

Table 15 Solar Intensity (E_{DN}) and Solar Heat Gain Factors (SHGF) for 40° North Latitude

Date	Solar Time	Direct Normal Btu/(h·ft ²)	Solar Heat Gain Factors, Btu/(h·ft ²)														Solar Hor. Time			
			N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW		NW	NNW	
Jan	0800	142	5	5	17	71	111	132	133	114	75	22	6	5	5	5	5	14	1600	
	0900	239	12	12	13	74	154	205	224	209	160	82	12	12	12	12	12	55	1500	
	1000	274	16	16	16	31	124	199	241	246	213	146	51	17	16	16	16	96	1400	
	1100	289	19	19	19	20	61	156	222	252	244	198	118	28	19	19	19	124	1300	
	1200	294	20	20	20	20	21	90	179	234	254	234	179	90	21	20	20	20	133	1200
HALF DAY TOTALS			61	61	73	199	452	734	904	932	813	561	273	101	62	61	61	61	354	
Feb	0700	55	2	3	23	40	51	53	47	34	14	2	2	2	2	2	2	4	1700	
	0800	219	10	11	50	129	183	206	199	160	94	18	10	10	10	10	10	43	1600	
	0900	271	16	16	22	107	186	234	245	218	157	66	17	16	16	16	16	98	1500	
	1000	294	21	21	21	49	143	211	246	243	203	129	38	21	21	21	21	143	1400	
	1100	304	23	23	23	24	71	160	219	244	231	184	103	27	23	23	23	171	1300	
HALF DAY TOTALS			84	86	152	361	648	916	1049	1015	821	508	250	114	85	84	84	84	548	
Mar	0700	171	9	29	93	140	163	161	135	86	22	8	8	8	8	8	8	26	1700	
	0800	250	16	18	91	169	218	232	211	157	74	17	16	16	16	16	16	85	1600	
	0900	282	21	22	47	136	203	238	236	198	128	40	22	21	21	21	21	143	1500	
	1000	297	25	25	27	72	153	207	229	216	171	95	29	25	25	25	25	186	1400	
	1100	305	28	28	28	30	78	151	198	213	197	150	77	30	28	28	28	28	213	1300
HALF DAY TOTALS			114	139	302	563	832	1035	1087	968	694	403	220	132	114	113	113	113	764	
Apr	0600	89	11	46	72	87	88	76	52	18	5	5	5	5	5	5	5	11	1800	
	0700	206	16	71	140	185	201	186	143	75	16	14	14	14	14	14	14	61	1700	
	0800	252	22	44	128	190	224	223	188	124	41	22	21	21	21	21	21	123	1600	
	0900	274	27	29	80	155	202	219	203	156	83	29	27	27	27	27	27	27	177	1500
	1000	286	31	31	37	92	152	187	193	170	121	56	32	31	31	31	31	31	243	1400
HALF DAY TOTALS			154	265	501	758	957	1051	994	742	488	296	199	157	148	147	147	147	957	
May	0500	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1900	
	0600	144	36	90	128	145	141	115	71	18	10	10	10	10	10	10	10	31	1800	
	0700	216	28	102	165	202	209	184	131	54	20	19	19	19	19	19	19	87	1700	
	0800	250	27	73	149	199	220	208	164	93	29	25	25	25	25	25	25	146	1600	
	0900	267	31	42	105	164	197	200	175	121	53	32	30	30	30	30	30	30	195	1500
HALF DAY TOTALS			215	404	666	893	1024	1025	881	601	358	247	200	180	176	175	174	175	1083	
Jun	0500	22	10	17	21	22	20	14	6	2	1	1	1	1	1	1	1	2	3	1900
	0600	155	48	104	143	159	151	121	70	17	13	13	13	13	13	13	13	14	40	1800
	0700	216	37	113	172	205	207	178	122	46	22	21	21	21	21	21	21	21	97	1700
	0800	246	30	85	156	201	216	199	152	80	29	27	27	27	27	27	27	27	153	1600
	0900	263	33	51	114	166	192	190	161	105	45	33	32	32	32	32	32	32	201	1500
HALF DAY TOTALS			253	470	734	941	1038	999	818	523	315	236	204	191	188	187	186	188	1126	
Jul	0500	2	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	1900	
	0600	138	37	89	125	142	137	112	68	18	11	11	11	11	11	11	11	12	32	1800
	0700	208	30	102	163	198	204	179	127	53	21	20	20	20	20	20	20	20	88	1700
	0800	241	28	75	148	196	216	203	160	90	30	26	26	26	26	26	26	26	145	1600
	0900	259	32	44	106	163	193	196	170	118	52	33	31	31	31	31	31	31	194	1500
HALF DAY TOTALS			223	411	666	885	1008	1003	858	584	352	248	204	186	181	180	180	181	1076	
Aug	0600	81	12	44	68	81	82	71	48	17	6	5	5	5	5	5	5	12	1800	
	0700	191	17	71	135	177	191	177	135	70	17	16	16	16	16	16	16	16	62	1700
	0800	237	24	47	126	185	216	214	180	118	41	23	23	23	23	23	23	23	122	1600
	0900	260	28	31	82	153	197	212	196	151	80	31	28	28	28	28	28	28	174	1500
	1000	272	32	33	40	93	150	182	187	165	116	56	34	32	32	32	32	32	214	1400
HALF DAY TOTALS			164	273	498	741	928	1013	956	751	474	296	205	166	157	156	156	156	946	
Sep	0700	149	9	27	84	125	146	144	121	77	21	9	9	9	9	9	9	9	25	1700
	0800	230	17	19	87	160	205	218	199	148	71	18	17	17	17	17	17	17	82	1600
	0900	263	22	23	47	131	194	227	226	190	124	41	23	22	22	22	22	22	138	1500
	1000	280	27	27	28	71	148	200	221	209	165	93	30	27	27	27	27	27	180	1400
	1100	287	29	29	29	31	78	147	192	207	191	146	77	31	29	29	29	29	206	1300
HALF DAY TOTALS			119	142	291	534	787	980	1033	925	672	396	222	137	119	118	118	118	738	
Oct	0700	48	2	3	20	36	45	47	42	30	12	2	2	2	2	2	2	4	1700	
	0800	204	11	12	49	123	173	195	188	151	89	18	11	11	11	11	11	11	43	1600
	0900	257	17	17	23	104	180	225	235	209	151	64	18	17	17	17	17	17	97	1500
	1000	280	21	21	22	50	139	205	238	235	196	125	38	22	21	21	21	21	140	1400
	1100	291	24	24	24	25	71	156	212	236	224	178	101	28	24	24	24	24	168	1300
HALF DAY TOTALS			88	89	152	351	623	878	1006	916	791	493	247	117	89	88	88	88	540	
Nov	0800	136	5	5	18	69	108	128	129	110	72	21	6	5	5	5	5	5	14	1600
	0900	232	12	12	13	73	151	201	219	204	156	80	13	12	12	12	12	12	55	1500
	1000	268	16	16	16	31	122	196	237	242	209	143	50	17	16	16	16	96	1400	
	1100	283	19	19	19	20	61	154	218	248	240	194	116	28	19	19	19	19	123	1300
	1200	288	20	20	20	20	21	89	176	231	250	231	176	89	21	20	20	20	132	1200
HALF DAY TOTALS			63	63	75	198	445	721	887	914	798	551	269	101	63	63	63	63	354	
Dec	0800	89	3	3	8	41	67	82	84	73	50	17	3	3	3	3	3	3	6	1600
	0900	217	10	10	11	60	135	185	205	194	151	83	13	10	10	10	10	10	39	1500
	1000	261	14	14	14	25	113	188	232	239	210	146	55	15	14	14	14	14	77	1400
	1100	280	17	17	17	17	56	151	217	2										

Table 16 Solar Intensity (E_{DN}) and Solar Heat Gain Factors (SHGF) for 48° North Latitude

Date	Solar Time	Direct Normal Btu/(h·ft ²)	Solar Heat Gain Factors, Btu/(h·ft ²)																Solar Time	
			N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		Hor.
Jan	0800	37	1	1	4	18	29	34	35	30	20	6	1	1	1	1	1	1	2	1600
	0900	185	8	8	8	53	118	160	176	166	129	69	10	8	8	8	8	8	25	1500
	1000	239	12	12	12	22	106	175	216	223	193	136	50	12	12	12	12	12	55	1400
	1100	261	14	14	14	15	53	144	208	239	233	190	116	26	14	14	14	14	77	1300
	1200	267	15	15	15	15	16	86	171	226	245	226	171	86	16	15	15	15	85	1200
HALF DAY TOTALS		43	43	46	117	316	567	729	776	701	512	259	85	43	43	43	43	43	203	
Feb	0700	4	0	0	1	3	3	3	3	2	1	0	0	0	0	0	0	0	0	1700
	0800	180	8	8	36	103	149	170	166	136	82	17	8	8	8	8	8	8	25	1600
	0900	247	13	13	16	90	168	216	230	209	155	71	14	13	13	13	13	13	66	1500
	1000	275	17	17	17	38	131	203	242	244	207	138	44	18	17	17	17	17	105	1400
	1100	288	19	19	19	20	65	158	221	249	239	192	113	27	19	19	19	19	130	1300
1200	292	20	20	20	20	22	89	176	231	250	231	176	89	22	20	20	20	138	1200	
HALF DAY TOTALS		68	68	107	274	541	816	968	967	813	531	261	104	68	68	68	68	68	395	
Mar	0700	153	7	22	80	123	145	145	123	80	23	7	7	7	7	7	7	7	7	1700
	0800	236	14	15	76	154	204	222	206	158	82	15	14	14	14	14	14	14	68	1600
	0900	270	19	19	3	121	193	234	239	207	142	52	20	19	19	19	19	19	118	1500
	1000	287	23	23	24	58	146	208	237	231	189	115	33	23	23	23	23	23	156	1400
	1100	295	25	25	25	26	74	156	210	232	218	172	94	28	25	25	25	25	180	1300
1200	298	26	26	26	26	27	83	161	211	228	211	161	83	27	26	26	26	26	188	1200
HALF DAY TOTALS		100	118	250	494	775	1012	1100	1014	767	465	244	126	101	100	100	100	636		
Apr	0600	108	12	53	86	105	107	93	64	23	6	6	6	6	6	6	6	6	15	1800
	0700	205	15	61	132	180	199	189	148	84	18	14	14	14	14	14	14	14	60	1700
	0800	247	20	32	111	179	219	225	196	138	55	21	20	20	20	20	20	20	114	1600
	0900	268	25	26	60	141	197	223	215	176	106	33	25	25	25	25	25	25	161	1500
	1000	280	28	28	31	77	148	193	209	194	150	80	31	28	28	28	28	28	196	1400
1100	286	31	31	31	33	78	140	181	193	177	133	69	33	31	31	31	31	218	1300	
1200	288	31	31	31	31	34	71	131	172	186	172	131	71	34	31	31	31	226	1200	
HALF DAY TOTALS		147	242	461	724	957	1098	1081	895	605	370	226	156	141	140	140	140	875		
May	0500	41	17	31	40	42	39	29	14	3	3	3	3	3	3	3	3	3	5	1900
	0600	162	35	97	141	162	160	133	85	24	12	12	12	12	12	12	12	13	40	1800
	0700	219	23	90	158	200	212	191	142	68	21	19	19	19	19	19	19	19	91	1700
	0800	248	26	54	132	190	218	214	178	113	38	25	25	25	25	25	25	25	142	1600
	0900	264	29	32	82	151	194	208	192	147	77	32	29	29	29	29	29	29	185	1500
1000	274	33	34	39	90	145	178	184	163	116	57	35	33	33	33	33	33	219	1400	
1100	279	35	35	36	40	79	126	155	160	142	101	54	37	35	35	35	35	240	1300	
1200	280	35	35	35	36	38	63	107	139	150	139	107	63	38	36	35	35	247	1200	
HALF DAY TOTALS		215	388	645	893	1065	1114	1007	749	483	316	225	184	174	173	173	174	1045		
Jun	0500	77	35	61	76	80	72	53	24	6	5	5	5	5	5	5	5	8	12	1900
	0600	172	46	110	155	175	169	138	84	22	14	14	14	14	14	14	14	16	51	1800
	0700	220	29	101	165	204	211	187	135	60	23	21	21	21	21	21	21	21	103	1700
	0800	246	29	64	139	191	215	206	168	101	34	27	27	27	27	27	27	27	152	1600
	0900	261	31	36	91	153	190	199	180	133	66	33	31	31	31	31	31	31	193	1500
1000	269	34	36	45	94	143	169	171	148	101	50	36	34	34	34	34	34	225	1400	
1100	274	36	36	38	44	79	118	142	145	126	88	49	38	36	36	36	36	246	1300	
1200	275	37	37	37	38	40	60	96	124	134	124	96	60	40	38	37	37	252	1200	
HALF DAY TOTALS		257	459	722	955	1095	1102	955	678	436	299	228	197	189	188	188	191	1108		
Jul	0500	43	18	33	42	45	41	30	15	3	3	3	3	3	3	3	3	4	6	1900
	0600	156	37	96	138	159	156	129	82	24	13	13	13	13	13	13	13	14	41	1800
	0700	211	25	90	156	196	207	186	138	66	22	20	20	20	20	20	20	20	92	1700
	0800	240	27	56	132	187	214	209	174	110	38	26	26	26	26	26	26	26	142	1600
	0900	256	30	34	83	149	191	204	187	143	75	33	30	30	30	30	30	30	184	1500
1000	266	34	35	41	90	143	174	180	158	113	56	36	34	34	34	34	34	217	1400	
1100	271	36	36	37	42	79	124	151	156	138	99	54	38	36	36	36	36	237	1300	
1200	272	36	36	36	37	39	63	104	136	146	136	104	63	39	37	36	36	244	1200	
HALF DAY TOTALS		223	395	646	886	1050	1092	983	730	474	315	229	190	181	179	179	180	1042		
Aug	0600	99	13	51	81	98	100	87	60	22	7	7	7	7	7	7	7	7	16	1800
	0700	190	17	61	128	172	190	179	141	79	19	15	15	15	15	15	15	15	65	1700
	0800	232	22	34	110	174	211	216	188	132	53	23	22	22	22	22	22	22	114	1600
	0900	254	27	28	63	139	192	216	108	169	102	34	27	27	27	27	27	27	159	1500
	1000	266	30	30	33	78	145	188	203	188	144	78	33	30	30	30	30	30	193	1400
1100	272	32	32	32	36	78	137	175	187	171	129	68	35	32	32	32	32	215	1300	
1200	274	33	33	33	33	36	71	128	167	189	167	128	71	36	33	33	33	223	1200	
HALF DAY TOTALS		157	251	459	709	929	1060	1040	862	587	366	231	165	151	149	149	149	869		
Sep	0700	131	8	21	71	108	128	108	71	21	8	7	7	7	7	7	7	7	20	1700
	0800	215	15	16	72	144	191	207	193	148	77	16	15	15	15	15	15	15	65	1600
	0900	251	20	20	34	116	184	223	227	197	136	52	21	20	20	20	20	20	114	1500
	1000	269	24	24	25	58	141	200	228	221	182	112	34	24	24	24	24	24	151	1400
	1100	278	26	26	26	28	73	151	203	223	210	166	92	29	26	26	26	26	174	1

DESCRIPTION	DENSITY LBS/FT ³	CONDUCTIVITY (k) $\frac{\text{BTUS} \times \text{INCH}}{\text{HR} \times \text{FT}^2 \times ^\circ\text{F}}$	CONDUCTANCE (C) $\frac{\text{BTUS}}{\text{HR} \times \text{FT}^2 \times ^\circ\text{F}}$	RESISTANCE (R) PER INCH THICKNESS $\frac{^\circ\text{F} \times \text{FT}^2 \times \text{HR}}{\text{BTUS} \times \text{INCH}}$	RESISTANCE (R) FOR THICKNESS LISTED $\frac{^\circ\text{F} \times \text{FT}^2 \times \text{HR}}{\text{BTUS}}$	SPECIFIC HEAT BTUS LBS \times ³ F
BUILDING BOARD						
Gypsum or Plaster board						
0.375 in.	50	—	3.10	—	0.32	0.26
0.5 in.	50	—	2.22	—	0.45	—
0.625 in.	50	—	1.78	—	0.56	—
Plywood (Douglas Fir)	34	0.80	—	1.25	—	0.29
Plywood (Douglas Fir)						
0.25 in.	34	—	3.20	—	0.31	—
0.375 in.	34	—	2.13	—	0.47	—
0.5 in.	34	—	1.60	—	0.62	—
0.625 in.	34	—	1.29	—	0.77	—
Plywood or wood panels						
0.75 in.	34	—	1.07	—	0.93	0.29
Particleboard						
(medium density)	50	0.94	—	1.06	—	0.31
BUILDING MEMBRANE						
Vapor-seal, plastic film	—	—	—	—	negligible	—
INSULATING MATERIALS						
Blanket and Batt						
Mineral fiber, fibrous form processed from rock, slag, or glass						
approx. 3–4 in.	0.4–2.0	—	0.091	—	11.00	—
approx. 3.5 in.	0.4–2.0	—	0.077	—	13.00	—
approx. 3.5 in.	1.2–1.6	—	0.067	—	15.00	—
approx. 5.5–6.5 in.	0.4–2.0	—	0.053	—	19.00	—
approx. 5.5 in.	0.6–1.0	—	0.048	—	21.00	—
approx. 6–7.5 in.	0.4–2.0	—	0.045	—	22.00	—
approx. 8.25–10 in.	0.4–2.0	—	0.033	—	30.00	—
approx. 10–13 in.	0.4–2.0	—	0.026	—	38.00	—
Board						
Expanded polystyrene, extruded (smooth skin surface)						
	1.8–3.5	0.20	—	5.00	—	0.29
Expanded polystyrene, molded beads						
	1.25	0.25	—	4.00	—	—

DESCRIPTION	DENSITY LBS/FT ³	CONDUCTIVITY (κ) BTUS × INCH HR × FT ² × °F	CONDUCTANCE (C) BTUS HR × FT ² × °F	RESISTANCE (R) PER INCH THICKNESS °F × FT ² × HR BTUS × INCH	RESISTANCE (R) FOR THICKNESS LISTED °F × FT ² × HR BTUS	SPECIFIC HEAT BTUS LBS × °F
ROOFING						
Asphalt roll roofing	70	—	6.50	—	0.15	0.36
Asphalt shingles	70	—	2.27	—	0.44	0.30
Wood shingles, plain and plastic film faced	—	—	1.06	—	0.94	0.31
MASONRY MATERIALS						
Concrete Blocks						
Normal weight aggregate (sand & gravel)						
8 in., 33-36 lb, 2 or 3 cores	126-136	—	0.90-1.03	—	1.11-0.97	0.22
12 in., 50 lb, 2 cores	125	—	0.81	—	1.23	0.22
Concrete						
Sand and gravel or stone aggregate concretes						
(Concretes with more than 50% quartz or quartzite sand have conductivities in the higher end of the range.)						
	150	10.0-20.0	—	0.10-0.05	—	—
	140	9.0-18.0	—	0.11-0.06	—	0.19-0.24
	130	7.0-13.0	—	0.14-0.08	—	—
	DENSITY	CONDUCTIVITY	CONDUCTANCE	RESISTANCE PER INCH	RESISTANCE FOR THICKNESS	SPECIFIC HEAT
WOODS						
Hardwoods						
Oak	41.2-46.8	1.12-1.25	—	0.89-0.80	—	0.39
Birch	42.6-45.4	1.16-1.22	—	0.87-0.82	—	
Maple	39.8-44.0	1.09-1.19	—	0.92-0.84	—	
Ash	38.4-41.9	1.06-1.14	—	0.94-0.88	—	
Softwoods						
Southern Pine	35.6-41.2	1.00-1.12	—	1.00-0.89	—	0.39
Douglas Fir-Larch	33.5-36.3	0.95-1.01	—	1.06-0.99	—	
Southern Cypress	31.4-32.1	0.90-0.92	—	1.11-1.09	—	
Hem-Fir, Spruce- Pine-Fir	24.5-31.4	0.74-0.90	—	1.35-1.11	—	
West Coast Woods, Cedars	21.7-31.4	0.68-0.90	—	1.48-1.11	—	
California Redwood	24.5-28.0	0.74-0.82	—	1.35-1.22	—	

STATE AND CITY	LATITUDE		ELEVATION (feet)	OUTSIDE WINTER DESIGN TEMPERATURE (°F)	STATE AND CITY	LATITUDE		ELEVATION (feet)	OUTSIDE WINTER DESIGN TEMPERATURE (°F)
Eugene	44	1	364	-15	Brownsville	25	5	16	30
Pendleton	45	4	1,492	-15	Corpus Christi	27	5	43	20
Portland	45	4	21	10	Dallas	32	5	481	0
PENNSYLVANIA					Del Rio	29	2	1,072	15
Altoona	40	2	1,468	-5	El Paso	31	5	3,918	10
Erie	42	1	732	-5	Fort Worth	32	5	544	10
Harrisburg	40	1	335	0	Galveston	29	2	5	20
New Castle	41	0	825	0	Houston	29	4	50	20
Philadelphia	39	5	7	0	Palestine	31	5	580	15
Pittsburgh	40	3	1,137	0	Port Arthur	30	0	16	20
Reading	40	2	226	0	San Antonio	29	3	792	20
Scranton	41	2	940	-5	UTAH				
Warren	41	5	1,280	-15	Logan	41	4	4,775	-15
Williamsport	41	1	527	-5	Ogden	41	1	4,400	-10
RHODE ISLAND					Salt Lake City	40	5	4,220	-10
Providence	41	4	55	0	VERMONT				
SOUTH CAROLINA					Burlington	44	3	331	-10
Charleston	32	5	41	15	Rutland	43	3	620	-20
Columbia	34	0	217	10	VIRGINIA				
Greenville	34	5	957	10	Lynchburg	37	2	947	5
SOUTH DAKOTA					Norfolk	36	5	26	15
Huron	44	3	1,282	-20	Richmond	37	3	162	15
Rapid City	44	0	3,165	-20	Roanoke	37	2	1,174	0
Sioux Falls	43	4	1,420	-20	WASHINGTON				
TENNESSEE					Seattle	47	3	386	15
Chattanooga	35	0	670	10	Spokane	47	4	2,357	-15
Knoxville	35	5	980	0	Tacoma	47	1	350	15
Memphis	35	0	263	0	Walla Walla	46	1	1,185	-10
Nashville	36	1	577	0	Yakima	46	3	1,061	5
TEXAS					WEST VIRGINIA				
Abilene	32	3	1,759	15	Charleston	38	2	939	0
Amarillo	35	1	3,607	-10	Elkins	38	5	1,970	-10
Austin	30	2	597	20	Huntington	38	2	565	-5
					Martinsburg	39	2	537	-5

State or Prov.	Station	Avg. Winter Temp ^a	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Yearly Total
Tex.	Memphis.....	C 51.6	0	0	12	102	396	648	710	568	434	129	16	0	3015
	Nashville.....	A 48.9	0	0	30	158	495	732	778	644	512	189	40	0	3578
	Oak Ridge.....	C 47.7	0	0	39	192	531	772	778	669	552	228	56	0	3817
	Abilene.....	A 53.9	0	0	0	99	366	586	642	470	347	114	0	0	2624
	Amarillo.....	A 47.0	0	0	18	205	570	797	877	664	546	252	56	0	3985
	Austin.....	A 59.1	0	0	0	31	225	388	468	325	223	51	0	0	1711
	Brownsville.....	A 67.7	0	0	0	0	66	149	205	106	74	0	0	0	600
	Corpus Christi.....	A 64.6	0	0	0	0	120	220	291	174	109	0	0	0	914
	Dallas.....	A 55.3	0	0	0	62	321	524	601	440	319	90	6	0	2363
	El Paso.....	A 52.9	0	0	0	84	414	648	685	445	319	105	0	0	2700
	Fort Worth.....	A 55.1	0	0	0	65	324	536	614	448	319	99	0	0	2405
	Galveston.....	A 62.2	0	0	0	6	147	276	360	263	189	33	0	0	1274
	Galveston.....	C 62.0	0	0	0	0	138	270	350	258	189	30	0	0	1235
	Houston.....	A 61.0	0	0	0	6	183	307	384	288	192	36	0	0	1396
	Houston.....	C 62.0	0	0	0	0	165	288	363	258	174	30	0	0	1278
	Laredo.....	A 66.0	0	0	0	0	105	217	267	134	74	0	0	0	797
	Lubbock.....	A 48.8	0	0	18	174	513	744	800	613	484	201	31	0	3578
	Midland.....	A 53.8	0	0	0	87	381	592	651	468	322	90	0	0	2591
	Port Arthur.....	A 60.5	0	0	0	22	207	329	384	274	192	39	0	0	1447
	San Angelo.....	A 56.0	0	0	0	68	318	536	567	412	288	66	0	0	2255
San Antonio.....	A 60.1	0	0	0	31	204	363	428	286	195	39	0	0	1546	
Victoria.....	A 62.7	0	0	0	6	150	270	344	230	152	21	0	0	1173	
Waco.....	A 57.2	0	0	0	43	270	456	536	389	270	66	0	0	2030	
Wichita Falls.....	A 53.0	0	0	0	99	381	632	698	518	378	120	6	0	2832	
Utah	Milford.....	A 36.5	0	0	99	443	867	1141	1252	988	822	519	279	87	6497
	Salt Lake City.....	A 38.4	0	0	81	419	849	1082	1172	910	763	459	233	84	6052
	Wendover.....	A 39.1	0	0	48	372	822	1091	1178	902	729	408	177	51	5778
Vt.	Burlington.....	A 29.4	28	65	207	539	891	1349	1513	1333	1187	714	353	90	8269
Va.	Cape Henry.....	C 50.0	0	0	0	112	360	645	694	633	536	246	53	0	3279
	Lynchburg.....	A 46.0	0	0	51	223	540	822	849	731	605	267	78	0	4166
	Norfolk.....	A 49.2	0	0	0	136	408	698	738	655	533	216	37	0	3421
	Richmond.....	A 47.3	0	0	36	214	495	784	815	703	546	219	53	0	3865
	Roanoke.....	A 46.1	0	0	51	229	549	825	834	722	614	261	65	0	4150
Wash.	Olympia.....	A 44.2	68	71	198	422	636	753	834	675	645	450	307	177	5236
	Seattle-Tacoma.....	A 44.2	56	62	162	391	633	750	828	678	657	474	295	159	5145
	Seattle.....	C 46.9	50	47	129	329	543	657	738	599	577	396	242	117	4424
	Spokane.....	A 36.5	9	25	168	493	879	1082	1231	980	834	531	288	135	6655
	Walla Walla.....	C 43.8	0	0	87	310	681	843	986	745	589	342	177	45	4805
	Yakima.....	A 39.1	0	12	144	450	828	1039	1163	868	713	435	220	69	5941
W. Va.	Charleston.....	A 44.8	0	0	63	254	591	865	880	770	648	300	96	9	4476
	Elkins.....	A 40.1	9	25	135	400	729	992	1008	896	791	444	198	48	5675
	Huntington.....	A 45.0	0	0	63	257	585	856	880	764	636	294	99	12	4446
	Parkersburg.....	C 43.5	0	0	60	264	606	905	942	826	691	339	115	6	4754
Wisc.	Green Bay.....	A 30.3	28	50	174	484	924	1333	1494	1313	1141	654	335	99	8029
	La Crosse.....	A 31.5	12	19	153	437	924	1339	1504	1277	1070	540	245	69	7589
	Madison.....	A 30.9	25	40	174	474	930	1330	1473	1274	1113	618	310	102	7863
	Milwaukee.....	A 32.6	43	47	174	471	876	1252	1376	1193	1054	642	372	135	7635
Wyo.	Casper.....	A 33.4	6	16	192	524	942	1169	1290	1084	1020	657	381	129	7410
	Cheyenne.....	A 34.2	28	37	219	543	909	1085	1212	1042	1026	702	428	150	7381
	Lander.....	A 31.4	6	19	204	555	1020	1299	1417	1145	1017	654	381	153	7870
	Sheridan.....	A 32.5	25	31	219	539	948	1200	1355	1154	1051	642	366	150	7680
Alta.	Banff.....	C —	220	295	498	797	1185	1485	1624	1364	1237	855	589	402	10551
	Calgary.....	A —	109	186	402	719	1110	1389	1575	1379	1268	798	477	291	9703
	Edmonton.....	A —	74	180	411	738	1215	1603	1810	1520	1330	765	400	222	10268
	Lethbridge.....	A —	56	112	318	611	1011	1277	1497	1291	1159	696	403	213	8644
B. C.	Kamloops.....	A —	22	40	189	546	894	1138	1314	1057	818	462	217	102	6799
	Prince George*.....	A —	236	251	444	747	1110	1420	1612	1319	1122	747	468	279	9755
	Prince Rupert.....	C —	273	248	339	539	708	868	936	808	812	648	493	357	7029
	Vancouver*.....	A —	81	87	219	456	657	787	862	723	676	501	310	156	5515
	Victoria*.....	A —	136	140	225	462	663	775	840	718	691	504	341	204	5699
	Victoria.....	C —	172	184	243	426	607	723	805	668	660	487	354	250	5579

STATE/PROVINCE & CITY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Cleveland	29	36	45	52	61	67	71	68	62	54	32	25
Columbus	36	44	49	54	63	68	71	68	66	60	44	35
OKLAHOMA												
Oklahoma City	57	60	63	64	65	74	75	78	74	68	64	57
OREGON												
Baker	41	49	56	61	63	67	83	81	74	62	46	37
Portland	27	34	41	49	52	55	70	65	55	42	29	23
Roseburg	24	32	40	51	57	59	79	77	65	42	28	28
PENNSYLVANIA												
Harrisburg	43	52	55	57	61	63	68	63	62	58	47	43
Philadelphia	45	56	57	58	61	62	64	61	62	61	53	49
Pittsburgh	32	38	45	50	57	62	64	61	62	54	39	30
RHODE ISLAND												
Block Island	45	54	47	56	58	60	62	62	60	59	50	44
SOUTH CAROLINA												
Charleston	58	60	65	72	73	70	66	66	67	68	68	57
Columbia	53	57	62	68	69	68	63	65	64	68	64	51
SOUTH DAKOTA												
Huron	55	62	60	62	65	68	76	72	68	61	52	48
Rapid City	58	62	63	62	61	66	73	73	69	66	58	54
TENNESSEE												
Knoxville	42	49	53	59	64	66	64	59	64	64	53	41
Memphis	44	51	57	64	68	74	73	74	70	69	58	45
Nashville	42	47	54	60	65	69	69	68	69	65	55	42
TEXAS												
Abilene	64	68	73	66	73	86	83	85	73	71	72	66
Amarillo	71	71	75	75	75	82	81	81	79	76	76	70
Austin	46	50	57	60	62	72	76	79	70	70	57	49
Brownsville	44	49	51	57	65	73	78	78	67	70	54	44
Del Rio	53	55	61	63	60	66	75	80	69	66	58	52
El Paso	74	77	81	85	87	87	78	78	80	82	80	73
Fort Worth	56	57	65	66	67	75	78	78	74	70	63	58
Galveston	50	50	55	61	69	76	72	71	70	74	62	49
San Antonio	48	51	56	58	60	69	74	75	69	67	55	49
UTAH												
Salt Lake City	48	53	61	68	73	78	82	82	84	75	56	49
VERMONT												
Burlington	34	43	48	47	53	59	62	59	51	43	25	24
VIRGINIA												
Norfolk	50	57	60	63	67	66	66	66	63	64	60	51

