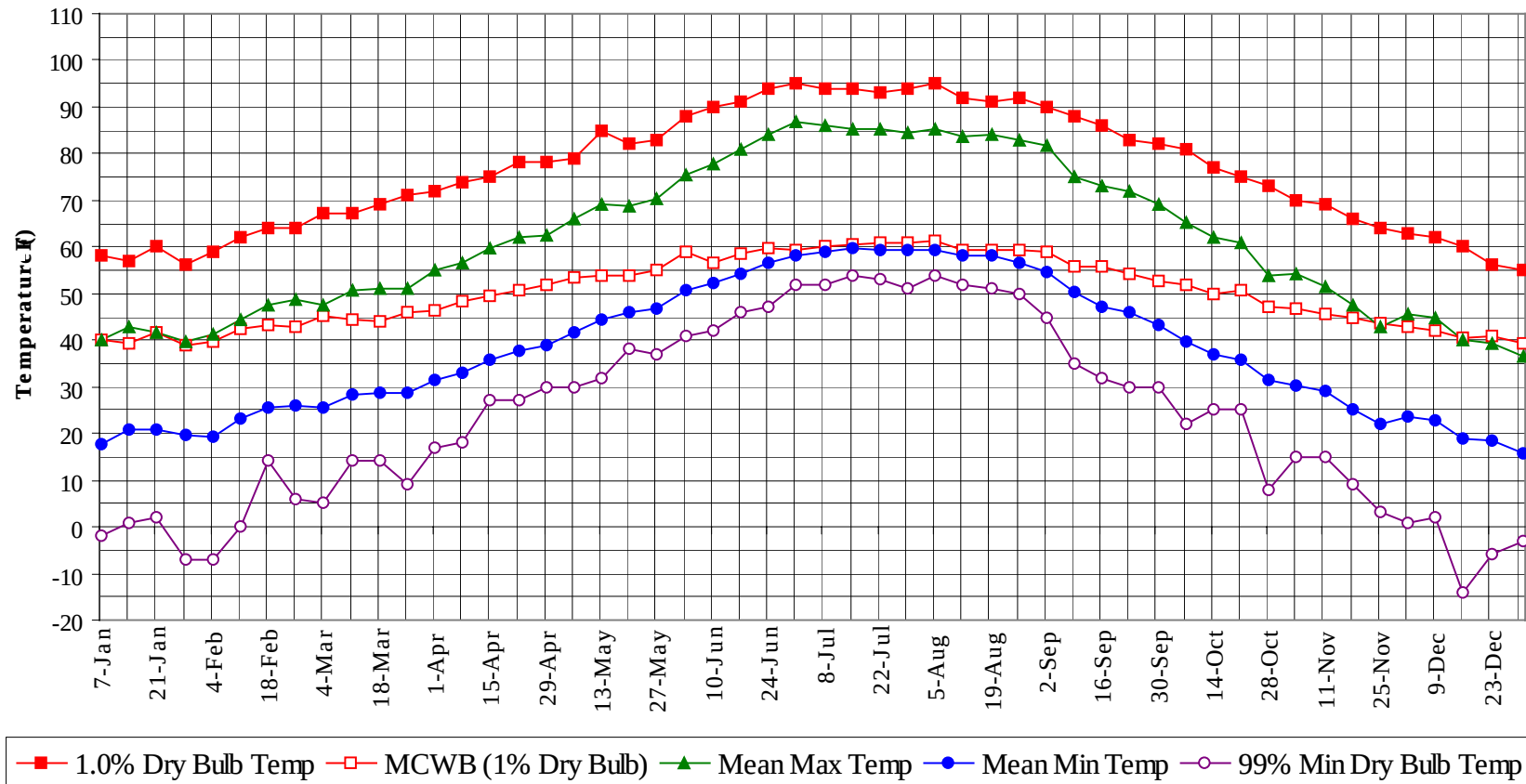
WMO No. 724695

Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)**Period of Record = 1967 to 1996**

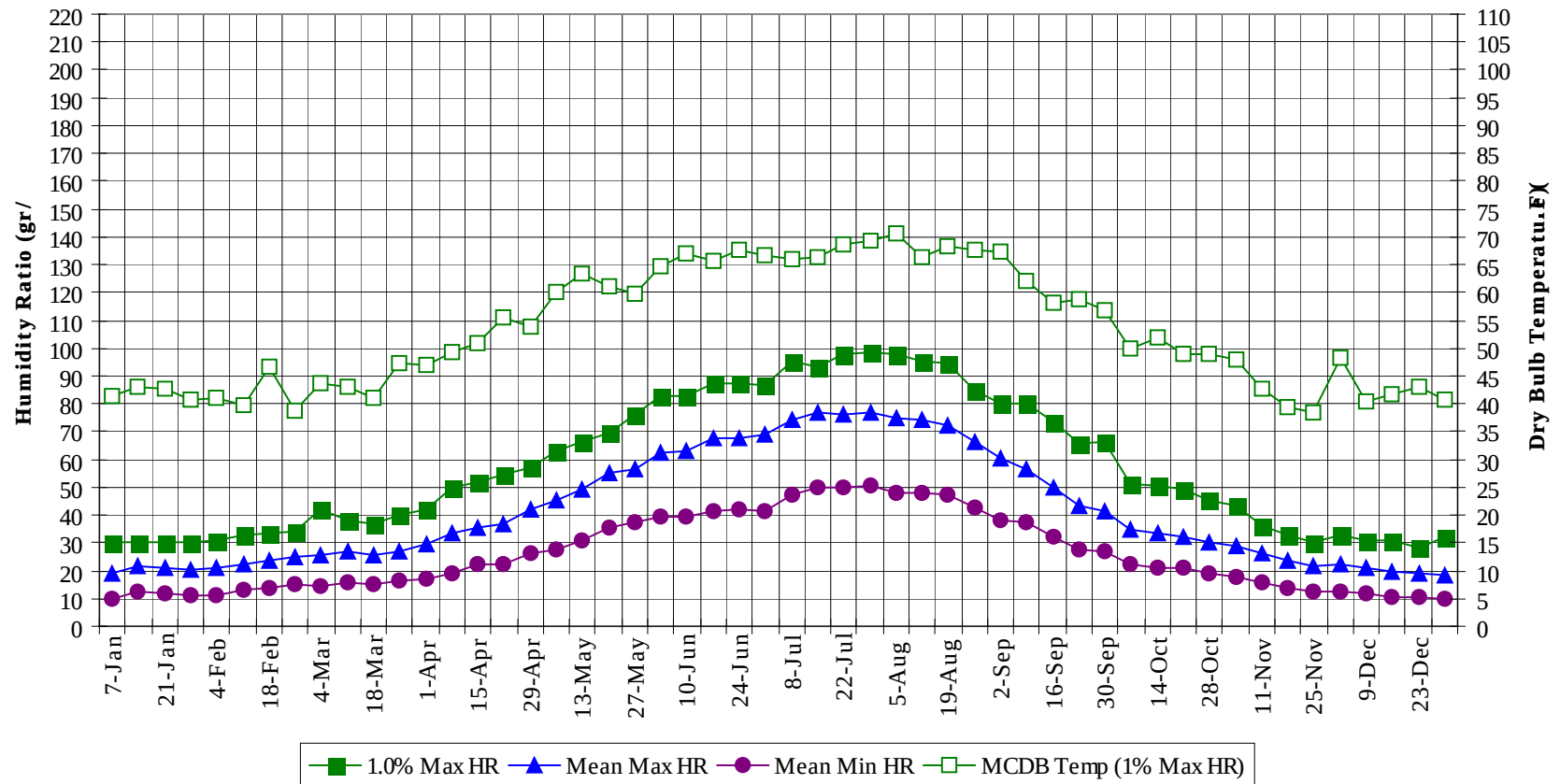
Temperature Range (°F)	Annual Totals				
	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104		1	0	1	61.0
95 / 99		12	1	13	60.2
90 / 94	0	68	11	79	59.3
85 / 89	1	156	35	191	58.7
80 / 84	6	223	69	298	57.9
75 / 79	22	231	116	370	56.3
70 / 74	68	240	187	495	54.5
65 / 69	158	226	238	622	52.6
60 / 64	293	234	274	801	50.4
55 / 59	281	221	226	728	46.7
50 / 54	255	240	242	737	42.4
45 / 49	265	228	250	743	38.5
40 / 44	279	214	267	760	34.8
35 / 39	299	177	261	738	31.0
30 / 34	323	169	261	753	27.7
25 / 29	260	115	194	570	23.8
20 / 24	175	68	124	367	19.6
15 / 19	102	40	68	210	15.2
10 / 14	61	26	43	129	10.6
5 / 9	33	16	27	75	5.9
0 / 4	23	8	15	45	1.2
-5 / -1	9	3	5	17	-3.2
-10 / -6	5	2	4	11	-7.4
-15 / -11	3	1	2	5	-12.4
-20 / -16	1	0	1	1	-16.3
-25 / -21	0	0		1	-21.0
-30 / -26	0			0	-25.0

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



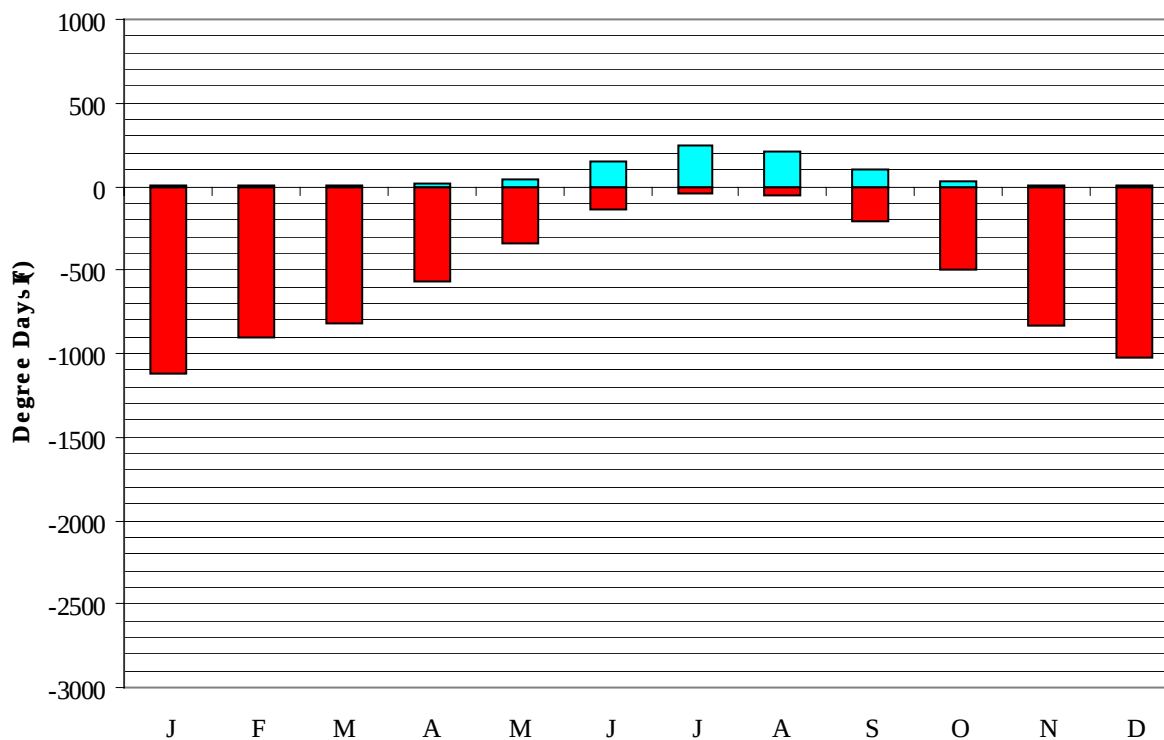
BUCKLEY ANGB/DENVER CO

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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	58.0	40.2	40.0	17.8	-2.0	30.1	41.5	19.1	10.0
14-Jan	57.0	39.2	42.7	20.8	1.0	30.1	43.0	21.6	12.2
21-Jan	60.0	41.5	41.6	20.8	2.0	30.1	42.6	20.7	11.6
28-Jan	56.0	39.0	39.7	19.7	-7.0	30.1	40.8	20.4	11.2
4-Feb	59.0	39.7	41.4	19.2	-7.0	30.8	41.0	20.7	11.4
11-Feb	62.0	42.5	44.2	23.2	0.0	32.9	39.8	22.6	12.9
18-Feb	64.0	43.2	47.4	25.4	14.0	33.6	46.7	23.5	13.5
25-Feb	64.0	42.7	48.8	25.8	6.0	34.3	38.8	24.8	14.8
4-Mar	67.0	45.3	47.7	25.5	5.0	42.0	43.7	25.5	14.6
11-Mar	67.0	44.5	50.7	28.4	14.0	37.8	43.0	26.6	15.9
18-Mar	69.0	44.1	51.1	28.7	14.0	37.1	41.1	25.8	15.1
25-Mar	71.0	45.9	51.2	28.5	9.0	39.9	47.4	27.0	16.1
1-Apr	72.0	46.5	54.9	31.5	17.0	42.0	47.0	29.5	17.2
8-Apr	74.0	48.5	56.7	33.0	18.0	49.7	49.1	33.7	19.2
15-Apr	75.0	49.5	59.7	35.6	27.0	51.8	51.1	35.6	22.6
22-Apr	78.0	50.7	62.0	37.9	27.0	54.6	55.6	36.9	22.2
29-Apr	78.0	51.9	62.4	39.1	30.0	57.4	54.0	41.8	26.3
6-May	79.0	53.3	66.1	41.5	30.0	63.0	60.1	45.5	27.4
13-May	85.0	54.0	69.1	44.5	32.0	66.5	63.2	49.2	30.8
20-May	82.0	53.8	68.7	46.1	38.0	69.3	61.1	55.4	35.7
27-May	83.0	55.1	70.1	47.0	37.0	76.3	59.6	56.6	37.1
3-Jun	88.0	59.1	75.3	50.7	41.0	82.6	64.8	62.6	39.5
10-Jun	90.0	56.6	77.9	52.2	42.0	82.6	67.0	63.2	39.4
17-Jun	91.0	58.6	80.9	54.2	46.0	87.5	65.6	67.5	41.5
24-Jun	94.0	59.6	84.2	56.7	47.0	87.5	67.8	67.6	41.7
1-Jul	95.0	59.4	86.7	58.3	52.0	86.8	66.8	69.2	41.7
8-Jul	94.0	60.3	85.9	59.1	52.0	95.2	66.0	74.4	47.6
15-Jul	94.0	60.4	85.4	59.6	54.0	93.1	66.4	76.6	50.2
22-Jul	93.0	60.9	85.4	59.4	53.0	98.0	68.6	76.2	49.8
29-Jul	94.0	61.0	84.7	59.5	51.0	98.7	69.2	76.5	50.3
5-Aug	95.0	61.1	85.3	59.3	54.0	98.0	70.5	74.9	47.8
12-Aug	92.0	59.4	83.7	58.2	52.0	95.2	66.4	74.2	47.7
19-Aug	91.0	59.2	84.2	58.1	51.0	94.5	68.4	72.3	47.5
26-Aug	92.0	59.2	82.9	56.5	50.0	84.7	67.6	66.6	42.6
2-Sep	90.0	58.9	81.6	54.6	45.0	79.8	67.3	60.6	38.2
9-Sep	88.0	55.7	75.1	50.4	35.0	79.8	62.0	56.6	37.6
16-Sep	86.0	55.7	73.3	47.0	32.0	73.5	58.2	50.1	31.9
23-Sep	83.0	54.2	71.8	45.9	30.0	65.8	58.6	43.1	27.5
30-Sep	82.0	52.6	69.2	43.1	30.0	66.5	56.9	41.3	27.1
7-Oct	81.0	51.7	65.4	39.7	22.0	51.1	49.8	34.8	22.3
14-Oct	77.0	50.1	62.1	36.9	25.0	50.4	51.9	33.5	20.8
21-Oct	75.0	50.6	60.9	35.9	25.0	49.0	48.8	32.1	20.9
28-Oct	73.0	47.2	53.9	31.4	8.0	45.5	48.9	30.4	19.0
4-Nov	70.0	46.6	54.2	30.5	15.0	43.4	47.9	29.2	17.6
11-Nov	69.0	45.8	51.5	29.1	15.0	36.4	42.7	26.4	15.7
18-Nov	66.0	44.9	47.4	25.2	9.0	32.9	39.3	23.4	13.7
25-Nov	64.0	43.7	43.0	21.8	3.0	30.1	38.5	21.6	12.3
2-Dec	63.0	43.0	45.7	23.7	1.0	32.9	48.4	22.0	12.8
9-Dec	62.0	42.0	44.6	23.0	2.0	30.8	40.3	21.2	11.9
16-Dec	60.0	40.6	40.1	18.8	-14.0	30.8	41.7	19.5	10.6
23-Dec	56.0	41.0	39.3	18.3	-6.0	28.0	43.0	19.2	10.7
31-Dec	55.0	39.4	36.5	15.6	-3.0	32.2	40.7	18.6	9.7

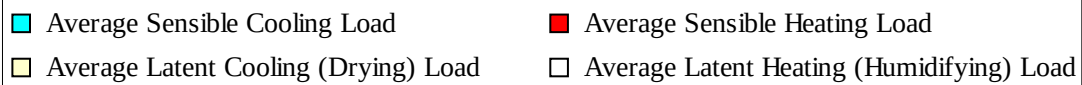
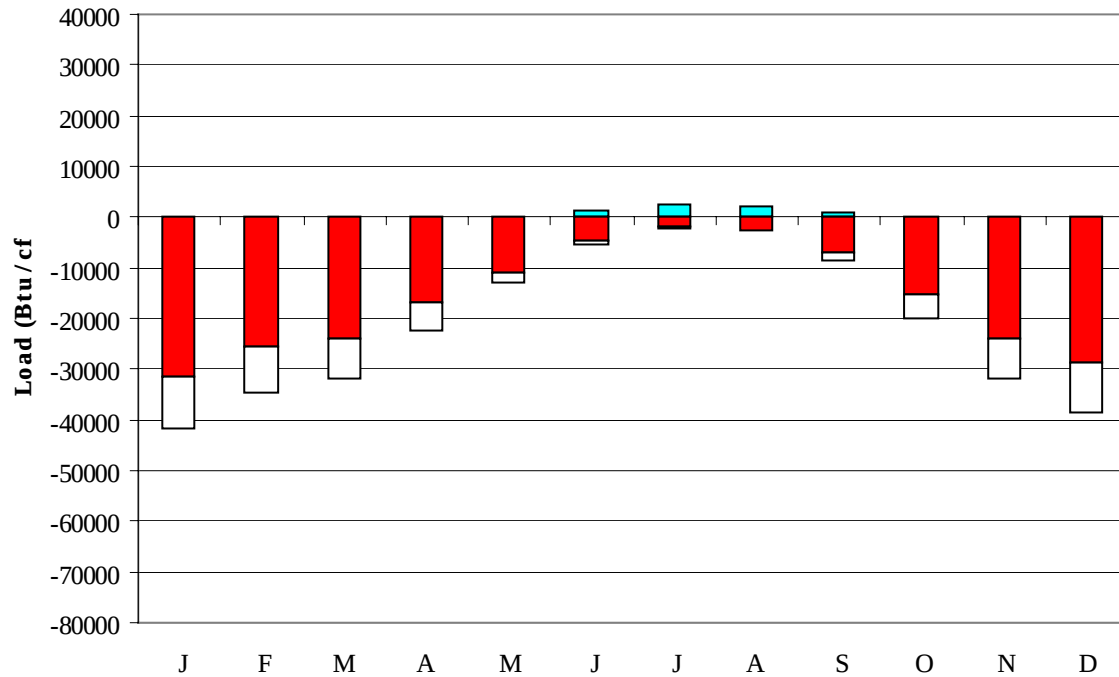
Degree Days, Heating and Cooling
(Base 65°F)



■ Mean Cooling Degree Days
 ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1115
FEB	0	906
MAR	2	826
APR	14	574
MAY	47	346
JUN	148	133
JUL	245	44
AUG	211	57
SEP	105	205
OCT	27	501
NOV	2	832
DEC	0	1021
ANN	803	6560

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	-31314	0	-10526
FEB	0	-25671	0	-8748
MAR	0	-23780	0	-8051
APR	26	-17027	0	-5176
MAY	200	-10907	0	-1832
JUN	1340	-4730	0	-598
JUL	2582	-2023	16	-240
AUG	2043	-2486	15	-223
SEP	806	-6832	0	-1539
OCT	91	-15101	0	-5058
NOV	1	-23856	0	-8031
DEC	0	-28794	0	-9798
ANN	7089	-192521	31	-59820

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

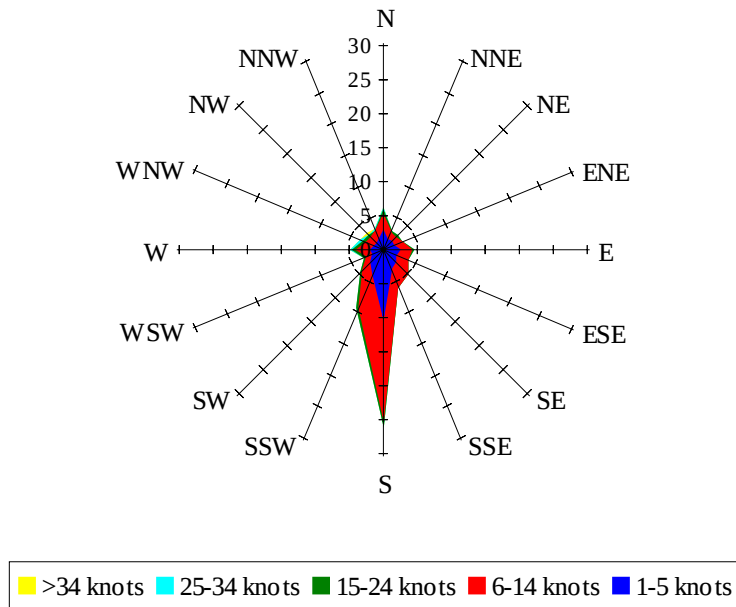
Average Annual Solar Heat and Illumination – Nearest Available Site

(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

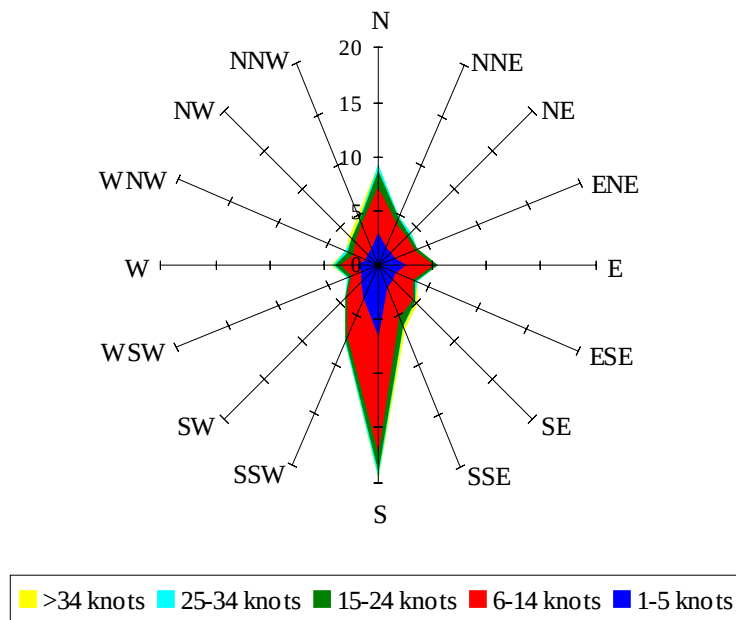
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	42	73	82	65	27	51	84	101	95	68
	M.Cloudy	28	51	59	44	18	34	63	78	67	46
NORTH	M.Clear	10	13	15	13	8	18	14	16	16	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

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



Percent Calm = 10.60

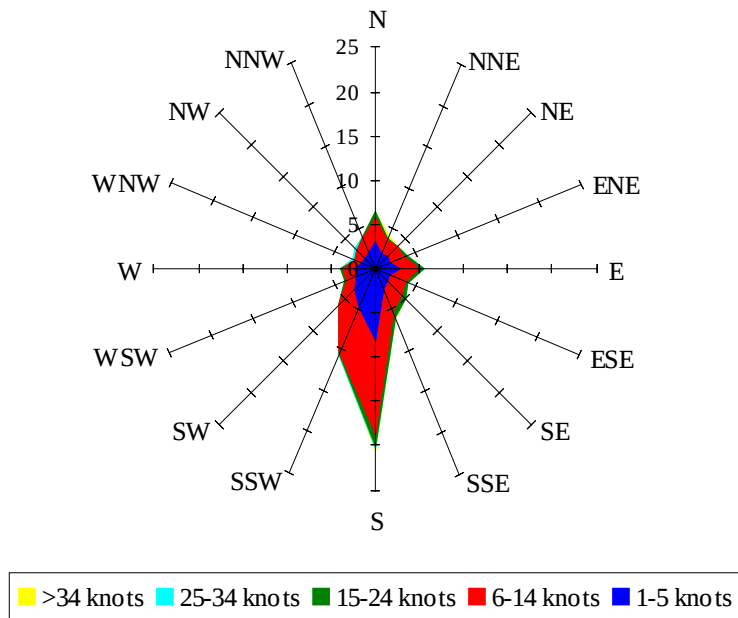
Wind Summary - March, April, and May **Labels of Percent Frequency on North Axis**



Percent Calm = 8.67

Wind Summary - June, July, and August

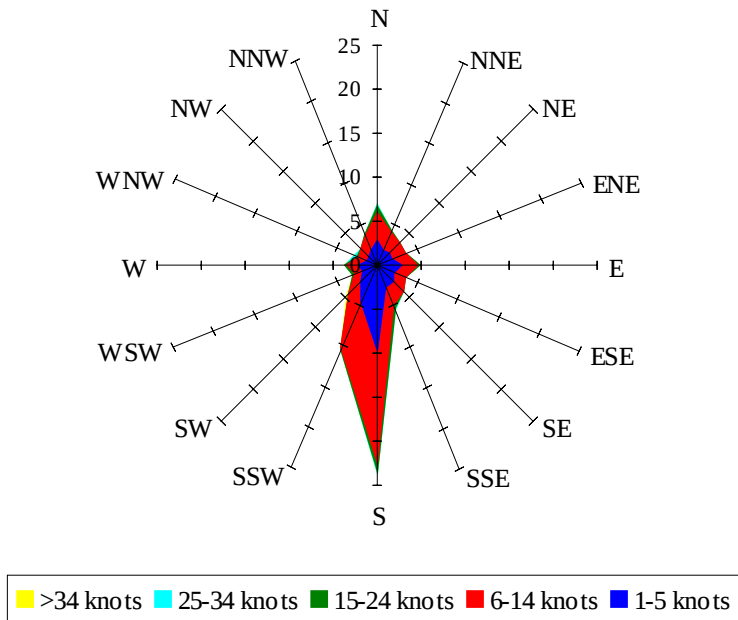
Labels of Percent Frequency on North Axis



Percent Calm = 8.73

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 9.70