

TABLE 3. SUMMER CLIMATIC CONDITIONS* (CONCLUDED)
Suggested Design Wet-Bulb and Dry-Bulb Temperatures

COL. 1 STATE	COL. 2 STATION ^b	COL. 3 ELEVATION ^c FT.	COL. 4 PERIOD OF RECORD ^d	COL. 5 HIGHEST TEMP. EVER RECORDED ^e °F	COL. 6 DESIGN DRY-BULB TEMP. ON T.A.C. 2 1/2% BASIS ^f °F	COL. 7 DESIGN DRY-BULB TEMP. IN COMMON USE ^g °F	COL. 8 DESIGN WET-BULB TEMP. IN COMMON USE ^g °F	COL. 9 AVERAGE SUMMER WIND VELOCITY ^h MPH
S. C.	Columbia	CO	1887-1947	106	—	95	75	—
S. D.	Columbia	AP	1939-1947 ^d	104	—	—	—	—
	Huron	CO	1881-1938 ^d	111	—	95	75	10.3
	Huron	AP	1938-1947	110	—	—	—	—
	Rapid City	CO	1888-1947	106	—	95	76	7.9
	Rapid City	AP	1939-1947	108	—	—	—	—
Tenn.	Chattanooga	CO	1879-1947	103	—	95	76	5.6
	Chattanooga	AP	1940-1947	105	94	—	—	—
	Knoxville	CO	1871-1942 ^d	104	—	95	75	5.7
	Knoxville	AP	1942-1947	102	94	—	—	—
	Memphis	CO	1872-1941 ^d	106	—	95	78	7.3
	Memphis	AP	1941-1947	105	96	—	—	—
	Nashville	CO	1871-1947	106	—	95	78	—
	Nashville	AP	1939-1947	104	—	—	—	—
Texas	Arlene	CO	1885-1944 ^d	111	—	100	74	—
	Arlene	AP	1940-1947	109	97	—	—	—
	Amarillo	CO	1892-1941	107	—	100	72	11.8
	Amarillo	AP	1941-1947	106	96	—	—	—
	Austin	CO	1897-1942	109	—	100	78	—
	Austin	AP	1942-1947	104	—	—	—	—
	Brownsville	CO	1922-1943 ^d	102	—	100	80	7.0
	Brownsville	AP	1943-1947	100	—	—	—	—
	Corpus Christi	CO	1887-1942	105	—	102	95	—
	Corpus Christi	AP	1943-1946	101	—	—	—	—
	Dallas	CO	1913-1940	110	—	100	78	9.3
	Dallas	AP	1940-1947	109	99	—	—	—
	Del Rio	CO	1905-1947	111	—	100	78	—
	El Paso	CO	1887-1942	106	—	100	69	8.4
	El Paso	AP	1939-1947	104	97	—	—	—
	Fort Worth	CO	1898-1939	112	—	100	78	9.5
	Fort Worth	AP	1940-1947	110	—	—	—	—
	Galveston	CO	1871-1947	101	—	95	80	9.7
	Galveston	AP	1939-1947	101	—	—	—	—
	Houston	CO	1888-1947	108	—	95	78	8.8
	Houston	AP	1932-1947	105	93	—	—	—
	San Antonio	CO	1881-1947	108	—	100	78	—
	San Antonio	AP	1917-1947	102	—	95	79	—
	Port Arthur	AP	1944-1947	98	—	—	—	—
	San Antonio	CO	1885-1941 ^d	107	—	100	78	7.8
	San Antonio	AP	1942-1947	104	98	—	—	—
	Waco	AP	1931-1947	111	98	—	—	—
	Wink	AP	1935-1939	110	99	—	—	—
Utah	Alford	AP	1935-1939	103	94	—	—	—
	Alford	CO	1901-1947	101	—	95	65	—
	Salt Lake City	CO	1874-1947	105	—	95	65	9.8
	Salt Lake City	AP	1928-1947	106	95	—	—	—
Vt.	Burlington	CO	1884-1943 ^d	100	—	90	73	8.5
	Burlington	AP	1943-1947	101	—	—	—	—
Va.	Cape Henry	CO	1874-1947	104	—	95	78	—
	Lynchburg	CO	1874-1944	106	—	95	75	—
	Lynchburg	AP	1944-1947	100	—	—	—	—
	Norfolk	CO	1871-1947	103	—	95	78	10.1
	Richmond	CO	1897-1947	107	—	95	78	6.4
	Richmond	AP	1929-1947	104	92	—	—	—
	Roanoke	AP	1935-1939	103	90	95	76	—
Wash.	Ellensburg	AP	1935-1939	105	90	—	—	—
	North Haled	CO	1884-1947	97	—	85	65	—
	Seattle	CO	1890-1947	100	—	85	65	7.7
	Seattle	AP	1928-1947	99	81	—	—	—
	Spokane	CO	1881-1941 ^d	108	—	93	65	6.5
	Spokane	AP	1941-1947	104	92	—	—	—
	Tacoma	CO	1897-1947	98	—	85	64	—
	Tatoneb Island	CO	1883-1947	88	—	—	—	—
	Yakima	CO	1928-1946	110	—	95	65	—
W. Va.	Yakima	AP	1944-1947	103	—	—	—	—
	Parkburg	CO	1888-1947	106	—	95	75	5.2
	Green Bay	CO	1886-1947	104	—	95	75	9.2
Wisc.	LaCrosse	CO	1872-1947	103	—	95	75	6.4
	LaCrosse	AP	1943-1947	96	91	—	—	—
	Madison	CO	1858-1947	107	—	95	75	7.9
	Madison	AP	1935-1939	106	89	—	—	—
	Milwaukee	CO	1870-1947	105	—	95	75	9.8
	Milwaukee	AP	1927-1947	106	87	—	—	—
	Cheyenne	CO	1873-1935	100	—	95	65	9.2
Wyo.	Cheyenne	AP	1935-1947	100	89	—	—	—
	Lander	CO	1891-1946	102	—	95	65	—
	Lander	AP	1936-1947	97	—	—	—	—
	Rock Springs	AP	1932-1942	98	87	—	—	—

NOTES FOR TABLE 3

- * Data compiled from U. S. Weather Bureau Data and various other sources.
 * Column 2. The station designation AP or CO indicates airport or city office station respectively.
 * Column 3. The elevations marked c are ground elevations of the station. All other elevations given are the actual elevations of the thermometer bulb above mean sea level, corrected to 1948.
 * The periods of record indicated apply only to the highest temperature ever recorded shown in Column 5, and do not necessarily include all of the summer months of the first year indicated. The last year indicated includes July or August except those marked d which terminate prior to July of that year.
 * It should be noted that Column 6 applies only to airports, as these data for city stations are not available at this time. The temperature shown is the maximum hourly outdoor temperature which has been equalled or exceeded 2 1/2 per cent of the total hours of June, July, August and September for the 5 year period 1935-1939 inclusive. It is pointed out that in most cases the airport stations are outside of the city, and that these data would apply primarily to rural areas.
 * Columns 7 and 8 record wet and dry-bulb temperatures in use by A.S.H.V.E. Members as reported by Chapter Secretaries for various stations. Where such values were not available, the design temperatures published by A.C.R.M.A. or obtained from various other sources, have been inserted.
 * The average wind velocities indicated in Column 9 were furnished by the U. S. Weather Bureau, corrected to 1947. In general these velocities are averages for the months of June through September.
 * The bulletin published by A.S.H.V.E. for the annual weather data of Detroit indicates 73 F as the design wet-bulb temperature which has been equalled or exceeded 5 per cent of the hours for period 1935-1939.
 * Blank spaces indicate data not available.

TABLE 4. VENTILATION STANDARDS*

APPLICATION	SMOKING	CFM PER PERSON		CFM PER SQ. FT. OF FLOOR
		Recommended	Minimum ^b	
Apartment Average.....	Some.....	20	10	—
Deluxe.....	Some.....	30	25	0.33
Banking Space.....	Occasional.....	10	7 1/2	—
Barber Shops.....	Considerable.....	15	10	—
Beauty Parlors.....	Occasional.....	10	7 1/2	—
Brokers' Board Rooms.....	Very Heavy.....	50	20	—
Cocktail Bars.....	Heavy.....	40	25	—
Corridors (Supply or Exhaust).....	—	—	—	0.25
Department Stores.....	None.....	7 1/2	5	0.05
Directors' Rooms.....	Extreme.....	50	30	—
Drug Stores ^d	Considerable.....	10	7 1/2	—
Factories ^e	None.....	10	7 1/2	0.10
Five and Ten Cent Stores.....	None.....	7 1/2	5	—
Funeral Parlors.....	None.....	10	7 1/2	—
Garages ^e	—	—	—	1.0
Hospitals Operating Rooms ^f	None.....	—	—	2.0
Private Rooms.....	None.....	30	25	0.33
Wards.....	None.....	20	10	—
Hotel Rooms.....	Heavy.....	30	25	0.33
Kitchens Restaurant.....	—	—	—	4.0
Residence.....	—	—	—	2.0
Laboratories ^g	Some.....	20	15	—
Meeting Rooms.....	Very Heavy.....	50	30	1.25
Offices General.....	Some.....	15	10	—
Private.....	None.....	25	15	0.25
Restaurant Cafeteria ^d	Considerable.....	30	25	0.25
Dining Room ^d	Considerable.....	12	10	—
School Rooms ^h	None.....	—	—	—
Shop, Retail.....	None.....	10	7 1/2	—
Theater ⁱ	None.....	7 1/2	5	—
Theater.....	Some.....	15	10	—
Toilets (Exhaust).....	—	—	—	2.0

* Taken from present-day practice or large air conditioning companies. ^b When minimum is used, take the larger of the two. ^c See local codes which may govern. ^d May be governed by exhaust. ^e May be governed by special sources of contamination or local codes. ^f All outside air recommended to overcome explosion hazard of anesthetics.

applications are summarized in Table 4. For further general applications, a basis of estimating the cfm per person may be taken as:

1. People not smoking..... 7 1/2 Recommended 5 Minimum
2. People smoking..... 40 Recommended 25 Minimum

The cooling load due to the introduction of outside air for ventilation is