TABLE 3. SUMMER CLIMATIC CONDITIONS[a] (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[d] °F	Col. 6 Design Dry-Bulb Temp. on T.A.C. 2½% Basis[e] °F	Col. 7 Design Dry-Bulb Temp. in Common Use[f] °F	Col. 8 Design Wet-Bulb Temp. in Common Use[f] °F	Col. 9 Average Summer Wind Velocity[g] Mph
S. C.	Columbia CO	401	1887–1947	106		95	75	
	Columbia AP	227	1939–1947[d]	104				
S. D.	Huron CO	1342	1881–1938[d]	111		95	75	10.3
	Huron AP	1287	1938–1947	110				
	Rapid City CO	3309	1888–1947	106		95	70	7.9
	Rapid City AP	3220	1939–1947	108				
Tenn.	Chattanooga CO	952	1879–1947	103		95	76	5.6
	Chattanooga AP	675	1940–1947	105	94			
	Knoxville CO	1024	1871–1942[d]	104		95	75	5.7
	Knoxville AP	1007	1942–1947	102	94			
	Memphis CO	348	1872–1941[d]	106		95	78	7.3
	Memphis AP	267	1941–1947	105	96			
	Nashville CO	714	1871–1947	106		95	78	
	Nashville AP	610	1939–1947	104				
Texas	Abilene CO	1748	1885–1944[d]	111		100	74	
	Abilene AP	1756	1940–1947	109	97			
	Amarillo CO	3686	1892–1941	107		100	72	11.8
	Amarillo AP	3595	1941–1947	106	96			
	Austin CO	625	1897–1942	109		100	78	
	Austin AP	625	1942–1947	104				
	Brownsville CO	140	1922–1943[d]	102		100	80	7.0
	Brownsville AP	25	1943–1947	100				
	Corpus Christi CO	21	1887–1942	105		95	80	
	Corpus Christi AP	45	1943–1946	101				
	Dallas CO	732	1913–1940	110		100	78	9.3
	Dallas AP	520	1940–1947	109	99			
	Del Rio CO	1020	1905–1947	111		100	78	
	El Paso CO	3792	1887–1942	106		100	69	8.4
	El Paso AP	3956	1939–1947	104	97			
	Fort Worth CO	708	1898–1939	112		100	78	9.5
	Fort Worth AP	728	1940–1947	110				
	Galveston CO	128	1871–1947	101		95	80	9.7
	Galveston AP	9	1939–1947	101				
	Houston CO	198	1888–1947	108		95	78	8.8
	Houston AP	73	1932–1947	105	93			
	Palestine CO	555	1881–1947	108		100	78	
	Port Arthur CO	64	1917–1947	102		95	79	
	Port Arthur AP	21	1944–1947	98				
	San Antonio CO	770	1885–1941[d]	107		100	78	7.8
	San Antonio AP	800	1942–1947	104	98			
	Waco AP	513	1931–1947	111	98			
	Wink AP	2811	1935–1939	110	99			
Utah	Milford AP	5095	1935–1939	103	94			
	Modena CO	5472	1901–1947	101		95	65	
	Salt Lake City CO	4346	1874–1947	105		95	65	9.8
	Salt Lake City AP	4254	1928–1947	106	95			
Vt.	Burlington CO	409	1884–1943[d]	100		90	73	8.5
	Burlington AP	335	1943–1947	101				
Va.	Cape Henry CO	24	1874–1947	104		95	78	
	Lynchburg CO	644	1874–1944	106		95	75	
	Lynchburg AP	951	1944–1947	100				
	Norfolk CO	91	1871–1947	105		95	78	10.1
	Richmond CO	180	1897–1947	107		95	78	6.4
	Richmond AP	172	1929–1947	104	92			
	Roanoke AP	1194	1935–1939	103	90	95	76	
Wash.	Ellensburg AP	1731	1935–1939	105	90			
	North Head CO	199	1884–1947	97		85	65	
	Seattle CO	104	1890–1947	100		85	65	7.7
	Seattle AP	47	1928–1947	99	81			
	Spokane CO	2030	1881–1941[d]	108		93	65	6.5
	Spokane AP	1974	1941–1947	104	92			
	Tacoma CO	279	1897–1947	98		85	64	
	Tatoosh Island CO	110	1883–1947	88				
	Yakima CO	1160	1928–1946	110		95	65	
	Yakima AP	1066	1944–1947	103				
W. Va.	Parkersburg CO	685	1888–1947	106		95	75	5.2
Wisc.	Green Bay CO	598	1886–1947	104		95	75	9.2
	La Crosse CO	725	1872–1947	108		95	75	6.4
	La Crosse AP	677	1943–1947	96	91			
	Madison CO	1008	1858–1947	107		95	75	7.9
	Madison AP	884	1935–1939	106	89			
	Milwaukee CO	744	1870–1947	105		95	75	9.8
	Milwaukee AP	707	1927–1947	106	87			
Wyo.	Cheyenne CO	6144	1873–1935	100		95	65	9.2
	Cheyenne AP	6161	1935–1947	100	89			
	Lander CO	5448	1891–1946	102		95	65	
	Lander AP	5568	1936–1947	97				
	Rock Springs AP	6746	1932–1942	98	87			

NOTES FOR TABLE 3

[a] Data compiled from U. S. Weather Bureau Data and various other sources.

[b] Column 2. The station designation AP or CO indicates airport or city office station, respectively.

[c] 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.

[d] 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.

[e] 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 2½ percent 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.

[f] 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.

[g] 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.

[h] 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 percent of the hours for period 1935–1939.

[i] Blank spaces indicate data not available.

TABLE 4. VENTILATION STANDARDS[a]

Application	Smoking	Cfm per Person		Cfm per Sq Ft of Floor
		Recommended	Minimum[b]	Minimum[b]
Apartment Average	Some	20	10	
Deluxe	Some	30	25	0.33
Banking Space	Occasional	10	7½	
Barber Shops	Considerable	15	10	
Beauty Parlors	Occasional	10	7½	
Brokers' Board Rooms	Very Heavy	50	20	
Cocktail Bars	Heavy	40	25	
Corridors (Supply or Exhaust)				0.25
Department Stores	None	7½	5	0.05
Directors' Rooms	Extreme	50	30	
Drug Stores[d]	Considerable	10	7½	
Factories[c, e]	None	10	7½	0.10
Five and Ten Cent Stores	None	7½	5	
Funeral Parlors	None	10	7½	
Garages[c]				1.0
Hospitals Operating Rooms[e, 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[d]	Some	20	15	
Meeting Rooms	Very Heavy	50	30	1.25
Offices General	Some	15	10	
Private	None	25	15	0.25
Private	Considerable	30	25	0.25
Restaurant Cafeteria[d]	Considerable	12	10	
Dining Room[d]	Considerable	15	12	
School Rooms[c]	None			
Shop, Retail	None	10	7½	
Theater[c]	None	7½	5	
Theater	Some	15	10	
Toilets[c] (Exhaust)				2.0

[a] 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..... 7½ *Recommended* 5 *Minimum*
2. People smoking..... 40 *Recommended* 25 *Minimum*

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