

APPENDIX D

DEGREE DAY AND DESIGN TEMPERATURES

**TABLE D101
DEGREE DAY AND DESIGN TEMPERATURES^a FOR CITIES IN THE UNITED STATES**

STATE	STATION ^b	HEATING DEGREE DAYS (yearly total)	DESIGN TEMPERATURES			DEGREES NORTH LATITUDE ^c
			Winter	Summer		
			97 ¹ / ₂ %	Dry bulb 2 ¹ / ₂ %	Wet bulb 2 ¹ / ₂ %	
AL	Birmingham	2,551	21	94	77	33°30'
	Huntsville	3,070	16	96	77	34°40'
	Mobile	1,560	29	93	79	30°40'
	Montgomery	2,291	25	95	79	32°20'
AK	Anchorage	10,864	-18	68	59	61°10'
	Fairbanks	14,279	-47	78	62	64°50'
	Juneau	9,075	1	70	59	58°20'
	Nome	14,171	-27	62	56	64°30'
AZ	Flagstaff	7,152	4	82	60	35°10'
	Phoenix	1,765	34	107	75	33°30'
	Tuscon	1,800	32	102	71	33°10'
	Yuma	974	39	109	78	32°40'
AR	Fort Smith	3,292	17	98	79	35°20'
	Little Rock	3,219	20	96	79	34°40'
	Texarkana	2,533	23	96	79	33°30'
CA	Fresno	2,611	30	100	71	36°50'
	Long Beach	1,803	43	80	69	33°50'
	Los Angeles	2,061	43	80	69	34°00'
	Los Angeles ^d	1,349	40	89	71	34°00'
	Oakland	2,870	36	80	64	37°40'
	Sacramento	2,502	32	98	71	38°30'
	San Diego	1,458	44	80	70	32°40'
	San Francisco	3,015	38	77	64	37°40'
	San Francisco ^d	3,001	40	71	62	37°50'
CO	Alamosa	8,529	-16	82	61	37°30'
	Colorado Springs	6,423	2	88	62	38°50'
	Denver	6,283	1	91	63	39°50'
	Grand Junction	5,641	7	94	63	39°10'
	Pueblo	5,462	0	95	66	38°20'
CT	Bridgeport	5,617	9	84	74	41°10'
	Hartford	6,235	7	88	75	41°50'
	New Haven	5,897	7	84	75	41°20'
DE	Wilmington	4,930	14	89	76	39°40'
DC	Washington	4,224	17	91	77	38°50'
FL	Daytona	879	35	90	79	29°10'
	Fort Myers	442	44	92	79	26°40'
	Jacksonville	1,239	32	94	79	30°30'
	Key West	108	57	90	79	24°30'
	Miami	214	47	90	79	25°50'
	Orlando	766	38	93	78	28°30'
	Pensacola	1,463	29	93	79	30°30'
	Tallahassee	1,485	30	92	78	30°20'
	Tampa	683	40	91	79	28°00'
	West Palm Beach	253	45	91	79	26°40'

(continued)

TABLE D101—continued
DEGREE DAY AND DESIGN TEMPERATURES^a FOR CITIES IN THE UNITED STATES

STATE	STATION ^b	HEATING DEGREE DAYS (yearly total)	DESIGN TEMPERATURES			DEGREES NORTH LATITUDE ^c
			Winter	Summer		
			97 ¹ / ₂ %	Dry bulb 2 ¹ / ₂ %	Wet bulb 2 ¹ / ₂ %	
GA	Athens	2,929	22	92	77	34°00'
	Atlanta	2,961	22	92	76	33°40'
	Augusta	2,397	23	95	79	33°20'
	Columbus	2,383	24	93	78	32°30'
	Macon	2,136	25	93	78	32°40'
	Rome	3,326	22	93	78	34°20'
	Savannah	1,819	27	93	79	32°10'
HI	Hilo	0	62	83	74	19°40'
	Honolulu	0	63	86	75	21°20'
ID	Boise	5,809	10	94	66	43°30'
	Lewiston	5,542	6	93	66	46°20'
	Pocatello	7,033	-1	91	63	43°00'
IL	Chicago (Midway)	6,155	0	91	75	41°50'
	Chicago (O'Hare)	6,639	-4	89	76	42°00'
	Chicago ^d	5,882	2	91	77	41°50'
	Moline	6,408	-4	91	77	41°30'
	Peoria	6,025	-4	89	76	40°40'
	Rockford	6,830	-4	89	76	42°10'
	Springfield	5,429	2	92	77	39°50'
IN	Evansville	4,435	9	93	78	38°00'
	Fort Wayne	6,205	1	89	75	41°00'
	Indianapolis	5,699	2	90	76	39°40'
	South Bend	6,439	1	89	75	41°40'
IA	Burlington	6,114	-3	91	77	40°50'
	Des Moines	6,588	-5	91	77	41°30'
	Dubuque	7,376	-7	88	75	42°20'
	Sioux City	6,951	-7	92	77	42°20'
	Waterloo	7,320	-10	89	77	42°30'
KS	Dodge City	4,986	5	97	73	37°50'
	Goodland	6,141	0	96	70	39°20'
	Topeka	5,182	4	96	78	39°00'
	Wichita	4,620	7	98	76	37°40'
KY	Covington	5,265	6	90	75	39°00'
	Lexington	4,683	8	91	76	38°00'
	Louisville	4,660	10	93	77	38°10'
LA	Alexandria	1,921	27	94	79	31°20'
	Baton Rouge	1,560	29	93	80	30°30'
	Lake Charles	1,459	31	93	79	30°10'
	New Orleans	1,385	33	92	80	30°00'
	Shreveport	2,184	25	96	79	32°30'
ME	Caribou	9,767	-13	81	69	46°50'
	Portland	7,511	-1	84	72	43°40'
MD	Baltimore	4,654	13	91	77	39°10'
	Baltimore ^d	4,111	17	89	78	39°20'
	Frederick	5,087	12	91	77	39°20'

(continued)

TABLE D101—continued
DEGREE DAY AND DESIGN TEMPERATURES^a FOR CITIES IN THE UNITED STATES

STATE	STATION ^b	HEATING DEGREE DAYS (yearly total)	DESIGN TEMPERATURES			DEGREES NORTH LATITUDE ^c
			Winter	Summer		
			97 ¹ / ₂ %	Dry bulb 2 ¹ / ₂ %	Wet bulb 2 ¹ / ₂ %	
MA	Boston	5,634	9	88	74	42°20'
	Pittsfield	7,578	-3	84	72	42°30'
	Worcester	6,969	4	84	72	42°20'
MI	Alpena	8,506	-6	85	72	45°00'
	Detroit (City)	6,232	6	88	74	42°20'
	Escanaba ^d	8,481	-7	83	71	45°40'
	Flint	7,377	1	87	74	43°00'
	Grand Rapids	6,894	5	88	74	42°50'
	Lansing	6,909	1	87	74	42°50'
	Marquette ^d	8,393	-8	81	70	46°30'
	Muskegon	6,696	6	84	73	43°10'
	Sault Ste. Marie	9,048	-8	81	70	46°30'
MN	Duluth	10,000	-16	82	70	46°50'
	Minneapolis	8,382	-12	89	5	44°50'
	Rochester	8,295	-12	87	75	44°00'
MS	Jackson	2,239	25	95	78	32°20'
	Meridian	2,289	23	95	79	32°20'
	Vicksburg ^d	2,041	26	95	80	32°20'
MO	Columbia	5,046	4	94	77	39°00'
	Kansas City	4,711	6	96	77	39°10'
	St. Joseph	5,484	2	93	79	39°50'
	St. Louis	4,900	6	94	77	38°50'
	St. Louis ^d	4,484	8	94	77	38°40'
	Springfield	4,900	9	93	77	37°10'
MT	Billings	7,049	-10	91	66	45°50'
	Great Falls	7,750	-15	88	62	47°30'
	Helena	8,129	-16	88	62	46°40'
	Missoula	8,125	-6	88	63	46°50'
NE	Grand Island	6,530	-3	94	74	41°00'
	Lincoln ^d	5,864	-2	95	77	40°50'
	Norfolk	6,979	-4	93	77	42°00'
	North Platte	6,684	-4	94	72	41°10'
	Omaha	6,612	-3	91	77	41°20'
	Scottsbluff	6,673	-3	92	68	41°50'
NV	Elko	7,433	-2	92	62	40°50'
	Ely	7,733	-4	87	59	39°10'
	Las Vegas	2,709	28	106	70	36°10'
	Reno	6,332	10	92	62	39°30'
	Winnemucca	6,761	3	94	62	40°50'
NH	Concord	7,383	-3	87	73	43°10'
NJ	Atlantic City	4,812	13	89	77	39°30'
	Newark	4,589	14	91	76	40°40'
	Trenton ^d	4,980	14	88	76	40°10'
NM	Albuquerque	4,348	16	94	65	35°00'
	Raton	6,228	1	89	64	36°50'
	Roswell	3,793	18	98	70	33°20'
	Silver City	3,705	10	94	64	32°40'

(continued)

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			Winter	Summer		
			97 ¹ / ₂ %	Dry bulb 2 ¹ / ₂ %	Wet bulb 2 ¹ / ₂ %	
NY	Albany	6,875	-1	88	74	42°50'
	Albany ^d	6,201	1	88	74	42°50'
	Binghamton	7,286	1	83	72	42°10'
	Buffalo	7,062	6	85	73	43°00'
	NY (Central Park) ^d	4,871	15	89	75	40°50'
	NY (Kennedy)	5,219	15	87	75	40°40'
	NY (LaGuardia)	4,811	15	89	75	40°50'
	Rochester	6,748	5	88	73	43°10'
	Schenectady ^d	6,650	1	87	74	42°50'
Syracuse	6,756	2	87	73	43°10'	
NC	Charlotte	3,181	22	93	76	35°10'
	Greensboro	3,805	18	91	76	36°10'
	Raleigh	3,393	20	92	77	35°50'
	Winston-Salem	3,595	20	91	75	36°10'
ND	Bismarck	8,851	-19	91	71	46°50'
	Devils Lake ^d	9,901	-21	88	71	48°10'
	Fargo	9,226	-18	89	74	46°50'
	Williston	9,243	-21	88	70	48°10'
OH	Akron-Canton	6,037	6	86	73	41°00'
	Cincinnati ^d	4,410	6	90	75	39°10'
	Cleveland	6,351	5	88	74	41°20'
	Columbus	5,660	5	90	75	40°00'
	Dayton	5,622	4	89	75	39°50'
	Mansfield	6,403	5	87	74	40°50'
	Sandusky ^d	5,796	6	91	74	41°30'
	Toledo	6,494	1	88	75	41°40'
	Youngstown	6,417	4	86	73	41°20'
OK	Oklahoma City	3,725	13	97	77	35°20'
	Tulsa	3,860	13	98	78	36°10'
OR	Eugene	4,726	22	89	67	44°10'
	Medford	5,008	23	94	68	42°20'
	Portland	4,635	23	85	67	45°40'
	Portland ^d	4,109	24	86	67	45°30'
	Salem	4,754	23	88	68	45°00'
PA	Allentown	5,810	9	88	75	40°40'
	Erie	6,451	9	85	74	42°10'
	Harrisburg	5,251	11	91	76	40°10'
	Philadelphia	5,144	14	90	76	39°50'
	Pittsburgh	5,987	5	86	73	40°30'
	Pittsburgh ^d	5,053	7	88	73	40°30'
	Reading ^d	4,945	13	89	75	40°20'
	Scranton	6,254	5	87	73	41°20'
	Williamsport	5,934	7	89	74	41°10'
RI	Providence	5,954	9	86	74	41°40'
SC	Charleston	2,033	27	91	80	32°50'
	Charleston ^d	1,794	28	92	80	32°50'
	Columbia	2,484	24	95	78	34°00'

(continued)

TABLE D101—continued
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STATE	STATION ^b	HEATING DEGREE DAYS (yearly total)	DESIGN TEMPERATURES			DEGREES NORTH LATITUDE ^c
			Winter	Summer		
			97 ¹ / ₂ %	Dry bulb 2 ¹ / ₂ %	Wet bulb 2 ¹ / ₂ %	
SD	Huron	8,223	-14	93	75	44°30'
	Rapid City	7,345	-7	92	69	44°00'
	Sioux Falls	7,839	-11	91	75	43°40'
TN	Bristol	4,143	14	89	75	36°30'
	Chattanooga	3,254	18	93	77	35°00'
	Knoxville	3,494	19	92	76	35°50'
	Memphis	3,232	18	95	79	35°00'
	Nashville	3,578	14	94	77	36°10'
TX	Abilene	2,624	20	99	74	32°30'
	Austin	1,711	28	98	77	30°20'
	Dallas	2,363	22	100	78	32°50'
	El Paso	2,700	24	98	68	31°50'
	Houston	1,396	32	94	79	29°40'
	Midland	2,591	21	98	72	32°00'
	San Angelo	2,255	22	99	74	31°20'
	San Antonio	1,546	30	97	76	29°30'
	Waco	2,030	26	99	78	31°40'
	Wichita Falls	2,832	18	101	76	34°00'
	UT	Salt Lake City	6,052	8	95	65
VT	Burlington	8,269	-7	85	72	44°30'
VA	Lynchburg	4,166	16	90	76	37°20'
	Norfolk	3,421	22	91	78	36°50'
	Richmond	3,865	17	92	78	37°30'
	Roanoke	4,150	16	91	74	37°20'
WA	Olympia	5,236	22	83	66	47°00'
	Seattle-Tacoma	5,145	26	80	64	47°30'
	Seattle ^d	4,424	27	82	67	47°40'
	Spokane	6,655	2	90	64	47°40'
WV	Charleston	4,476	11	90	75	38°20'
	Elkins	5,675	6	84	72	38°50'
	Huntington	4,446	10	91	77	38°20'
	Parkersburg ^d	4,754	11	90	76	39°20'
WI	Green Bay	8,029	-9	85	74	44°30'
	La Crosse	7,589	-9	88	75	43°50'
	Madison	7,863	-7	88	75	43°10'
	Milwaukee	7,635	-4	87	74	43°00'
WY	Casper	7,410	-5	90	61	42°50'
	Cheyenne	7,381	-1	86	62	41°10'
	Lander	7,870	-11	88	63	42°50'
	Sheridan	7,680	-8	91	65	44°50'

a. All data were extracted from the 1985 ASHRAE Handbook, Fundamentals Volume.

b. Design data developed from airport temperature observations unless noted.

c. Latitude is given to the nearest 10 minutes. For example, the latitude for Miami, Florida, is given as 25°50', or 25 degrees 50 minutes.

d. Design data developed from office locations within an urban area, not from airport temperature observations.

