

LUBBOCK TX

Latitude = 33.65 N

Longitude = 101.80 W

Period of Record = 1973 to 1996

WMO No. 722670

Elevation = 3242 feet

Average Pressure = 26.66 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	102	67	56	14.4	S
0.4% Occurrence	98	67	64	13.7	S
1.0% Occurrence	96	67	68	13.6	S
2.0% Occurrence	93	68	73	13.4	S
Mean Daily Range	25	-	-	-	-
97.5% Occurrence	23	21	14	9.7	W
99.0% Occurrence	17	15	11	10.4	N
99.6% Occurrence	12	11	8	10.6	N
Median of Extreme Lows	6	5	6	11.0	NNE
	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	75	88	120	13.5	S
0.4% Occurrence	73	87	111	13.1	S
1.0% Occurrence	72	86	106	12.7	S
2.0% Occurrence	71	85	103	12.5	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	129	78	0.77	11.8	S
0.4% Occurrence	120	77	0.72	11.3	S
1.0% Occurrence	116	76	0.69	10.7	S
2.0% Occurrence	111	75	0.67	10.7	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		210	1361	52	1183

Other Site Data

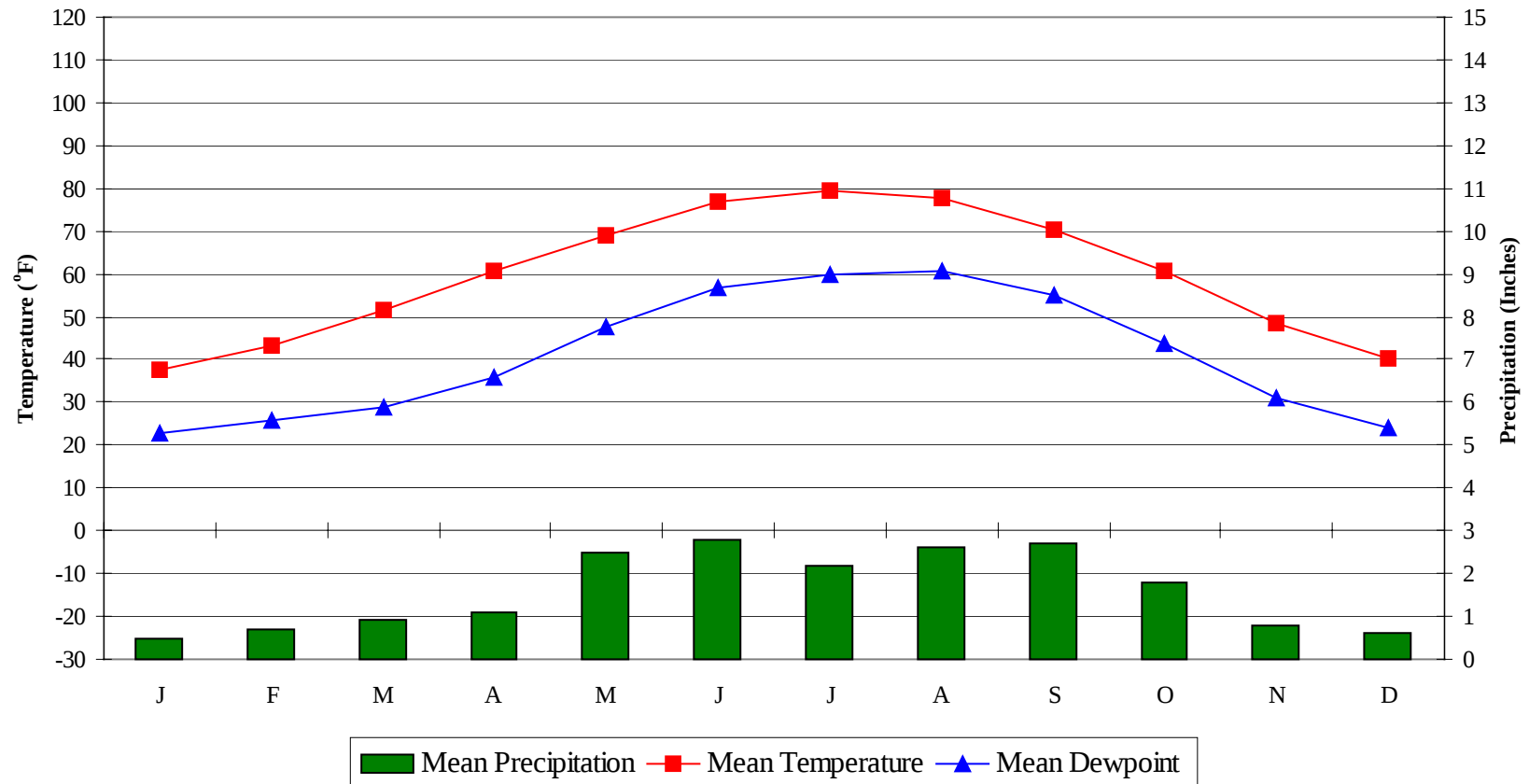
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
8	3.5	90	0.9 + 1.6
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
62.2	9	11	60

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

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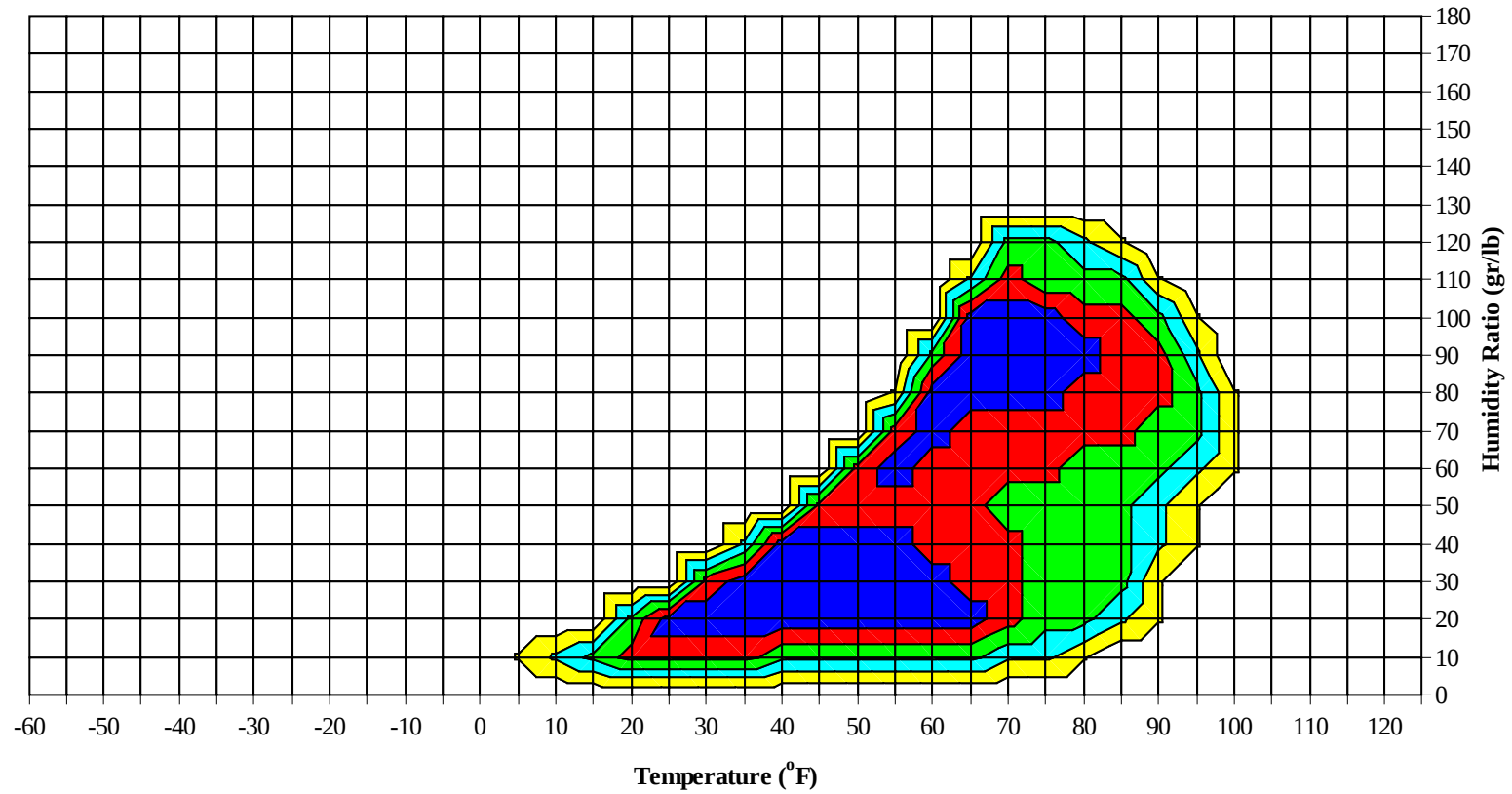
Average Annual Climate



LUBBOCK TX

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Long Term Psychrometric Summary

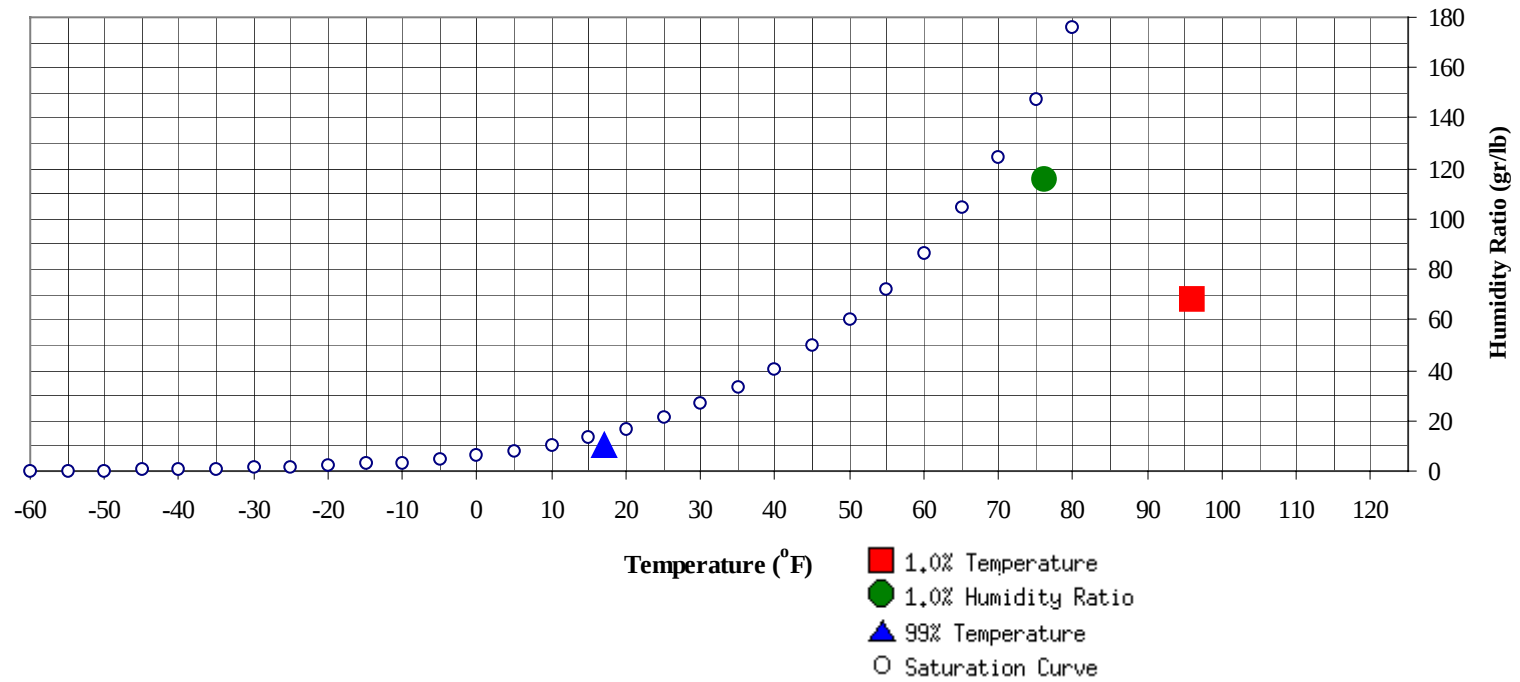


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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)
	17	10.5	5.7		115.5	76	70.3	68	36.3

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	96	68.2	67.6	33.8

LUBBOCK TX

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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		
110 / 114															
105 / 109															
100 / 104															
95 / 99													0	0	57.0
90 / 94												0	0	0	55.6
85 / 89							0	0	0	51.6		2	1	3	55.0
80 / 84		0	0	0	53.8		2	1	3	53.4		9	5	14	53.4
75 / 79		1	0	1	50.6		5	2	7	51.4	0	17	11	28	52.3
70 / 74		4	1	5	48.3		12	6	18	49.9	0	24	17	41	50.8
65 / 69		9	4	13	47.4		18	11	29	47.9	2	30	25	57	49.0
60 / 64		19	9	28	45.2	1	22	16	39	45.7	8	36	33	77	47.8
55 / 59	1	25	17	43	43.0	5	24	24	53	44.3	19	33	35	87	45.6
50 / 54	3	26	23	52	40.9	10	26	29	65	42.0	27	31	36	94	42.9
45 / 49	10	30	31	71	38.3	23	26	34	83	39.6	40	24	33	97	40.0
40 / 44	23	28	40	91	35.7	33	25	29	87	36.5	55	19	25	99	36.8
35 / 39	42	30	36	108	32.4	41	21	26	88	32.9	45	10	14	69	32.8
30 / 34	59	32	37	128	28.9	49	21	21	91	29.3	28	7	8	43	28.8
25 / 29	48	22	24	94	24.8	31	9	11	51	25.0	12	2	3	17	24.5
20 / 24	33	12	15	60	20.4	17	6	6	29	20.6	6	2	2	10	20.0
15 / 19	19	6	8	33	15.8	7	4	3	14	15.7	3	1	1	5	15.7
10 / 14	6	3	1	10	10.9	3	1	2	6	11.1	1		0	1	10.8
5 / 9	3	1	1	5	6.6	3	1	1	5	5.6	0			0	7.0
0 / 4	1	0	0	1	2.1	1	0	0	1	2.4					
-5 / -1	0		0	0	-1.9	0			0	-2.0					

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.

LUBBOCK TX

WMO No. 722670

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		
110 / 114												0	0	0	68.8
105 / 109												2	1	3	67.1
100 / 104							1	1	2	62.9		6	4	10	67.0
95 / 99		0	0	0	61.6		5	3	8	61.7		18	12	30	66.7
90 / 94		2	1	3	59.2		16	10	26	61.8		38	24	62	67.1
85 / 89		13	7	20	57.2		26	16	42	61.3	0	46	35	81	66.4
80 / 84		26	16	42	56.1	0	40	29	69	60.7	4	48	43	95	65.9
75 / 79		33	23	55	55.1	3	46	37	86	59.9	29	40	47	116	65.0
70 / 74	2	35	33	69	54.0	20	42	43	105	59.2	70	25	37	132	63.8
65 / 69	11	36	39	85	52.4	42	32	42	116	57.9	73	11	24	108	62.1
60 / 64	31	35	40	105	50.8	67	22	38	127	55.9	47	5	12	64	58.8
55 / 59	44	25	31	100	48.1	63	10	20	93	52.4	14	1	2	17	54.2
50 / 54	49	15	23	87	44.7	31	4	6	41	47.2	2	0	0	2	50.4
45 / 49	44	11	15	70	41.0	15	2	3	20	43.0	1			1	46.0
40 / 44	30	5	9	44	37.1	6	1	1	8	40.0					
35 / 39	19	3	5	27	33.7	1		0	1	36.7					
30 / 34	7	1	1	9	29.6										
25 / 29	2	0	0	2	24.9										
20 / 24	0			0	22.0										
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															

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LUBBOCK TX

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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		
110 / 114															
105 / 109		0	0	0	67.0										
100 / 104		4	3	7	67.9		1	0	1	67.8		0	0	0	67.0
95 / 99		21	13	34	68.5		13	7	20	69.4		3	1	4	66.7
90 / 94	0	53	32	86	68.5		48	28	76	69.2		18	7	25	66.1
85 / 89	1	58	43	103	68.2	0	58	34	92	68.9		35	18	53	66.3
80 / 84	9	52	53	115	67.1	3	54	48	105	67.7	0	46	29	76	65.4
75 / 79	56	35	55	146	65.9	40	40	60	140	66.2	6	43	40	90	64.0
70 / 74	100	18	33	151	65.0	96	22	46	163	65.2	34	38	51	124	63.0
65 / 69	72	5	14	91	63.8	85	10	22	117	63.6	70	23	42	136	61.7
60 / 64	10	0	1	11	60.4	22	2	3	27	60.6	62	15	27	104	58.0
55 / 59	1	0		1	55.5	3	0	1	4	56.3	34	8	13	55	53.0
50 / 54						0			0	49.0	18	5	6	29	48.7
45 / 49											11	3	3	17	44.6
40 / 44											3	1	2	6	40.3
35 / 39											1	0	0	1	34.9
30 / 34											0			0	29.0
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															

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LUBBOCK TX

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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		
110 / 114															
105 / 109															
100 / 104															
95 / 99		0	0	0	59.5										
90 / 94		2	0	2	60.5										
85 / 89		11	4	15	60.7		0		0	53.8					
80 / 84		24	9	33	59.6		4	1	5	54.7		0		0	52.0
75 / 79	0	36	18	54	58.7		10	3	13	53.5		2	0	2	51.4
70 / 74	2	40	32	74	57.1		20	7	27	52.3		9	2	11	49.5
65 / 69	13	39	40	92	55.9	0	25	14	39	50.9		13	4	17	47.8
60 / 64	36	38	50	124	54.3	6	33	27	66	50.0	0	23	10	33	46.5
55 / 59	56	25	41	122	51.1	17	31	34	82	47.4	1	26	19	46	44.1
50 / 54	56	15	27	98	47.1	26	31	36	93	44.1	8	30	29	67	41.8
45 / 49	42	9	15	66	42.6	38	30	39	107	40.7	16	33	36	85	38.9
40 / 44	26	4	7	37	38.5	47	22	31	100	37.0	30	30	41	101	36.0
35 / 39	10	1	3	14	34.0	43	16	24	83	32.8	47	28	40	115	32.5
30 / 34	5	1	1	7	30.5	35	9	15	59	28.9	57	24	32	113	28.8
25 / 29	1	1	1	3	24.9	18	4	5	27	24.6	45	14	18	77	24.6
20 / 24	1	0	0	1	21.1	7	1	3	11	20.0	23	6	8	37	20.2
15 / 19						2	1	1	4	15.8	9	4	5	18	15.2
10 / 14						1	0	0	1	11.2	5	2	2	9	10.9
5 / 9						0		0	0	7.4	3	2	2	7	6.4
0 / 4						0			0	2.8	3	0	1	4	1.7
-5 / -1											0			0	-2.3

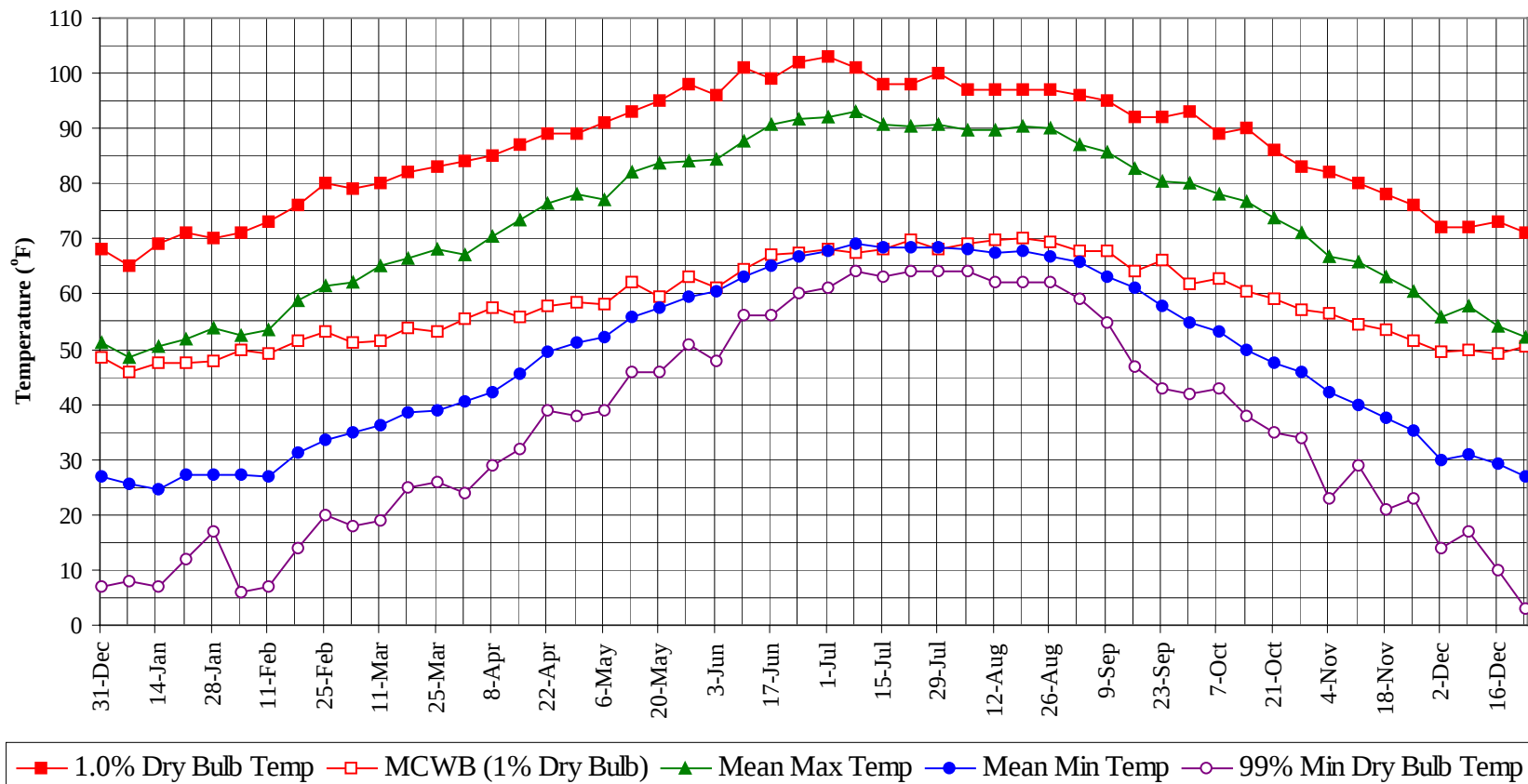
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

LUBBOCK TX**WMO No. 722670****Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)****Period of Record = 1973 to 1996**

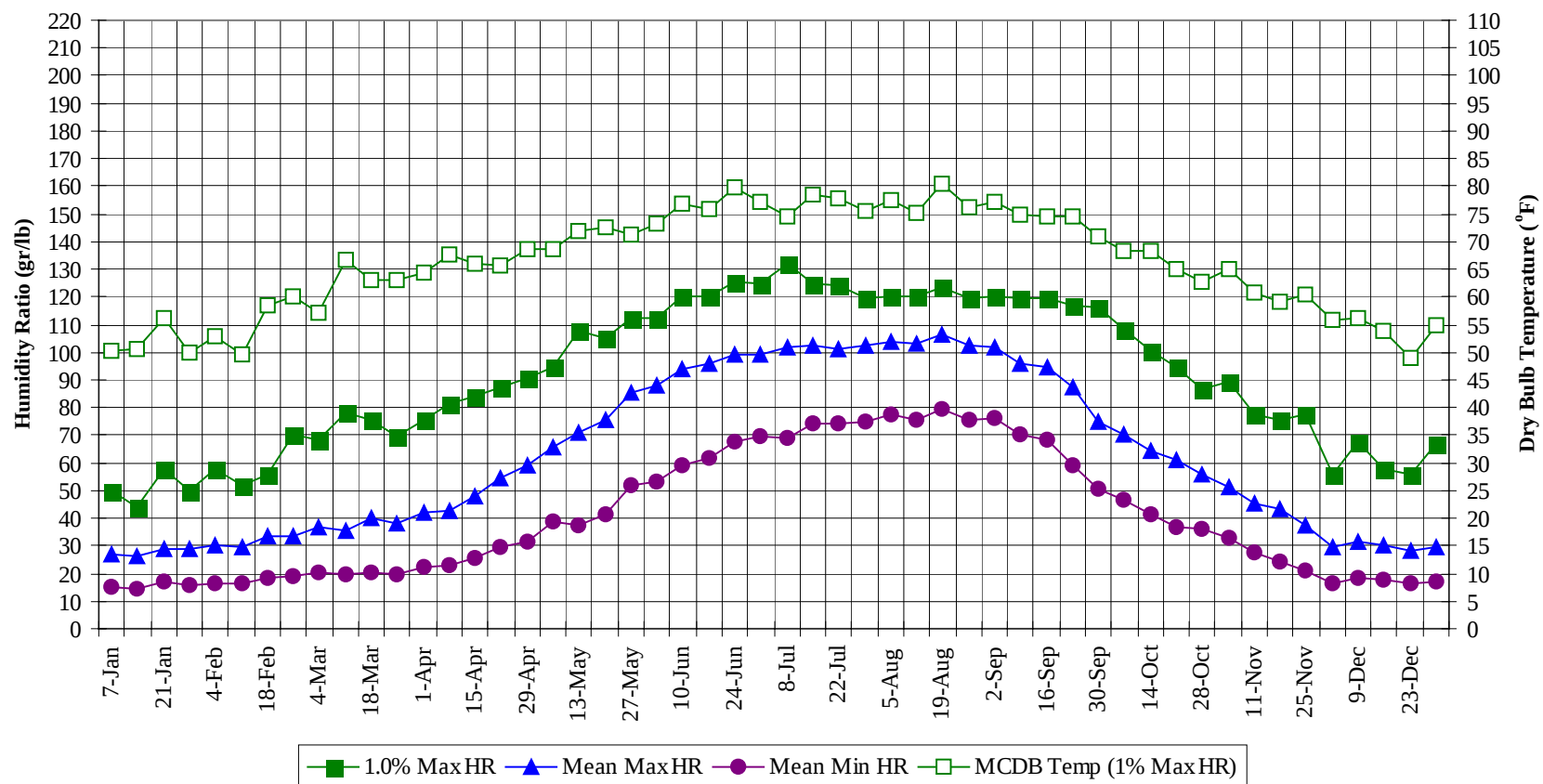
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
110 / 114		0	0	0	68.8
105 / 109		2	1	3	67.1
100 / 104		12	7	19	67.1
95 / 99		62	36	98	67.4
90 / 94	0	178	103	280	67.4
85 / 89	1	251	157	408	66.1
80 / 84	17	305	233	555	64.2
75 / 79	134	307	294	735	62.6
70 / 74	323	287	306	916	60.9
65 / 69	367	250	279	896	58.1
60 / 64	290	250	266	806	53.2
55 / 59	256	212	235	703	48.5
50 / 54	229	184	215	628	44.2
45 / 49	238	171	209	618	40.3
40 / 44	254	137	186	578	36.7
35 / 39	251	110	151	512	32.8
30 / 34	242	96	116	454	29.0
25 / 29	159	52	62	273	24.8
20 / 24	87	28	35	150	20.4
15 / 19	41	16	17	74	15.7
10 / 14	17	6	6	29	10.9
5 / 9	10	4	5	19	6.3
0 / 4	5	1	1	7	2.0
-5 / -1	1		0	1	-2.0

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

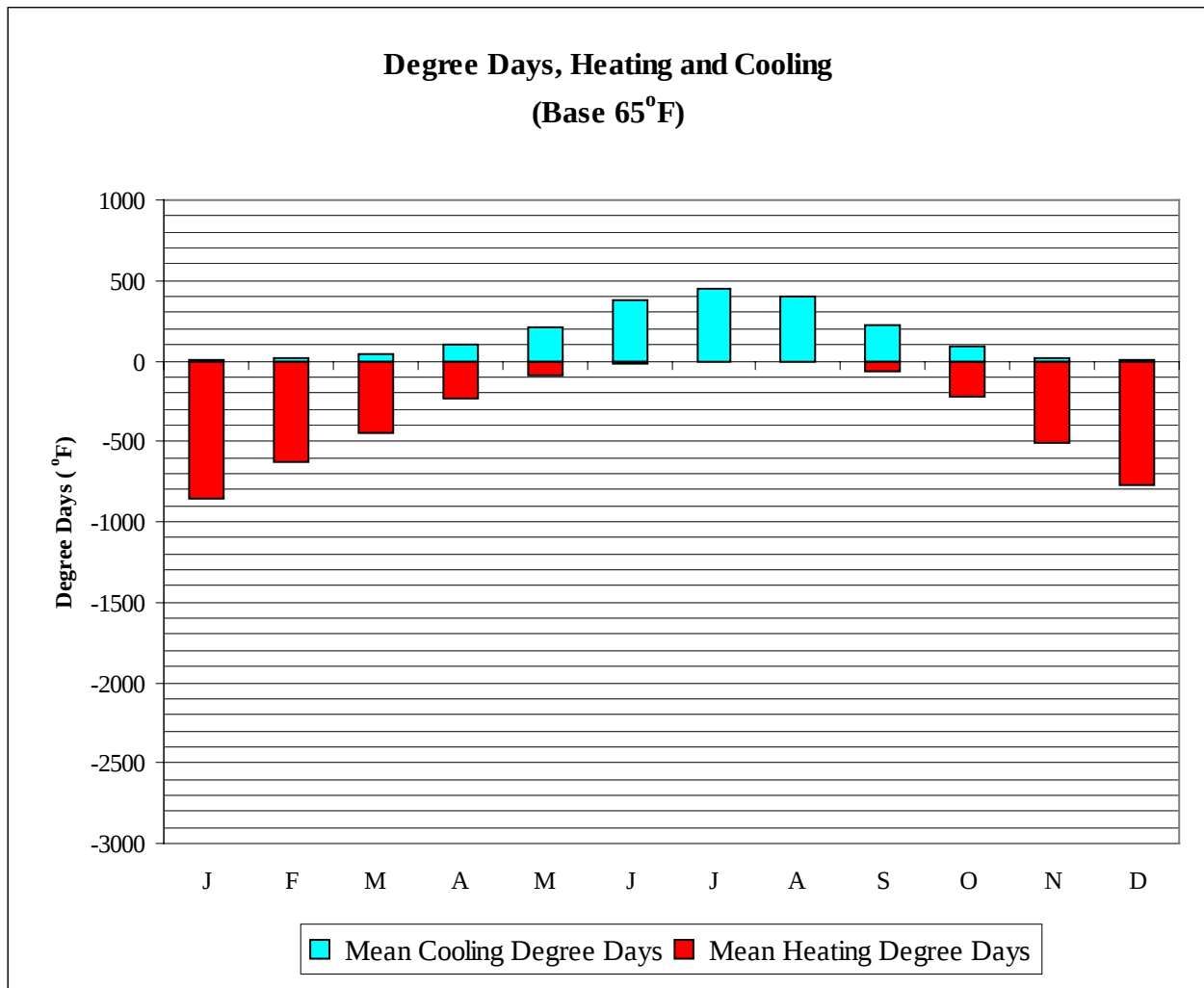


LUBBOCK TX**WMO No. 722670****Long Term Dry Bulb Temperature and Humidity Summary**

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	65.0	45.8	48.5	25.5	8.0	49.7	50.3	26.9	15.2
14-Jan	69.0	47.4	50.6	24.8	7.0	44.1	50.5	26.1	14.7
21-Jan	71.0	47.4	51.7	27.1	12.0	58.1	56.0	29.0	16.8
28-Jan	70.0	48.0	53.9	27.2	17.0	49.7	49.8	29.1	15.8
4-Feb	71.0	49.8	52.4	27.3	6.0	58.1	52.8	29.9	16.7
11-Feb	73.0	49.3	53.7	26.9	7.0	51.8	49.6	29.2	16.4
18-Feb	76.0	51.4	58.9	31.1	14.0	56.0	58.4	33.3	18.1
25-Feb	80.0	53.1	61.4	33.5	20.0	70.0	60.2	33.3	18.7
4-Mar	79.0	51.2	62.3	35.1	18.0	68.6	57.0	36.8	20.6
11-Mar	80.0	51.5	65.0	36.1	19.0	78.4	66.5	35.4	19.7
18-Mar	82.0	54.0	66.4	38.4	25.0	75.6	63.0	40.3	20.6
25-Mar	83.0	53.1	68.2	38.9	26.0	69.3	63.0	38.2	19.4
1-Apr	84.0	55.6	67.0	40.5	24.0	75.6	64.3	41.8	22.1
8-Apr	85.0	57.4	70.6	42.2	29.0	81.2	67.7	42.8	22.7
15-Apr	87.0	55.7	73.5	45.6	32.0	84.0	65.9	47.9	25.5
22-Apr	89.0	57.8	76.6	49.4	39.0	87.5	65.7	54.6	29.4
29-Apr	89.0	58.5	78.2	51.1	38.0	90.3	68.7	58.9	31.4
6-May	91.0	58.2	77.2	52.2	39.0	94.5	68.5	65.8	38.5
13-May	93.0	62.1	82.0	55.7	46.0	107.8	72.0	70.8	37.4
20-May	95.0	59.7	83.8	57.4	46.0	105.0	72.5	75.5	41.6
27-May	98.0	63.1	84.1	59.6	51.0	112.0	71.2	85.1	51.7
3-Jun	96.0	61.3	84.5	60.4	48.0	112.0	73.2	87.8	53.4
10-Jun	101.0	64.5	87.6	63.2	56.0	120.4	76.8	93.9	59.0
17-Jun	99.0	67.2	90.6	65.0	56.0	120.4	76.0	95.7	61.8
24-Jun	102.0	67.4	91.9	67.0	60.0	125.3	79.9	99.4	67.5
1-Jul	103.0	68.0	92.1	67.7	61.0	124.6	77.2	99.5	69.3
8-Jul	101.0	67.4	92.9	69.2	64.0	132.3	74.7	101.6	69.0
15-Jul	98.0	68.1	90.6	68.5	63.0	124.6	78.4	102.2	74.3
22-Jul	98.0	69.9	90.5	68.5	64.0	123.9	77.7	101.2	74.4
29-Jul	100.0	68.1	90.8	68.4	64.0	119.7	75.5	102.2	75.0
5-Aug	97.0	69.3	89.8	68.0	64.0	120.4	77.6	103.8	77.7
12-Aug	97.0	69.8	89.6	67.5	62.0	120.4	75.2	103.0	75.4
19-Aug	97.0	70.0	90.3	68.0	62.0	123.2	80.3	106.1	79.5
26-Aug	97.0	69.6	90.0	66.8	62.0	119.7	76.0	102.6	75.8
2-Sep	96.0	67.7	87.0	65.7	59.0	120.4	77.3	101.8	76.2
9-Sep	95.0	67.9	85.8	63.1	55.0	119.7	74.8	96.1	70.1
16-Sep	92.0	64.3	82.7	61.3	47.0	119.7	74.6	94.5	68.3
23-Sep	92.0	66.2	80.5	57.8	43.0	116.9	74.6	87.2	59.1
30-Sep	93.0	61.8	80.0	54.9	42.0	116.2	70.8	74.6	50.5
7-Oct	89.0	62.9	78.2	53.1	43.0	108.5	68.2	70.0	46.8
14-Oct	90.0	60.4	76.9	49.9	38.0	100.8	68.3	64.3	41.3
21-Oct	86.0	59.0	73.7	47.6	35.0	94.5	65.1	61.1	36.7
28-Oct	83.0	57.0	71.1	45.9	34.0	86.8	62.7	56.1	36.2
4-Nov	82.0	56.7	66.9	42.3	23.0	89.6	64.9	51.4	33.1
11-Nov	80.0	54.5	65.9	39.8	29.0	77.7	60.8	45.3	27.6
18-Nov	78.0	53.6	63.2	37.7	21.0	75.6	59.0	43.3	24.6
25-Nov	76.0	51.6	60.5	35.4	23.0	77.7	60.3	37.5	21.0
2-Dec	72.0	49.6	55.7	30.0	14.0	56.0	55.9	29.3	16.5
9-Dec	72.0	49.7	58.0	30.8	17.0	67.9	56.1	31.8	18.7
16-Dec	73.0	49.3	54.2	29.3	10.0	58.1	54.0	30.2	17.5
23-Dec	71.0	50.4	52.0	26.9	3.0	56.0	48.9	28.3	16.3
31-Dec	68.0	48.4	51.0	26.8	7.0	67.2	54.9	29.7	16.9

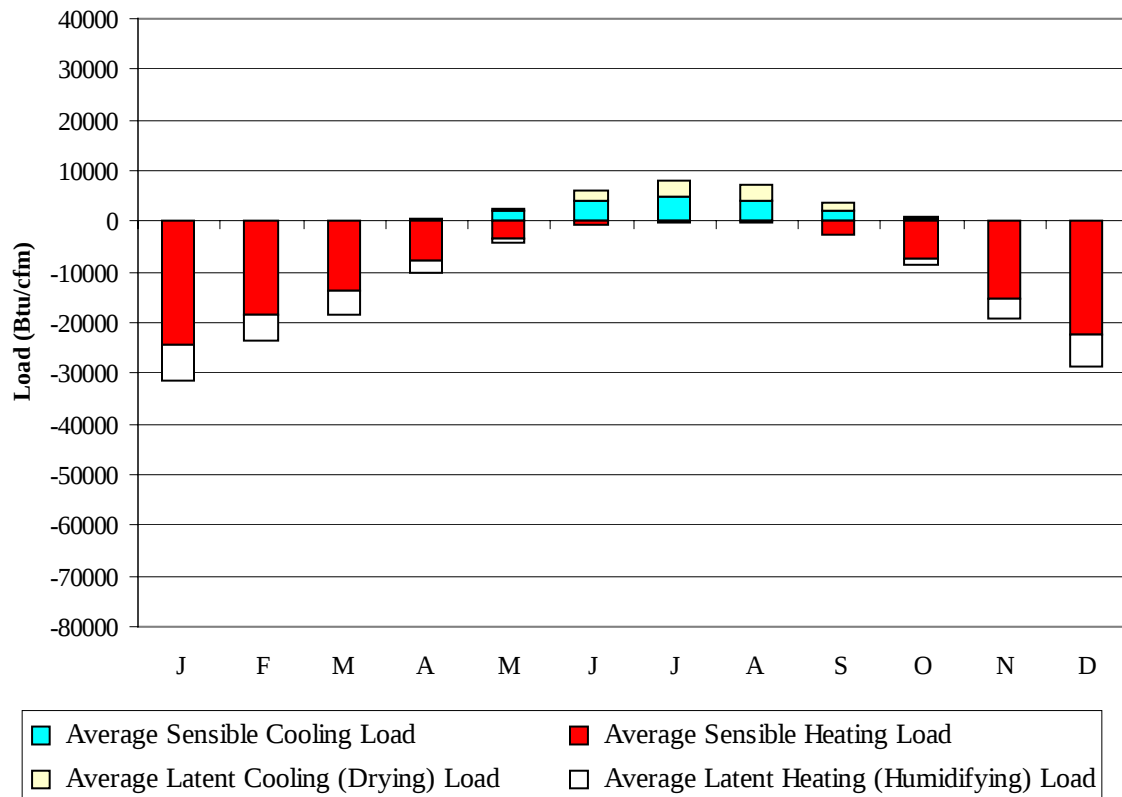
LUBBOCK TX

WMO No. 722670



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	3	851
FEB	13	627
MAR	41	455
APR	102	233
MAY	215	88
JUN	374	14
JUL	452	1
AUG	398	4
SEP	227	64
OCT	94	225
NOV	20	513
DEC	5	777
ANN	1945	3852

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 Load	Average Latent Heating Load
	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)
JAN	3	-24439	0	-6856
FEB	34	-18316	0	-5156
MAR	188	-13834	1	-4477
APR	687	-7614	16	-2551
MAY	1939	-3344	409	-725
JUN	4119	-735	2037	-97
JUL	5014	-151	3149	-6
AUG	4103	-318	3310	0
SEP	1956	-2514	1667	-59
OCT	587	-7490	139	-910
NOV	58	-15422	2	-3847
DEC	3	-22468	0	-6344
ANN	18691	-116645	10730	-31028

Average Annual Solar Radiation – Nearest Available Site

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

City: LUBBOCK
 State: TX
 WBAN No: 23042
 Lat(N): 33.65
 Long(W): 101.82
 Elev(ft): 3242

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.356
 Vert Gap: 0.272

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	970	1240	1610	1960	2130	2240	2200	2010	1660	1400	1050	890	1620
	Std Dev	74	94	105	108	108	122	134	126	122	122	82	74	35
	Minimum	840	1070	1430	1760	1880	2020	1900	1750	1430	1180	870	700	1550
	Maximum	1100	1430	1790	2180	2340	2480	2480	2220	1900	1610	1180	1030	1670
	Diffuse	330	410	530	610	700	700	690	640	570	410	340	300	520
Clear Day	Global	1210	1550	1990	2390	2620	2690	2620	2410	2060	1640	1270	1100	1960
NORTH	Global	240	300	380	460	570	650	620	490	400	320	260	220	410
	Diffuse	240	300	380	440	490	510	500	450	390	320	260	220	370
Clear Day	Global	220	270	340	430	590	710	650	470	360	290	230	200	400
EAST	Global	640	780	980	1120	1150	1200	1210	1130	950	860	680	600	940
	Diffuse	300	370	470	540	590	600	600	560	480	390	310	270	460
Clear Day	Global	860	1030	1250	1400	1460	1460	1440	1380	1260	1060	870	790	1190
SOUTH	Global	1480	1450	1300	1040	780	670	710	900	1120	1440	1480	1450	1150
	Diffuse	410	460	520	530	530	510	520	520	510	460	410	380	480
Clear Day	Global	2110	2020	1730	1230	850	700	750	1030	1480	1870	2040	2070	1490
WEST	Global	660	800	980	1120	1170	1210	1210	1130	1010	890	710	610	960
	Diffuse	300	370	470	550	600	610	610	570	500	390	320	280	470
Clear Day	Global	860	1030	1250	1400	1460	1460	1440	1380	1260	1060	870	790	1190

Average Annual Solar Heat and Illumination – Nearest Available Site

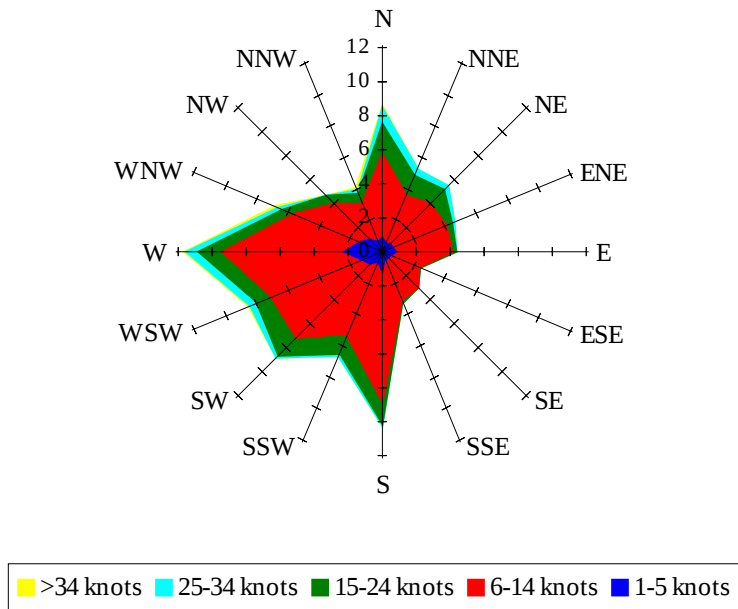
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	650	870	1150	1430	1560	1650	1620	1470	1200	990	710	580	1160
NORTH	Unshaded	170	210	260	310	360	410	390	320	270	220	180	150	270
	Shaded	160	200	250	290	340	380	360	300	260	210	170	140	250
EAST	Unshaded	440	550	690	800	820	850	860	800	680	610	470	410	670
	Shaded	420	510	640	740	740	770	780	730	620	570	440	390	610
SOUTH	Unshaded	1100	1040	870	630	450	390	410	530	730	1020	1090	1090	780
	Shaded	1090	990	730	460	350	340	340	380	570	930	1070	1080	690
WEST	Unshaded	460	560	700	800	830	860	860	810	720	630	500	420	680
	Shaded	430	530	640	740	760	780	790	740	660	590	470	400	630

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	28	71	91	83	48	30	74	101	103	83
	M.Cloudy	17	48	65	56	34	20	52	75	80	62
NORTH	M.Clear	8	13	15	15	11	24	15	16	16	16
	M.Cloudy	7	15	18	17	12	13	16	18	18	17
EAST	M.Clear	73	73	28	15	11	67	81	49	16	16
	M.Cloudy	27	43	25	17	12	29	51	39	18	17
SOUTH	M.Clear	25	61	77	71	42	9	15	33	35	22
	M.Cloudy	12	37	53	45	26	8	16	29	31	21
WEST	M.Clear	8	13	15	56	82	9	15	16	35	74
	M.Cloudy	7	15	18	37	44	8	16	18	31	54
M.Clear	(% hrs)	48	48	45	45	45	54	54	56	56	54
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	14	60	89	91	66	10	44	60	50	17
	M.Cloudy	9	37	58	65	47	6	28	40	33	12
NORTH	M.Clear	6	13	16	16	14	4	10	12	11	6
	M.Cloudy	4	13	18	18	15	3	10	13	11	5
EAST	M.Clear	47	80	48	16	14	39	56	17	11	6
	M.Cloudy	15	37	32	18	15	11	27	16	11	5
SOUTH	M.Clear	8	42	66	68	48	28	78	95	85	41
	M.Cloudy	5	23	40	46	32	8	35	49	41	17
WEST	M.Clear	6	13	16	37	75	4	10	12	50	51
	M.Cloudy	4	13	18	30	46	3	10	13	27	20
M.Clear	(% hrs)	48	50	51	48	51	48	50	49	49	50

Wind Summary - December, January, and February

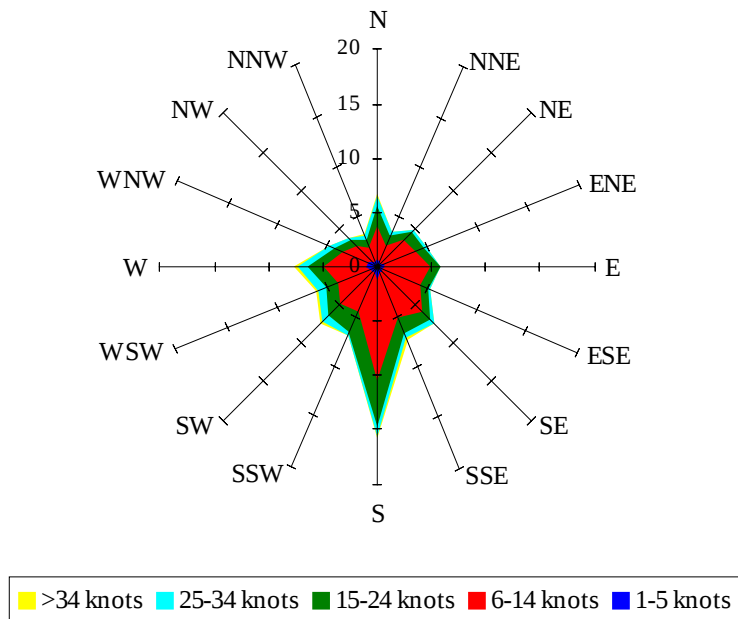
Labels of Percent Frequency on North Axis



Percent Calm = 2.40

Wind Summary - March, April, and May

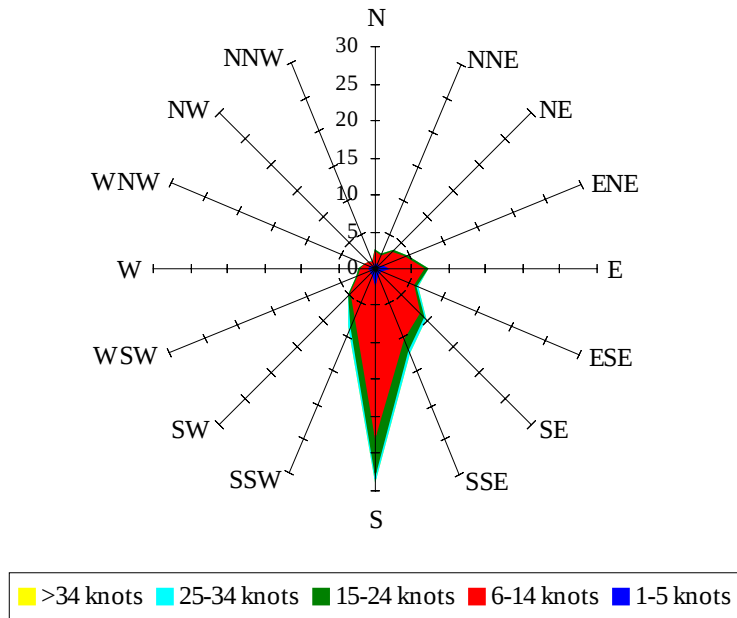
Labels of Percent Frequency on North Axis



Percent Calm = 1.22

Wind Summary - June, July, and August

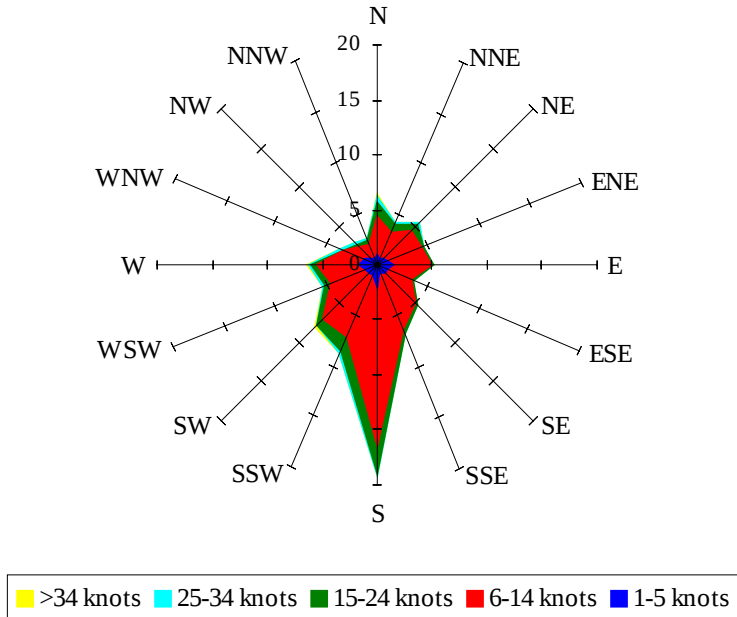
Labels of Percent Frequency on North Axis



Percent Calm = 2.09

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 2.79