

CEDAR CITY UT

Latitude = 37.70 N

Longitude = 113.10 W

Period of Record = 1973 to 1996

WMO No. 724755

Elevation = 5624 feet

Average Pressure = 24.44 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	41	10.7	SW
0.4% Occurrence	94	59	37	11.5	SSW
1.0% Occurrence	92	59	38	11.6	SSW
2.0% Occurrence	89	58	40	12.0	SSW
Mean Daily Range	26	-	-	-	-
97.5% Occurrence	16	15	11	3.8	N
99.0% Occurrence	9	8	8	3.5	N
99.6% Occurrence	4	3	7	3.1	SE
Median of Extreme Lows	-4	-4	4	2.9	SE
	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	66	81	89	9.3	SW
0.4% Occurrence	64	81	79	9.4	SSW
1.0% Occurrence	63	81	74	9.4	SSW
2.0% Occurrence	61	81	65	9.3	SSW
	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	106	70	0.58	6.0	ESE
0.4% Occurrence	92	67	0.50	5.8	S
1.0% Occurrence	85	68	0.47	6.8	SSW
2.0% Occurrence	76	70	0.42	7.4	SSW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		67	805	1	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	1.5	90	0.0 + 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 (#)
53.7	N/A	N/A	115

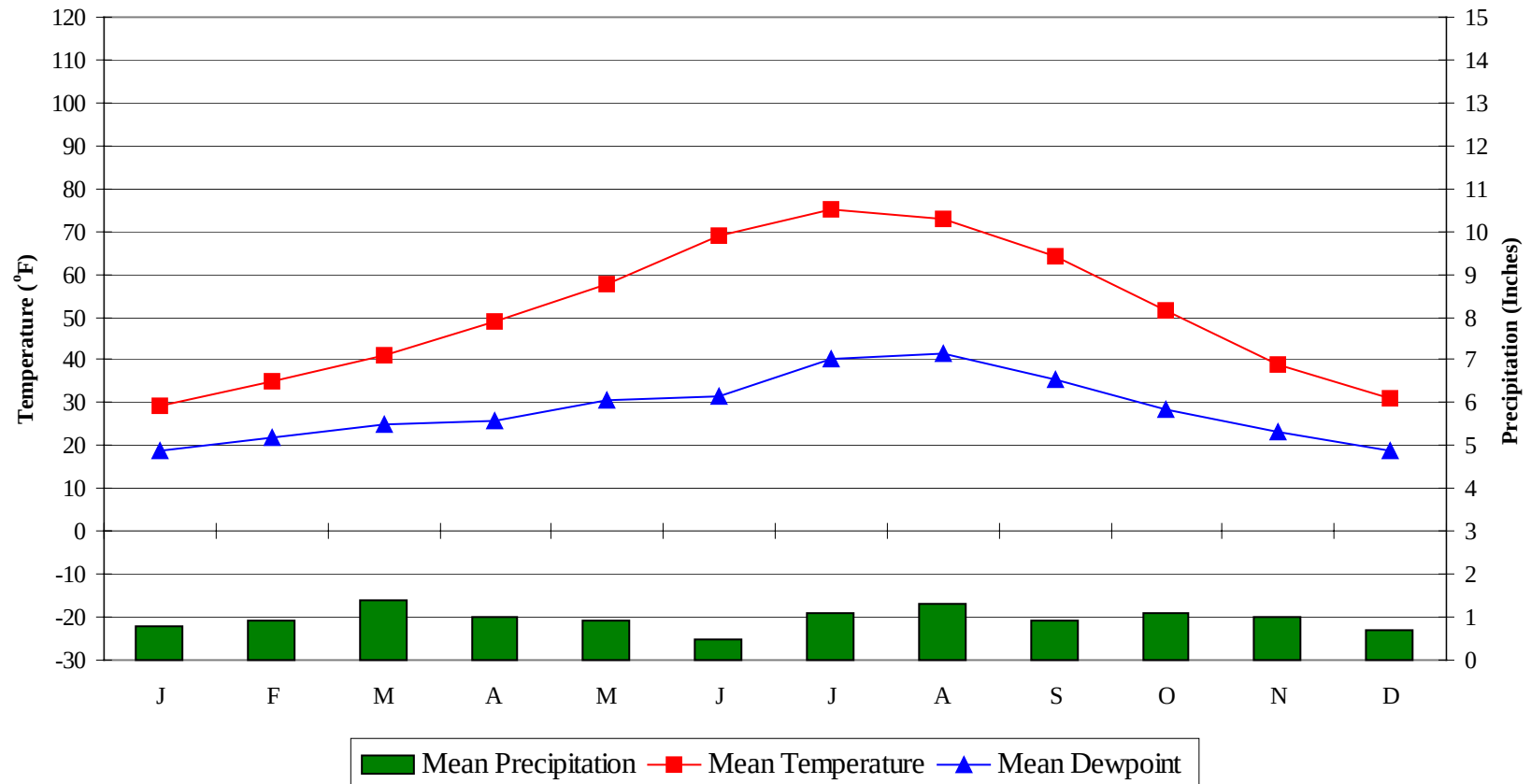
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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Average Annual Climate

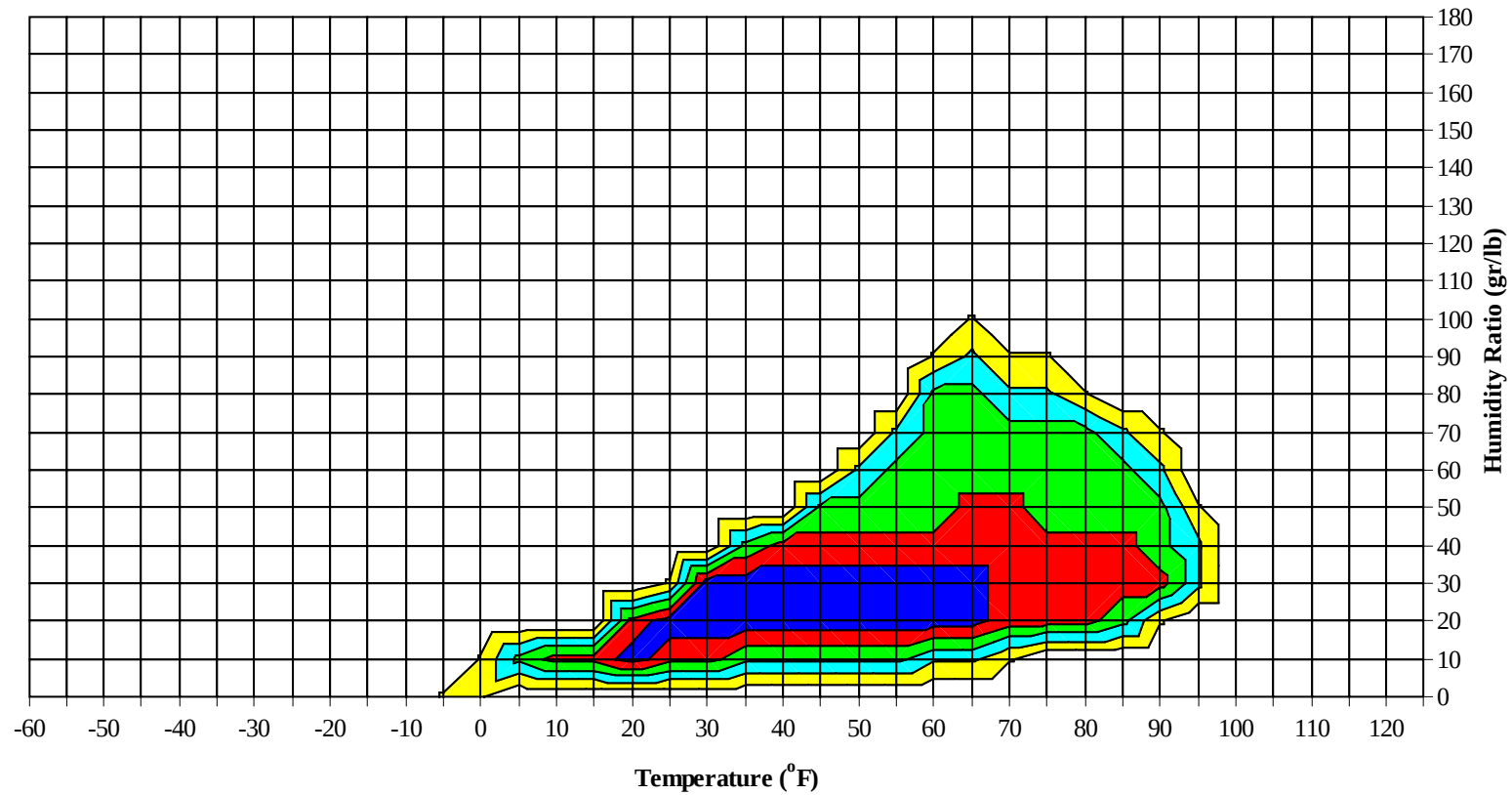


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Long Term Psychrometric Summary



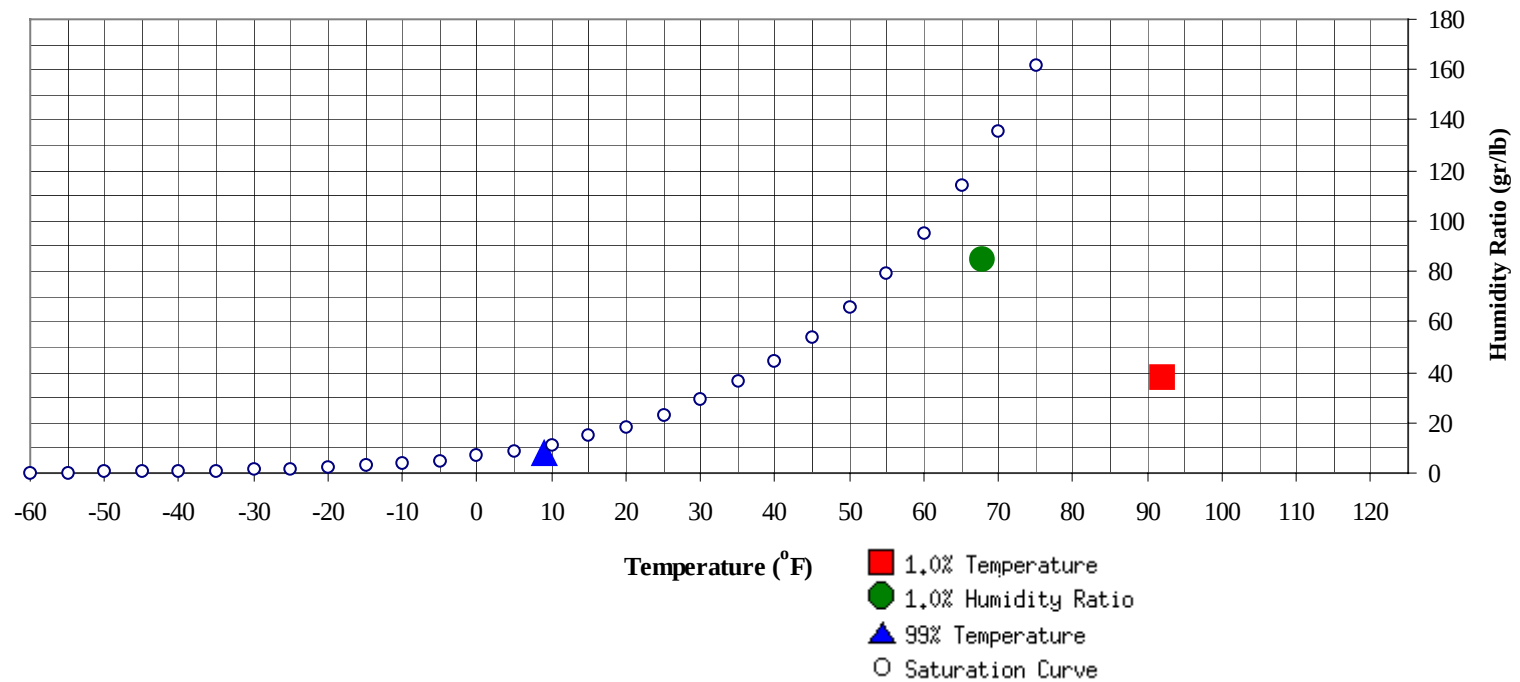
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values



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)
	9	8.2	3.4		84.7	67.9	60.6	57	29.5

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	92	38.2	59	28.1

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

Period of Record = 1973 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		
125 / 129															
120 / 124															
115 / 119															
110 / 114															
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74							0	0	0	49.8		2	0	2	47.9
65 / 69		0		0	44.7		3	0	3	45.6		9	2	11	46.0
60 / 64		2	0	2	42.7		8	2	10	44.0		21	8	29	44.1
55 / 59		5	1	6	41.5	0	13	5	18	41.8	0	34	15	49	42.1
50 / 54	0	13	3	16	39.2	0	23	10	33	40.0	6	36	28	70	40.2
45 / 49	2	24	9	35	36.9	4	33	23	60	37.7	19	44	41	104	37.8
40 / 44	10	38	25	73	34.5	18	39	39	97	35.3	33	39	49	121	35.5
35 / 39	23	49	47	119	32.0	36	41	48	126	32.1	55	35	49	139	32.6
30 / 34	42	45	56	143	28.6	52	31	45	128	28.6	63	20	37	120	29.1
25 / 29	47	31	40	118	24.4	44	15	24	83	24.6	42	6	14	62	24.9
20 / 24	46	20	28	94	20.2	31	9	14	54	20.3	20	1	4	25	20.6
15 / 19	30	11	19	60	15.6	19	4	7	30	15.6	7	0	1	8	16.2
10 / 14	22	5	10	37	10.9	10	2	3	15	11.0	2	0	0	2	11.0
5 / 9	15	3	6	24	6.3	6	1	2	9	6.5	1			1	6.3
0 / 4	7	1	3	11	1.7	2	0	1	3	1.4	0			0	2.0
-5 / -1	3	0	1	4	-2.9	1	0	0	1	-3.1					
-10 / -6	2	0	0	2	-7.4	1	0	0	1	-7.2					
-15 / -11	0	0		0	-11.5	0	0	0	0	-11.7					
-20 / -16						0	0			-16.8					
-25 / -21						0				-23.0					

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.

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

Period of Record = 1973 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		
125 / 129												0		0	94.1
120 / 124												0		0	95.7
115 / 119												0		0	97.0
110 / 114												0		0	96.0
105 / 109												0		0	94.0
100 / 104												0	0	0	83.1
95 / 99												5	1	6	59.9
90 / 94							0	0	0	56.5		20	7	27	58.0
85 / 89							4	1	5	55.8	0	45	19	64	56.0
80 / 84		1	0	1	52.4		13	4	17	53.5	1	53	27	81	54.1
75 / 79		9	2	11	50.5	0	38	15	53	51.8	4	46	31	81	52.4
70 / 74		19	7	26	48.5	1	47	22	70	50.2	15	32	37	84	50.7
65 / 69	0	34	14	48	46.5	5	45	31	81	48.2	32	18	43	93	48.7
60 / 64	2	42	25	69	44.4	19	36	43	98	46.3	50	11	36	97	46.7
55 / 59	9	38	33	80	42.3	32	26	45	103	44.4	53	6	21	80	44.5
50 / 54	22	32	41	95	40.1	52	17	37	106	42.4	42	2	11	55	42.6
45 / 49	41	26	40	107	37.9	54	11	25	90	39.9	24	1	5	30	40.3
40 / 44	46	19	33	98	35.6	44	5	14	63	37.1	13	0	2	15	37.0
35 / 39	47	14	25	86	32.4	28	3	9	40	33.5	5	0	0	5	33.4
30 / 34	45	5	16	66	29.1	12	1	2	15	30.0	1			1	29.3
25 / 29	21	0	2	23	24.6	1		0	1	25.9					
20 / 24	5	0	1	6	20.4	0			0	21.5					
15 / 19	1	0	0	1	16.4										
10 / 14	0			0	10.1										
5 / 9	0			0	5.0										
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.

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

Period of Record = 1973 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		
125 / 129															
120 / 124															
115 / 119															
110 / 114															
105 / 109															
100 / 104		1	0	1	60.8										
95 / 99		12	3	15	60.3		5	1	6	60.2					
90 / 94		50	18	68	59.1		32	9	41	59.6		4	1	5	58.2
85 / 89	0	66	29	95	58.2		62	23	85	58.6		23	6	29	57.2
80 / 84	3	59	33	95	57.6	0	66	33	99	57.6		45	14	59	55.5
75 / 79	13	34	45	92	56.7	5	44	39	88	56.9	0	51	23	74	54.1
70 / 74	39	16	54	109	54.9	26	23	54	103	55.6	5	45	34	84	52.6
65 / 69	68	7	44	119	53.3	62	11	54	127	53.6	17	29	46	92	50.9
60 / 64	75	3	18	96	51.4	90	3	30	123	51.9	45	20	50	115	49.2
55 / 59	37	0	3	40	47.6	45	1	6	52	48.0	54	11	34	99	46.4
50 / 54	10		1	11	43.2	15	0	1	16	44.1	51	6	18	75	43.2
45 / 49	3		0	3	39.6	4		0	4	39.9	36	3	9	48	40.0
40 / 44	1			1	37.2	0			0	36.3	18	1	5	24	36.7
35 / 39						0			0	31.0	9	0	1	10	32.7
30 / 34											4	0	0	4	29.3
25 / 29											0			0	25.3
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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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)			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		
125 / 129															
120 / 124															
115 / 119															
110 / 114															
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89		1		1	54.5										
80 / 84		9	1	10	52.2										
75 / 79		21	4	25	50.5		0		0	49.0					
70 / 74		32	9	41	49.1		3	0	3	48.2					
65 / 69	0	40	15	55	47.6		12	1	13	46.5		0		0	44.5
60 / 64	3	42	29	75	46.0		22	4	26	44.5		5	0	5	43.4
55 / 59	14	31	39	84	44.0	1	26	10	37	42.4		12	1	13	41.3
50 / 54	34	26	49	109	41.7	6	34	23	63	40.0	1	18	5	24	38.7
45 / 49	50	19	42	111	39.1	15	35	37	87	37.8	4	30	13	47	36.6
40 / 44	55	14	29	98	36.2	31	31	38	100	35.2	13	41	30	84	34.4
35 / 39	47	7	18	72	32.9	41	30	42	113	32.0	30	43	45	118	31.7
30 / 34	30	3	8	41	29.1	53	26	40	119	28.5	42	40	52	134	28.4
25 / 29	12	1	2	15	24.5	41	12	26	79	24.6	40	26	43	109	24.1
20 / 24	4	0	1	5	20.9	29	5	13	47	20.2	45	17	29	91	20.0
15 / 19	1	0	0	1	16.9	14	2	5	21	15.9	37	8	16	61	15.8
10 / 14	0			0	10.6	7	0	1	8	11.2	18	4	7	29	11.0
5 / 9	0			0	7.7	2	0	0	2	6.3	11	2	3	16	6.3
0 / 4						0		0	0	1.9	3	1	2	6	1.7
-5 / -1						0			0	-4.0	2	0	1	3	-2.6
-10 / -6											1	0	0	1	-7.0
-15 / -11											0	0	1	1	-11.8
-20 / -16											1	0	0	1	-17.1
-25 / -21											0			0	-20.8

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WMO No. 724755

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)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
125 / 129		0		0	94.1
120 / 124		0		0	95.7
115 / 119		0		0	97.0
110 / 114		0		0	96.0
105 / 109		0		0	94.0
100 / 104		1	0	1	67.4
95 / 99		22	5	27	60.2
90 / 94		107	35	142	59.0
85 / 89	0	201	77	277	57.7
80 / 84	4	246	112	362	56.1
75 / 79	22	245	159	425	54.3
70 / 74	85	219	216	519	52.5
65 / 69	185	211	250	645	50.4
60 / 64	283	214	247	743	48.0
55 / 59	244	204	214	661	44.5
50 / 54	240	210	227	676	41.4
45 / 49	257	228	246	730	38.4
40 / 44	282	229	264	774	35.5
35 / 39	322	223	284	829	32.3
30 / 34	344	171	256	772	28.7
25 / 29	247	92	151	490	24.5
20 / 24	180	52	89	321	20.2
15 / 19	109	26	49	184	15.7
10 / 14	58	11	22	91	11.0
5 / 9	35	6	12	53	6.3
0 / 4	14	3	5	22	1.7
-5 / -1	6	1	2	9	-2.8
-10 / -6	4	1	1	6	-7.2
-15 / -11	1	0	1	2	-11.7
-20 / -16	1	0	0	1	-17.0
-25 / -21	0			0	-21.4

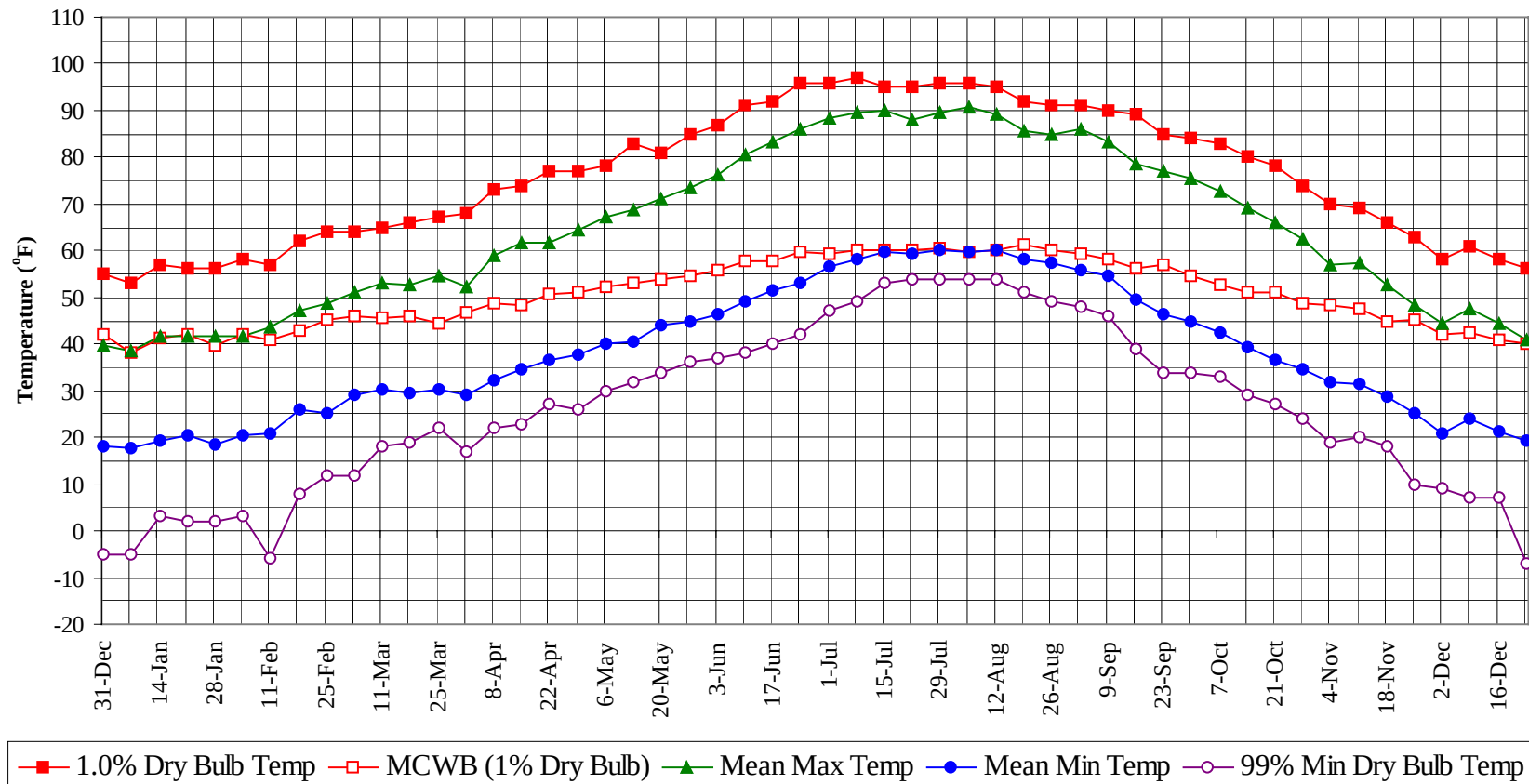
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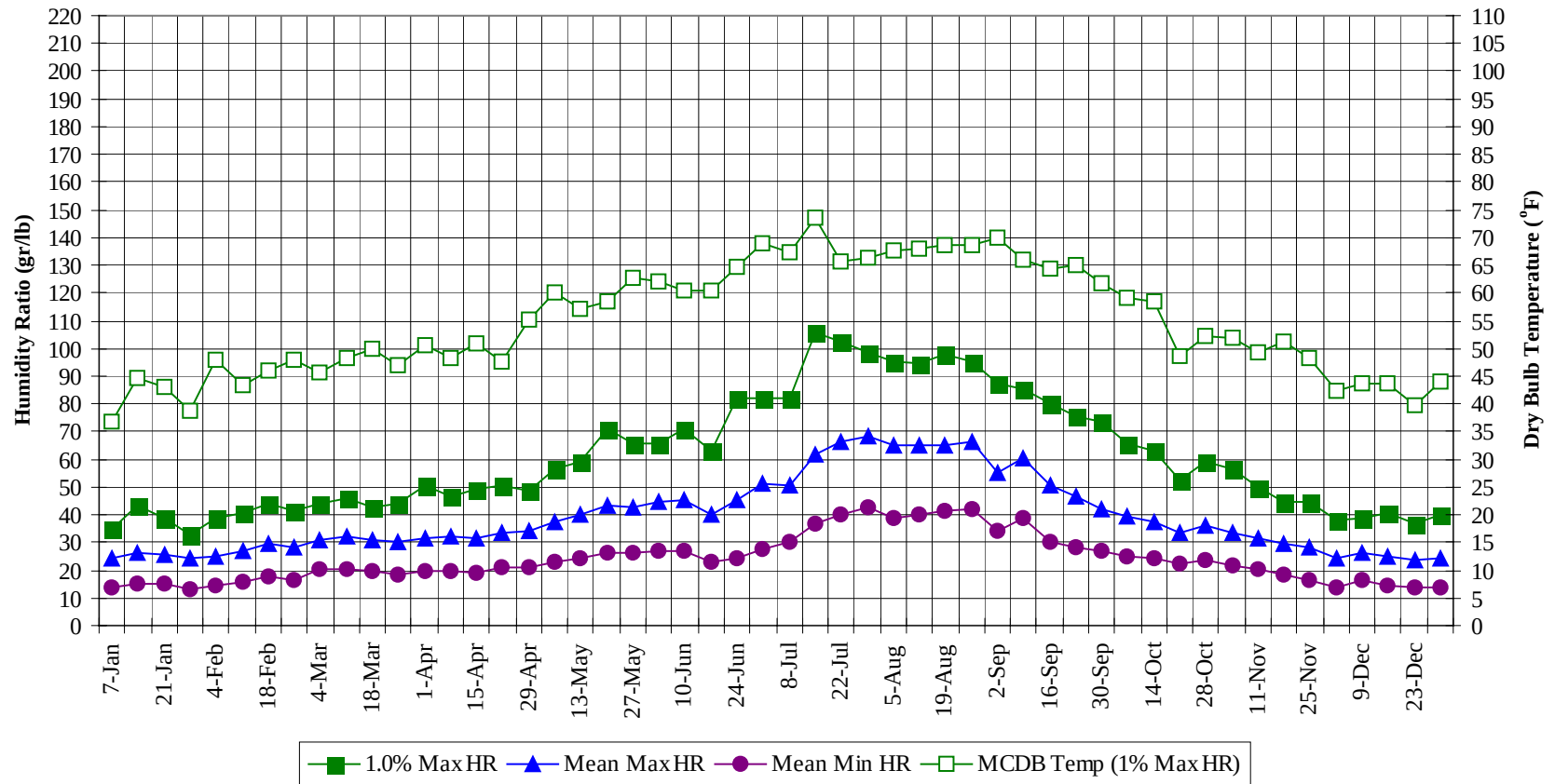
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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



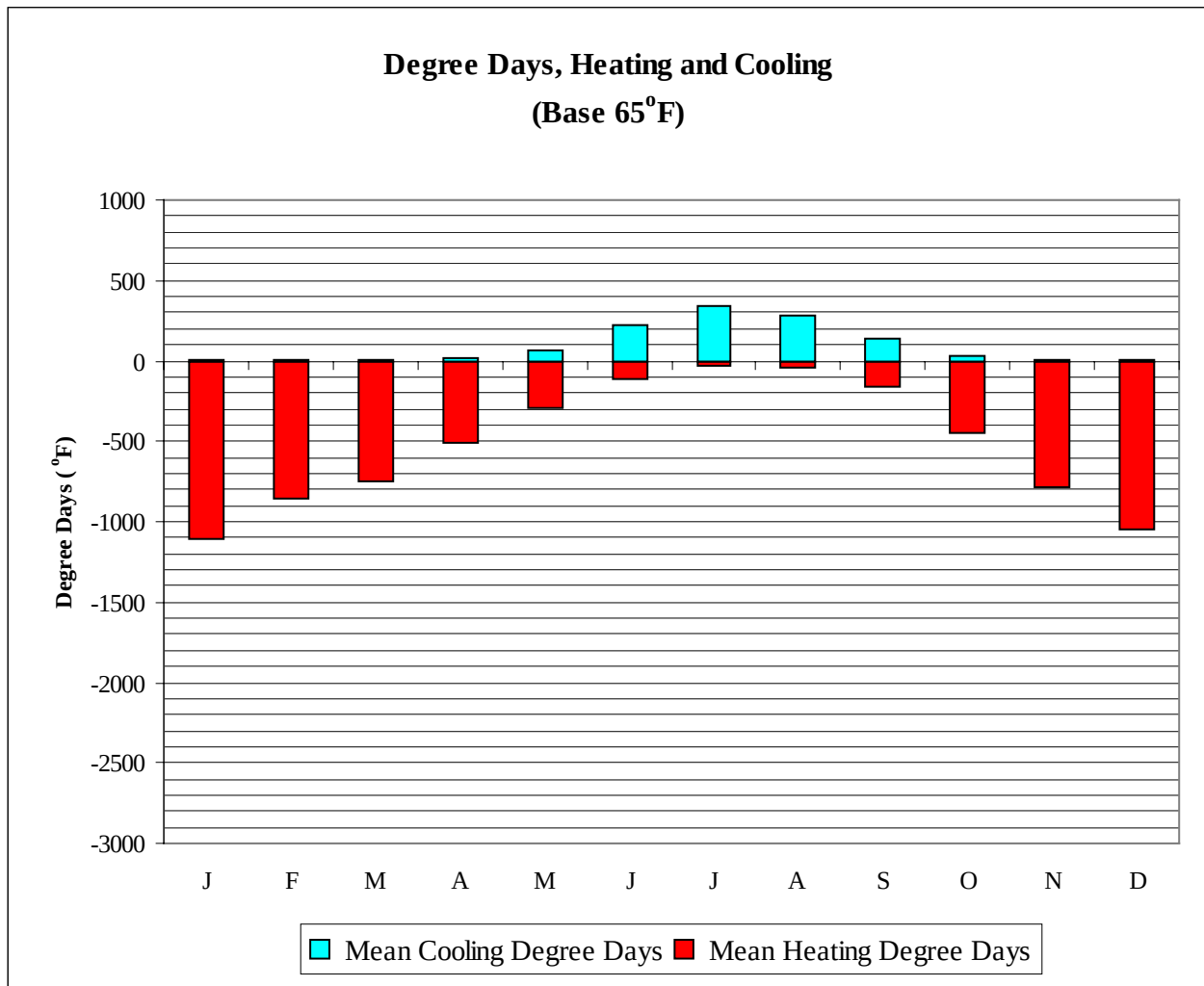
CEDAR CITY**UT****WMO No. 724755****Long Term Dry Bulb Temperature and Humidity Summary**

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	53.0	38.3	38.3	17.8	-5.0	35.0	36.9	24.1	13.6
14-Jan	57.0	41.1	41.8	19.5	3.0	43.4	44.6	26.0	14.8
21-Jan	56.0	41.9	41.6	20.5	2.0	38.5	43.1	25.8	15.3
28-Jan	56.0	39.8	41.8	18.4	2.0	32.9	38.9	24.1	13.2
4-Feb	58.0	42.2	41.8	20.6	3.0	38.5	47.8	24.9	14.2
11-Feb	57.0	40.8	43.5	21.0	-6.0	40.6	43.5	27.0	15.8
18-Feb	62.0	42.9	47.2	26.1	8.0	44.1	46.1	29.7	18.0
25-Feb	64.0	45.1	48.7	25.2	12.0	41.3	47.9	28.2	16.4
4-Mar	64.0	45.8	51.0	28.9	12.0	44.1	45.5	31.1	20.2
11-Mar	65.0	45.4	52.9	30.3	18.0	46.2	48.3	32.1	20.7
18-Mar	66.0	46.0	52.5	29.6	19.0	42.7	50.0	31.1	19.5
25-Mar	67.0	44.5	54.7	30.3	22.0	44.1	46.9	30.2	18.4
1-Apr	68.0	46.7	52.4	29.2	17.0	50.4	50.6	31.8	19.5
8-Apr	73.0	48.8	58.9	32.3	22.0	46.9	48.3	32.2	19.6
15-Apr	74.0	48.4	61.5	34.7	23.0	49.0	50.9	31.6	19.2
22-Apr	77.0	50.8	61.7	36.7	27.0	50.4	47.5	33.4	20.9
29-Apr	77.0	51.2	64.6	37.7	26.0	48.3	55.1	34.2	21.2
6-May	78.0	52.3	67.0	40.0	30.0	56.7	60.1	37.6	22.9
13-May	83.0	53.2	68.9	40.6	32.0	58.8	57.2	39.8	24.2
20-May	81.0	54.0	71.0	43.9	34.0	70.7	58.5	43.2	26.3
27-May	85.0	54.6	73.6	44.9	36.0	65.8	62.7	42.5	26.3
3-Jun	87.0	55.7	76.1	46.2	37.0	65.8	62.0	44.4	26.8
10-Jun	91.0	57.8	80.4	49.2	38.0	70.7	60.3	45.3	26.7
17-Jun	92.0	57.8	83.5	51.5	40.0	63.0	60.6	40.3	22.7
24-Jun	96.0	59.9	86.1	53.1	42.0	81.9	64.7	45.1	24.3
1-Jul	96.0	59.3	88.6	56.6	47.0	81.9	69.1	51.3	27.7
8-Jul	97.0	60.2	89.7	58.3	49.0	81.9	67.2	50.5	30.3
15-Jul	95.0	60.1	89.8	59.8	53.0	105.7	73.6	61.5	36.6
22-Jul	95.0	60.1	87.8	59.3	54.0	102.2	65.8	66.2	40.2
29-Jul	96.0	60.6	89.6	60.0	54.0	98.7	66.5	68.6	42.7
5-Aug	96.0	59.9	90.6	59.6	54.0	95.2	67.7	64.8	38.8
12-Aug	95.0	60.1	89.0	60.0	54.0	94.5	67.9	65.0	40.0
19-Aug	92.0	61.4	85.8	58.3	51.0	98.0	68.6	65.1	41.5
26-Aug	91.0	60.1	84.7	57.2	49.0	95.2	68.6	66.2	42.0
2-Sep	91.0	59.5	86.0	55.8	48.0	87.5	69.9	55.4	34.0
9-Sep	90.0	58.2	83.5	54.6	46.0	85.4	66.1	60.1	38.5
16-Sep	89.0	56.2	78.4	49.5	39.0	79.8	64.5	50.5	30.5
23-Sep	85.0	57.1	76.9	46.2	34.0	75.6	65.1	46.4	28.3
30-Sep	84.0	54.6	75.6	44.8	34.0	73.5	61.8	41.9	26.7
7-Oct	83.0	52.6	72.8	42.3	33.0	65.8	59.0	39.2	25.1
14-Oct	80.0	51.3	69.2	39.5	29.0	63.0	58.4	37.5	24.3
21-Oct	78.0	50.9	66.1	36.5	27.0	52.5	48.7	33.4	22.2
28-Oct	74.0	48.8	62.6	34.4	24.0	58.8	52.2	36.0	23.4
4-Nov	70.0	48.2	57.1	31.9	19.0	56.7	51.8	33.7	22.0
11-Nov	69.0	47.5	57.3	31.4	20.0	49.7	49.4	31.4	20.2
18-Nov	66.0	45.0	52.6	28.9	18.0	44.8	51.1	29.6	18.6
25-Nov	63.0	45.1	48.3	25.2	10.0	44.8	48.1	28.4	16.7
2-Dec	58.0	42.1	44.2	20.9	9.0	37.8	42.4	24.3	14.0
9-Dec	61.0	42.6	47.5	24.0	7.0	38.5	43.6	26.4	16.2
16-Dec	58.0	40.7	44.4	21.4	7.0	40.6	43.7	24.7	14.5
23-Dec	56.0	40.2	40.9	19.2	-7.0	37.1	39.9	24.0	13.5
31-Dec	55.0	42.1	39.6	18.0	-5.0	39.9	43.9	24.1	13.7

CEDAR CITY

UT

WMO No. 724755



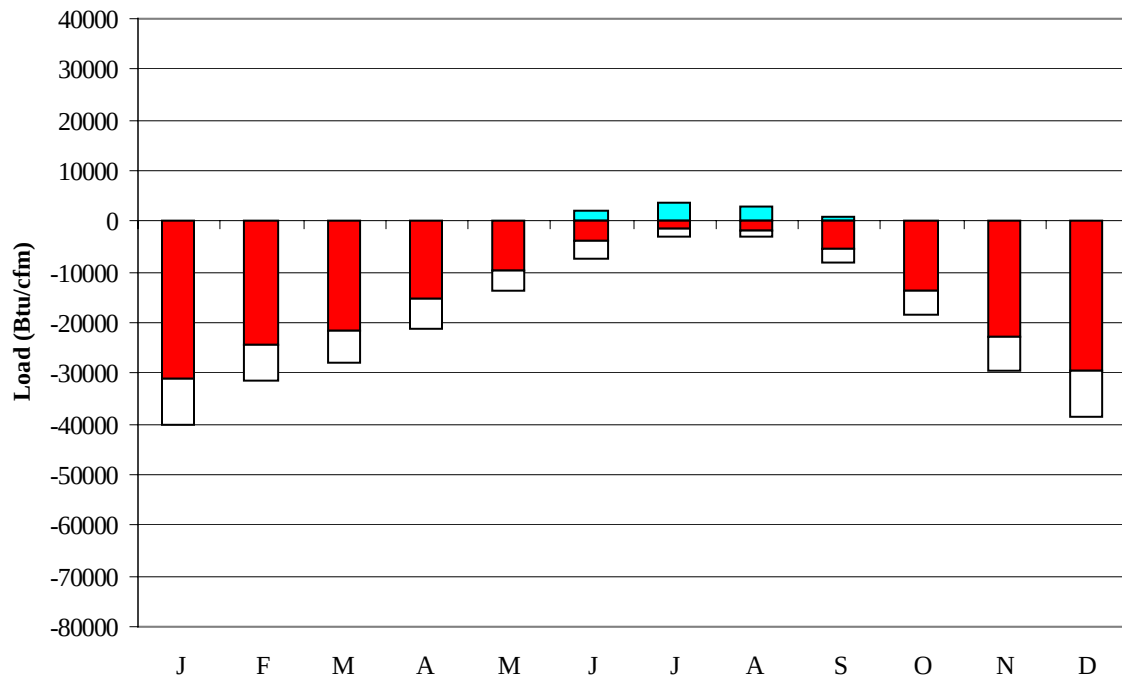
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1104
FEB	0	853
MAR	1	745
APR	16	503
MAY	68	299
JUN	224	109
JUL	336	30
AUG	282	41
SEP	139	161
OCT	35	447
NOV	2	785
DEC	0	1050
ANN	1102	6127

CEDAR CITY

UT

WMO No. 724755

Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



■ Average Sensible Cooling Load	■ Average Sensible Heating Load
■ Average Latent Cooling (Drying) Load	■ Average Latent Heating (Humidifying) Load

	Average Sensible Cooling Load	Average Sensible Heating Load	Average Latent Cooling Load	Average Latent Heating Load
	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)
JAN	0	-31032	0	-8985
FEB	0	-24311	0	-7019
MAR	0	-21691	0	-6315
APR	21	-15181	0	-5856
MAY	282	-9556	0	-3958
JUN	2180	-3862	102	-3658
JUL	3644	-1412	55	-1642
AUG	2779	-1830	15	-1322
SEP	1004	-5535	1	-2434
OCT	122	-13665	0	-4872
NOV	0	-22645	0	-6943
DEC	0	-29635	0	-8963
ANN	10032	-180355	173	-61967

Average Annual Solar Radiation – Nearest Available Site

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

City: CEDAR CITY
 State: UT
 WBAN No: 93129
 Lat(N): 37.7
 Long(W): 113.1
 Elev(ft): 5617

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.468
 Vert Gap: 0.308

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	840	1100	1460	1880	2200	2460	2300	2070	1800	1360	920	750	1600
	Std Dev	62	100	111	122	135	128	131	161	124	96	64	69	51
	Minimum	740	910	1220	1640	1980	2220	2010	1740	1480	1020	820	590	1480
	Maximum	980	1260	1680	2150	2400	2710	2550	2350	1980	1490	1100	890	1730
	Diffuse	300	400	540	620	660	610	650	580	440	350	310	260	480
Clear Day	Global	1070	1420	1920	2390	2700	2820	2730	2450	2050	1540	1130	960	1930
NORTH	Global	220	280	360	460	590	700	640	490	370	290	230	190	400
	Diffuse	220	280	360	430	490	510	500	440	370	290	230	190	360
Clear Day	Global	180	240	310	420	610	740	670	470	340	260	200	170	390
EAST	Global	600	750	950	1170	1330	1440	1380	1290	1160	920	650	550	1020
	Diffuse	270	350	450	530	590	600	590	540	460	360	280	230	440
Clear Day	Global	820	1010	1260	1460	1560	1590	1560	1460	1300	1070	840	740	1220
SOUTH	Global	1430	1410	1290	1110	900	810	840	1030	1380	1580	1440	1400	1220
	Diffuse	380	440	510	540	540	520	530	520	490	430	380	340	470
Clear Day	Global	2160	2130	1870	1390	1020	860	910	1200	1650	2000	2120	2120	1620
WEST	Global	590	730	890	1090	1200	1330	1240	1150	1090	890	630	540	950
	Diffuse	270	350	460	540	600	610	600	550	470	370	280	240	440
Clear Day	Global	820	1010	1260	1460	1560	1590	1560	1460	1300	1070	840	740	1220

Average Annual Solar Heat and Illumination – Nearest Available Site

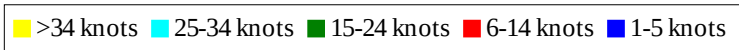
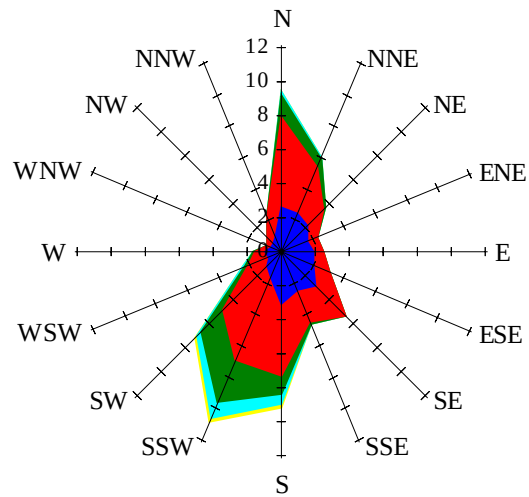
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	540	750	1030	1360	1600	1810	1690	1510	1290	940	610	470	1140
NORTH	Unshaded	150	190	250	300	380	440	400	320	260	200	160	130	270
	Shaded	140	180	230	280	350	400	370	300	240	190	150	120	240
EAST	Unshaded	410	530	680	840	960	1040	990	930	840	650	450	380	730
	Shaded	380	480	610	750	840	910	870	820	750	600	420	350	650
SOUTH	Unshaded	1080	1030	880	700	530	460	480	630	910	1130	1080	1060	830
	Shaded	1060	960	710	460	350	340	340	390	660	1010	1050	1050	700
WEST	Unshaded	410	510	640	780	860	950	890	820	780	630	440	370	680
	Shaded	380	470	570	700	760	840	780	730	700	570	410	340	600

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	33	71	87	76	41	40	80	103	104	81
	M.Cloudy	21	48	61	52	27	29	62	82	77	59
NORTH	M.Clear	8	13	15	14	9	23	14	16	16	14
	M.Cloudy	8	15	17	16	10	17	16	18	17	16
EAST	M.Clear	80	69	20	14	9	82	81	43	16	14
	M.Cloudy	34	40	20	16	10	46	60	37	17	16
SOUTH	M.Clear	32	68	83	73	40	9	23	41	42	24
	M.Cloudy	17	40	54	44	21	10	22	36	35	22
WEST	M.Clear	8	13	15	61	81	9	14	16	41	79
	M.Cloudy	8	15	17	38	37	10	16	18	34	54
M.Clear	(% hrs)	44	39	34	31	32	73	71	67	59	55
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	21	63	87	87	61	10	42	54	41	9
	M.Cloudy	14	46	67	64	44	7	27	37	27	7
NORTH	M.Clear	6	12	15	15	12	4	9	11	9	4
	M.Cloudy	6	14	17	17	13	3	10	12	10	3
EAST	M.Clear	66	80	41	15	12	43	52	11	9	4
	M.Cloudy	29	50	34	17	13	14	26	12	10	3
SOUTH	M.Clear	14	50	73	72	48	34	84	99	82	31
	M.Cloudy	9	34	54	52	32	11	38	50	39	10
WEST	M.Clear	6	12	15	43	79	4	9	12	52	42
	M.Cloudy	6	14	17	34	49	3	10	13	27	13
M.Clear	(% hrs)	71	70	65	59	58	47	46	41	41	43

Wind Summary - December, January, and February

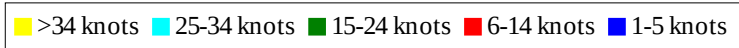
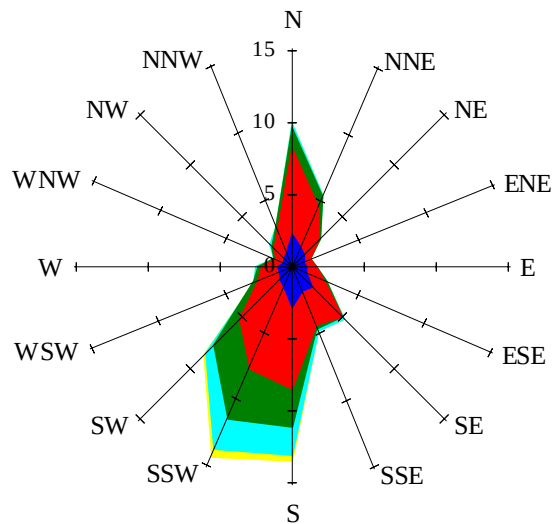
Labels of Percent Frequency on North Axis



Percent Calm = 28.51

Wind Summary - March, April, and May

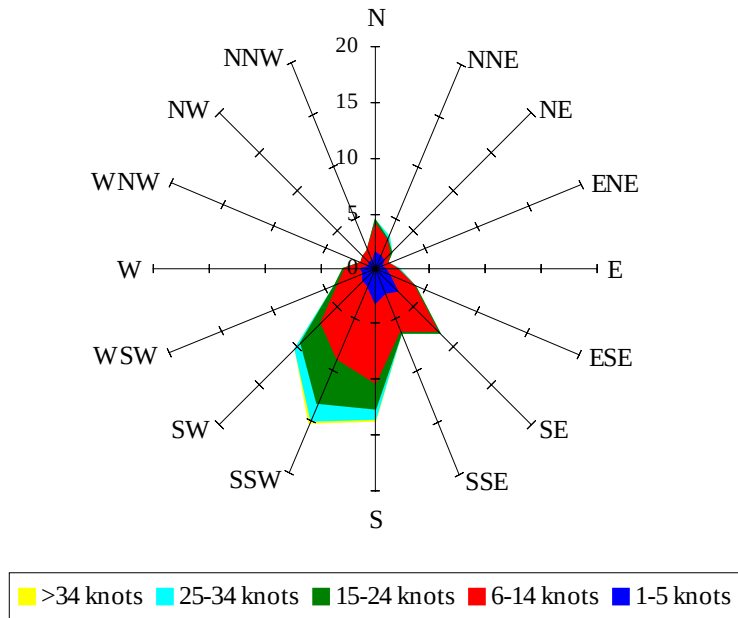
Labels of Percent Frequency on North Axis



Percent Calm = 19.06

Wind Summary - June, July, and August

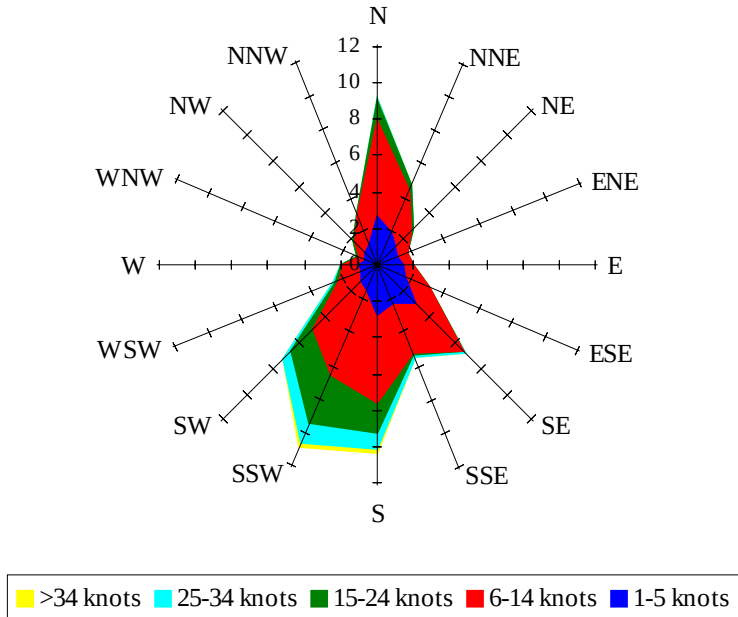
Labels of Percent Frequency on North Axis



Percent Calm = 18.12

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 25.61