

HARTFORD/BRADLEY CT

Latitude = 41.93 N

WMO No. 725080

Longitude = 72.68 W

Elevation = 180 feet

Period of Record = 1973 to 1996

Average Pressure = 29.79 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	97	76	104	11.3	W
0.4% Occurrence	92	74	98	10.0	SW
1.0% Occurrence	88	72	91	9.9	S
2.0% Occurrence	86	71	89	9.4	S
Mean Daily Range	19	-	-	-	-
97.5% Occurrence	13	11	6	8.3	N
99.0% Occurrence	7	5	4	7.1	N
99.6% Occurrence	2	1	3	6.7	N
Median of Extreme Lows	-5	-6	2	6.5	N
	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	79	91	127	8.3	SW
0.4% Occurrence	76	87	117	9.0	S
1.0% Occurrence	75	85	113	9.0	S
2.0% Occurrence	73	81	108	8.4	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	137	86	0.90	7.3	S
0.4% Occurrence	123	81	0.82	6.9	S
1.0% Occurrence	116	80	0.77	8.3	S
2.0% Occurrence	111	78	0.74	7.7	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		23	534	210	950

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	2.7	110	1.2 + 0.5
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 (#)
52.7	52	33	75

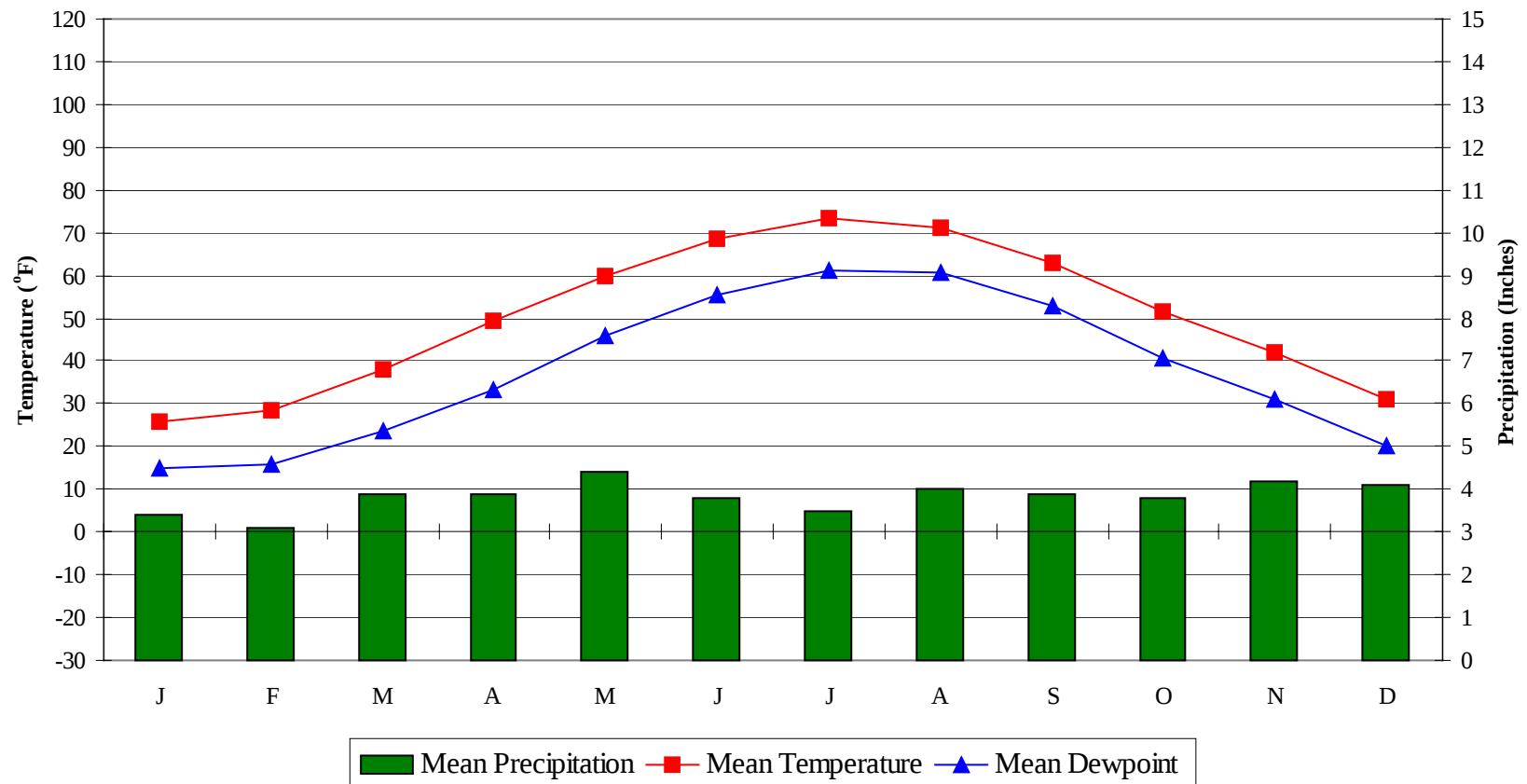
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

HARTFORD/BRADLEY

CT

WMO No. 725080

Average Annual Climate

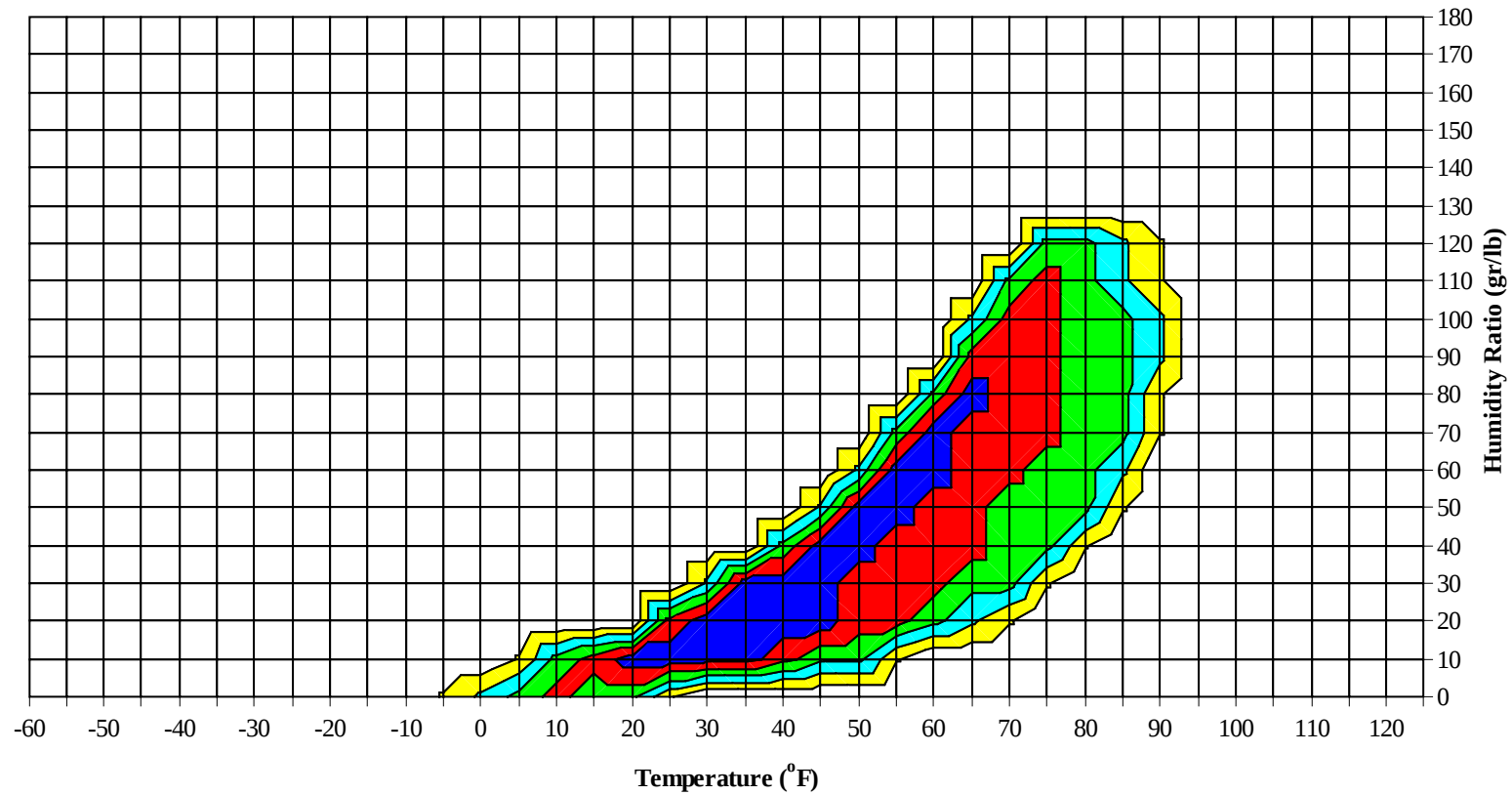


HARTFORD/BRADLEY

CT

WMO No. 725080

Long Term Psychrometric Summary



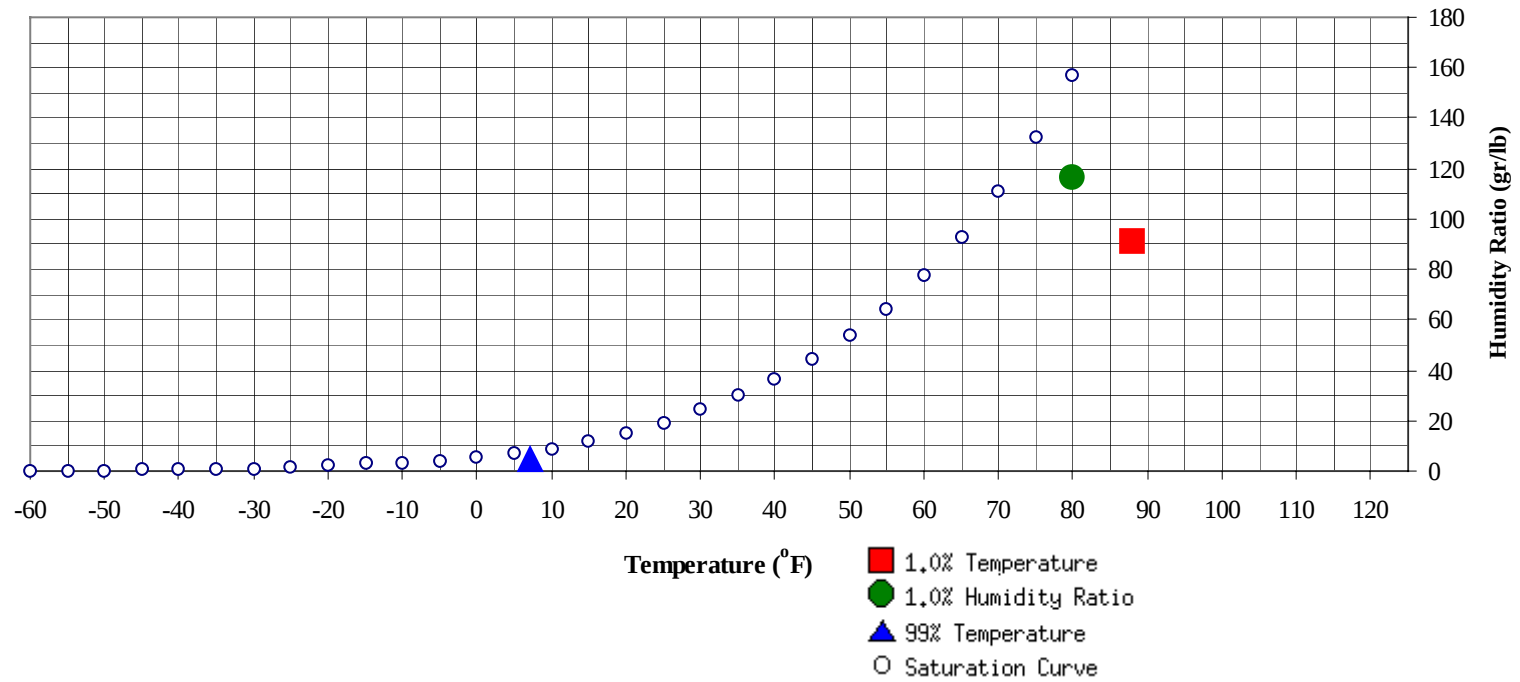
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

HARTFORD/BRADLEY

CT

WMO No. 725080

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)
	7	4.4	2.3		116.2	80	73.7	71.1	37.4

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	88	91.3	71.7	35.5

HARTFORD/BRADLEY

CT

WMO No. 725080

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		
100 / 104															
95 / 99															
90 / 94															
85 / 89												0		0	65.0
80 / 84												0	0	0	62.1
75 / 79												1	0	1	59.6
70 / 74							0	0	0	55.8	0	2	1	3	56.3
65 / 69							1	0	1	53.2	0	5	2	7	53.9
60 / 64		1	0	1	54.9		2	0	2	50.5	0	9	4	13	50.9
55 / 59	2	3	1	6	52.9	1	3	2	6	50.3	3	15	9	27	48.4
50 / 54	1	4	3	8	47.5	2	8	5	15	45.4	8	26	17	51	44.7
45 / 49	3	8	4	15	41.7	4	14	8	26	40.9	13	42	29	84	40.4
40 / 44	7	21	13	41	37.0	11	27	20	58	36.8	29	47	44	120	36.4
35 / 39	25	41	36	102	33.3	23	38	38	98	32.7	49	47	55	151	32.7
30 / 34	39	49	43	131	28.8	33	42	43	117	28.3	57	30	44	131	28.4
25 / 29	38	41	45	124	23.7	38	33	37	108	23.5	41	14	23	78	23.5
20 / 24	35	33	39	107	19.3	36	27	31	94	19.0	25	6	13	44	19.1
15 / 19	33	22	27	82	14.7	29	15	21	65	14.5	15	2	5	22	14.5
10 / 14	28	14	19	61	10.2	22	9	13	44	9.9	7	1	1	9	9.9
5 / 9	17	7	11	35	5.4	15	3	5	23	5.7	2	0	0	2	5.6
0 / 4	12	3	5	20	0.9	7	1	2	10	1.0	0			0	1.8
-5 / -1	5	1	1	7	-3.5	3	0	1	4	-3.2					
-10 / -6	3	0	0	3	-7.1	2		0	2	-7.0					
-15 / -11	1			1	-11.6	0			0	-11.2					
-20 / -16	0			0	-17.0										

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.

HARTFORD/BRADLEY

CT

WMO No. 725080

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		
100 / 104															
95 / 99		0		0	67.0		0	0	0	70.2		2		2	73.7
90 / 94		1	0	1	67.3		3	0	3	69.2		10	2	12	72.4
85 / 89		2	0	2	65.2	0	9	2	11	67.7	0	21	6	27	70.0
80 / 84		3	1	4	62.1	0	18	6	24	65.2	2	47	17	66	67.2
75 / 79		7	2	9	59.0	1	25	11	37	62.0	6	54	33	93	65.1
70 / 74	0	12	5	17	56.3	5	39	22	67	59.2	24	49	51	123	63.5
65 / 69	2	22	11	35	53.4	12	48	35	95	56.7	59	28	55	141	61.3
60 / 64	5	32	20	57	50.8	34	44	47	125	54.5	58	20	42	120	57.5
55 / 59	16	38	32	86	48.0	50	33	50	134	51.4	47	8	25	80	53.5
50 / 54	27	44	41	112	44.7	61	21	44	126	47.9	31	2	10	43	49.3
45 / 49	45	40	50	135	41.2	48	5	21	74	43.5	11		1	12	44.8
40 / 44	59	27	44	130	37.5	27	2	7	36	39.5	2		0	2	40.6
35 / 39	44	8	24	76	33.2	8	0	2	10	34.5	0			0	36.5
30 / 34	33	3	8	44	28.8	2		0	2	30.7					
25 / 29	6	0	1	7	24.1										
20 / 24	2	0	0	2	19.1										
15 / 19	1	0	0	1	15.3										
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															

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.

HARTFORD/BRADLEY

CT

WMO No. 725080

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		
100 / 104		0		0	75.3		0		0	82.5					
95 / 99		4	0	4	76.3		2	0	2	77.5		0		0	74.6
90 / 94	0	20	4	24	74.6	0	12	2	14	74.8	0	3	0	3	74.9
85 / 89	1	49	15	65	71.3	0	36	9	45	72.0	0	7	1	8	72.1
80 / 84	4	67	36	107	69.1	2	61	23	86	69.3	1	20	5	26	68.8
75 / 79	19	56	53	128	67.7	14	60	46	120	67.7	3	35	14	52	66.2
70 / 74	66	33	67	166	66.5	53	46	69	167	66.3	15	51	32	98	63.8
65 / 69	70	14	45	129	62.9	69	19	54	142	63.0	29	51	43	123	60.6
60 / 64	56	5	22	83	59.0	57	9	29	95	58.9	42	43	52	136	57.2
55 / 59	25	0	6	31	54.5	33	3	13	49	54.5	55	22	47	124	53.5
50 / 54	7		0	7	49.9	16		3	19	50.2	43	7	28	78	49.2
45 / 49	1			1	46.3	4		1	5	45.5	28	1	13	42	44.8
40 / 44						1			1	40.9	18	0	4	22	40.4
35 / 39											6		1	7	36.1
30 / 34											1		0	1	32.1
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															

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.

HARTFORD/BRADLEY

CT

WMO No. 725080

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		
100 / 104															
95 / 99															
90 / 94															
85 / 89		0		0	66.6										
80 / 84		3	0	3	65.8										
75 / 79	0	7	1	8	63.8	0	1		1	62.5					
70 / 74	1	22	5	28	61.4	0	4	0	4	59.9		0		0	60.2
65 / 69	5	30	13	48	58.3	1	6	3	10	59.2		0	0	0	60.0
60 / 64	13	45	29	87	55.1	5	14	8	27	55.7	1	1	1	3	55.5
55 / 59	29	50	42	121	51.1	11	22	15	48	50.9	2	5	2	9	51.8
50 / 54	38	48	49	135	46.8	16	36	23	76	46.4	3	10	7	20	47.2
45 / 49	48	26	50	124	42.7	27	50	37	114	41.8	7	18	10	35	42.1
40 / 44	46	12	34	92	38.6	38	49	45	132	37.2	17	34	22	73	37.2
35 / 39	35	3	18	56	34.4	41	34	49	125	32.9	31	50	46	127	33.1
30 / 34	24	1	7	32	30.1	52	16	40	109	28.9	54	53	60	167	28.8
25 / 29	8		1	9	25.7	33	5	14	52	24.7	46	31	42	119	24.1
20 / 24	1			1	21.7	11	1	4	16	20.1	34	22	26	82	19.3
15 / 19	0			0	19.0	3	1	1	5	15.1	23	13	18	54	14.9
10 / 14						1		0	1	11.3	14	6	11	31	10.3
5 / 9						0		0	0	6.5	10	2	3	15	6.0
0 / 4						0			0	1.0	4	1	1	6	1.4
-5 / -1											1	0	0	1	-3.5
-10 / -6											0	0	0	0	-8.1
-15 / -11											0	0	0	0	-12.1
-20 / -16															

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.

HARTFORD/BRADLEY CT

WMO No. 725080

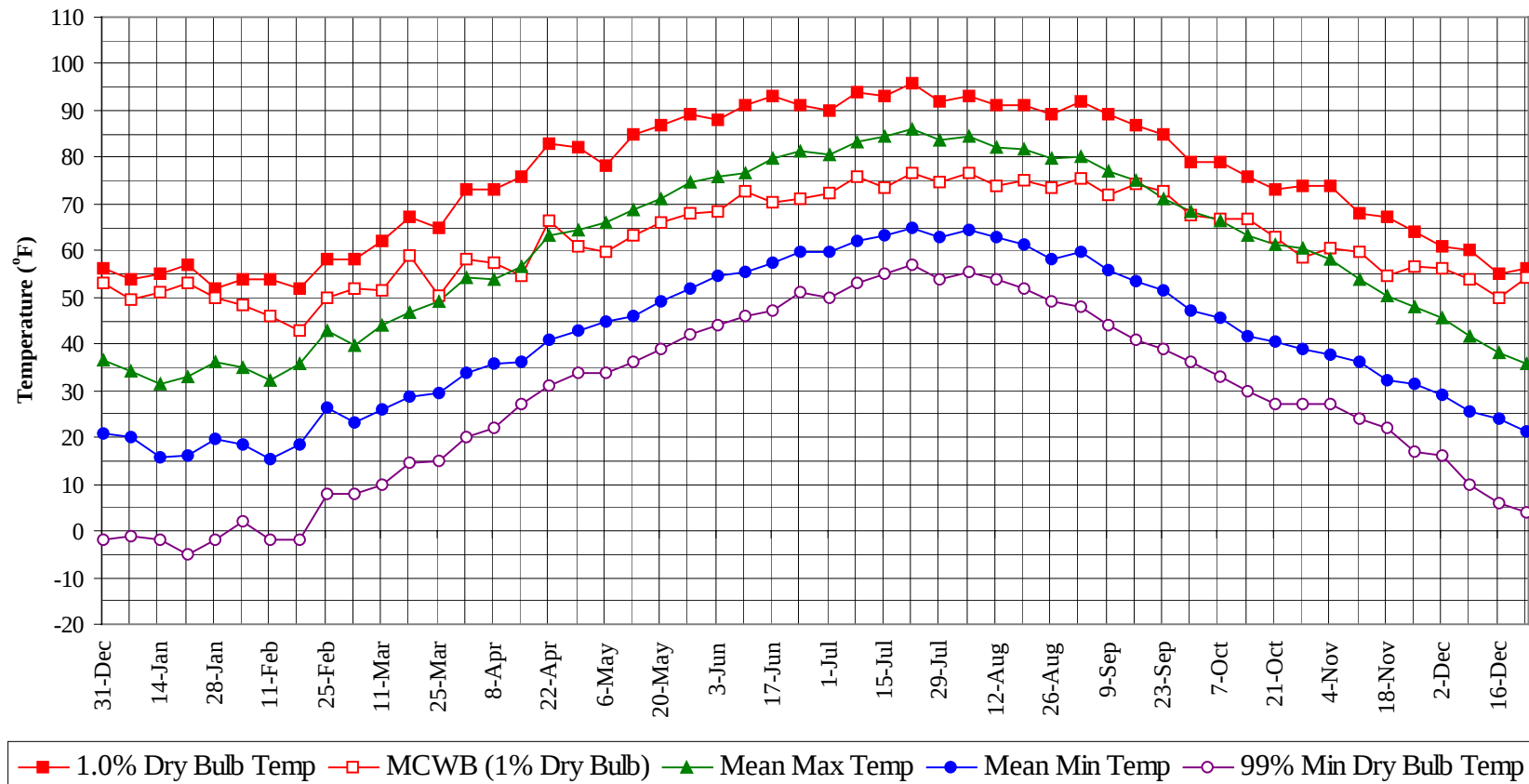
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

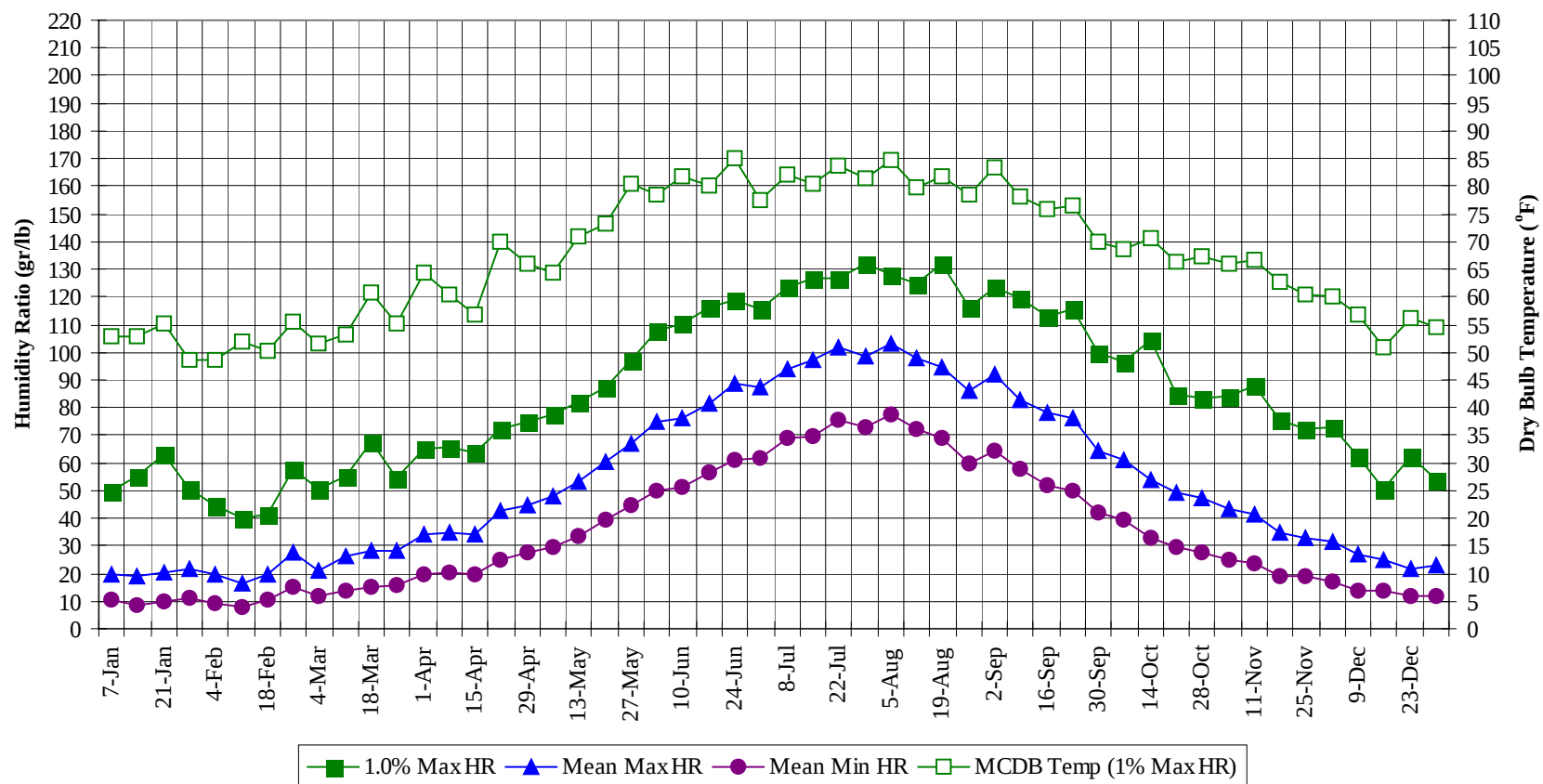
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104	0			0	76.7
95 / 99	9			9	75.9
90 / 94	0	48	8	56	73.8
85 / 89	2	124	33	159	71.0
80 / 84	9	217	88	314	68.3
75 / 79	43	246	160	448	66.2
70 / 74	165	258	252	675	64.2
65 / 69	245	223	260	728	60.5
60 / 64	271	226	254	751	56.3
55 / 59	271	205	244	720	51.8
50 / 54	251	209	227	687	47.0
45 / 49	236	204	225	665	42.1
40 / 44	254	218	235	707	37.5
35 / 39	264	220	268	752	33.1
30 / 34	295	195	245	735	28.7
25 / 29	210	125	164	499	23.9
20 / 24	144	90	114	348	19.2
15 / 19	105	54	73	232	14.7
10 / 14	72	29	45	146	10.1
5 / 9	45	11	20	76	5.6
0 / 4	24	5	7	36	1.0
-5 / -1	9	1	2	12	-3.4
-10 / -6	5	0	1	6	-7.2
-15 / -11	1	0	0	1	-11.7
-20 / -16	0			0	-17.0

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.

Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

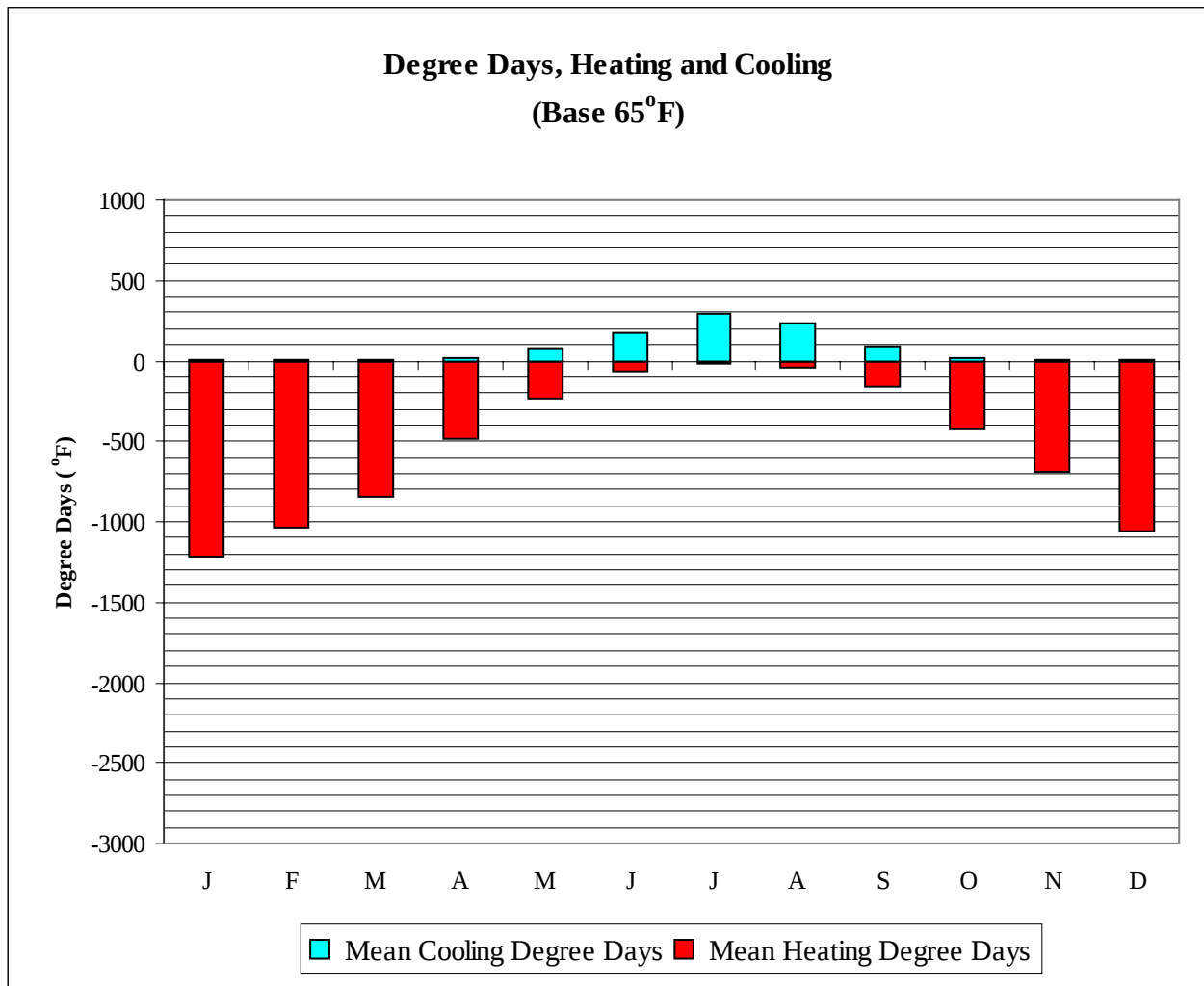


HARTFORD/BRADLEY CT

WMO No. 725080

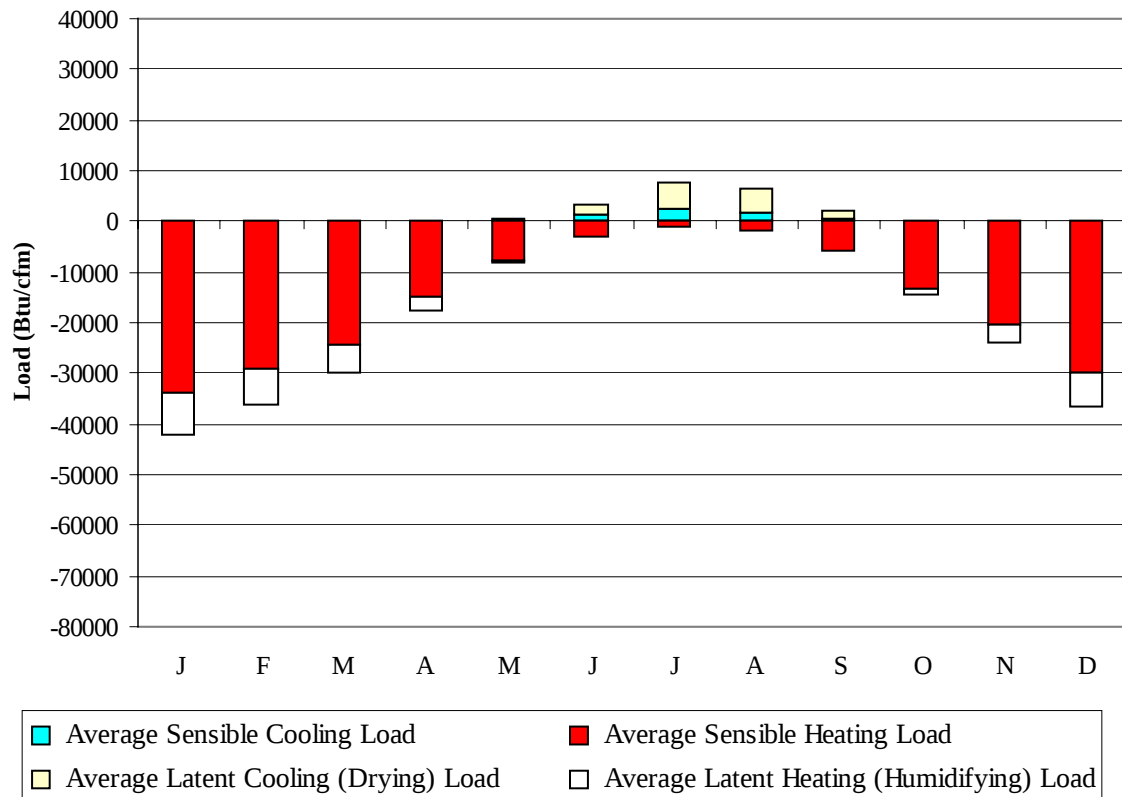
Long Term Dry Bulb Temperature and Humidity Summary

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	54.0	49.6	34.1	19.9	-1.0	49.7	53.0	19.9	10.4
14-Jan	55.0	51.2	31.3	15.9	-2.0	55.3	52.8	18.8	8.7
21-Jan	57.0	53.1	32.9	16.0	-5.0	63.0	55.2	20.0	10.1
28-Jan	52.0	49.8	36.0	19.5	-2.0	50.4	48.7	22.0	10.9
4-Feb	54.0	48.3	34.9	18.4	2.0	44.8	48.6	19.4	9.3
11-Feb	54.0	46.1	32.3	15.5	-2.0	39.9	51.8	16.6	8.2
18-Feb	52.0	43.0	35.7	18.5	-2.0	41.3	50.3	19.6	10.3
25-Feb	58.0	50.1	43.0	26.3	8.0	58.1	55.5	27.8	15.1
4-Mar	58.0	51.8	39.7	23.3	8.0	50.4	51.6	21.1	11.6
11-Mar	62.0	51.6	43.9	25.9	10.0	55.3	53.3	26.5	14.0
18-Mar	67.0	59.0	46.7	28.8	14.5	67.9	60.8	28.1	15.4
25-Mar	65.0	50.2	49.2	29.6	15.0	54.6	55.3	28.0	15.6
1-Apr	73.0	58.0	54.2	33.9	20.0	65.1	64.4	34.2	19.4
8-Apr	73.0	57.5	53.7	35.9	22.0	65.8	60.3	35.0	20.1
15-Apr	76.0	54.8	56.6	36.3	27.0	63.7	56.9	34.3	19.9
22-Apr	83.0	66.4	63.1	40.9	31.0	72.1	70.0	43.0	25.2
29-Apr	82.0	60.8	64.4	42.7	34.0	74.9	66.0	44.5	27.6
6-May	78.0	59.7	66.1	44.7	34.0	77.7	64.4	48.0	29.7
13-May	85.0	63.4	68.9	46.1	36.0	81.9	70.9	53.2	33.2
20-May	87.0	65.9	71.2	49.0	39.0	87.5	73.1	60.4	39.7
27-May	89.0	68.0	74.7	52.0	42.0	97.3	80.6	67.2	44.8
3-Jun	88.0	68.6	76.0	54.5	44.0	107.8	78.5	74.8	50.0
10-Jun	91.0	72.8	76.6	55.4	46.0	110.6	81.7	76.0	51.3
17-Jun	93.0	70.3	79.7	57.3	47.0	116.2	80.1	81.4	56.8
24-Jun	91.0	71.2	81.4	59.9	51.0	119.0	84.9	88.5	61.0
1-Jul	90.0	72.2	80.7	59.9	50.0	115.5	77.6	87.6	61.7
8-Jul	94.0	75.8	83.2	62.0	53.0	123.2	82.2	94.1	68.9
15-Jul	93.0	73.6	84.6	63.2	55.0	126.7	80.6	97.2	69.4
22-Jul	96.0	76.7	86.1	65.0	57.0	126.7	83.7	101.5	75.5
29-Jul	92.0	74.8	83.6	63.0	54.0	132.3	81.4	98.4	72.7
5-Aug	93.0	76.5	84.6	64.4	55.5	128.1	84.8	102.8	77.3
12-Aug	91.0	73.9	82.2	62.9	54.0	124.6	79.8	98.1	72.4
19-Aug	91.0	75.1	81.7	61.4	52.0	132.3	81.8	94.5	69.1
26-Aug	89.0	73.5	79.8	58.0	49.0	116.2	78.6	86.2	59.9
2-Sep	92.0	75.4	80.0	59.7	48.0	123.2	83.5	91.8	64.6
9-Sep	89.0	71.8	77.0	55.7	44.0	119.7	78.1	82.7	57.8
16-Sep	87.0	74.1	74.9	53.4	41.0	112.7	75.8	78.1	52.2
23-Sep	85.0	72.7	71.1	51.5	39.0	115.5	76.7	76.1	49.9
30-Sep	79.0	67.7	68.4	47.2	36.0	100.1	69.9	64.1	41.8
7-Oct	79.0	66.8	66.4	45.7	33.0	96.6	68.6	60.8	39.1
14-Oct	76.0	66.8	63.4	41.6	30.0	104.3	70.6	54.1	33.0
21-Oct	73.0	62.9	61.3	40.6	27.0	84.7	66.2	49.5	29.8
28-Oct	74.0	58.4	60.5	38.9	27.0	83.3	67.2	47.0	27.8
4-Nov	74.0	60.6	58.2	37.8	27.0	84.0	66.1	43.1	25.3
11-Nov	68.0	59.6	53.7	36.3	24.0	88.2	66.7	41.3	23.9
18-Nov	67.0	54.7	50.3	32.4	22.0	75.6	62.9	34.9	19.0
25-Nov	64.0	56.6	47.8	31.5	17.0	72.1	60.4	32.9	19.0
2-Dec	61.0	56.3	45.5	29.1	16.0	72.8	60.1	31.4	16.9
9-Dec	60.0	53.8	41.8	25.6	10.0	62.3	56.7	27.3	13.9
16-Dec	55.0	49.8	38.3	24.1	6.0	50.4	50.8	25.0	14.0
23-Dec	56.0	54.2	35.9	21.3	4.0	62.3	56.1	21.9	12.0
31-Dec	56.0	53.0	36.5	20.7	-2.0	53.9	54.4	22.9	11.6



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1213
FEB	0	1034
MAR	2	844
APR	17	491
MAY	74	229
JUN	176	71
JUL	288	23
AUG	237	39
SEP	91	161
OCT	17	431
NOV	3	692
DEC	0	1059
ANN	904	6287

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	0	-33851	0	-8241
FEB	0	-28998	0	-7250
MAR	5	-24246	0	-5604
APR	88	-14887	3	-2778
MAY	429	-7707	294	-506
JUN	1178	-2852	2146	-14
JUL	2371	-1135	5307	-2
AUG	1687	-1737	4842	-1
SEP	436	-5661	1639	-72
OCT	32	-13372	198	-1273
NOV	2	-20224	29	-3580
DEC	0	-29860	0	-6770
ANN	6228	-184530	14458	-36091

Average Annual Solar Radiation – Nearest Available Site

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

City: HARTFORD
 State: CT
 WBAN No: 14740
 Lat(N): 41.93
 Long(W): 72.68
 Elev(ft): 180

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.589
 Vert Gap: 0.327

AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 11		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Global	590	850	1160	1470	1720	1870	1860	1630	1300	940	580	480	1210
	Std Dev	44	74	74	109	128	146	110	81	93	66	48	35	30
	Minimum	530	690	980	1260	1460	1500	1620	1480	1150	820	490	400	1140
	Maximum	690	1010	1290	1710	1980	2160	2060	1760	1500	1130	670	540	1270
	Diffuse	320	430	580	720	860	920	900	790	620	440	320	270	600
Clear Day	Global	800	1150	1640	2140	2470	2590	2510	2210	1760	1250	840	690	1670
NORTH	Global	190	260	350	440	540	610	580	480	380	280	190	160	370
	Diffuse	190	260	350	430	500	540	530	470	380	280	190	160	360
Clear Day	Global	180	240	330	430	580	670	620	480	360	260	190	160	380
EAST	Global	400	550	710	860	960	1030	1020	940	780	590	380	330	710
	Diffuse	240	330	430	520	600	640	640	570	460	340	240	200	430
Clear Day	Global	620	820	1090	1300	1420	1450	1410	1310	1120	860	630	540	1050
SOUTH	Global	980	1090	1060	960	850	810	850	940	1050	1080	850	820	940
	Diffuse	360	440	500	550	590	600	600	580	520	440	340	300	480
Clear Day	Global	1780	1890	1800	1470	1160	1020	1060	1300	1620	1790	1730	1680	1520
WEST	Global	400	550	710	850	950	1020	1020	930	780	600	380	320	710
	Diffuse	240	330	430	520	610	650	650	580	470	340	240	200	440
Clear Day	Global	620	820	1090	1300	1420	1450	1410	1310	1120	860	630	540	1050

Average Annual Solar Heat and Illumination – Nearest Available Site

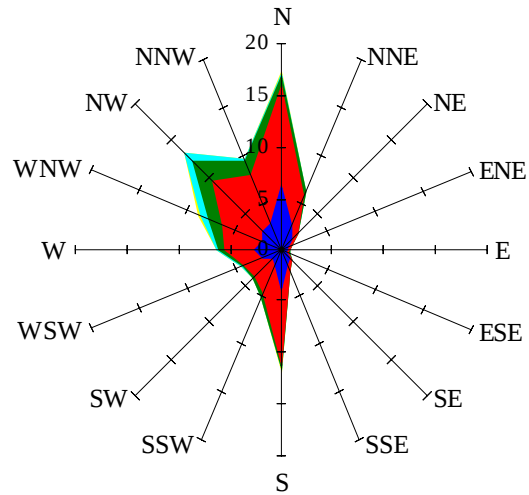
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 11		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	380	570	810	1050	1240	1350	1340	1170	930	650	390	300	850
NORTH	Unshaded	130	180	240	300	360	400	390	330	260	190	140	110	250
	Shaded	110	160	210	260	310	350	340	280	230	170	120	96	220
EAST	Unshaded	280	390	500	610	680	730	720	660	550	420	260	220	500
	Shaded	240	340	430	510	560	600	590	550	470	360	230	190	420
SOUTH	Unshaded	730	810	740	630	540	510	530	610	720	780	640	620	650
	Shaded	710	740	570	400	350	360	360	380	510	680	610	600	520
WEST	Unshaded	270	380	500	600	670	720	720	660	550	420	260	220	500
	Shaded	240	330	430	500	550	600	600	550	470	360	230	190	420

AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 11											
		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	40	70	77	58	20	51	84	99	90	62
	M.Cloudy	24	43	47	36	13	32	55	70	65	42
NORTH	M.Clear	10	14	15	13	7	15	17	17	17	15
	M.Cloudy	10	15	16	13	6	13	18	19	19	15
EAST	M.Clear	70	51	15	13	7	77	68	26	17	15
	M.Cloudy	25	28	16	13	6	34	40	24	19	15
SOUTH	M.Clear	42	75	83	62	21	13	37	51	44	20
	M.Cloudy	18	36	41	30	9	12	27	37	33	17
WEST	M.Clear	10	14	28	67	53	13	17	17	55	76
	M.Cloudy	10	15	21	32	18	12	18	19	39	41
M.Clear	(% hrs)	34	31	27	29	32	33	32	24	25	26
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	30	65	80	71	39	14	37	40	21	0
	M.Cloudy	18	39	53	48	25	9	22	24	13	0
NORTH	M.Clear	9	14	16	15	11	5	9	10	7	0
	M.Cloudy	8	14	17	16	10	4	9	10	6	0
EAST	M.Clear	63	64	23	15	11	34	32	10	7	0
	M.Cloudy	21	31	20	16	10	10	15	10	6	0
SOUTH	M.Clear	24	60	76	66	33	34	76	81	49	0
	M.Cloudy	11	29	44	38	17	10	27	29	16	0
WEST	M.Clear	9	14	16	55	67	5	9	24	41	0
	M.Cloudy	8	14	17	33	29	4	9	13	14	0
M.Clear	(% hrs)	40	41	34	33	37	31	29	28	30	31

Wind Summary - December, January, and February

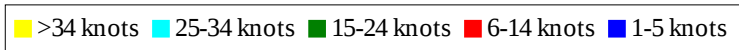
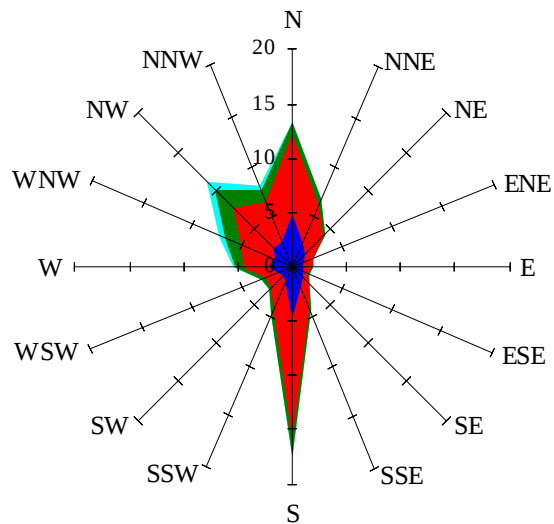
Labels of Percent Frequency on North Axis



Percent Calm = 6.44

Wind Summary - March, April, and May

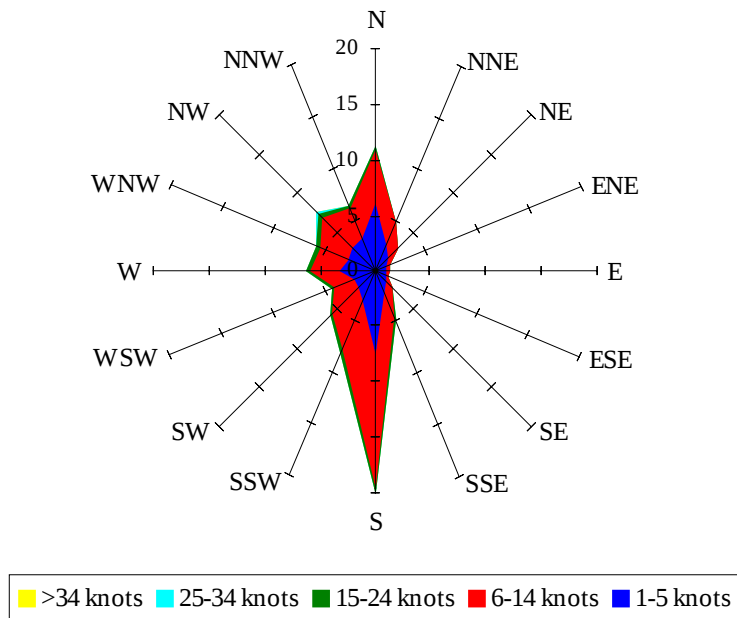
Labels of Percent Frequency on North Axis



Percent Calm = 4.96

Wind Summary - June, July, and August

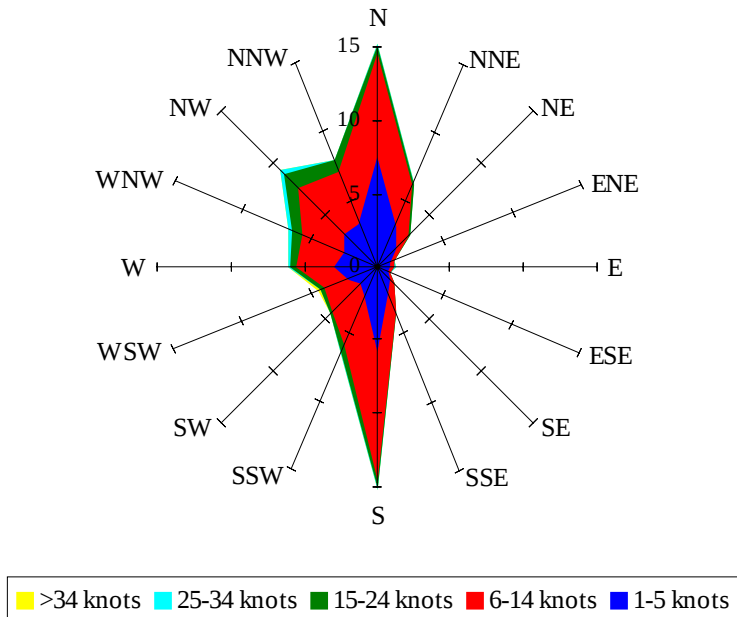
Labels of Percent Frequency on North Axis



Percent Calm = 7.74

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 7.77