

CLIMATIC DESIGN INFORMATION

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THIS CHAPTER provides tables of climatic conditions for 1459 locations in the United States, Canada, and around the world. These summaries include values of dry-bulb, wet-bulb and dew-point temperature and wind speed with direction at various frequencies of occurrence. This information is commonly used for design, sizing, distribution, installation, and marketing of heating, ventilating, air-conditioning, and dehumidification equipment; as well as for other energy-related processes in residential, agricultural, commercial, and industrial applications. Sources of other information such as degree-days and typical weather years for energy calculations are also described.

The design information in this chapter was developed largely as part of a research project (ASHRAE 1997c, Colliver et al. 2000). The information includes design values of dry-bulb with mean coincident wet-bulb temperature, design wet-bulb with mean coincident dry-bulb temperature, and design dew-point with mean coincident dry-bulb temperature and corresponding humidity ratio. These data allow the designer to consider various operational peak conditions. Design values of wind speed (ASHRAE 1994, Lamming and Salmon 1998) allow for the design of smoke management systems in buildings.

The design conditions in this chapter are provided for those locations for which long-term hourly observations were available (at least 12 years of data). Consequently, many U.S. locations listed in previous versions (1993 and before) of this chapter are no longer listed because they lacked long-term data. The number of Canadian and international locations has increased significantly.

Warm-season temperature and humidity conditions correspond to annual percentile values of 0.4, 1.0, and 2.0. Cold-season conditions are based on annual percentiles of 99.6 and 99.0. The use of annual percentiles to define the design conditions ensures that they represent the same probability of occurrence anywhere, regardless of the seasonal distribution of extreme temperature and humidity. In the 1993 and earlier versions of this chapter, seasonal rather than annual percentiles were used to define the design conditions. As a result, the summer and winter months used for the calculation of design conditions varied depending on location. For instance, summer design conditions for the U.S. were calculated over the four-month period from June through September, whereas Canadian summer design conditions were based on only the month of July. The following sections describe how the annual percentiles were selected to yield design conditions that are similar to those previously calculated on a seasonal basis for most of the United States.

For a variety of reasons, such as seasonal variations in solar geometry, occupancy, or use of a building, there is sometimes a need for percentiles of temperature and humidity for specific months. New monthly tables for some U.S. locations have been added in this edition to meet this need.

The preparation of this chapter is assigned to TC 4.2, Weather Information.

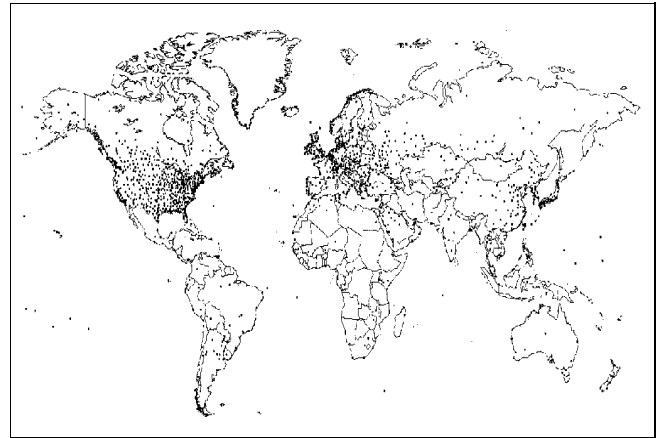


Fig. 1 Location of Weather Stations

CLIMATIC DESIGN CONDITIONS

Annual design conditions for the United States appear in [Tables 1A](#) and [1B](#), for Canada in [Tables 2A](#) and [2B](#), and for international locations in [Tables 3A](#) and [3B](#). [Figure 1](#) is a world map showing locations.

Information on station location, period analyzed, heating design conditions, wind, and mean annual extreme and standard deviation of minimum and maximum dry-bulb temperature is listed in [Tables 1A](#), [2A](#), and [3A](#). Information on the design conditions for cooling and humidity control, along with the mean daily temperature range for the warmest month, is provided in [Tables 1B](#), [2B](#), and [3B](#).

The information provided in [Tables 1A](#), [2A](#), and [3A](#) in the indicated column numbers is

1. Name of the observing station as it appears in the data set from which it was abstracted, the World Meteorological Organization station number, latitude, longitude, elevation, standard pressure at elevation (see [Chapter 6](#) for the equations used to calculate standard pressure), and the period analyzed
2. Dry-bulb temperature corresponding to 99.6% and 99.0% annual cumulative frequency of occurrence (cold)
3. Wind speed corresponding to 1.0%, 2.5% and 5.0% annual cumulative frequency of occurrence
4. Wind speed corresponding to the 0.4% and 1.0% cumulative frequency of occurrence for the coldest month (lowest average dry-bulb temperature), and the mean coincident dry-bulb temperature
5. Mean wind speed coincident with the 99.6% dry-bulb temperature in Column 2 and 0.4% dry-bulb temperature from Column 2 of [Tables 1B](#), [2B](#), and [3B](#), and the wind direction most frequently occurring with the 99.6% and 0.4% dry-bulb

temperatures (direction is reported in degrees true: 360 represents a north wind, 90 east, etc.)

6. Average of annual extreme maximum and minimum dry bulb temperatures and standard deviations

Information provided in [Tables 1B](#), [2B](#), and [3B](#) includes

1. Station name
2. Dry-bulb temperature corresponding to 0.4%, 1.0%, and 2.0% annual cumulative frequency of occurrence and the mean coincident wet-bulb temperature (warm)
3. Wet-bulb temperature corresponding to 0.4%, 1.0%, and 2.0% annual cumulative frequency of occurrence and the mean coincident dry bulb temperature
4. Dew-point temperature corresponding to 0.4%, 1.0%, and 2.0% annual cumulative frequency of occurrence and the mean coincident dry-bulb temperature and the humidity ratio (calculated for the dew-point temperature at the standard atmospheric pressure at the elevation of the station)
5. Mean daily range, which is the mean of the difference between daily maximum and minimum dry-bulb temperatures for the warmest month (highest average dry-bulb temperature)

Values of Cumulative Frequency of Occurrence Representing the Design Conditions

Values of ambient dry-bulb, dew-point, and wet-bulb temperature and wind speed corresponding to the various annual percentiles represent the value that is exceeded on average by the indicated percentage of the total number of hours in a year (8760). The 0.4%, 1.0%, 2.0%, and 5.0% values are exceeded on average 35, 88, 175, and 438 h per year, respectively, for the period of record.

The 99.0% and 99.6% (cold) values are defined in the same way but are usually viewed as the values for which the corresponding weather element is less than the design condition for 88 and 35 h, respectively.

Mean coincident values are the average of the indicated weather element occurring concurrently with the corresponding design value.

These design conditions were calculated from the frequency distribution analyzed from data sets observed over several years. Gaps due to missing data were filled as needed, as explained in the section on Calculation of Design Conditions. The design values occur more frequently than the corresponding nominal percentile in some years and less frequently in others.

Data Sources

The following three primary sources of observational data sets were used for the calculation of design values:

1. Hourly weather observations from Surface Airways Meteorological and Solar Observing Network (SAMSON) data from NCDC (National Climatic Data Center) for 239 United States observing locations from 1961 through 1990 (NCDC 1991)
2. Hourly observational records in the DATSAV2 format (ASHRAE 1995b, Plantico and Lott 1995) for 538 United States locations for the period 1982 through 1993, including the 239 SAMSON locations, and for 860 international locations (most data for international locations consist of observations taken every 3 h)
3. Hourly weather records for the period 1953 through 1993 for 145 Canadian locations from the Canadian Weather Energy and Engineering Data Sets (CWEEDS) produced by Environment Canada (1993b)

Two primary periods of record were used in the calculations. The values for the United States SAMSON and Canadian CWEEDS locations are generally based on the period from 1961 through 1993. DATSAV2 data were used for the 1991 through 1993 period for the SAMSON sites. The values for international locations and the rest

of the United States, whose data were analyzed from the DATSAV2 files, are based on the period 1982 through 1993. DATSAV2 is a comprehensive database containing hourly observations for locations around the world collected from global telecommunications circuits. It is quality-controlled and archived by the Air Force Combat Climatology Center at Asheville, NC. [Tables 1A](#), [2A](#), and [3A](#) indicate the period of record used for each location.

In summary, the data source for United States locations with the period identified as “6193” is SAMSON data supplemented with DATSAV2 data for the last 3 years. The source for United States locations with the period “8293” is DATSAV2.

Calculation of Design Conditions

Details of the analysis procedures are available in ASHRAE (1997c) and Colliver et al. (2000), including the measures used to ensure that the number and distribution of missing data, both by month and by hour of the day, did not introduce significant biases into the analysis. Generally, the annual cumulative frequency distribution was constructed from the relative frequency distributions compiled for each month. Each individual month's data were included if they met screening criteria for completeness and unbiased distribution of missing data. Although the minimum period of record selected for this analysis was 12 years (1982 through 1993), some variation and gaps in observing programs meant that some months' data were unusable due to incompleteness.

A station's design conditions were included in this chapter only if there were data from at least 8 months that met the screening criteria from the period of record for each month of the year. For instance, there had to be 8 months each for January, February, March, etc. whose data met the completeness screening criteria.

Gaps of up to 5 h were filled. A month's data were included if the month was at least 85% complete after filling and the difference between the number of day and nighttime observations was less than 60.

Relationship Between Design Conditions and Previously Published Design Temperatures

The design conditions in this chapter are calculated on a different basis from the design conditions published in the 1993 and previous editions of this Handbook. Previous design conditions were based on a 4-month summer period and a 3-month winter period in the United States, on the months of July and January in Canada, and on the warmest 4-month period and coldest 3-month period in international locations. Although generally suitable as design values, the different periods resulted in design temperatures representing different annual probabilities of occurrence, depending on the country; and within countries, on the distribution of temperature and humidity conditions throughout the year typical of regional climatic zones. The design conditions in this chapter explicitly represent the same annual probability of occurrence in any location, regardless of country or general climatic conditions.

The annual cumulative frequencies of occurrence representing the design dry-bulb temperatures generally correspond to the seasonal design temperatures in the following fashion for locations in the mid-latitude, continental locations (characterized by a hot summer and cold winter). The 0.4% annual value is about the same as the 1.0% summer design temperature in the 1993 *ASHRAE Handbook*. The 1.0% annual value is about 0.5 K lower than the 2.5% summer design temperature in the 1993 *ASHRAE Handbook*, and the 2.0% annual condition corresponds approximately to the 5.0% summer design temperature in the 1993 *ASHRAE Handbook*.

In Canadian continental locations, the 0.4% annual condition is about the same as the 2.5% July design temperature in the 1993 *ASHRAE Handbook*. In the United States for the Pacific region and southern coastal locations, where the extremes are generally more widely distributed throughout the year, the values in this chapter

represent more extreme conditions than the design temperatures in the 1993 *ASHRAE Handbook*.

Annual 99.6% and 99.0% design conditions represent a slightly colder condition than the previous cold season design temperatures, although there is considerable variability in this relationship from location to location.

Further details concerning differences between the design conditions in this Chapter and the 1993 and previous versions are described in ASHRAE (1997c) and Colliver et al. (2000).

Applicability and Characteristics of the Design Conditions

The sets of design values in this chapter represent different psychrometric conditions. Design data based on dry-bulb temperature represent peak occurrences of the sensible component of ambient outdoor conditions. Design values based on wet-bulb temperature are related to the enthalpy of the outdoor air. Conditions based on dew point relate to the peaks of the humidity ratio. The designer, engineer, or other user must decide which set(s) of conditions and probability of occurrence apply to the design situation under consideration. The addition of the new psychrometric design conditions allows for several viewpoints of operational peak loads. Additional sources of information on the frequency and duration of extremes of temperature and humidity are provided later in the section on Other Sources of Climatic Information. Further information is available from Harriman et al. (1999).

Heating Design Conditions. The 99.6% and 99.0% design conditions in Column 2 of [Tables 1A, 2A, and 3A](#) are often used in the sizing of heating equipment. In cold spells, dry-bulb temperatures below the design conditions can last for a week or more.

Columns 4 and 5 of [Tables 1A, 2A, and 3A](#) provide information useful for estimating peak loads accounting for infiltration. Column 4 provides extreme wind speeds only for the coldest month, with the mean coincident dry-bulb temperature. Column 5 provides the mean wind speed and direction coincident to the corresponding percentile design dry-bulb temperature.

Cooling and Dehumidification Design Conditions. The 0.4%, 1.0%, and 2.0% dry-bulb temperatures and mean coincident wet-bulb temperatures in Column 2 of [Tables 1B, 2B, and 3B](#) often represent conditions on hot, mostly sunny days. These are useful for cooling applications, especially air-conditioning.

Design conditions based on wet-bulb temperature in Column 3 represent extremes of the total sensible plus latent heat of outdoor air. This information is useful for cooling towers, evaporative coolers, and fresh air ventilation system design.

The design conditions based on dew-point temperatures in Column 4 of [Tables 1B, 2B, and 3B](#) are directly related to extremes of humidity ratio, which represent peak moisture loads from the weather. Extreme dew-point conditions may occur on days with moderate dry-bulb temperatures resulting in high relative humidity. These values are especially useful for applications involving humidity control, such as desiccant cooling and dehumidification, cooling-based dehumidification, and fresh air ventilation systems. The values are also used as a check point when analyzing the behavior of cooling systems at part-load conditions, particularly when such systems are used for humidity control as a secondary function.

The humidity ratio values in Column 2 correspond to the combination of dew-point temperature and the mean coincident dry-bulb temperature calculated at the standard pressure at the elevation of the location.

Wind. Design wind speeds in Column 3 of [Tables 1A, 2A, and 3A](#) have been produced as a result of the requirement for the design of smoke management systems. Annual percentiles of 1.0, 2.5, and 5.0 have been determined appropriate for this application. The values for the United States SAMSON sites and Canadian locations have been taken from ASHRAE (1994), in which adjustments to the standard 10 m anemometer height were made. Wind speed values

for other locations are taken from ASHRAE (1997c), in which no adjustment for nonstandard anemometer height is made.

Annual Extreme Temperatures. Column 6 of [Tables 1A, 2A, and 3A](#) provides the mean and standard deviation of the annual extreme maximum and minimum dry-bulb temperatures. The probability of occurrence of very extreme conditions can be required for the operational design of equipment to ensure continuous operation and serviceability (regardless of whether the heating or cooling loads are being met). These values were calculated from the extremes of the hourly temperature observations. The true maximum and minimum temperatures for any day generally occur between hourly readings. Thus, the mean maximum and minimum temperatures calculated in this way will be about 0.5 K less extreme than the mean daily extreme temperatures observed with maximum and minimum thermometers.

Return period (or recurrence interval) is defined as the reciprocal of the annual probability of occurrence. For instance, the 50-year return period maximum dry-bulb temperature has a probability of occurring or being exceeded of 2.0% (i.e., 1/50) each year. This statistic does not indicate how often the condition will occur in terms of the number of hours each year (as in the design conditions based on percentiles) but describes the probability of the condition occurring at all in any year. The following method can be used to estimate the return period (recurrence interval) of extreme temperatures.

$$T_n = M + IFs \quad (1)$$

where

T_n = n -year return period value of extreme dry-bulb temperature to be estimated, years

M = mean of the annual extreme maximum or minimum dry-bulb temperatures, °C

s = standard deviation of the annual extreme maximum or minimum dry-bulb temperatures, °C

I = 1, if maximum dry-bulb temperatures are being considered
= -1 if minimum extremes are being considered

$$F = -\frac{\sqrt{6}}{\pi} \left\{ 0.5772 + \ln \left[\ln \left(\frac{n}{n-1} \right) \right] \right\}$$

For example, the 50-year return period extreme maximum dry-bulb temperature estimated for Terre Haute, Indiana is 40°C ($M = 35.5^\circ\text{C}$, $s = 1.8$, $n = 50$, $I = 1$). Similarly, the 100-year return period extreme minimum dry-bulb temperature for Winnipeg, Manitoba, is -44°C ($M = -36^\circ\text{C}$, $s = 2.6$, $n = 100$, $I = -1$).

This calculation is based on the assumptions that the annual maxima and minima are distributed according to the Gumbel (Type 1 Extreme Value) distribution and are fitted with the method of moments (Lowery and Nash 1970). The uncertainty or standard error using this method increases with increasing standard deviation, increasing value of return period, and decreasing length of the period of record. It can be significant. For instance, the standard error in the 50-year return period maximum dry-bulb temperature estimated at a location with a 12-year period of record can be 3 K or more. Thus, the uncertainty of return-period values estimated in this way will be greater for locations from the DATSAV2 data sets than those from the longer SAMSON and CWEEDS data sets.

Mean Daily Range. The mean daily range is the mean difference between the daily maximum and minimum temperatures during the hottest month. These values are calculated from the extremes of the hourly temperature observations. The true daily temperature range is generally about 1 K greater, for the same reason as explained in the previous section.

Monthly Tables

Selected monthly percentiles of temperature and humidity are provided in [Tables 4A and 4B](#) for 239 U.S. locations from the SAMSON data set. These monthly values are derived from the

same analysis that results in the design conditions in [Tables 1A](#) and [1B](#). These monthly summaries provide additional information when seasonal variations in solar geometry and intensity, building or facility occupancy, or building use patterns require consideration. In particular, these values can be used when determining air-conditioning loads during periods of maximum solar radiation.

[Table 4A](#) contains the location name and WMO station number and the 0.4%, 1.0%, and 2.0% value of the wet-bulb temperature and mean coincident dry-bulb temperature for the indicated month and annual period. The percentiles for the annual period are the same as those in [Table 1B](#) for the same location and are listed in [Table 4A](#) for convenience.

[Table 4B](#) contains the location name and WMO station number and the 0.4%, 1.0%, and 2.0% value of the dry-bulb temperature and mean coincident wet-bulb temperature for the indicated month and annual period. The percentiles for the annual period are the same as those in [Table 1B](#) for the same location and are listed in [Table 4B](#) for convenience.

For a 30-day month, the 0.4%, 1.0%, and 2.0% values of occurrence represent the value that occurs or is exceeded for a total of 3, 7, or 14 h, respectively, per month on average over the period of record.

Monthly percentile values of dry-bulb or wet-bulb temperature may be higher or lower than the design conditions corresponding to the same nominal percentile, depending on the month and the seasonal distribution of the parameter at that location. Generally, for the hottest or most humid months of the year, the monthly percentile value will exceed the design condition for the same element corresponding to the same nominal percentile. For instance, [Table 1B](#) shows that the 0.4% design dry-bulb temperature at Mobile, Alabama, is 34°C. [Table 4B](#) shows that the 0.4 monthly percentile dry-bulb temperature exceeds 34°C for the months of June, July, and August, with values of 35°C, 36°C, and 35°C, respectively.

It is essential to remember that the design conditions are based on an annual analysis. The 0.4% annual value represents a value occurring or exceeded 35 h on average every year over the period of record, whereas the 0.4% monthly value occurs or is exceeded 3 h on average for the month that it represents, over the period of record.

Representativeness of Data and Sources of Uncertainty

The information in the tables was obtained by direct analysis of the observations from the indicated locations. The design values are provided and used as an estimate of the annual cumulative frequency of occurrence of the weather conditions at the recording station for several years into the future. Several sources of uncertainty affect the accuracy of using the design conditions to represent other locations or periods.

The most important of these factors is spatial representativeness. Most of the observed data for which design conditions were calculated were collected from airport observing sites, most of which are flat, grassy, open areas, away from buildings and trees or other local influences. Data representing the psychrometric conditions are generally properties of air masses, rather than local features, and tend to vary on regional scales. As a result, a particular value often may reasonably represent an area extending several kilometres. However, significant variations can occur with changes in local elevation, across large metropolitan areas, or in the vicinity of large bodies of water. Judgment must always be exercised in assessing the representativeness of the design conditions. It is especially important to note the elevation of locations because design conditions vary significantly for locations whose elevations differ by a few hundred metres or more. An applied climatologist should be consulted in estimating design conditions for locations not explicitly listed in this chapter.

Weather conditions vary from year to year and, to some extent, from decade to decade due to the inherent variability of climate. Similarly, values representing design conditions vary depending on

the period of record used in the analysis. Thus, due to short-term climatic variability, there is always some uncertainty in using the design conditions from one period to represent another period. Typically, the values of design dry-bulb temperature vary less than 1 K from decade to decade, but larger variations can occur. Differing periods used in the analysis can lead to differences in design conditions between nearby locations at similar elevations. Design conditions may show trends in areas of increasing urbanization or other regions experiencing extensive changes to land use. Longer term climatic change due to human or natural causes may also introduce trends into design conditions, but no conclusive evidence or consensus of opinion is available on the rapidity or nature of such changes.

Wind speed is very sensitive to local exposure features such as terrain and surface cover. Wind speed values in Columns 3, 4, and 5 of [Tables 1A](#), [2A](#), and [3A](#) are often representative of a flat, open exposure, such as at airports. Wind engineering methods, as described in [Chapter 16](#), can be used to account for exposure differences between airport and building sites. This is a complex procedure, best undertaken by an experienced applied climatologist or wind engineer having knowledge of the exposure of the observing and building sites and surrounding regions.

OTHER SOURCES OF CLIMATIC INFORMATION

Joint Frequency Tables of Psychrometric Conditions

Most of the design values in this chapter were developed by a research project (ASHRAE 1997c, and Colliver et al. 2000). The joint frequency tables from this project provide the annual and monthly joint frequency of occurrence of various psychrometric combinations for each location in the tables. The complete set of joint frequency tables is available on CD (ASHRAE 1999).

The Engineering Weather Data (NCDC 1999) CD, an update of Air Force *Manual* 88-29, was compiled by the U.S. Air Force Combat Climatology Center. This CD contains several tabular and graphical summaries of temperature, humidity, and wind speed information for hundreds of locations in the United States and around the world. In particular, it contains detailed joint frequency tables of temperature and humidity for each month, binned at 1°F and 3-h local time-of-day intervals.

The International Station Meteorological Climate Summary (ISMCS) is a CD-ROM containing several tables of climatic summary information for over 7000 locations around the world (NCDC 1996). Only several hundred of these locations have observed hourly weather data. A table providing the joint frequency of dry-bulb temperature and wet-bulb temperature depression is provided for the locations with hourly observations. It can be used as an aid in estimating design conditions for locations for which no other information is available.

The monthly frequency distribution of dry-bulb temperatures and mean coincident wet-bulb temperatures is available for 134 Canadian locations from Environment Canada (1983-1987).

Degree-Days and Climatic Normals

Degree-day summary information and climatic normals for the United States are available on CD-ROM in *The Climatology of the U.S.* (NCDC 1992a, 1992b, 1994); and, for Canada, in the *Canadian Climate Normals, 1961 to 1990* (Environment Canada 1993a).

Typical Year Data Sets

Software exists to simulate the annual energy performance of buildings requiring a 1-year data set (8760 h) of weather conditions. Many data sets in different record formats have been developed to meet this requirement. The data represent a typical year from the viewpoint of weather-induced energy loads on a building. No

explicit effort was made to represent extreme conditions, so these files do not represent design conditions.

Weather Year for Energy Calculations Version 2 (WYEC2) for 52 U.S. and 5 Canadian locations is available from ASHRAE (ASHRAE 1997d). A user manual and software toolkit explains the development, format, and characteristics of this data and provides access and toolkit software.

Typical Meteorological Year Version 2 (TMY2) files are available for 239 U.S. locations from the National Renewable Energy Laboratory (Marion and Urban 1995). These were produced using an objective statistical algorithm to select the most typical month from the long-term record. These files were originally intended for the design of solar energy systems, so solar radiation values were weighted heavily.

Canadian Weather Year for Energy Calculation (CWEC) files for 47 Canadian locations were developed for use with the Canadian National Energy Code, using the TMY algorithm and software (Environment Canada 1993b).

Examples of the use of these files for energy calculations in both residential and commercial buildings, including the differences amongst the files, are available in Crawley (1998) and Huang (1998).

Seasonal Percentiles of Dew-Point Temperature

Seasonal percentiles of dew-point temperature are available for 381 U.S. and Canadian locations in ASHRAE (1995a), with their development summarized in Colliver et al. (1995).

Sequences of Extreme Temperature and Humidity Durations

Colliver et al. (1998) and ASHRAE (1997b) compiled extreme sequences of 1-, 3-, 5-, and 7-day duration for 239 U.S. (SAMSON data) and 144 Canadian (CWEEDS data) locations based independently on the following five criteria: high dry-bulb temperature, high dew-point temperature, high enthalpy, low dry-bulb temperature, and low wet-bulb depression. For the criteria associated with high values, the sequences are selected according to annual percentiles of 0.4, 1.0, and 2.0. For the criteria corresponding to low values, annual percentiles of 99.6, 99.0, and 98.0 are reported. The data included for each hour of a sequence are solar radiation, dry-bulb and dew-point temperature, atmospheric pressure, and wind speed and direction. Accompanying information allows the user to go back to the source SAMSON and CWEEDS data and obtain sequences with different characteristics (i.e., different probability of occurrence, windy conditions, low or high solar radiation, etc.). These extreme sequences are available on CD (ASHRAE 1997a).

These sequences were developed primarily to assist the design of heating or cooling systems having a finite capacity before regeneration is required or systems that rely on thermal mass to limit loads. The information is also useful where information on the hourly weather sequence during extreme episodes is required for design.

Observational Data Sets

For detailed designs, custom analysis of the most appropriate long-term weather record is best. National weather services are generally the best source of long-term observational data. The WMO World Data Center A at the National Climate Data Center in Asheville, NC, collects and makes available a significant volume of archived weather observations from around the world.

The SAMSON and CWEEDS data sets provide long-term hourly data, including solar radiation values for the United States and Canada.

Increasingly, information about weather and climate services and data sets, as well as the data sets themselves, is becoming available through the Internet and World Wide Web. Information supplementary to this chapter may be posted from time to time on the ASHRAE Technical Committee 4.2 web site, the link to which is available from the ASHRAE web site (www.ashrae.org).

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Licensing Information

Table 1A Heating and Wind Design Conditions—United States

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							Dry Bulb		Speed, m/s			0.4%		1%		99.6%		0.4%		Mean DB		StdD DB	
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
ALABAMA																							
Anniston	722287	33.58	85.85	186	99.11	8293	-7.1	-4.5	7.3	6.3	5.7	7.9	8.3	6.9	7.8	2.5	300	3.3	240	36.7	-12.3	1.8	4.1
Birmingham	722280	33.57	86.75	192	99.04	6193	-7.8	-5.2	8.4	7.5	6.7	8.9	4.8	8.0	5.4	3.3	340	4.0	320	36.7	-12.7	1.8	3.6
Dothan	722268	31.32	85.45	122	99.87	8293	-2.4	-0.2	8.2	7.4	6.5	8.4	7.0	7.8	8.2	4.0	320	3.4	320	37.0	-8.7	0.9	4.0
Huntsville	723230	34.65	86.77	196	98.99	6193	-9.4	-6.6	10.4	9.0	8.0	10.4	4.2	9.3	4.4	4.6	340	4.3	270	36.3	-13.9	1.7	4.2
Mobile	722230	30.68	88.25	67	100.52	6193	-3.1	-1.0	9.7	8.6	7.8	10.1	8.9	9.2	9.1	4.3	360	3.9	320	36.2	-7.6	1.1	3.5
Montgomery	722260	32.30	86.40	62	100.58	6193	-4.7	-2.8	8.8	7.7	6.7	9.1	6.9	8.1	7.4	3.1	360	3.5	270	36.8	-9.6	1.6	3.5
Muscle Shoals/Intl Florence	723235	34.75	87.62	168	99.32	8293	-8.8	-6.0	8.2	7.3	6.3	8.4	5.5	7.7	5.7	3.9	360	3.1	290	36.9	-14.0	1.7	5.1
Ozark, Fort Rucker	722269	31.28	85.72	91	100.24	8293	-2.5	-0.5	7.1	5.9	5.2	7.6	9.4	6.6	8.6	2.4	340	2.2	300	37.1	-7.8	1.3	3.3
Tuscaloosa	722286	33.22	87.62	52	100.70	8293	-6.7	-4.2	7.7	6.4	5.7	8.1	8.4	7.0	10.3	2.1	360	3.3	240	37.3	-11.9	1.0	3.8
ALASKA																							
Adak, NAS	704540	51.88	176.65	4	101.28	8293	-7.0	-5.1	15.3	13.4	11.9	17.8	0.9	15.1	1.8	2.0	210	4.6	170	19.7	-11.7	1.9	1.6
Anchorage, Elemendorf AFB	702720	61.25	149.80	65	100.55	8293	-25.1	-22.0	7.7	6.2	5.3	8.1	-3.6	6.6	-3.6	1.3	50	3.1	260	25.0	-27.8	1.8	3.6
Anchorage, Fort Richardson	702700	61.27	149.65	115	99.95	8293	-28.2	-25.0	8.3	6.3	5.0	8.9	1.6	6.8	2.2	1.4	50	2.2	270	26.6	-30.7	1.2	3.5
Anchorage, Intl Airport	702730	61.17	150.02	40	100.85	6193	-25.6	-22.5	9.8	8.5	7.5	10.3	-7.7	8.6	-7.8	1.7	10	3.7	290	24.8	-27.8	1.6	4.0
Annette	703980	55.03	131.57	34	100.92	6193	-10.8	-8.4	13.8	11.8	10.2	13.7	5.1	12.4	4.6	4.2	40	3.8	320	27.3	-12.2	2.1	3.0
Barrow	700260	71.30	156.78	4	101.28	6193	-40.3	-38.0	12.5	11.1	9.9	13.4	-16.3	11.5	-18.1	3.3	140	5.3	90	18.4	-42.9	2.6	2.4
Bethel	702190	60.78	161.80	46	100.77	6193	-33.3	-31.1	13.8	12.1	10.7	15.1	-13.3	13.4	-15.0	5.6	20	5.1	360	25.7	-35.3	1.8	3.7
Bettles	701740	66.92	151.52	196	98.99	6193	-45.2	-42.3	8.2	7.3	6.2	8.4	-11.7	7.1	-14.2	0.8	340	3.6	190	29.4	-48.4	2.2	3.2
Big Delta, Ft. Greely	702670	64.00	145.73	391	96.72	6193	-42.8	-39.5	15.0	12.7	11.1	16.8	-17.9	14.6	-16.3	1.4	180	3.8	180	28.6	-44.2	1.8	4.2
Cold Bay	703160	55.20	162.73	31	100.95	6193	-14.3	-12.1	16.8	15.0	13.3	20.4	1.3	17.8	1.1	6.6	340	7.1	140	19.3	-16.7	2.2	2.9
Cordova	702960	60.50	145.50	13	101.17	8293	-20.2	-17.4	9.6	8.3	7.2	10.9	4.2	9.6	3.2	0.4	340	3.7	240	26.2	-23.0	2.8	3.0
Deadhorse	700637	70.20	148.47	17	101.12	8293	-37.6	-36.7	14.1	12.7	11.3	15.3	-18.1	13.5	-21.6	5.3	240	5.4	60	25.3	-46.2	7.9	2.9
Dillingham	703210	59.05	158.52	29	100.98	8293	-28.9	-25.1	11.2	9.9	8.8	12.6	-6.5	10.9	-6.3	2.3	40	4.3	180	23.3	-32.8	1.7	5.2
Fairbanks, Eielson AFB	702650	64.67	147.10	167	99.33	8293	-36.1	-34.8	6.2	5.2	4.4	6.4	-6.2	4.9	-9.0	0.1	150	2.1	290	30.8	-43.6	2.1	4.3
Fairbanks, Intl Airport	702610	64.82	147.87	138	99.68	6193	-44.0	-40.7	7.8	6.7	5.8	7.1	-11.6	5.4	-11.9	0.7	10	3.7	220	30.3	-44.4	2.1	4.3
Galena	702220	64.73	156.93	46	100.77	8293	-36.3	-35.2	8.1	6.9	5.9	8.5	-10.0	7.2	-9.3	0.2	270	2.2	320	28.9	-45.5	1.4	5.8
Gulkana	702710	62.15	145.45	481	95.68	6193	-42.4	-39.3	11.7	10.5	9.3	10.0	-8.6	8.3	-8.1	1.3	360	3.2	180	27.8	-43.4	1.8	4.1
Homer	703410	59.63	151.50	22	101.06	8293	-17.7	-15.5	9.9	8.9	8.1	10.4	-4.4	9.3	-2.6	3.8	30	4.3	270	21.3	-20.5	2.2	3.8
Juneau	703810	58.37	134.58	7	101.24	8293	-15.8	-13.7	12.1	10.2	9.1	13.0	4.1	11.0	3.6	2.1	360	4.1	230	27.0	-18.1	1.4	2.7
Kenai	702590	60.57	151.25	29	100.98	8293	-29.8	-25.5	10.1	9.0	8.2	11.0	-3.9	9.9	-4.5	1.1	30	4.2	270	23.9	-32.9	1.9	4.1
Ketchikan	703950	55.35	131.70	29	100.98	8293	-10.3	-6.7	11.0	9.7	8.7	12.9	5.7	10.8	5.5	2.4	280	4.8	320	25.5	-13.8	1.0	2.9
King Salmon	703260	58.68	156.65	15	101.14	6193	-31.1	-28.4	14.3	12.4	10.7	14.9	2.1	12.6	2.1	3.0	360	5.4	270	25.3	-35.1	1.9	4.0
Kodiak, State USCG Base	703500	57.75	152.50	34	100.92	6193	-13.8	-11.4	15.0	13.2	11.6	15.1	-2.3	13.5	-1.3	8.1	300	4.8	320	24.4	-17.2	2.0	3.4
Kotzebue	701330	66.87	162.63	5	101.26	6193	-37.6	-35.2	15.7	13.8	12.4	16.7	-10.1	14.5	-10.0	3.0	70	5.1	300	23.7	-39.3	2.7	3.6
McGrath	702310	62.97	155.62	103	100.09	6193	-43.8	-40.8	8.1	7.1	6.2	8.0	-5.2	6.4	-11.4	0.6	310	3.3	340	28.2	-46.8	1.8	3.9
Middleton Island	703430	59.43	146.33	14	101.16	8293	-7.6	-6.0	17.7	15.3	13.3	18.9	1.5	16.6	2.5	8.2	330	3.7	260	19.0	-9.5	2.7	3.8
Nenana	702600	64.55	149.08	110	100.01	8293	-46.2	-42.5	7.3	6.3	5.5	8.0	-12.4	6.9	-13.1	1.1	250	3.0	60	30.4	-46.6	2.3	4.0
Nome	702000	64.50	165.43	7	101.24	6193	-34.8	-32.3	13.5	11.9	10.5	13.7	-8.2	12.3	-7.9	1.6	20	5.2	260	24.6	-37.2	2.3	3.5
Northway	702910	62.97	141.93	525	95.18	8293	-36.7	-35.5	6.9	6.0	5.3	6.4	-24.8	5.4	-21.3	0.1	300	3.2	290	28.3	-47.6	1.5	3.3
Port Heiden	703330	56.95	158.62	29	100.98	8293	-21.1	-18.8	17.0	14.2	12.3	16.9	2.4	14.4	1.7	7.4	60	6.9	160	23.1	-23.8	2.4	4.1
Saint Paul Island	703080	57.15	170.22	9	101.22	6193	-18.7	-16.1	18.4	16.3	14.6	20.8	-4.3	18.3	-6.2	8.3	350	6.4	240	14.4	-19.2	2.9	3.8
Sitka	703710	57.07	135.35	20	100.88	8293	-8.9	-6.2	10.4	9.3	8.4	10.9	4.3	9.8	5.1	3.4	70	3.9	230	24.7	-11.5	3.4	2.8
Talkeetna	702510	62.30	150.10	109	100.02	6193	-33.4	-29.7	7.8	7.1	6.2	8.4	-10.7	7.8	-9.5	1.7	50	3.3	200	27.9	-37.0	1.6	4.4
Valdez	702750	61.13	146.35	10	101.20	8293	-15.5	-13.8	10.8	8.7	7.3	12.5	-10.5	10.0	-9.2	6.6	70	4.3	240	24.4	-17.2	2.0	3.4
Yakutat	703610	59.52	139.67	9	101.22	6193	-19.6	-16.4	10.5	8.6	7.2	11.0	2.3	9.3	0.6	0.8	100	3.8	320	24.1	-22.4	2.2	3.9
ARIZONA																							
Flagstaff	723755	35.13	111.67	2137	78.15	6193	-17.0	-13.5	9.4	8.2	7.4	9.2	-1.9	8.0	-1.4	1.5	20	4.2	220	31.6	-23.2	1.4	4.1
Kingman	723700	35.27	113.95	1033	89.52	8293	-5.7	-3.0	11.5	10.2	9.1	10.8	7.6	9.2	6.3	2.4	90	5.8	240	39.5	-9.4	1.0	3.8
Page	723710	36.93	111.45	1304	86.61	8293	-6.7	-4.7	8.5	7.2	6.0	7.2	5.7	5.5	4.6	2.0	300	3.3	360	39.9	-13.5	2.0	6.8
Phoenix, Intl Airport	722780	33.43	112.02	337	97.34	6193	1.2	3.0	8.5	7.1	6.1	7.6	15.1	6.4	14.5	2.4	90	4.2	270	45.4	-1.2	1.2	2.6
Phoenix, Luke AFB	722785	33.53	112.38	332	97.40	8293	1.6	3.3	8.3	6.8	5.7	7.2											

Table 1B Cooling and Dehumidification Design Conditions—United States

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
ALABAMA																						
Anniston	34.8	24.3	33.7	24.3	32.1	23.9	26.3	32.0	25.6	31.1	25.0	30.2	24.9	20.4	29.1	24.2	19.6	28.0	23.7	19.0	27.2	10.9
Birmingham	34.7	23.9	33.4	23.8	32.3	23.5	25.7	31.8	25.1	31.2	24.6	30.3	24.0	19.3	28.6	23.4	18.7	27.9	22.9	18.1	27.4	10.4
Dothan	35.0	24.4	34.1	24.3	33.2	24.2	26.5	32.2	25.9	31.3	25.4	30.5	25.2	20.6	28.4	24.6	19.9	27.9	24.2	19.4	27.5	9.7
Huntsville	34.5	23.8	33.2	23.6	31.9	23.3	25.6	31.6	25.0	30.9	24.4	30.0	23.9	19.3	28.6	23.3	18.6	27.9	22.8	18.0	27.3	10.3
Mobile	34.3	24.7	33.4	24.6	32.5	24.4	26.3	31.6	25.8	31.0	25.5	30.6	25.1	20.3	28.5	24.6	19.8	28.1	24.2	19.3	27.8	9.2
Montgomery	35.1	24.6	34.0	24.4	32.9	24.3	26.3	32.6	25.8	31.8	25.3	31.1	24.6	19.8	29.3	24.1	19.2	28.7	23.7	18.6	28.3	10.4
Muscle Shoals/Florence	35.3	24.2	34.2	24.0	33.1	23.6	25.7	32.2	25.3	31.5	24.8	30.8	24.3	19.6	27.9	23.8	19.0	27.6	23.4	18.6	27.3	11.1
Ozark, Fort Rucker	35.2	25.1	34.3	24.8	33.4	24.5	27.0	32.3	26.3	31.7	25.8	30.9	25.5	20.9	29.4	25.0	20.3	28.7	24.5	19.7	28.3	10.0
Tuscaloosa	35.2	24.8	34.2	24.8	33.2	24.4	26.5	32.5	26.0	31.8	25.5	31.0	25.1	20.3	28.8	24.5	19.6	28.2	24.1	19.1	27.9	10.9
ALASKA																						
Adak, NAS	15.2	12.6	14.0	11.4	13.0	10.3	12.9	14.8	11.7	13.7	10.6	12.5	11.5	8.4	14.6	10.4	7.8	13.1	9.3	7.3	11.9	5.4
Anchorage, Elemendorf AFB	21.9	14.6	20.3	13.9	19.0	13.1	15.7	20.7	14.7	18.9	13.9	17.7	13.7	9.9	16.5	12.9	9.3	16.2	11.9	8.7	15.6	7.0
Anchorage, Fort Richardson	23.4	15.5	21.4	14.4	19.9	13.7	16.1	22.2	15.1	20.3	14.2	18.8	13.5	9.8	18.0	12.2	9.0	16.5	11.7	8.7	16.2	8.6
Anchorage, Intl Airport	21.5	14.7	19.9	13.9	18.5	13.1	15.6	20.6	14.6	18.7	13.8	17.4	13.4	9.7	16.8	12.7	9.2	16.3	11.8	8.7	15.6	7.0
Annette	23.3	16.0	21.1	15.1	19.1	13.9	16.7	22.3	15.6	20.1	14.6	18.2	14.3	10.2	18.3	13.6	9.7	17.0	12.9	9.3	15.9	5.8
Barrow	13.6	10.8	11.2	9.3	9.0	7.6	11.1	13.3	9.3	11.1	7.6	8.9	9.7	7.5	12.1	7.9	6.6	10.5	6.4	6.0	8.8	5.9
Bethel	22.1	14.7	19.9	13.7	18.0	12.8	15.5	20.7	14.4	18.6	13.5	16.9	13.4	9.7	16.4	12.6	9.1	15.3	11.8	8.6	14.7	7.4
Bettles	26.1	15.9	24.1	15.1	22.2	14.3	17.0	24.2	15.9	22.5	15.0	20.8	14.2	10.3	18.9	13.1	9.6	17.9	12.2	9.0	17.1	10.8
Big Delta, Ft. Greely	25.5	14.8	23.6	14.3	21.9	13.5	16.2	23.3	15.1	22.1	14.2	20.4	13.3	10.0	18.6	12.2	9.3	17.1	11.2	8.7	16.2	9.6
Cold Bay	15.4	12.4	14.1	11.6	13.0	11.1	13.0	14.8	12.2	13.6	11.4	12.7	12.2	8.9	13.6	11.4	8.4	12.8	10.7	8.0	12.2	4.1
Cordova	21.3	14.8	19.3	13.8	17.2	13.2	15.6	20.5	14.4	18.4	13.5	16.7	13.4	9.6	17.2	12.2	8.9	15.5	11.6	8.5	14.9	7.5
Deadhorse	18.8	13.8	16.2	12.5	14.3	11.4	14.2	17.9	12.9	16.4	11.4	14.2	12.0	8.7	16.6	10.7	8.0	15.2	9.3	7.3	13.6	7.6
Dillingham	20.5	14.1	18.7	13.3	16.7	12.4	14.9	19.2	13.9	17.6	13.0	16.3	13.3	9.6	16.5	11.9	8.7	15.2	11.1	8.2	14.1	7.3
Fairbanks, Eielson AFB	27.4	16.2	25.6	15.5	23.7	14.9	17.5	25.8	16.4	23.7	15.6	22.3	14.5	10.5	19.1	13.6	9.9	18.9	12.2	9.0	18.9	10.8
Fairbanks, Intl Airport	27.1	15.8	25.2	15.1	23.4	14.6	17.0	24.8	16.1	23.4	15.2	21.6	14.2	10.3	18.2	13.3	9.7	17.7	12.4	9.1	17.3	10.3
Galena	25.4	15.9	23.5	14.9	21.4	14.3	17.0	23.2	16.0	21.5	15.1	20.5	14.5	10.4	19.0	13.6	9.8	18.2	12.4	9.0	17.7	8.5
Gulkana	24.7	14.2	22.7	13.2	20.8	12.5	15.1	22.9	14.0	21.3	13.1	19.7	11.6	9.0	16.8	10.7	8.5	15.7	9.7	7.9	15.1	11.3
Homer	18.1	13.4	16.6	12.9	15.7	12.3	14.1	17.1	13.4	16.1	12.7	15.2	12.5	9.1	14.9	11.7	8.6	14.7	11.1	8.2	14.1	6.6
Juneau	23.1	15.5	20.8	14.7	19.1	13.7	16.1	21.6	15.2	20.0	14.3	18.0	14.0	10.0	17.3	13.4	9.6	16.1	12.8	9.2	15.4	7.7
Kenai	20.1	13.3	18.6	12.7	16.8	12.2	14.3	18.4	13.6	17.0	12.9	15.9	12.8	9.2	15.0	11.8	8.6	14.4	11.2	8.3	14.0	7.4
Ketchikan	21.5	15.8	20.0	15.1	18.8	14.2	16.4	20.4	15.6	19.2	14.9	17.9	14.8	10.5	17.5	14.1	10.1	16.6	13.6	9.7	16.0	5.7
King Salmon	21.4	14.3	19.4	13.4	17.7	12.6	15.2	20.1	14.1	18.2	13.2	16.8	13.1	9.4	16.3	12.2	8.8	15.3	11.3	8.3	14.5	8.6
Kodiak, State USCG Base	20.2	14.3	18.2	13.3	16.7	12.6	15.1	18.8	14.1	17.2	13.2	15.9	13.3	9.6	16.3	12.6	9.1	15.2	11.9	8.7	14.1	6.2
Kotzebue	19.8	15.2	18.0	14.3	16.3	13.2	15.8	19.3	14.6	17.5	13.5	15.9	14.1	10.0	17.6	13.0	9.3	16.3	12.1	8.8	15.2	4.9
McGrath	24.9	15.3	22.9	14.3	21.0	13.6	16.2	23.2	15.2	21.1	14.3	19.5	13.7	9.9	17.3	12.8	9.3	16.7	11.9	8.8	15.9	9.7
Middleton Island	16.8	12.0	15.6	10.8	14.8	10.6	12.8	15.9	12.1	14.8	11.7	14.0	11.1	8.2	13.3	10.6	8.0	13.1	10.1	7.7	12.9	3.2
Nenana	26.4	15.7	24.6	14.9	22.8	14.0	16.7	24.1	15.6	22.8	14.8	21.3	13.7	9.9	18.3	12.8	9.3	18.2	11.5	8.6	17.0	11.8
Nome	20.4	13.7	18.2	12.9	16.2	11.9	14.7	19.1	13.6	17.1	12.6	15.6	12.7	9.1	15.9	11.7	8.6	14.8	10.8	8.0	14.0	6.1
Northway	25.5	14.7	23.6	13.9	21.4	13.3	15.5	24.2	14.6	21.6	13.7	20.4	12.2	9.4	16.4	11.4	8.9	15.9	10.7	8.5	15.1	11.1
Port Heiden	18.0	12.5	16.2	11.3	15.0	10.7	13.1	16.8	12.0	15.3	11.2	14.4	10.8	8.1	14.8	10.0	7.7	14.0	9.3	7.3	12.7	5.4
Saint Paul Island	11.9	10.3	11.1	9.7	10.3	9.2	10.7	11.7	10.1	10.8	9.5	10.2	10.2	7.8	11.1	9.6	7.4	10.4	9.1	7.2	9.8	3.0
Sitka	19.1	15.1	17.8	14.2	16.3	13.7	15.8	18.1	14.9	16.8	14.2	15.8	14.7	10.5	16.5	14.1	10.1	15.7	13.6	9.7	15.1	5.1
Talkeetna	24.7	15.7	22.7	14.6	21.0	14.1	16.6	23.1	15.6	21.3	14.7	19.6	14.1	10.1	17.9	13.2	9.6	16.8	12.4	9.1	15.9	9.1
Valdez	20.5	13.5	18.8	13.0	16.8	12.2	14.2	19.3	13.5	17.6	12.7	16.2	11.8	8.6	14.9	11.4	8.4	14.1	11.0	8.2	13.3	6.8
Yakutat	19.0	13.2	17.1	12.7	15.7	12.4	14.3	16.9	13.7	15.8	13.1	15.1	13.4	9.6	14.6	12.8	9.2	14.1	12.3	8.9	13.7	6.7
ARIZONA																						
Flagstaff	29.5	13.1	28.1	12.9	26.7	12.8	16.3	23.1	15.6	22.6	14.9	22.1	14.3	13.3	18.1	13.4	12.5	17.7	12.6	11.8	17.3	15.3
Kingman	37.2	17.7	36.1	17.2	35.0	16.9	21.4	28.0	19.6	29.6	18.8	30.2	19.3	16.0	24.9	16.4	13.2	23.8	15.0	12.1	24.3	13.8
Page	37.1	16.8	36.0	16.4	34.9	16.1	19.1	29.3	18.3	30.2	17.7	30.2	15.7	13.1	23.5	14.6	12.2	23.2	13.6	11.4	23.4	13.2
Phoenix, Intl Airport	43.2	20.9	42.0	20.9	40.9	20.8	24.2	35.8	23.7	35.4	23.2	35.0	21.5	16.8	27.8	20.6	15.9	28.6	19.6	14.9	29.6	12.8
Phoenix, Luke AFB	43.4	21.8	41.7	21.7	40.6	21.5	25.4	35.9	24.7	36.0	24.0	35.3	23.1	18.6	29.6	21.6	16.9	29.7	20.6	15.9	30.2	14.0
Prescott	34.2	15.7	32.7	15.6	31.4	15.4	19.3	27.2	18.6	26.7	18.0	26.0	17.2	14.9	21.6	16.3	14.0	21.4	15.5	13.3	21.3	14.1
Safford, Agri Center																						

Table 1A Heating and Wind Design Conditions—United States

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Fairfield, Travis AFB	745160	38.27	121.93	19	101.10	8293	-0.3	1.0	12.4	10.9	9.9	11.7	11.5	9.7	11.2	1.6	20	4.2	240	40.4	-3.1	1.9	2.2
Fresno	723890	36.77	119.72	100	100.13	6193	-1.2	0.1	7.6	6.7	5.9	7.4	11.4	6.1	11.2	1.7	90	3.9	290	41.8	-3.4	1.2	2.1
Lancaster/Palmdale	723816	34.73	118.22	715	93.03	8293	-5.7	-4.3	13.5	12.6	11.3	13.1	8.9	11.4	9.6	1.0	260	6.4	240	41.5	-9.5	1.1	3.3
Lemoore, Reeves NAS	747020	36.33	119.95	72	100.46	8293	-1.2	0.2	8.6	7.2	6.1	9.0	9.3	7.1	10.3	1.6	150	3.0	360	43.1	-8.1	2.3	5.8
Long Beach	722970	33.82	118.15	12	101.18	6193	4.5	5.8	8.5	7.2	6.3	8.5	14.3	7.1	14.4	1.6	300	4.6	270	38.9	1.7	2.5	1.6
Los Angeles	722950	33.93	118.40	32	100.94	6193	6.2	7.4	9.2	7.9	7.1	8.9	13.6	7.4	13.3	2.8	70	4.4	250	35.9	3.5	2.8	1.7
Marysville, Beale AFB	724837	39.13	121.43	34	100.92	8293	-0.4	0.9	9.0	7.6	6.4	10.1	11.6	8.5	11.4	1.3	20	2.2	200	41.2	-3.1	1.8	2.3
Merced, Castle AFB	724810	37.38	120.57	57	100.64	8293	-1.0	0.1	8.1	6.5	5.5	9.2	10.4	7.7	9.4	0.9	110	3.9	320	40.1	-3.3	1.5	2.0
Mount Shasta	725957	41.32	122.32	1080	89.01	8293	-8.9	-6.3	6.2	5.3	4.6	6.3	2.5	5.5	3.0	1.9	60	2.0	180	35.1	-12.5	1.5	3.7
Mountain View, Moffet NAS	745090	37.42	122.05	12	101.18	8293	2.2	3.8	8.4	7.5	6.5	8.7	12.0	7.1	11.1	0.3	140	3.8	330	36.5	-5.1	1.4	6.8
Ontario	722865	34.05	117.60	287	97.92	8293	1.4	3.4	9.9	8.4	7.7	12.7	16.7	9.4	13.7	2.0	10	5.8	240	42.1	-1.4	1.9	1.4
Oxnard, Pt. Mugu NAWS	723910	34.12	119.12	2	101.30	8293	3.8	5.0	10.0	8.4	7.1	11.0	14.1	9.3	14.6	2.3	20	5.2	50	33.8	-4.5	2.8	5.9
Paso Robles	723965	35.67	120.63	255	98.30	8293	-3.2	-1.8	10.0	9.1	8.2	9.5	11.1	8.1	10.3	1.3	110	4.9	300	42.5	-6.3	1.2	2.7
Red Bluff	725910	40.15	122.25	108	100.03	8293	-1.5	-0.1	10.4	9.4	8.4	11.7	11.8	10.1	9.9	2.7	340	4.2	160	43.9	-3.8	1.8	2.1
Riverside, March AFB	722860	33.88	117.27	469	95.82	8293	1.0	2.2	8.2	6.8	5.9	9.8	10.8	8.1	12.9	0.6	210	4.1	300	41.4	-1.9	1.3	1.8
Sacramento, Mather Field	724835	38.55	121.30	29	100.98	8293	-1.3	0.1	9.1	7.4	6.1	10.7	11.4	9.0	10.6	0.7	120	2.5	310	40.8	-3.4	2.8	2.4
Sacramento, McClellan AFB	724836	38.67	121.40	23	101.05	8293	-0.4	1.0	8.8	7.3	6.2	10.1	11.5	8.5	11.1	1.0	340	2.4	220	41.4	-2.7	1.4	2.7
Sacramento, Metro	724839	38.70	121.58	7	101.24	6193	-0.8	0.6	10.0	8.6	7.7	10.1	10.5	8.8	9.7	1.3	340	3.8	220	41.6	-2.9	3.7	1.7
Salinas	724917	36.67	121.60	26	101.01	8293	0.7	1.9	9.5	8.5	7.9	10.4	10.7	9.3	10.6	2.9	130	4.7	310	34.9	-1.6	2.6	1.2
San Bernardino, Norton AFB	722866	34.10	117.23	353	97.16	8293	1.0	2.3	7.4	5.7	4.8	9.3	13.2	7.2	12.7	0.7	50	3.4	250	42.9	-1.6	1.4	1.5
San Diego, Intl Airport	722900	32.73	117.17	9	101.22	6193	6.7	7.9	8.2	7.3	6.6	8.8	15.0	7.3	15.4	1.5	70	4.6	310	34.7	4.1	3.6	2.4
San Diego, Miramar NAS	722930	32.85	117.12	128	99.80	8293	4.0	5.3	5.7	4.9	4.2	6.8	14.9	5.2	15.1	1.2	90	2.8	310	38.7	-2.8	2.2	7.6
San Francisco	724940	37.62	122.38	5	101.26	6193	2.7	3.9	13.0	11.5	10.4	11.9	11.4	9.9	11.2	2.4	160	5.6	300	34.7	0.8	2.4	1.7
San Jose Intl Airport	724945	37.37	121.93	17	101.12	8293	1.6	3.1	9.0	8.2	7.4	8.8	13.1	7.8	13.4	0.4	160	4.4	320	38.2	-2.7	1.7	5.0
Santa Barbara	723925	34.43	119.83	3	101.29	8293	1.2	2.8	9.0	7.7	6.4	8.5	14.2	7.3	14.3	0.6	40	4.4	260	36.2	-2.0	3.7	3.6
Santa Maria	723940	34.90	120.45	73	100.45	6193	0.1	1.4	10.4	9.3	8.3	9.4	14.7	8.0	14.9	1.9	110	4.7	300	35.1	-3.0	2.8	1.6
Stockton	724920	37.90	121.25	8	101.23	8293	-1.1	0.1	9.6	8.4	7.6	10.6	11.1	9.2	9.7	1.8	110	4.7	280	41.1	-3.5	1.7	1.9
Victorville, George AFB	723825	34.58	117.38	876	91.23	8293	-2.7	-1.1	9.8	8.4	7.3	10.0	9.6	8.2	8.4	1.4	160	4.0	180	41.0	-5.9	1.7	3.1
COLORADO																							
Alamosa	724620	37.45	105.87	2299	76.59	6193	-27.4	-24.0	11.7	10.3	9.2	10.3	0.4	8.9	-1.1	1.5	190	5.4	240	31.2	-32.8	1.1	4.4
Colorado Springs	724660	38.82	104.72	1881	80.68	6193	-18.7	-15.3	12.9	11.0	9.6	12.4	1.7	10.4	0.7	3.2	20	5.4	160	34.8	-23.0	1.1	3.8
Craig	725700	40.50	107.53	1915	80.34	8293	-28.8	-24.7	11.6	9.1	7.5	9.7	0.4	7.4	-2.7	1.1	270	3.9	250	33.7	-34.8	1.1	5.9
Denver	724699	39.75	104.87	1625	83.26	8293	-19.7	-16.1	10.4	8.8	7.5	11.1	4.1	9.5	4.4	2.7	180	4.1	160	36.3	-23.7	1.3	3.9
Eagle	724675	39.65	106.92	1993	79.56	6193	-25.0	-21.7	9.8	8.5	7.7	8.9	0.4	7.8	-0.2	1.2	90	5.0	230	34.1	-30.8	1.8	4.3
Grand Junction	724760	39.12	108.53	1475	84.82	6193	-16.8	-13.8	10.0	8.5	7.4	7.6	0.6	6.4	-1.4	2.2	70	4.9	290	37.7	-19.6	1.1	4.7
Limon	724665	39.27	103.67	1635	83.16	8293	-21.2	-17.0	12.2	10.4	9.3	11.9	-1.7	10.0	-4.0	3.9	160	5.4	200	35.5	-25.2	1.2	3.6
Pueblo	724640	38.28	104.52	1439	85.19	6193	-18.5	-15.0	14.1	12.2	10.5	13.2	6.7	11.4	6.1	2.3	270	5.4	140	38.8	-24.4	1.1	4.3
Trinidad	724645	37.27	104.33	1756	81.93	8293	-18.8	-14.7	11.1	9.7	8.5	10.7	5.0	9.2	5.3	2.3	290	4.6	210	36.7	-23.4	1.1	3.8
CONNECTICUT																							
Bridgeport	725040	41.17	73.13	5	101.26	6193	-13.3	-10.9	11.8	10.2	9.2	15.2	-1.6	13.3	-1.6	6.1	320	6.0	230	33.6	-16.9	1.6	2.7
Hartford, Brainard Field	725087	41.73	72.65	6	101.25	6193	-16.9	-14.3	10.1	8.9	7.9	10.1	-3.8	9.1	-3.1	3.3	320	4.9	250	35.9	-21.0	1.3	3.2
Windsor Locks, Bradley Fld	725080	41.93	72.68	55	100.67	8293	-15.9	-13.2	9.5	8.4	7.7	10.0	-1.2	8.9	-1.8	3.3	360	4.7	240	36.0	-20.4	1.1	3.2
DELAWARE																							
Dover, AFB	724088	39.13	75.47	9	101.22	8293	-10.2	-7.5	9.7	8.4	7.4	10.4	2.4	9.4	1.4	3.6	340	3.9	240	36.2	-14.3	1.8	3.4
Wilmington	724089	39.68	75.60	24	101.04	6193	-12.4	-9.9	11.1	9.7	8.6	11.9	-1.9	10.3	-1.3	5.1	290	4.7	240	35.3	-16.2	1.5	3.8
FLORIDA																							
Apalachicola	722200	29.73	85.03	6	101.25	8293	-0.5	1.7	8.3	7.4	6.6	8.5	10.4	7.7	10.8	2.5	360	4.1	220	33.8	-5.1	3.7	4.1
Cape Canaveral, NASA	747946	28.62	80.72	3	101.29	8293	3.1	5.3	8.6	7.6	6.8	9.5	15.5	8.3	15.8	3.6	320	3.5	220	35.6	-1.6	0.8	3.4
Daytona Beach	722056	29.18	81.05	11	101.19	6193	0.9	3.0	9.6	8.5	7.7	9.6	16.1	8.6	15.8	3.2	310	4.8	240	35.3	-2.7	1.1	2.4
Fort Lauderdale/Hollywood	722025	26.07	80.15	7	101.24	8293	7.9	10.2	9.9	8.9	8.1	10.0	20.8	9.0	21.4	4.0	330	4.8	120	36.2	3.9	0.6	3.4
Fort Myers	722106	26.58	81.87	5	101.26	8293	5.7	8.2	8.6	7.9	7.1	8.9	17.9	8.2	18.8	2.8	30	4.0	70	36.2	1.3	0.7	2.6
Gainesville	722146	29.68	82.27	46	100.77	8293	-1.0	0.8	8.3	7.4	6.4	8.4	18.2	7.6	16.8	1.8	300	3.8	270	36.1	-6.3	1.0	4.0
Homestead, AFB	722026	25.48	80.38	2	101.30	8293	8.8	10.9	7.7	6.7	6.0	7.7	21.0	6.8	21.0	2.6	360	3.2	120	34.9	4.9	1.2	3.1
Jacksonville, Cecil Field NAS	722067	30.22	81.88	25	101.03	8293	-0.8	1.0	8.2	7.2	6.4	8.4	16.4	7.4	16.4	1.5	290	3.0	270	37.7	-6.7		

Table 1B Cooling and Dehumidification Design Conditions—United States

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Fairfield, Travis AFB	36.4	19.6	34.7	19.4	32.7	19.0	21.3	33.6	20.3	32.1	19.5	30.9	16.9	12.1	24.7	15.9	11.3	23.5	15.1	10.7	22.9	16.1
Fresno	39.6	21.4	38.1	20.9	36.6	20.4	22.7	36.8	21.9	35.6	21.2	34.6	18.0	13.1	29.7	16.8	12.1	28.6	15.9	11.4	27.7	17.2
Lancaster/Palmdale	38.5	19.1	36.7	18.5	35.4	18.0	21.1	34.2	20.3	32.7	19.4	32.3	16.9	13.1	26.5	15.5	12.0	27.2	14.4	11.2	27.2	15.5
Lemoore, Reeves NAS	39.5	22.1	38.2	21.7	36.5	20.9	23.8	36.3	22.8	35.6	21.9	34.7	19.5	14.4	31.7	18.4	13.4	30.6	16.8	12.1	30.0	18.3
Long Beach	33.2	19.5	30.9	19.2	29.1	19.0	21.9	29.4	21.2	28.0	20.6	26.8	19.6	14.4	24.4	18.9	13.7	24.1	18.3	13.2	23.7	9.3
Los Angeles	29.2	17.7	27.0	17.6	25.4	17.9	21.0	25.8	20.3	24.7	19.8	23.8	19.4	14.2	23.6	18.7	13.6	22.8	18.1	13.1	22.1	6.1
Marysville, Beale AFB	38.4	21.1	36.4	20.4	35.0	19.8	22.4	35.9	21.5	34.8	20.6	33.1	17.2	12.3	29.7	16.1	11.5	27.8	15.3	10.9	27.0	16.6
Merced, Castle AFB	37.2	20.8	36.0	20.7	34.7	20.1	22.3	35.3	21.6	34.0	20.8	33.1	17.7	12.8	27.2	16.4	11.7	29.1	15.6	11.2	27.4	16.8
Mount Shasta	32.9	16.8	30.9	16.1	29.5	15.3	18.0	30.6	17.0	28.7	16.1	28.0	13.4	10.9	23.4	11.7	9.8	22.9	10.6	9.1	21.5	17.8
Mountain View, Moffet NAS	31.2	18.2	28.9	18.2	26.7	17.6	20.0	27.8	19.2	26.6	18.5	25.7	16.7	11.9	23.6	16.0	11.4	23.0	15.4	10.9	22.2	10.0
Ontario	38.7	21.5	36.5	21.0	35.0	20.7	23.7	34.5	23.0	33.4	22.2	32.2	20.9	16.1	26.5	19.9	15.1	26.8	19.1	14.4	25.6	15.4
Oxnard, Pt. Mugu NAWS	28.5	16.6	26.1	17.8	24.8	17.9	21.3	25.1	20.5	24.1	19.7	23.2	20.0	14.7	23.4	19.1	13.9	22.8	18.4	13.3	22.2	8.1
Paso Robles	38.8	19.8	36.7	19.2	34.9	18.5	20.9	36.2	20.0	34.7	19.2	32.8	15.9	11.6	24.2	14.6	10.7	22.8	13.9	10.2	21.6	21.0
Red Bluff	40.7	20.9	38.8	20.3	36.7	19.5	22.5	36.5	21.6	35.0	20.8	33.7	18.4	13.4	27.6	16.9	12.2	26.4	16.0	11.5	25.3	16.4
Riverside, March AFB	38.4	20.0	36.4	19.9	35.1	19.4	22.5	33.6	21.7	32.7	21.0	32.2	19.3	14.9	26.1	18.2	13.9	26.7	16.9	12.8	26.3	16.1
Sacramento, Mather Field	38.5	20.7	36.3	20.0	34.8	19.3	21.6	36.2	20.8	34.4	20.0	33.1	16.1	11.5	26.1	15.4	11.0	25.1	14.7	10.5	24.2	18.7
Sacramento, McClellan AFB	38.8	21.0	36.8	20.5	35.2	19.9	22.3	36.2	21.4	35.0	20.6	33.5	17.0	12.2	28.7	16.2	11.5	27.0	15.4	11.0	26.2	16.5
Sacramento, Metro	37.8	20.8	36.0	20.3	34.2	19.7	22.0	35.7	21.1	34.3	20.3	32.8	16.8	12.0	27.9	15.9	11.3	26.4	15.2	10.8	25.4	18.5
Salinas	28.5	17.0	25.8	16.8	24.1	16.2	18.9	25.4	18.1	23.9	17.3	22.5	16.4	11.7	20.7	15.7	11.2	19.9	15.2	10.8	19.2	10.4
San Bernardino, Norton AFB	39.5	20.9	38.1	21.0	36.2	20.4	23.5	34.7	22.7	34.4	21.9	33.2	20.0	15.3	28.5	19.0	14.4	28.4	18.1	13.6	28.0	17.5
San Diego, Intl Airport	29.4	19.6	27.4	19.4	26.1	19.2	22.5	26.3	21.7	25.6	20.9	24.7	21.2	15.8	25.1	20.2	14.9	24.3	19.4	14.2	23.5	4.9
San Diego, Miramar NAS	33.4	20.6	31.0	19.7	29.4	19.3	22.2	29.6	21.5	28.6	20.8	27.4	19.9	14.8	25.6	19.2	14.2	24.8	18.6	13.7	23.9	9.7
San Francisco	28.4	17.0	25.6	16.4	23.3	15.8	18.0	25.9	17.2	23.8	16.6	22.1	15.2	10.8	19.4	14.6	10.4	18.9	14.1	10.1	18.5	9.3
San Jose Intl Airport	34.1	19.5	31.7	18.9	29.8	18.5	20.9	31.1	20.1	29.4	19.4	28.2	17.0	12.2	24.8	16.3	11.6	24.2	15.7	11.2	23.3	12.4
Santa Barbara	28.6	17.6	26.4	17.8	25.2	17.5	20.5	25.2	19.7	24.5	19.1	23.6	18.9	13.7	23.1	18.1	13.0	21.9	17.1	12.2	21.2	10.0
Santa Maria	29.9	17.2	27.5	16.7	25.6	16.1	19.1	27.2	18.2	25.3	17.5	23.9	15.9	11.4	21.0	15.3	11.0	20.7	14.7	10.5	19.9	10.8
Stockton	38.0	20.8	36.1	20.1	34.7	19.6	21.8	35.5	21.0	34.5	20.2	33.1	16.5	11.8	25.3	15.7	11.2	25.3	15.1	10.7	24.8	16.9
Victorville, George AFB	38.4	18.2	36.7	18.1	35.6	17.7	20.8	31.3	20.1	31.3	19.3	31.1	18.1	14.5	25.5	16.2	12.8	26.0	14.9	11.8	25.4	15.7
COLORADO																						
Alamosa	29.0	12.8	27.8	12.7	26.6	12.4	15.4	24.0	14.8	23.2	14.2	22.7	13.0	12.4	16.7	12.1	11.6	16.5	11.2	11.0	16.9	17.3
Colorado Springs	32.1	14.4	30.6	14.2	29.0	14.2	17.1	25.3	16.4	25.1	15.8	24.6	14.7	13.2	19.1	13.9	12.5	18.7	13.1	11.9	18.5	13.8
Craig	30.9	13.9	29.7	13.4	28.4	13.0	15.8	26.3	14.9	25.7	14.1	25.2	11.9	11.0	19.1	10.9	10.3	18.6	10.0	9.7	17.9	20.2
Denver	33.8	15.3	32.3	15.2	30.8	15.1	18.1	27.2	17.3	26.6	16.7	25.8	15.6	13.7	20.4	14.6	12.8	20.1	13.7	12.1	20.1	14.9
Eagle	31.2	14.7	29.9	14.1	28.4	13.7	16.6	26.8	15.7	25.6	15.0	24.6	13.7	12.5	17.8	12.7	11.7	18.1	11.6	10.8	18.3	20.1
Grand Junction	35.7	16.1	34.4	15.7	33.1	15.4	18.4	28.9	17.7	28.3	17.1	27.9	15.7	13.3	20.9	14.5	12.4	21.7	13.2	11.3	21.9	14.8
Limon	32.3	15.4	31.0	15.3	29.5	15.1	17.9	26.1	17.3	25.8	16.8	25.2	15.8	13.7	19.2	15.1	13.1	18.7	14.5	12.6	18.7	14.9
Pueblo	36.2	16.8	34.6	16.7	33.1	16.6	19.7	28.7	19.0	28.4	18.4	28.2	17.3	14.8	21.7	16.4	14.0	21.7	15.6	13.2	21.6	16.3
Trinidad	33.8	16.1	32.1	15.7	30.8	15.6	18.5	29.0	17.8	28.2	17.1	27.0	15.5	13.7	21.4	14.7	13.0	20.7	13.9	12.3	20.8	15.7
CONNECTICUT																						
Bridgeport	30.2	22.8	28.8	22.1	27.6	21.5	24.3	28.1	23.5	27.1	22.8	26.2	23.2	18.0	26.2	22.4	17.1	25.6	21.7	16.4	24.9	7.8
Hartford, Brainard Field	32.9	23.0	31.2	22.1	29.7	21.2	24.3	30.8	23.4	28.9	22.6	27.5	22.5	17.3	27.2	21.8	16.5	26.3	20.9	15.7	25.6	11.6
Windsor Locks, Bradley Fld	33.2	22.7	31.2	21.8	29.7	21.0	24.2	30.6	23.3	28.9	22.5	27.5	22.2	17.0	27.2	21.5	16.3	26.1	20.8	15.6	25.2	11.6
DELAWARE																						
Dover, AFB	33.7	24.5	31.9	23.9	30.6	23.6	26.2	30.9	25.5	30.0	24.7	29.0	25.0	20.1	28.8	24.3	19.3	27.8	23.6	18.4	27.3	9.0
Wilmington	32.9	23.8	31.5	23.1	30.1	22.6	25.3	30.6	24.6	29.3	23.8	28.5	23.9	18.8	27.9	23.1	17.9	27.1	22.4	17.2	26.6	9.4
FLORIDA																						
Apalachicola	33.2	26.0	32.0	25.8	31.4	25.6	27.1	31.3	26.7	30.8	26.2	30.4	25.9	21.2	29.3	25.5	20.7	29.1	25.1	20.2	28.7	7.4
Cape Canaveral, NASA	33.5	25.5	32.2	25.4	31.6	25.1	26.7	31.1	26.2	30.8	25.9	30.4	25.5	20.7	29.1	25.1	20.2	28.7	24.7	19.7	28.2	8.9
Daytona Beach	33.2	25.0	32.2	24.8	31.3	24.8	26.3	31.1	25.8	30.6	25.6	30.2	25.0	20.1	29.1	24.6	19.6	28.7	24.2	19.1	28.3	8.6
Fort Lauderdale/Hollywood	33.3	25.5	32.2	25.7	31.8	25.4	27.0	31.1	26.6	30.6	26.2	30.3	25.7	21.0	29.2	25.5	20.7	29.0	25.1	20.2	28.8	6.3
Fort Myers	34.6	25.0	33.9	25.0	33.4	25.0	26.9	31.5	26.5	30.9	26.1	30.8	25.7	21.0	28.7	25.3	20.5	28.5	24.9	20.0	28.2	9.4
Gainesville	34.2	25.1	33.5	24.9	32.2	24.7	26.5	31.8	26.1	31.2	25.6	30.6	25.2	20.4	28.9	24.7	19.8	28.4	24.4	19.5	28.0	10.4
Homestead, AFB	33.1	26.1	32.1	26.0	31.6	25.7	27.2	31.4	26.8	31.1	26.4	30.7	26.0	21.4	30.3	25.5	20.7	29.8	25.1	20.2	29.6	6.5
Jacksonville, Cecil Field NAS	35.7	24.5	34.8	24.4	34.0	24.2	26.2	32.6	25.7	32.1	25.2	31.5	24.6	19.7	28.8	24.1	19.1	28.2	23.7	18.6	27.9	11.1
Jacksonville, Intl Airport																						

Table 1A Heating and Wind Design Conditions—United States

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							Dry Bulb		Speed, m/s			0.4%		1%		99.6%		0.4%		Mean DB		StdD DB	
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
West Palm Beach	722030	26.68	80.12	6	101.25	6193	5.9	8.1	10.5	9.4	8.5	10.5	20.8	9.5	20.9	4.2	320	5.4	110	34.6	1.7	1.1	2.8
GEORGIA																							
Albany	722160	31.53	84.18	59	100.62	8293	-3.0	-1.2	8.3	7.5	6.7	8.5	9.9	7.9	9.8	1.6	360	3.8	250	37.9	-8.5	1.2	4.0
Athens	723110	33.95	83.32	247	98.39	6193	-6.6	-4.2	8.6	7.6	6.7	8.9	4.6	8.1	4.6	4.2	290	3.9	270	36.8	-11.4	1.9	3.7
Atlanta	722190	33.65	84.42	315	97.60	6193	-7.9	-4.9	9.9	8.7	7.8	10.3	2.5	9.2	2.4	5.5	320	4.1	300	35.3	-12.7	1.9	4.1
Augusta	722180	33.37	81.97	45	100.79	6193	-6.1	-4.1	9.1	7.9	6.9	9.3	7.2	8.3	7.7	2.4	290	4.1	250	37.6	-10.4	2.1	3.1
Brunswick	722137	31.15	81.38	6	101.25	8293	-0.9	0.9	8.2	7.5	7.0	8.5	9.3	7.9	9.2	3.5	350	4.5	250	36.8	-5.8	1.4	4.3
Columbus, Fort Benning	722250	32.33	85.00	71	100.47	8293	-4.8	-2.6	7.1	5.9	5.0	7.8	7.7	6.6	7.5	1.4	320	2.2	240	37.8	-9.9	1.6	3.7
Columbus, Metro Airport	722255	32.52	84.93	121	99.88	6193	-4.8	-2.6	7.7	6.9	6.1	8.1	6.8	7.3	7.6	3.0	310	3.8	310	37.2	-10.1	1.3	3.4
Macon	722170	32.70	83.65	110	100.01	6193	-5.1	-2.8	8.5	7.6	6.7	8.8	7.9	7.9	7.3	3.1	320	4.2	270	37.8	-10.3	1.5	3.6
Marietta, Dobbins AFB	722270	33.92	84.52	326	97.47	8293	-6.2	-3.2	8.1	7.0	6.0	9.0	1.8	8.0	3.4	4.0	340	2.5	300	36.3	-11.1	2.0	3.7
Rome	723200	34.35	85.17	196	98.99	8293	-9.4	-6.0	6.1	5.3	4.5	6.3	5.3	5.6	5.4	2.3	340	2.6	270	36.7	-15.6	2.1	3.9
Savannah	722070	32.13	81.20	15	101.14	6193	-3.5	-1.6	8.8	7.7	6.9	9.5	9.3	8.4	9.6	3.0	270	4.2	270	36.9	-7.7	1.7	3.0
Valdosta, Moody AFB	747810	30.97	83.20	71	100.47	8293	-0.9	1.0	6.9	5.9	5.2	7.3	11.7	6.2	11.3	1.7	360	2.4	300	37.3	-5.9	1.4	4.2
Valdosta, Regional Airport	722166	30.78	83.28	62	100.58	8293	-2.5	-0.8	7.6	6.8	6.1	7.9	12.8	7.1	13.1	1.7	340	3.4	300	37.3	-8.3	1.8	4.3
Waycross	722130	31.25	82.40	46	100.77	8293	-1.7	-0.1	7.0	6.2	5.5	7.1	11.0	6.3	11.2	1.6	250	3.3	240	36.5	-6.2	3.9	4.2
HAWAII																							
Ewa, Barbers Point NAS	911780	21.32	158.07	15	101.14	8293	14.9	16.2	8.9	7.9	7.1	10.0	22.8	8.5	23.8	2.2	40	4.8	60	33.7	1.5	0.9	11.9
Hilo	912850	19.72	155.07	11	101.19	6193	16.3	17.1	8.3	7.3	6.4	9.3	24.5	8.1	24.4	3.2	230	5.4	110	31.3	14.4	0.9	1.0
Honolulu	911820	21.35	157.93	5	101.26	6193	16.0	17.2	10.4	9.5	8.7	10.4	23.5	9.3	23.9	2.3	320	6.6	60	32.5	14.2	1.1	1.2
Kahului	911900	20.90	156.43	20	101.08	6193	14.9	15.9	12.2	11.3	10.6	14.4	24.2	12.7	24.3	2.5	160	8.3	50	33.2	12.4	0.8	2.4
Kaneohe, MCAS	911760	21.45	157.77	3	101.29	8293	19.3	19.9	9.0	8.2	7.4	9.5	23.2	8.5	23.1	3.3	190	4.5	70	31.3	4.4	0.8	16.1
Lihue	911650	21.98	159.35	45	100.79	6193	15.5	16.6	11.7	10.5	9.6	11.1	22.5	10.2	22.7	3.6	270	6.0	60	30.3	13.6	0.8	1.7
Molokai	911860	21.15	157.10	137	99.69	8293	15.3	16.3	10.5	9.9	9.3	10.0	23.6	9.2	23.5	1.7	70	5.9	60	33.4	6.1	2.2	12.2
IDAHO																							
Boise	726810	43.57	116.22	874	91.26	6193	-16.8	-12.6	10.5	9.2	8.0	9.8	2.6	8.5	2.7	2.5	130	4.7	320	39.4	-19.8	1.5	5.1
Burley	725867	42.55	113.77	1265	87.02	8293	-20.4	-16.7	10.3	9.4	8.4	10.4	-1.3	9.7	-2.3	3.0	60	3.6	280	36.5	-23.9	2.2	4.7
Idaho Falls	725785	43.52	112.07	1445	85.13	8293	-24.4	-20.9	12.2	10.4	9.3	12.4	0.1	10.4	-1.5	3.3	360	5.2	180	35.6	-28.9	2.0	5.0
Lewiston	727830	46.38	117.02	438	96.17	8293	-14.2	-9.7	9.1	7.7	6.3	10.9	3.6	8.9	4.5	2.2	280	3.1	310	39.4	-16.3	1.5	5.5
Mountain Home, AFB	726815	43.05	115.87	913	90.83	8293	-17.9	-14.8	10.4	9.2	8.1	10.4	0.3	9.4	-0.3	1.0	90	3.5	350	40.7	-21.1	1.8	4.7
Mullan	727836	47.47	115.80	1011	89.75	8293	-18.5	-13.8	4.6	4.3	3.9	4.7	-7.7	4.2	-6.2	0.8	10	1.8	10	33.1	-21.7	1.1	4.4
Pocatello	725780	42.92	112.60	1365	85.97	6193	-21.6	-17.7	13.1	11.2	10.1	13.4	2.0	12.0	2.1	2.5	50	5.0	250	36.7	-26.0	1.3	5.1
ILLINOIS																							
Belleville, Scott AFB	724338	38.55	89.85	138	99.68	8293	-16.2	-12.4	9.3	8.0	6.9	10.2	0.0	9.1	-0.8	3.2	360	3.1	190	37.5	-19.5	1.7	4.0
Chicago, Meigs Field	725340	41.78	87.75	190	99.06	8293	-20.0	-16.1	10.4	9.6	8.7	11.4	-8.2	10.1	-1.0	5.4	240	5.6	220	36.0	-23.4	1.8	4.5
Chicago, O'Hare Intl A	725300	41.98	87.90	205	98.89	6193	-21.2	-18.1	11.7	10.4	9.2	12.0	-4.6	10.4	-4.9	4.6	270	5.4	230	35.4	-24.6	1.6	3.6
Decatur	725316	39.83	88.87	208	98.85	8293	-19.0	-15.9	10.8	9.8	9.1	12.0	-4.2	10.5	-2.8	5.7	310	5.2	210	37.0	-23.2	3.2	4.0
Glenview, NAS	725306	42.08	87.82	199	98.96	8293	-19.7	-15.7	9.7	8.4	7.4	10.1	-8.4	9.0	-4.0	4.7	250	4.3	240	36.4	-23.6	1.7	4.3
Marseilles	744600	41.37	88.68	225	98.65	8293	-20.4	-17.3	11.4	10.0	8.9	12.6	-7.6	11.2	-6.0	5.2	290	4.5	250	35.4	-24.1	2.2	3.3
Moline/Davenport IA	725440	41.45	90.52	181	99.17	6193	-22.4	-19.3	11.6	10.1	9.0	12.7	-8.7	10.8	-8.0	4.2	290	5.2	200	36.2	-25.7	1.5	3.3
Peoria	725320	40.67	89.68	202	98.92	6193	-21.1	-18.1	11.0	9.7	8.7	11.7	-8.7	10.1	-7.2	4.1	290	4.9	180	35.4	-24.6	1.8	3.4
Quincy	724396	39.95	91.20	234	98.55	8293	-19.9	-16.6	10.8	9.6	8.8	12.5	-5.0	10.7	-5.6	5.4	330	5.2	210	36.2	-23.3	2.0	4.5
Rockford	725430	42.20	89.10	226	98.64	6193	-23.1	-20.1	11.4	10.0	9.1	11.4	-7.6	10.0	-6.9	3.9	290	5.6	200	35.1	-26.6	1.7	3.1
Springfield	724390	39.85	89.67	187	99.10	6193	-19.7	-16.6	11.7	10.4	9.4	12.0	-3.8	10.5	-2.8	4.5	270	5.3	230	36.2	-23.9	1.6	3.1
West Chicago	725305	41.92	88.25	231	98.58	8293	-21.6	-18.0	10.3	9.3	8.4	11.1	-10.3	10.1	-6.6	5.1	290	4.8	240	35.6	-25.5	1.8	4.3
INDIANA																							
Evansville	724320	38.05	87.53	118	99.92	6193	-16.2	-12.8	9.8	8.6	7.7	9.9	0.3	8.8	1.3	3.1	320	4.2	240	36.3	-20.2	1.5	4.7
Fort Wayne	725330	41.00	85.20	252	98.33	6193	-19.9	-16.9	11.3	10.0	9.1	12.2	-7.1	10.5	-5.7	4.4	250	5.2	230	34.8	-23.9	2.0	2.9
Indianapolis	724380	39.73	86.27	246	98.40	6193	-19.2	-16.1	10.8	9.5	8.3	11.2	-3.1	9.9	-2.8	3.7	230	4.8	230	34.6	-23.2	1.6	3.8
Lafayette, Purdue Univ	724386	40.42	86.93	185	99.12	8293	-20.5	-16.3	10.0	9.0	8.2	10.7	-3.3	9.7	-2.6	4.2	270	5.3	220	36.2	-24.0	2.1	4.3
Peru, Grissom AFB	725335	40.65	86.15	247	98.39	8293	-19.2	-15.3	10.6	9.3	8.2	12.9	-6.8	10.5	-5.4	4.9	270	4.1	210	35.8	-22.5	2.1	4.1
South Bend	725350	41.70	86.32	236	98.52	6193	-18.9	-16.2	11.3	10.0	9.0	11.6	-5.7	10.3	-4.9	5.7	230	5.3	230	34.7	-23.1	1.8	3.2
Terre Haute	724373	39.45	87.32	178	99.20	8293	-19.2	-15.1	10.1	9.1	8.2	10.4	-0.3	9.5	0.0	3.5	150	4.7	230	35.5	-23.3	1.8	4.4
IOWA																							
Burlington	725455	40.78	91.13	213	98.79	8293	-20.0	-17.4	9.4	8.4	7.7	10.5	-11.0	9.5	-7.7	3.9	310	4.9	200	36.4	-23.5	2.2	3.8
Cedar Rapids	725450	41.88	91.70	265	98.18	8293	-24.0	-20.6	11.2	9.9	9.0	13.1	-11.3	11.6	-9.9	4.6	300	4.7	180	35			

Table 1B Cooling and Dehumidification Design Conditions—United States

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
West Palm Beach	32.9	25.3	32.2	25.3	31.6	25.2	26.4	31.1	26.1	30.9	25.8	30.4	25.2	20.4	28.9	24.8	19.9	28.7	24.5	19.5	28.5	7.3
GEORGIA																						
Albany	35.8	24.6	34.8	24.4	33.9	24.1	26.2	32.5	25.7	31.7	25.3	31.1	24.9	20.1	28.2	24.4	19.5	27.9	24.0	19.0	27.4	11.0
Athens	34.6	23.6	33.3	23.7	32.0	23.2	25.3	31.6	24.7	30.8	24.3	30.1	23.6	19.0	27.8	23.1	18.4	27.4	22.7	17.9	26.9	10.2
Atlanta	33.9	23.8	32.6	23.4	31.3	22.8	25.1	31.2	24.4	30.3	23.9	29.7	23.4	19.0	27.8	22.8	18.3	27.1	22.3	17.7	26.6	9.6
Augusta	35.7	24.4	34.3	24.3	33.2	23.9	25.9	32.8	25.4	31.9	24.9	31.1	24.3	19.3	28.6	23.7	18.6	28.1	23.2	18.1	27.7	11.2
Brunswick	34.1	25.7	32.6	26.1	31.3	25.4	27.1	31.6	26.6	31.0	26.2	30.4	25.7	21.0	29.9	25.4	20.6	29.4	25.0	20.1	28.9	8.0
Columbus, Fort Benning	35.9	24.5	34.7	24.4	33.6	24.3	26.5	32.6	25.9	31.9	25.4	31.3	25.0	20.3	29.2	24.4	19.5	28.5	24.0	19.0	27.9	11.4
Columbus, Metro Airport	35.2	24.2	34.0	23.9	33.0	23.7	25.9	31.9	25.4	31.2	25.0	30.6	24.5	19.8	27.9	24.0	19.2	27.5	23.6	18.6	27.2	10.0
Macon	35.7	24.3	34.4	24.0	33.3	23.8	25.9	32.7	25.4	31.9	25.0	31.1	24.2	19.4	28.4	23.8	18.9	27.9	23.4	18.4	27.5	10.7
Marietta, Dobbins AFB	34.4	23.4	33.0	23.2	31.5	23.1	25.0	31.3	24.5	30.6	24.0	29.9	23.6	19.2	27.6	23.0	18.5	27.1	22.2	17.6	26.1	9.5
Rome	35.5	23.4	34.2	23.5	32.9	23.3	25.5	32.1	25.0	31.5	24.5	30.9	23.9	19.2	28.6	23.4	18.6	28.1	22.9	18.1	28.1	11.5
Savannah	35.0	24.9	33.8	24.6	32.6	24.4	26.3	32.2	25.8	31.5	25.3	30.7	24.8	19.8	28.7	24.3	19.3	28.1	23.9	18.8	27.8	9.7
Valdosta, Moody AFB	35.2	25.1	34.3	24.8	33.5	24.5	26.6	32.9	26.1	31.9	25.6	31.2	25.0	20.3	29.5	24.6	19.8	28.8	24.2	19.3	28.5	9.9
Valdosta, Regional Airport	35.1	25.0	34.2	24.7	33.4	24.4	26.5	32.3	26.0	31.7	25.6	30.9	25.2	20.5	28.6	24.7	19.9	28.0	24.3	19.4	27.6	10.8
Waycross	35.7	24.5	34.7	24.2	33.7	24.0	25.8	32.8	25.4	32.2	25.0	31.5	24.1	19.1	28.9	23.7	18.6	28.5	23.3	18.2	28.2	11.3
HAWAII																						
Ewa, Barbers Point NAS	33.1	22.6	32.0	22.5	31.5	22.5	24.6	29.9	24.1	29.9	23.7	29.6	23.2	18.0	28.1	22.1	16.8	27.8	21.5	16.2	27.5	8.8
Hilo	29.6	23.3	29.1	23.1	28.5	22.9	24.7	27.8	24.2	27.4	23.8	27.2	23.8	18.6	26.3	23.3	18.1	25.9	22.8	17.6	25.7	7.4
Honolulu	31.8	22.9	31.3	22.7	30.7	22.6	24.4	29.1	23.9	28.9	23.5	28.6	23.1	17.8	26.6	22.4	17.2	26.4	21.9	16.6	26.2	6.8
Kahului	31.7	23.3	31.1	23.1	30.4	22.8	24.7	29.6	24.2	29.2	23.8	28.9	23.3	18.1	26.9	22.7	17.4	26.8	22.2	16.9	26.7	8.7
Kaneohe, MCAS	29.9	23.9	29.4	23.6	29.1	23.3	25.4	28.0	24.9	27.9	24.5	27.7	24.7	19.7	27.1	24.1	19.0	27.0	23.5	18.3	26.9	4.1
Lihue	29.7	23.8	29.2	23.6	28.8	23.3	24.9	28.3	24.5	27.8	24.1	27.6	23.9	18.9	26.9	23.4	18.3	26.6	22.9	17.8	26.3	5.3
Molokai	31.1	22.7	30.6	22.6	30.1	22.2	24.4	29.2	23.9	28.5	23.5	28.2	23.2	18.3	26.4	22.7	17.7	26.3	21.9	16.8	26.0	7.4
IDAHO																						
Boise	35.8	17.4	34.2	16.9	32.5	16.4	18.8	32.2	17.9	31.5	17.2	30.4	14.3	11.3	22.3	12.9	10.3	21.8	11.7	9.5	21.8	16.8
Burley	34.2	17.2	32.0	16.5	30.4	16.2	19.2	30.0	18.2	28.8	17.3	28.1	15.6	12.9	23.9	14.4	12.0	22.2	13.3	11.1	22.1	16.1
Idaho Falls	33.2	16.2	31.4	15.7	30.0	15.5	17.9	28.7	17.1	27.7	16.3	27.1	14.7	12.5	21.4	13.6	11.6	20.6	12.0	10.4	20.1	18.9
Lewiston	35.9	18.2	34.1	17.6	32.0	17.0	19.2	32.8	18.4	31.9	17.6	30.3	14.6	10.9	22.4	13.6	10.2	21.5	12.2	9.3	21.5	14.7
Mountain Home, AFB	37.1	17.4	35.3	16.9	33.7	16.3	18.8	32.7	17.9	32.6	17.1	31.8	14.2	11.3	21.4	12.4	10.0	20.5	11.2	9.2	21.6	18.2
Mullan	30.4	16.7	28.9	16.2	26.8	15.6	18.1	27.4	17.2	26.1	16.4	24.9	15.3	12.3	20.4	14.2	11.4	19.9	13.2	10.7	19.1	15.6
Pocatello	33.9	15.9	32.3	15.5	30.7	15.1	17.7	29.0	16.9	28.4	16.1	27.8	14.1	11.9	20.8	12.8	10.9	21.1	11.5	10.0	20.4	17.8
ILLINOIS																						
Belleville, Scott AFB	35.1	25.3	33.9	24.8	32.2	24.6	26.6	33.1	25.8	32.1	25.2	31.1	24.8	20.2	30.6	24.2	19.4	29.7	23.6	18.7	29.0	11.0
Chicago, Meigs Field	33.5	23.6	31.5	22.7	30.1	21.7	25.2	31.1	24.2	29.5	23.3	28.4	23.6	18.9	28.7	22.2	17.3	26.9	21.4	16.4	26.7	8.9
Chicago, O'Hare Intl A	32.8	23.6	31.3	22.8	29.7	21.9	25.1	31.0	24.1	29.5	23.1	28.1	23.3	18.6	28.9	22.4	17.5	27.8	21.4	16.4	26.6	10.9
Decatur	34.5	24.7	32.9	24.1	31.2	23.5	26.1	32.3	25.3	31.4	24.5	30.0	24.5	20.0	30.1	23.7	19.0	29.0	22.9	18.1	28.2	11.1
Glenview, NAS	34.1	23.8	31.9	22.8	30.4	21.8	25.3	32.2	24.3	30.3	23.2	28.7	23.4	18.6	29.5	22.1	17.2	28.0	21.2	16.2	27.3	9.8
Marseilles	33.8	23.6	31.7	23.0	30.2	21.9	25.5	31.6	24.4	30.1	23.5	28.8	23.9	19.3	29.4	22.8	18.0	27.6	21.6	16.7	27.2	10.8
Moline/Davenport IA	33.9	24.3	32.2	23.4	30.7	22.7	25.7	32.0	24.7	30.5	23.9	29.3	23.9	19.2	29.5	23.0	18.1	28.3	22.2	17.2	27.5	11.1
Peoria	33.3	24.3	31.7	23.4	30.2	22.8	25.8	31.6	24.9	30.1	23.9	29.0	24.1	19.5	29.2	23.3	18.5	28.3	22.4	17.6	27.2	10.8
Quincy	34.6	24.4	32.9	24.1	30.9	23.2	25.7	31.7	25.0	31.2	24.2	29.5	24.2	19.7	28.8	23.5	18.8	28.0	22.8	18.0	27.6	10.5
Rockford	32.6	23.5	31.0	22.6	29.6	21.7	25.1	30.7	24.1	29.2	23.1	27.8	23.5	18.8	28.8	22.5	17.7	27.3	21.5	16.6	26.2	11.0
Springfield	34.1	24.5	32.6	24.0	31.2	23.2	26.1	31.9	25.2	30.9	24.4	29.5	24.5	19.9	29.8	23.6	18.9	28.7	22.8	17.9	27.6	10.8
West Chicago	33.0	23.7	31.2	23.1	29.9	22.4	25.7	31.0	24.7	29.7	23.6	28.3	24.2	19.7	29.3	23.3	18.6	28.1	21.9	17.0	26.8	11.0
INDIANA																						
Evansville	34.4	24.7	33.1	24.2	31.9	23.7	26.1	32.3	25.4	31.4	24.7	30.4	24.4	19.6	29.8	23.7	18.8	28.9	23.0	18.0	28.1	11.0
Fort Wayne	32.4	23.2	30.9	22.6	29.6	21.8	24.9	30.2	24.0	29.1	23.1	27.7	23.4	18.7	28.2	22.4	17.7	27.3	21.6	16.7	26.2	11.1
Indianapolis	32.7	24.1	31.3	23.4	30.1	22.7	25.6	31.1	24.8	29.7	24.0	28.6	24.1	19.6	28.7	23.3	18.7	28.0	22.6	17.8	26.9	10.5
Lafayette, Purdue Univ	34.1	23.8	32.2	24.0	30.9	22.6	25.9	31.6	25.0	30.2	24.1	28.9	24.4	19.8	29.5</							

Table 1A Heating and Wind Design Conditions—United States

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	0.4%		1%		99.6%		0.4%		Mean DB		StdD DB	
												WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Russell	724585	38.87	98.82	568	94.69	8293	-20.1	-16.0	13.0	11.4	10.3	12.9	0.3	11.2	1.5	5.1	10	7.3	190	40.5	-22.1	2.0	4.7
Salina	724586	38.80	97.65	388	96.75	8293	-19.4	-15.4	11.9	10.4	9.7	12.5	0.5	10.6	0.9	4.7	360	6.7	180	41.0	-21.6	1.3	5.5
Topeka	724560	39.07	95.62	270	98.12	6193	-18.8	-15.6	11.2	10.0	8.8	11.3	-2.3	9.9	-1.8	4.1	320	5.5	180	38.0	-22.4	2.1	4.1
Wichita, Airport	724500	37.65	97.43	408	96.52	6193	-16.6	-13.3	12.8	11.3	10.2	12.6	-1.0	11.4	-0.8	5.7	360	7.2	200	40.4	-19.7	1.6	3.5
Wichita, McConnell AFB	724505	37.62	97.27	418	96.40	8293	-16.5	-12.3	11.3	10.1	9.1	11.3	3.3	10.1	2.4	5.1	360	5.4	190	40.7	-18.3	1.5	4.3
KENTUCKY																							
Bowling Green	746716	36.97	86.42	167	99.33	8293	-14.1	-10.2	9.1	8.3	7.6	9.5	4.3	8.5	4.4	2.6	220	4.1	230	36.1	-18.9	1.8	5.7
Covington/Cincinnati Airport	724210	39.05	84.67	267	98.16	6193	-17.5	-14.1	9.9	8.8	7.9	10.9	-1.4	9.6	0.4	4.2	250	4.6	230	35.1	-21.6	1.7	4.7
Fort Campbell, AAF	746710	36.67	87.50	174	99.25	8293	-12.6	-9.4	8.3	7.2	6.2	8.9	4.4	7.8	6.1	1.8	330	2.6	240	36.4	-17.6	1.7	5.3
Fort Knox, Godman AAF	724240	37.90	85.97	230	98.59	8293	-12.8	-9.7	7.8	6.6	5.7	8.2	5.4	7.3	4.0	1.7	290	2.5	270	36.0	-17.8	2.3	4.4
Jackson	724236	37.60	83.32	421	96.37	8293	-14.0	-10.1	7.4	6.4	5.9	8.1	6.6	7.2	4.6	3.2	230	2.8	230	34.4	-19.6	1.5	5.2
Lexington	724220	38.03	84.60	301	97.76	6193	-15.8	-12.4	9.5	8.3	7.5	10.1	3.3	9.0	3.1	3.8	270	4.0	240	34.5	-20.1	1.9	4.6
Louisville	724230	38.18	85.73	149	99.55	6193	-14.5	-11.4	9.7	8.6	7.7	10.0	4.4	8.9	1.1	4.3	290	4.5	250	35.6	-18.3	1.7	4.4
Paducah	724350	37.07	88.77	126	99.82	8293	-13.9	-10.4	9.6	8.4	7.6	9.8	7.3	8.7	5.7	3.6	40	3.9	180	36.6	-18.5	1.6	5.2
LOUISIANA																							
Alexandria, England AFB	747540	31.33	92.55	27	101.00	8293	-3.0	-1.1	7.2	6.0	5.2	7.5	11.9	6.5	9.4	3.0	360	1.5	180	36.4	-6.9	1.2	3.5
Baton Rouge	722317	30.53	91.15	21	101.07	6193	-3.0	-0.9	9.1	8.0	7.1	9.2	8.6	8.3	9.2	3.4	360	3.6	270	35.9	-6.7	1.2	3.0
Bossier City, Barksdale AFB	722485	32.50	93.67	51	100.71	8293	-5.5	-2.8	8.2	7.1	6.2	8.3	9.4	7.3	10.5	3.2	360	2.2	180	37.3	-9.2	1.3	3.7
Lafayette	722405	30.20	91.98	13	101.17	8293	-2.4	-0.2	9.2	8.2	7.3	9.2	12.5	8.3	11.6	4.1	10	3.5	200	36.2	-7.1	0.9	4.5
Lake Charles	722400	30.12	93.22	10	101.20	6193	-1.8	0.1	9.7	8.6	7.7	10.5	9.8	9.3	9.6	4.2	20	3.8	230	35.6	-5.1	1.3	2.6
Leesville, Fort Polk	722390	31.05	93.20	100	100.13	8293	-2.9	-0.9	7.0	6.0	5.2	7.2	10.3	6.1	11.1	2.0	20	1.7	180	36.8	-6.7	1.1	3.3
Monroe	722486	32.52	92.03	24	101.04	8293	-5.7	-2.9	8.5	7.7	6.8	8.8	10.1	8.0	8.5	3.8	10	3.2	230	37.3	-8.6	1.0	4.7
New Orleans, Intl Airport	722310	29.98	90.25	9	101.22	6193	-1.3	0.8	9.4	8.3	7.5	9.4	8.8	8.4	9.2	3.3	340	3.5	360	35.6	-4.8	1.1	2.9
New Orleans, Lakefront A	722315	30.05	90.03	3	101.29	8293	1.8	3.9	9.6	8.6	7.9	9.5	9.6	8.9	9.9	6.4	360	3.8	300	34.4	-6.3	4.5	6.9
Shreveport	722480	32.47	93.82	79	100.38	6193	-5.5	-3.2	9.0	7.9	7.1	9.7	7.8	8.5	8.9	3.9	360	3.8	180	37.4	-8.9	1.7	3.1
MAINE																							
Augusta	726185	44.32	69.80	107	100.05	8293	-19.7	-17.2	10.2	9.3	8.4	11.1	-6.5	10.0	-5.8	4.6	320	5.1	210	33.8	-23.4	1.7	1.9
Bangor	726088	44.80	68.83	59	100.62	8293	-21.5	-19.0	9.7	8.4	7.8	10.7	-7.9	9.4	-6.7	2.9	300	4.6	240	34.4	-26.6	1.6	3.3
Brunswick, NAS	743920	43.88	69.93	23	101.05	8293	-19.1	-16.4	9.0	7.8	6.8	9.5	-2.8	8.3	-3.7	1.6	340	3.8	190	35.5	-24.6	4.4	3.4
Caribou	727120	46.87	68.02	190	99.06	6193	-25.8	-23.2	12.3	10.8	9.6	13.3	-10.4	11.8	-11.8	4.4	270	5.6	250	32.2	-30.7	1.6	2.5
Limestone, Loring AFB	727125	46.95	67.88	227	98.63	8293	-25.1	-22.7	10.2	8.9	7.9	11.1	-11.3	9.8	-11.6	3.1	300	3.9	260	32.7	-28.8	1.3	1.6
Portland	726060	43.65	70.32	19	101.10	6193	-19.6	-16.7	10.7	9.3	8.2	10.8	-3.6	9.4	-3.7	3.1	320	5.3	270	33.8	-24.9	2.0	3.1
MARYLAND																							
Camp Springs, Andrews AFB	745940	38.82	76.87	86	100.30	8293	-10.3	-7.6	9.4	8.1	7.2	10.4	-1.0	9.3	0.1	3.2	350	3.8	230	36.9	-15.5	1.6	3.7
Baltimore, BWI Airport	724060	39.18	76.67	47	100.76	6193	-11.6	-9.2	10.8	9.4	8.3	11.2	-0.4	9.8	-0.3	4.5	290	4.9	280	36.2	-15.7	1.6	3.2
Lex Park, Patuxent River	724040	38.28	76.40	12	101.18	8293	-9.0	-6.2	8.8	7.7	6.8	9.8	-0.9	8.4	1.7	3.8	340	3.9	270	36.6	-13.5	1.3	3.4
Salisbury	724045	38.33	75.52	16	101.13	8293	-10.5	-7.7	8.8	8.0	7.2	9.0	1.7	8.3	2.8	2.8	10	4.2	240	36.2	-15.3	1.5	3.2
MASSACHUSETTS																							
Boston	725090	42.37	71.03	9	101.22	6193	-13.7	-11.3	13.1	11.3	10.2	13.5	-1.3	12.2	-2.1	7.5	320	6.2	270	35.4	-17.6	1.5	2.6
East Falmouth, Otis ANGB	725060	41.65	70.52	40	100.85	8293	-11.9	-9.8	11.4	10.0	8.9	11.8	1.0	10.3	0.6	4.2	300	4.5	240	32.2	-15.1	1.4	2.1
Weymouth, S Weymth NAS	725097	42.15	70.93	49	100.74	8293	-14.6	-11.8	8.3	7.3	6.3	8.1	-1.9	7.2	-1.7	3.0	320	3.9	260	36.1	-18.9	2.1	2.1
Worcester	725095	42.27	71.88	308	97.68	6193	-17.7	-15.1	12.0	10.2	8.8	12.9	-5.6	11.4	-6.1	6.1	270	4.3	270	32.4	-21.2	1.1	2.3
MICHIGAN																							
Alpena	726390	45.07	83.57	211	98.82	6193	-21.6	-18.6	9.4	8.3	7.5	9.6	-6.4	8.6	-6.8	2.3	270	5.0	240	34.1	-27.1	1.9	3.3
Detroit, Metro	725370	42.23	83.33	202	98.92	6193	-17.8	-15.1	11.9	10.3	9.2	12.4	-2.5	10.8	-2.8	5.0	240	5.6	230	34.9	-21.7	1.7	3.0
Flint	726370	42.97	83.75	233	98.56	6193	-18.9	-16.3	11.1	9.7	8.8	11.9	-4.4	10.3	-4.9	3.8	230	5.6	230	33.6	-23.3	1.7	2.8
Grand Rapids	726350	42.88	85.52	245	98.42	6193	-17.8	-15.2	11.3	9.9	8.8	11.8	-4.0	10.3	-4.6	3.7	180	5.8	240	33.9	-23.0	1.2	2.9
Hancock	727440	47.17	88.50	329	97.43	6193	-22.6	-19.8	9.5	8.5	7.8	10.2	-7.7	9.1	-8.7	3.7	270	4.2	250	32.4	-26.9	1.6	3.1
Harbor Beach	725386	44.02	82.80	183	99.15	8293	-13.0	-11.1	11.4	9.8	8.4	11.5	-2.8	10.2	-2.9	4.6	220	3.9	230	34.7	-16.6	1.6	2.3
Jackson	725395	42.27	84.47	305	97.71	8293	-19.4	-15.7	9.1	8.3	7.7	10.2	-5.4	9.1	-5.1	3.9	240	5.1	210	34.0	-23.8	1.4	3.1
Lansing	725390	42.77	84.60	266	98.17	6193	-19.6	-16.8	11.7	10.2	9.1	12.5	-5.3	11.2	-4.6	3.6	290	5.7	250	34.4	-24.8	1.6	3.3
Marquette, Sawyer AFB	727435	46.35	87.40	372	96.94	8293	-24.0	-21.3	10.5	9.3	8.2	11.4	-7.9	10.1	-8.2	2.5	280	4.5	210	32.9	-27.5	2.6	2.6
Marquette/Ishpeming A	727430	46.53	87.55	434	96.22	8293	-24.9	-22.1	9.7	8.7	8.1	9.8	-6.6	8.9	-8.8	3.5	270	4.9	230	32.4	-29.9	2.5	2.5
Mount Clemens, ANGB	725377	42.62	82.83	177	99.22	8293	-15.9	-14.0	9.4	8.2	7.3	11.2	-6.0	9.4	-4.3	3.3	280	4.0	230	35.2	-19.4	2.2	1.5
Muskegon	726360	43.17	86.25	193	99.03	6193	-16.2	-13.9	12.1	10.8	9.6	12.4	-4.0	11.2	-3.4	4.6	290	5.4	200	32.0	-20.7	1.5	2.8
Oscoda, Wurtsmith AFB	726395	44.45	83.40	193	99.03	8293	-17.9	-16.1	9.5	8.3	7.4	10.4	-3.6	9.2	-4.3	2.5	220	5.1	200	34.9	-21.6	2.3	2.6
Pellston	727347	45.57	84.80	219	98.72	8293	-22.7	-19.5	11.6	10.1	9.1	12.7	-5.5	10.5	-5.8	1.6	300	6.2	250	33.6	-29.4	1.	

Table 1B Cooling and Dehumidification Design Conditions—United States

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Russell	37.9	22.1	35.8	22.3	34.2	22.0	24.6	33.0	23.8	32.0	23.0	30.9	22.1	18.0	28.3	21.4	17.2	27.5	20.7	16.5	26.6	13.4
Salina	38.2	23.1	36.2	23.0	34.6	22.9	25.2	33.5	24.5	32.4	23.8	31.6	23.2	18.8	29.3	22.1	17.6	28.4	21.5	16.9	27.6	12.8
Topeka	35.5	24.1	33.8	24.0	32.4	23.7	26.0	32.4	25.3	31.6	24.6	30.9	24.2	19.8	30.3	23.4	18.9	29.3	22.7	18.0	28.5	11.3
Wichita, Airport	37.9	22.6	36.3	22.6	34.5	22.5	24.8	32.6	24.2	32.1	23.6	31.4	22.8	18.4	28.4	22.1	17.6	27.7	21.4	16.9	27.2	12.3
Wichita, McConnell AFB	38.0	23.0	36.0	22.8	34.4	22.7	25.2	33.1	24.5	32.4	23.9	31.6	23.3	19.0	28.8	22.1	17.7	28.5	21.5	17.0	27.7	12.1
KENTUCKY																						
Bowling Green	34.2	24.3	32.9	24.1	31.3	23.6	25.7	31.7	25.1	30.7	24.5	30.0	24.2	19.5	28.7	23.7	18.9	28.0	23.1	18.2	27.4	11.1
Covington/Cincinnati Airport	32.8	23.6	31.4	23.0	30.1	22.4	25.1	30.7	24.3	29.7	23.5	28.4	23.5	18.9	28.6	22.7	18.0	27.4	21.9	17.2	26.4	10.5
Fort Campbell, AAF	35.0	24.8	33.7	24.5	32.1	24.2	26.4	32.3	25.7	31.6	25.1	30.7	24.9	20.4	29.4	24.2	19.5	29.0	23.6	18.8	28.4	10.8
Fort Knox, Godman AAF	34.4	24.5	33.1	23.6	31.4	23.3	25.8	32.2	25.1	31.0	24.4	30.2	24.2	19.7	29.4	23.5	18.8	28.6	22.8	18.0	27.9	10.8
Jackson	32.0	23.2	30.7	22.9	29.7	22.3	24.9	30.4	24.2	29.4	23.5	28.3	23.5	19.3	28.6	22.8	18.5	27.3	21.9	17.4	26.1	10.1
Lexington	32.6	23.2	31.4	22.9	30.2	22.4	24.8	30.7	24.1	29.7	23.4	28.5	23.1	18.5	28.1	22.4	17.7	27.3	21.8	17.1	26.5	10.2
Louisville	33.7	24.6	32.4	24.1	31.2	23.4	25.7	31.9	25.1	30.9	24.3	29.8	24.0	19.2	29.5	23.3	18.4	28.7	22.7	17.8	27.8	10.1
Paducah	35.3	24.9	34.1	24.6	33.1	24.1	26.6	32.8	25.9	32.1	25.3	31.2	25.0	20.4	30.0	24.4	19.7	29.2	23.8	18.9	28.6	11.2
LOUISIANA																						
Alexandria, England AFB	35.0	25.5	34.2	25.3	33.4	25.0	27.1	32.2	26.6	32.2	26.1	31.6	25.7	21.0	29.8	25.1	20.3	29.6	24.6	19.7	29.3	10.2
Baton Rouge	34.2	25.3	33.4	25.1	32.7	24.9	26.7	31.7	26.3	31.3	25.8	30.7	25.4	20.7	28.9	25.0	20.1	28.7	24.6	19.6	28.3	9.3
Bossier City, Barksdale AFB	35.6	25.0	34.6	25.1	33.7	24.9	26.7	32.5	26.1	32.1	25.7	31.6	25.2	20.5	29.1	24.7	19.8	28.5	24.2	19.2	28.2	11.1
Lafayette	34.4	25.7	33.7	25.3	33.0	25.2	26.9	31.9	26.5	31.4	26.1	31.1	25.6	20.9	29.1	25.2	20.4	28.6	24.9	20.0	28.3	9.5
Lake Charles	33.8	25.4	33.0	25.3	32.2	25.2	26.9	31.2	26.6	30.9	26.2	30.6	25.8	21.1	28.9	25.4	20.7	28.7	25.1	20.2	28.4	9.0
Leesville, Fort Polk	35.1	24.8	34.2	24.6	33.5	24.4	26.3	31.6	25.9	31.3	25.5	30.8	25.2	20.6	28.4	24.7	20.0	28.0	24.2	19.4	27.6	10.1
Monroe	35.5	25.5	34.5	25.4	33.7	25.2	27.2	32.9	26.7	32.4	26.2	31.8	25.7	21.0	30.2	25.2	20.4	29.6	24.8	19.9	29.1	10.7
New Orleans, Intl Airport	33.9	26.1	33.1	25.7	32.3	25.6	27.3	31.9	26.8	31.3	26.4	30.7	26.1	21.5	30.2	25.6	20.9	29.4	25.2	20.3	29.0	8.6
New Orleans, Lakefront A	33.9	25.7	33.1	25.3	32.0	25.2	27.1	31.3	26.6	30.7	26.2	30.3	26.0	21.4	29.3	25.5	20.7	28.8	25.1	20.2	28.5	6.6
Shreveport	35.9	24.9	34.8	24.8	33.7	24.6	26.3	32.9	25.8	32.3	25.5	31.8	24.7	19.9	28.8	24.2	19.3	28.4	23.9	18.9	28.2	10.6
MAINE																						
Augusta	30.3	21.5	28.7	20.3	26.9	19.5	22.8	28.1	21.7	26.5	20.8	25.2	21.2	16.1	24.9	20.2	15.1	23.9	19.4	14.3	23.1	10.2
Bangor	30.8	21.5	29.1	20.4	27.1	19.3	23.0	28.2	21.8	27.0	20.7	25.2	21.1	15.9	25.6	20.1	14.9	24.1	19.2	14.1	22.9	11.4
Brunswick, NAS	30.3	21.6	28.7	20.4	26.6	19.4	23.0	28.4	21.9	26.6	20.9	24.8	21.2	15.9	25.4	20.3	15.0	24.3	19.5	14.3	23.4	10.6
Caribou	29.4	20.5	27.6	19.4	26.0	18.8	22.4	26.9	21.2	25.2	20.1	24.2	20.9	16.0	24.6	19.8	14.8	23.7	18.7	13.8	22.3	10.8
Limestone, Loring AFB	28.9	19.9	26.8	18.8	25.3	18.0	21.6	26.1	20.5	24.6	19.5	23.5	20.2	15.3	23.7	19.2	14.4	22.5	18.2	13.5	21.9	10.4
Portland	30.2	21.8	28.4	20.8	26.7	19.8	23.2	28.3	22.1	26.6	21.0	25.1	21.6	16.3	26.1	20.6	15.3	24.6	19.6	14.4	23.3	10.4
MARYLAND																						
Camp Springs, Andrews AFB	34.3	24.1	32.9	23.6	31.1	22.9	25.5	31.3	24.8	30.5	24.1	29.4	24.1	19.2	28.4	23.4	18.4	27.5	22.8	17.7	26.8	10.4
Baltimore, BWI Airport	34.0	23.7	32.6	23.2	31.1	22.5	25.4	31.2	24.6	30.2	23.9	29.3	23.8	18.8	28.1	23.1	17.9	27.3	22.4	17.2	26.6	10.4
Lex Park, Patuxent River NAS	33.9	24.4	32.0	23.9	30.8	23.4	25.9	31.2	25.2	30.5	24.5	29.5	24.5	19.5	29.0	23.8	18.7	28.1	23.1	17.9	27.5	8.8
Salisbury	33.9	25.2	32.1	24.7	30.9	24.0	26.6	31.3	25.7	30.2	25.1	29.4	25.4	20.6	28.8	24.6	19.6	28.0	24.0	18.9	27.2	10.4
MASSACHUSETTS																						
Boston	32.5	22.6	30.7	21.9	28.9	21.1	24.1	30.3	23.2	28.4	22.3	26.9	22.3	17.0	26.7	21.5	16.2	25.9	20.7	15.4	25.4	8.5
East Falmouth, Otis ANGB	29.2	22.1	27.5	22.0	25.9	20.8	23.9	27.1	23.1	25.6	22.3	24.7	23.1	17.9	25.3	22.1	16.9	24.7	21.4	16.1	23.7	8.1
S. Weymouth NAS	33.1	23.0	30.8	22.4	29.3	21.6	24.9	30.5	23.7	28.9	22.8	27.3	23.5	18.4	27.6	22.1	16.9	26.2	21.1	15.8	25.3	10.9
Worcester	29.7	21.6	28.2	20.8	26.7	19.9	23.2	27.6	22.1	26.6	21.2	25.1	21.7	17.0	25.7	20.7	16.0	24.6	19.8	15.0	23.7	9.2
MICHIGAN																						
Alpena	30.8	21.7	28.9	20.4	27.1	19.6	23.1	28.4	21.9	27.1	20.9	25.6	21.4	16.5	26.1	20.3	15.3	24.7	19.2	14.3	23.6	12.7
Detroit, Metro	32.1	22.8	30.6	22.1	29.1	21.3	24.4	29.9	23.4	28.7	22.5	27.4	22.7	17.8	28.2	21.8	16.8	26.5	20.9	15.9	25.7	11.3
Flint	31.3	22.6	29.8	21.8	28.4	20.8	24.1	29.0	23.1	27.9	22.1	26.7	22.6	17.8	27.2	21.5	16.6	25.7	20.6	15.7	24.9	11.4
Grand Rapids	31.8	22.8	30.2	21.8	28.8	20.9	24.3	29.6	23.3	28.1	22.4	27.0	22.8	18.0	27.4	21.8	16.9	26.3	20.9	16.0	25.2	11.5
Hancock	29.7	21.5	28.1	20.4	26.7	19.6	22.9	27.8	21.8	26.4	20.8	25.0	21.3	16.6	25.9	20.3	15.6	24.6	19.3	14.7	23.6	11.4
Harbor Beach	32.0	21.9	30.2	20.7	28.5	20.0	23.5	29.9	22.2	28.1	21.2	26.5	21.1	16.1	28.0	20.1	15.1	26.6	19.2	14.3	25.3	8.0
Jackson	31.3	23.4	30.1	22.8	28.9	21.7	24.9	29.8	23.9	28.4	22.9	27.2	23.6	19.1	28.2	22.2	17.5	27.0	21.4	16.7	25.6	11.3
Lansing	31.9	22.9	30.2	22.0	28.7	21.3	24.4	29.6	23.4	28.2	22.6	27.0	22.9	18.2	27.3	21.9	17.2	26.2	21.1	16.3	25.3	12.1
Marquette, Sawyer AFB	30.0	20.4	28.2	19.9	26.0	18.6	22.5	28.1	21.2	26.0	20.1	23.9	20.7	16.1	25.1	19.7	15.1	23.4	18.8	14.2	22.8	12.3
Marquette/Ishpeming, A	29.7	20.5	27.8	19.6	25.7	18.5	22.1	27.7	20.9	25.7	19.9	24.1	20.4	15.9	25.0	19.4	14.9	23.8	18.4	14.0	22.5	12.3
Mount Clemens, ANGB	32.0	23.4	30.3	22.4	28.9	21.5	24.9	30.3	23.8	28.5	22.8	26.9	23.5	18.7	28.4	22.1	17.1	27.0	21.2	16.2	25.7	10.9
Muskegon	29.7	21.8	28.4	21.1	27.2	20.4	23.6	27.8	22.7	26.7	21.8	25.4	22.3	17.4	26.4	21.3	16.4	25.1	20.5	15.5	24.2	10.1

Table 1A Heating and Wind Design Conditions—United States

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Saint Cloud	726550	45.55	94.07	312	97.63	6193	-28.7	-25.8	9.8	8.7	7.9	10.1	-11.6	9.0	-12.2	3.6	300	5.4	200	34.9	-32.7	1.7	3.1
Tofte	727554	47.58	90.83	241	98.46	8293	-23.1	-21.0	10.6	9.1	7.8	11.2	-9.1	9.9	-7.7	3.7	260	3.4	330	30.1	-28.1	2.5	2.7
MISSISSIPPI																							
Biloxi, Keesler AFB	747686	30.42	88.92	10	101.20	8293	-0.7	1.6	7.5	6.4	5.7	8.0	9.6	7.0	9.9	3.4	360	3.0	210	35.9	-4.9	1.1	4.1
Columbus, AFB	723306	33.65	88.45	67	100.52	8293	-6.5	-4.1	7.9	6.7	5.8	8.3	6.3	7.3	7.8	2.5	360	2.7	240	37.5	-11.1	1.5	3.8
Greenwood	722359	33.50	90.08	47	100.76	8293	-6.9	-4.5	8.4	7.6	6.3	8.5	7.8	8.0	8.3	2.9	360	2.9	180	37.4	-10.6	1.3	4.2
Jackson	722350	32.32	90.08	101	100.12	6193	-6.3	-4.1	9.1	8.0	7.1	9.3	7.1	8.3	7.6	3.2	340	3.6	270	36.7	-10.1	1.5	3.2
McComb	722358	31.18	90.47	126	99.82	8293	-4.9	-2.1	7.5	6.4	5.8	7.6	9.2	6.7	9.2	2.5	350	3.3	230	36.6	-9.2	1.1	4.0
Meridian	722340	32.33	88.75	94	100.20	6193	-6.2	-3.9	8.4	7.5	6.6	8.5	6.2	7.7	7.5	2.7	360	3.6	360	37.2	-10.5	1.6	3.3
Tupelo	723320	34.27	88.77	110	100.01	8293	-7.9	-5.3	8.4	7.5	6.7	8.8	6.6	7.8	6.6	3.2	10	3.3	260	37.1	-12.4	1.6	4.7
MISSOURI																							
Cape Girardeau	723489	37.23	89.57	104	100.08	8293	-14.4	-10.7	9.5	8.5	7.9	10.0	1.7	9.1	2.4	4.2	360	4.3	200	37.8	-18.4	1.6	5.1
Columbia	724450	38.82	92.22	274	98.08	6193	-18.1	-14.9	11.1	9.7	8.7	11.2	-2.6	9.9	-2.2	4.8	310	4.8	200	37.2	-22.2	2.4	3.4
Joplin	723495	37.15	94.50	299	97.78	8293	-15.9	-11.9	10.3	9.3	8.4	10.5	10.0	9.5	8.1	4.4	10	4.9	220	37.8	-19.0	2.2	5.2
Kansas City	724460	39.32	94.72	312	97.63	6193	-18.6	-15.4	11.4	10.1	9.0	11.6	1.2	10.2	0.6	4.2	320	5.7	190	37.9	-21.7	2.3	3.7
Poplar Bluff	723300	36.77	90.47	146	99.58	8293	-13.2	-10.3	7.9	6.5	5.7	7.8	4.5	6.6	3.3	3.0	360	3.0	200	38.3	-16.8	3.8	5.2
Spickard/Trenton	725400	40.25	93.72	270	98.12	8293	-17.4	-14.6	10.4	9.1	8.1	11.0	-1.9	9.6	-0.5	3.5	360	5.0	200	37.7	-20.7	2.9	4.1
Springfield	724400	37.23	93.38	387	96.76	6193	-16.2	-12.8	10.8	9.6	8.7	10.4	1.6	9.6	1.8	4.6	340	4.4	230	36.9	-20.2	1.9	3.6
St. Louis, Intl Airport	724340	38.75	90.37	172	99.28	6193	-16.8	-13.6	11.4	10.0	8.8	11.7	-3.4	10.3	-2.8	5.4	290	4.8	240	37.4	-20.7	1.9	3.4
Warrensburg, Whiteman AFB	724467	38.73	93.55	265	98.18	8293	-17.3	-13.8	9.9	8.6	7.6	10.4	1.1	9.3	0.9	4.0	360	4.0	190	38.1	-20.7	2.2	4.3
MONTANA																							
Billings	726770	45.80	108.53	1088	88.92	6193	-25.1	-21.8	12.3	10.7	9.7	13.3	-3.9	12.0	-1.2	4.2	230	4.4	240	37.3	-28.1	1.6	3.4
Bozeman	726797	45.78	111.15	1364	85.98	8293	-29.0	-24.7	9.2	8.0	6.7	8.9	2.5	7.6	1.2	1.9	140	4.0	360	35.8	-34.0	1.6	4.3
Butte	726785	45.95	112.50	1690	82.60	8293	-30.1	-25.8	10.2	9.2	8.2	9.5	-1.5	8.4	-1.2	1.6	150	5.6	120	33.1	-36.8	1.4	4.4
Cut Bank	727796	48.60	112.37	1175	87.98	6193	-29.2	-26.4	15.2	13.4	12.0	18.0	2.0	15.3	2.4	3.2	320	5.8	270	34.1	-33.1	2.2	3.2
Glasgow	727680	48.22	106.62	700	93.19	6193	-30.2	-27.1	13.1	11.5	10.2	12.5	-7.8	11.0	-9.3	3.6	330	5.9	160	37.3	-33.8	1.8	3.7
Great Falls, Intl Airport	727750	47.48	111.37	1115	88.63	6193	-28.1	-24.8	14.6	13.1	11.6	15.3	3.4	14.0	3.4	3.3	240	5.4	230	36.8	-31.8	1.8	4.1
Great Falls, Malmstrom AFB	727755	47.50	111.18	1075	89.06	8293	-27.4	-23.9	12.7	10.8	9.5	14.8	3.3	13.1	3.3	1.8	240	3.5	260	37.0	-29.8	1.8	4.4
Havre	727770	48.55	109.77	792	92.17	8293	-31.6	-28.4	10.8	9.4	8.4	11.5	1.7	10.2	0.4	2.5	240	3.9	270	38.7	-36.2	2.8	4.5
Helena	727720	46.60	112.00	1188	87.84	6193	-27.5	-23.5	11.1	9.8	8.7	11.2	4.3	9.6	1.7	2.0	290	5.4	280	35.7	-30.8	1.8	4.0
Kalispell	727790	48.30	114.27	906	90.90	6193	-24.2	-19.7	10.5	8.8	7.6	11.2	-11.1	9.3	-7.9	2.9	20	4.1	170	34.7	-28.4	1.6	4.8
Lewistown	726776	47.05	109.47	1270	86.97	6193	-27.9	-24.2	11.4	10.1	9.1	13.0	1.4	11.3	1.4	3.3	250	4.7	90	34.8	-31.6	1.9	4.1
Miles City	742300	46.43	105.87	801	92.07	6193	-28.2	-24.7	12.0	10.1	9.0	12.3	-3.8	10.3	-2.8	3.7	290	4.9	140	39.1	-31.7	1.5	3.6
Missoula	727730	46.92	114.08	972	90.18	6193	-22.8	-18.3	9.9	8.6	7.5	9.9	-8.1	8.5	-6.3	2.9	120	4.6	290	36.3	-26.3	1.6	4.6
NEBRASKA																							
Bellevue, Offutt AFB	725540	41.12	95.92	319	97.55	8293	-20.7	-17.2	10.0	8.5	7.4	11.4	-4.8	9.7	-5.2	3.4	330	4.4	190	37.6	-22.7	2.5	3.5
Grand Island	725520	40.97	98.32	566	94.71	6193	-22.2	-19.1	13.3	11.6	10.4	13.0	-6.2	11.5	-7.0	4.8	270	6.7	180	39.0	-25.8	1.8	2.9
Lincoln	725510	40.85	96.75	362	97.05	8293	-21.9	-18.8	11.9	10.3	9.3	12.4	-3.9	10.9	-2.7	4.0	350	6.8	180	39.4	-24.1	3.6	4.5
Norfolk	725560	41.98	97.43	473	95.77	6193	-23.7	-20.7	12.9	11.2	9.9	14.5	-6.8	12.7	-6.3	4.7	340	6.6	190	38.2	-27.7	1.7	3.0
North Platte	725620	41.13	100.68	849	91.53	6193	-23.1	-19.8	13.1	11.2	9.9	12.6	-4.6	10.7	-3.3	3.3	320	5.4	180	38.1	-26.9	1.6	3.7
Omaha, Eppley Airfield	725500	41.30	95.90	299	97.78	6193	-21.8	-18.9	11.4	10.0	8.9	12.0	-6.3	10.4	-8.2	4.6	340	5.5	180	37.9	-25.6	1.8	2.7
Omaha, WSO	725530	41.37	96.02	406	96.54	8293	-22.1	-18.8	10.0	8.8	8.0	11.0	-5.0	9.6	-3.8	4.4	310	4.7	170	36.6	-25.3	2.2	3.6
Scottsbluff	725660	41.87	103.60	1206	87.65	6193	-23.6	-19.4	13.4	11.5	9.9	14.1	1.4	12.2	1.4	3.5	300	5.0	300	38.4	-28.6	1.6	4.4
Sidney	725610	41.10	102.98	1312	86.53	8293	-22.5	-18.2	12.9	10.8	9.6	13.8	0.2	11.4	1.9	4.2	290	5.4	160	38.3	-27.6	2.5	4.8
Valentine	725670	42.87	100.55	792	92.17	8293	-26.5	-22.0	11.9	10.4	9.2	11.6	-4.1	10.1	-2.5	3.8	250	6.6	180	40.2	-29.8	2.4	4.7
NEVADA																							
Elko	725825	40.83	115.78	1565	83.88	6193	-20.6	-17.1	9.5	8.1	6.9	8.8	2.3	7.2	2.7	1.6	70	4.5	230	36.9	-25.1	1.8	4.4
Ely	724860	39.28	114.85	1909	80.40	6193	-21.2	-17.8	12.5	10.8	9.3	11.6	0.4	9.9	-0.9	4.9	190	5.7	230	33.8	-26.1	1.3	4.1
Las Vegas, Intl Airport	723860	36.08	115.17	664	93.60	6193	-2.7	-0.9	13.3	11.5	10.2	11.2	8.9	9.9	9.6	3.3	250	5.5	230	44.1	-6.3	1.2	2.6
Mercury	723870	36.62	116.02	1009	89.78	8293	-4.5	-2.2	11.3	9.8	8.7	11.0	6.7	9.2	5.3	3.4	50	5.5	230	38.8	-7.0	9.8	3.5
North Las Vegas, Nellis AFB	723865	36.23	115.03	570	94.66	8293	-2.4	-0.7	10.8	9.4	8.1	10.1	11.1	8.3	9.6	0.7	20	4.0	210	44.6	-6.1	1.1	2.5
Reno	724880	39.50	119.78	1341	86.22	6193	-13.4	-10.6	11.5	9.9	8.5	11.5	7.5	9.2	6.7	1.4	160	4.6	290	37.2	-17.1	1.2	4.7
Tonopah	724855	38.05	117.08	1654	82.97	6193	-13.7	-10.8	11.3	10.0	9.0	10.5	3.0	9.6	2.3	4.2	340	5.2	180	36.7	-17.4	1.1	3.6
Winnemucca	725830	40.90	117.80	1315	86.49	6193	-17.1	-13.7	10.1	8.7	7.7	9.3	3.8	8.1	3.3	2.2	160	4.9	250	38.4	-22.8	1.3	5.7
NEW HAMPSHIRE																							
Concord	726050	43.20	71.50	105	100.07	6193	-21.9	-18.9	10.0	8.7	7.7	10.0	-6.6	9.0	-6.2	2.0	320	4.6	230	34.9	-27.9	1.6	3.1
Lebanon	726116	43.63	72.30	182	99.16	8293	-21.8	-19.3	7.9	6.9	6.												

Table 1B Cooling and Dehumidification Design Conditions—United States

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Saint Cloud	32.5	22.3	30.8	21.7	29.3	20.8	24.3	30.3	23.2	29.1	22.1	27.6	22.4	17.8	28.2	21.3	16.5	26.9	20.2	15.5	25.7	11.9
Tofte	26.1	17.5	24.1	16.6	21.9	16.1	19.0	23.2	18.0	22.2	17.0	21.0	17.8	13.1	20.9	16.1	11.8	20.5	15.0	11.0	19.8	7.2
MISSISSIPPI																						
Biloxi, Keesler AFB	33.6	26.1	32.7	25.7	31.6	25.5	27.4	31.4	26.9	30.9	26.4	30.4	26.2	21.6	29.8	25.7	21.0	29.4	25.3	20.5	29.1	7.2
Columbus, AFB	35.6	24.8	34.5	24.6	33.5	24.2	26.4	32.6	25.8	31.9	25.3	31.3	25.0	20.2	29.3	24.3	19.4	28.5	23.9	18.9	27.9	10.7
Greenwood	35.5	25.6	34.6	25.3	33.7	25.0	27.2	32.7	26.7	32.3	26.1	31.7	25.7	21.1	29.8	25.2	20.4	29.5	24.7	19.8	29.1	10.6
Jackson	35.2	24.8	34.1	24.7	33.2	24.6	26.4	32.4	25.9	31.8	25.6	31.2	25.0	20.3	28.7	24.5	19.7	28.4	24.1	19.2	27.9	10.7
McComb	34.5	24.6	33.6	24.5	32.7	24.4	26.1	31.7	25.7	31.0	25.3	30.4	24.8	20.1	28.3	24.4	19.7	27.8	24.1	19.3	27.3	11.0
Meridian	35.3	24.7	34.2	24.5	33.1	24.3	26.3	32.6	25.7	31.9	25.2	31.3	24.7	19.9	28.9	24.1	19.2	28.6	23.6	18.6	28.1	11.3
Tupelo	35.3	24.5	34.3	24.2	33.4	24.1	26.0	31.9	25.5	31.8	25.1	31.2	24.4	19.6	28.4	24.0	19.1	28.1	23.6	18.7	27.5	10.5
MISSOURI																						
Cape Girardeau	35.4	25.2	34.2	24.8	33.0	24.5	26.6	33.2	25.8	32.1	25.3	31.3	24.8	20.1	30.2	24.2	19.4	29.4	23.7	18.8	28.6	11.0
Columbia	34.8	23.8	33.1	23.7	31.7	23.2	25.6	31.8	24.9	31.0	24.1	30.2	23.9	19.5	29.4	23.1	18.5	28.3	22.4	17.7	27.5	11.3
Joplin	35.6	24.1	34.4	23.9	33.0	23.5	25.7	32.5	25.1	31.7	24.5	31.2	24.0	19.6	29.4	23.4	18.9	29.2	22.5	17.8	28.1	11.1
Kansas City	35.5	24.1	33.8	23.9	32.3	23.4	25.7	32.3	25.1	31.7	24.4	30.8	23.9	19.5	29.7	23.2	18.6	29.1	22.5	17.9	28.1	10.4
Poplar Bluff	34.8	24.9	33.6	24.7	32.0	24.3	26.5	32.1	25.8	31.3	25.2	30.5	25.1	20.6	29.3	24.4	19.7	28.6	23.8	19.0	28.0	11.1
Spickard/Trenton	35.7	23.6	34.0	22.9	31.8	22.5	25.6	31.1	24.6	31.3	23.7	30.1	24.2	19.8	28.6	23.0	18.3	28.2	21.6	16.8	27.2	10.9
Springfield	34.8	23.5	33.3	23.5	31.8	23.1	25.3	31.7	24.6	31.1	24.0	30.2	23.5	19.2	29.1	22.8	18.3	28.2	22.2	17.7	27.4	11.6
St. Louis, Intl Airport	35.1	24.6	33.6	24.1	32.2	23.6	26.1	32.3	25.3	31.3	24.6	30.4	24.3	19.7	29.3	23.7	18.9	28.5	22.9	18.1	27.8	10.2
Warrensburg, Whiteman AFB	35.6	24.5	34.1	24.5	32.1	24.0	26.1	32.9	25.4	32.2	24.7	31.3	24.3	19.9	30.2	23.7	19.1	29.3	23.0	18.3	28.6	10.7
MONTANA																						
Billings	34.1	16.9	32.3	16.6	30.4	16.2	18.6	30.1	17.7	29.1	16.9	28.2	14.7	11.9	21.8	13.7	11.1	21.4	12.7	10.5	20.8	14.3
Bozeman	33.0	16.0	30.8	15.6	29.2	15.1	17.6	28.4	16.6	27.6	15.9	27.0	14.2	11.9	20.5	13.1	11.1	19.4	11.7	10.1	19.0	17.6
Butte	30.2	13.8	28.8	13.3	26.9	13.0	15.6	24.5	14.6	24.7	13.9	24.3	12.2	10.9	16.2	11.0	10.0	17.0	10.0	9.4	16.5	17.5
Cut Bank	30.7	15.3	28.8	14.8	26.8	14.2	16.8	27.3	15.8	26.3	14.9	25.2	13.3	11.0	19.5	11.9	10.0	18.2	10.8	9.3	17.4	14.5
Glasgow	34.2	17.6	32.2	17.2	30.2	16.7	19.8	29.4	18.6	28.6	17.7	27.5	16.8	13.0	23.2	15.4	11.9	21.4	14.2	11.0	20.7	14.1
Great Falls, Intl Airport	33.2	16.0	31.3	15.5	29.4	15.1	17.7	28.8	16.8	27.9	15.9	26.9	14.1	11.5	20.6	12.9	10.6	19.6	11.8	9.9	19.1	15.1
Great Falls, Malmstrom AFB	33.7	16.5	31.6	16.1	29.9	15.7	18.4	29.5	17.4	28.1	16.5	27.0	14.8	12.0	21.5	13.7	11.1	20.5	12.3	10.2	20.2	14.6
Havre	34.3	17.1	32.0	16.6	30.2	16.3	19.0	30.4	17.8	28.8	16.9	27.9	15.4	12.0	22.0	14.2	11.1	20.4	13.3	10.5	19.9	15.5
Helena	32.4	15.6	30.7	15.2	28.8	14.8	17.2	27.9	16.3	27.4	15.6	26.6	13.8	11.4	19.9	12.5	10.4	19.1	11.3	9.7	19.1	15.6
Kalispell	31.7	16.7	29.8	16.2	27.9	15.7	18.1	28.3	17.2	27.3	16.3	25.9	14.7	11.7	20.7	13.6	10.9	19.6	12.6	10.2	19.4	16.6
Lewistown	31.9	15.9	29.7	15.6	27.8	15.2	18.0	27.4	16.9	26.6	16.1	25.7	14.7	12.2	21.5	13.5	11.3	20.5	12.4	10.5	19.4	15.7
Miles City	35.9	18.6	34.1	18.2	32.1	17.7	20.7	31.6	19.6	30.2	18.7	29.1	17.3	13.6	24.6	16.1	12.6	23.7	14.9	11.7	22.8	14.4
Missoula	33.0	16.7	31.2	16.2	29.2	15.7	18.1	28.6	17.2	27.9	16.4	27.0	14.7	11.7	20.2	13.5	10.9	20.2	12.6	10.2	18.9	17.4
NEBRASKA																						
Bellevue, Offutt AFB	34.8	24.4	33.0	24.1	31.1	23.2	25.9	31.9	25.1	31.2	24.3	30.0	24.4	20.1	29.6	23.6	19.2	28.6	22.8	18.2	27.7	10.2
Grand Island	35.9	22.3	33.9	21.9	32.1	21.3	24.2	31.7	23.4	31.0	22.6	29.9	22.2	18.1	27.7	21.3	17.1	26.9	20.4	16.1	26.2	12.4
Lincoln	36.3	23.6	34.6	23.2	33.0	22.8	25.5	32.0	24.7	31.5	24.0	30.6	23.8	19.5	29.1	23.0	18.5	28.4	21.9	17.3	27.7	12.4
Norfolk	35.0	23.4	33.3	22.3	31.7	21.9	24.7	32.1	23.9	31.2	23.0	30.0	22.6	18.4	28.6	21.7	17.3	27.7	20.8	16.4	27.1	11.6
North Platte	35.0	20.5	33.2	20.5	31.4	19.9	22.8	30.8	21.9	30.1	21.2	29.3	20.6	16.9	26.8	19.6	15.9	25.8	18.7	15.0	25.1	14.2
Omaha, Eppley Airfield	35.0	24.0	33.2	23.6	31.6	23.0	25.7	32.3	24.8	31.3	23.9	30.2	23.8	19.4	29.7	22.9	18.3	29.0	22.0	17.3	28.0	11.1
Omaha, WSO	34.2	23.7	32.5	23.9	30.8	22.6	25.2	31.7	24.3	30.5	23.6	29.7	23.5	19.2	28.9	22.4	18.0	28.1	21.6	17.1	27.6	9.8
Scottsbluff	35.2	18.2	33.4	17.9	31.7	17.9	20.6	30.3	19.7	29.5	19.0	28.7	17.6	14.6	24.2	16.7	13.8	23.2	15.8	13.0	22.9	16.1
Sidney	35.0	17.3	33.5	17.1	31.4	17.0	19.6	29.1	18.7	28.9	18.0	28.7	16.6	13.9	22.6	15.6	13.0	22.4	14.7	12.3	21.8	15.5
Valentine	36.1	20.2	34.3	19.7	32.1	19.4	22.3	32.2	21.5	31.7	20.6	30.6	19.5	15.7	26.2	18.5	14.7	25.4	17.1	13.4	24.9	14.7
NEVADA																						
Elko	34.9	15.5	33.5	14.9	32.0	14.4	17.2	29.3	16.3	29.1	15.5	28.6	13.9	12.0	19.9	12.2	10.7	19.1	10.4	9.5	19.4	21.3
Ely	31.8	13.6	30.6	13.3	29.3	12.9	15.7	25.6	15.0	25.6	14.2	25.4	12.8	11.7	17.9	11.5	10.7	17.8	10.1	9.7	18.2	19.2
Las Vegas, Intl Airport	42.2	18.9	40.9	18.6	39.6	18.2	21.9	34.8	21.2	33.9	20.6	33.7	18.6	14.5	26.2	17.1	13.2	27.4	15.6	12.0	29.4	13.8
Mercury	39.1	18.2	38.0	17.8	36.5	17.2	20.3	31.2	19.6	31.9	18.9	31.8	17.9	14.5	22.2	15.8	12.7	24.8	14.2	11.4	26.5	14.4
North Las Vegas, Nellis AFB	42.1	19.9	41.0	19.5	39.8	19.0	22.4	34.2	21.7	34.6	21.0	34.2	19.4	15.2	26.1	17.9	13.8	27.9	16.1	12.3	29.1	14.6
Reno	34.8	15.8	33.4	15.4	31.9	14.9	17.2	30.7	16.4	30.2	15.7	29.4	13.1	11.0	20.4	11.4	9.9	20.3	10.0	9.0	20.1	20.7
Tonopah	34.4	14.4	33.1	14.1	31.9	13.7	16.8	28.3	16.0	27.9	15.3	27.4	13.4	11.8	19.3	11.9	10.6	20.2	10.2	9.5	20.6	17.3
Winnemucca	36.0	15.8	34.7	15.4	33.2	14.8	17.4	31.1	16.6	30.7	15.7	30.1	13.4	11.3	20.1	11.5	9.9	19.6	9.8	8.8	19.7	20.8
NEW HAMPSHIRE																						
Concord	32.1	21.7	30.3	21.1	28.8	20.2	23.6	29.4	22.6	27.8	21.7	26.3	21.9	16.8	25.9	21.1	15.9	24.9	20.2	15.0	24.3	13.4
Lebanon	31.3	21.4	29.8	20.6	28.5	19.9	23.2	29.1	22.1	27.7	21.2	26.1	21.2	1								

Table 1A Heating and Wind Design Conditions—United States

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							Dry Bulb		Speed, m/s			0.4%		1%		99.6%		0.4%		Mean DB		StdD DB	
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Clovis, Cannon AFB	722686	34.38	103.32	1309	86.56	8293	-12.0	-9.2	11.6	10.1	8.8	11.7	4.5	10.3	3.8	3.4	50	5.0	220	38.3	-14.8	1.3	2.2
Farmington	723658	36.75	108.23	1677	82.74	8293	-13.3	-10.8	10.4	9.5	8.2	9.9	1.9	8.4	1.3	2.5	60	4.6	240	37.0	-18.1	2.1	4.0
Gallup	723627	35.52	108.78	1972	79.77	8293	-18.1	-15.1	10.1	8.8	8.1	8.7	3.8	7.9	2.6	0.6	140	5.0	270	34.3	-24.5	1.3	4.4
Roswell	722680	33.30	104.53	1118	88.60	8293	-9.8	-6.8	9.6	8.4	7.5	9.1	10.5	8.0	9.0	3.4	360	4.9	140	40.5	-14.2	2.6	3.6
Truth Or Consequences	722710	33.23	107.27	1481	84.75	8293	-5.6	-3.2	11.0	9.5	8.2	10.7	6.1	9.3	5.1	3.5	350	4.4	170	38.7	-14.6	1.6	13.2
Tucumcari	723676	35.18	103.60	1239	87.30	6193	-12.6	-9.5	11.1	9.9	9.0	12.5	10.2	10.2	7.2	3.3	50	5.2	230	39.1	-17.1	1.7	4.0
NEW YORK																							
Albany	725180	42.75	73.80	89	100.26	6193	-21.9	-18.8	10.9	9.6	8.6	10.0	-6.6	9.0	-5.8	2.1	300	4.6	230	34.8	-27.6	1.7	3.5
Binghamton	725150	42.22	75.98	497	95.50	6193	-18.9	-16.6	10.6	9.4	8.5	10.9	-6.7	9.6	-7.0	5.6	270	4.8	220	31.7	-22.8	1.7	2.9
Buffalo	725280	42.93	78.73	215	98.77	6193	-16.8	-14.8	13.1	11.4	10.0	15.0	-3.8	13.3	-4.6	5.2	270	5.8	240	32.5	-21.1	1.3	2.4
Central Islip	725035	40.80	73.10	30	100.97	8293	-11.7	-9.6	10.0	9.0	8.2	10.3	0.1	9.4	-0.7	4.6	340	4.7	210	34.6	-16.4	1.8	3.0
Elmira/Corning	725156	42.17	76.90	291	97.88	8293	-18.9	-15.9	9.4	8.3	7.6	10.2	-6.7	9.1	-3.0	2.4	240	5.0	210	35.0	-23.5	2.0	3.4
Glens Falls	725185	43.33	73.62	100	100.13	8293	-23.1	-19.8	8.2	7.3	6.3	8.3	-5.6	7.4	-5.4	1.1	350	4.4	190	34.1	-28.9	1.5	2.6
Massena	726223	44.93	74.85	65	100.55	6193	-26.3	-23.2	9.5	7.9	7.4	10.4	-5.4	9.4	-5.7	1.6	270	4.6	230	33.1	-32.9	1.7	3.3
New York, JFK Airport	744860	40.65	73.78	7	101.24	6193	-11.4	-9.2	12.1	10.5	9.5	13.2	-1.4	11.9	-2.3	7.6	320	5.9	230	35.3	-14.7	1.4	2.6
New York, La Guardia A	725030	40.77	73.90	9	101.22	8293	-10.7	-8.1	12.5	11.0	9.9	13.2	-1.6	12.0	-2.4	7.9	310	5.5	280	36.0	-14.5	1.2	2.4
Newburgh	725038	41.50	74.10	150	99.54	8293	-14.7	-12.0	10.2	9.0	8.2	11.7	-8.6	10.2	-3.6	3.5	260	4.4	230	33.3	-20.1	1.7	3.6
Niagara Falls	725287	43.10	78.95	180	99.18	8293	-15.7	-13.9	11.6	10.0	9.1	13.5	-4.3	12.1	-5.1	5.1	240	5.8	230	32.9	-20.2	1.8	3.4
Plattsburgh, AFB	726225	44.65	73.47	72	100.46	8293	-22.6	-20.2	9.2	8.1	7.1	9.8	-3.0	8.6	-4.7	1.0	350	3.5	260	33.7	-27.4	1.5	2.6
Poughkeepsie	725036	41.63	73.88	51	100.71	8293	-16.7	-14.2	8.1	7.1	6.1	8.4	-3.9	7.8	-3.9	1.2	250	3.9	250	35.3	-22.5	1.7	3.3
Rochester	725290	43.12	77.67	169	99.31	6193	-17.2	-15.0	11.9	10.4	9.3	12.9	-5.3	11.6	-6.1	4.4	230	5.4	250	34.0	-21.4	1.6	2.7
Rome, Griffiss AFB	725196	43.23	75.40	154	99.49	8293	-20.6	-17.4	9.7	8.3	7.2	10.4	-5.3	8.8	-5.5	1.4	330	3.4	260	33.9	-25.9	1.4	2.1
Syracuse	725190	43.12	76.12	124	99.84	6193	-19.6	-16.4	11.4	10.0	9.0	12.7	-6.8	11.1	-5.9	3.3	90	4.8	250	33.7	-24.7	1.7	3.3
Watertown	726227	44.00	76.02	99	100.14	8293	-24.7	-20.9	9.5	8.5	8.0	10.5	-4.3	9.3	-4.0	2.2	80	5.1	240	32.0	-31.5	1.6	3.9
White Plains	725037	41.07	73.70	134	99.73	8293	-13.8	-11.1	8.4	7.6	6.5	8.5	-1.4	8.1	-1.4	5.7	310	3.9	260	34.9	-17.8	1.6	2.5
NORTH CAROLINA																							
Asheville	723150	35.43	82.55	661	93.63	6193	-11.4	-8.8	11.0	9.6	8.5	11.6	-3.3	10.3	-2.0	5.0	340	3.9	340	33.0	-16.3	1.4	3.8
Cape Hatteras	723040	35.27	75.55	3	101.29	6193	-3.6	-1.9	11.4	10.0	8.8	11.9	8.4	10.4	8.5	4.9	340	4.8	230	32.8	-6.8	1.1	2.7
Charlotte	723140	35.22	80.93	234	98.55	6193	-7.6	-5.1	8.8	7.7	6.8	9.1	6.8	8.1	7.1	2.8	50	3.8	240	35.9	-12.0	1.6	3.3
Cherry Point, MCAS	723090	34.90	76.88	9	101.22	8293	-4.7	-2.2	8.3	7.3	6.5	8.7	6.1	7.8	8.8	2.3	10	3.3	240	37.5	-11.0	1.4	4.7
Fayetteville, Fort Bragg	746930	35.13	78.93	74	100.44	8293	-5.5	-3.0	7.6	6.4	5.4	8.4	5.3	7.3	6.4	1.9	10	2.7	240	37.9	-9.7	2.1	3.8
Goldsboro, Johnson AFB	723066	35.33	77.97	33	100.93	8293	-5.6	-3.0	7.5	6.3	5.5	8.2	7.9	6.9	6.9	2.0	270	3.4	260	37.9	-10.2	1.7	4.1
Greensboro	723170	36.08	79.95	270	98.12	6193	-9.7	-7.2	8.6	7.7	6.8	8.9	4.3	8.0	4.2	3.2	290	3.8	230	35.7	-14.2	1.5	2.8
Hickory	723145	35.73	81.38	362	97.05	8293	-7.7	-5.2	7.8	6.5	5.9	8.2	4.9	7.1	5.2	1.9	320	3.9	240	36.0	-13.2	1.8	3.8
Jacksonville, New River MCAF	723096	34.72	77.45	8	101.23	8293	-5.1	-2.6	8.2	7.1	6.3	8.4	9.6	7.4	8.3	2.4	350	3.3	240	37.0	-10.5	1.1	4.9
New Bern	723095	35.07	77.05	6	101.25	8293	-5.4	-2.8	8.1	7.1	6.3	8.3	9.6	7.4	8.4	2.5	10	3.6	240	37.3	-10.5	0.8	4.6
Raleigh/Durham	723060	35.87	78.78	134	99.73	6193	-9.1	-6.4	9.2	8.1	7.1	9.5	5.5	8.4	5.9	3.4	360	4.1	240	35.6	-13.0	1.6	2.9
Wilmington	723013	34.27	77.90	10	101.20	6193	-4.9	-2.9	9.6	8.3	7.5	9.9	10.3	8.8	8.8	3.3	320	4.6	220	36.1	-8.6	1.2	3.2
Winston-Salem	723193	36.13	80.22	296	97.82	8293	-8.0	-5.2	8.4	7.7	6.5	9.3	3.1	8.3	3.6	3.3	290	3.6	240	35.7	-13.1	1.5	3.2
NORTH DAKOTA																							
Bismarck	727640	46.77	100.75	506	95.39	6193	-29.6	-26.6	13.0	11.2	10.0	13.0	-10.4	11.3	-8.8	3.0	290	5.9	180	37.9	-34.7	2.0	3.6
Devils Lake	727580	48.10	98.87	443	96.12	8293	-30.6	-28.1	11.4	10.0	8.8	12.1	-11.1	10.5	-12.0	4.0	300	5.0	10	36.4	-32.7	3.9	2.8
Fargo	727530	46.90	96.80	274	98.08	6193	-29.7	-27.3	13.6	12.0	10.7	14.4	-14.2	12.5	-13.9	3.6	180	6.4	160	36.6	-32.7	1.9	2.4
Grand Forks, AFB	727575	47.97	97.40	278	98.03	8293	-29.1	-26.6	12.2	10.5	9.4	13.3	-12.9	11.6	-10.6	3.3	290	5.6	180	36.9	-31.9	2.6	2.7
Minot, AFB	727675	48.42	101.35	508	95.37	8293	-29.2	-26.5	12.5	10.5	9.4	13.6	-7.5	12.2	-8.9	4.5	310	5.3	150	38.1	-31.7	2.1	4.1
Minot, Intl Airport	727676	48.27	101.28	523	95.20	6193	-28.9	-26.6	12.3	10.7	9.8	13.4	-9.8	11.9	-10.1	5.3	290	5.8	200	36.9	-31.9	1.7	2.7
Williston	727670	48.18	103.63	581	94.54	8293	-31.0	-27.7	12.2	10.4	9.3	12.6	-3.8	10.6	-6.7	3.6	220	6.4	150	38.2	-34.3	2.5	4.6
OHIO																							
Akron/Canton	725210	40.92	81.43	377	96.88	6193	-17.9	-14.9	10.6	9.3	8.3	11.2	-3.6	10.0	-3.6	5.0	270	4.6	230	33.3	-21.8	1.6	3.9
Cincinnati, Lunken Field	724297	39.10	84.42	147	99.57	8293	-14.9	-11.3	9.2	8.3	7.6	9.7	1.8	8.7	0.8	3.8	260	4.3	210	35.8	-19.7	1.8	5.2
Cleveland	725240	41.42	81.87	245	98.42	6193	-17.4	-14.7	11.5	10.2	9.1	12.0	-2.2	10.5	-2.5	5.5	230	5.3	230	33.9	-21.3	1.6	3.5
Columbus, Intl Airport	724280	40.00	82.88	249	98.37	6193	-17.4	-14.3	10.4	9.1	8.1	10.6	-1.3	9.3	-4.0	4.1	270	4.7	270	34.5	-20.9	1.4	3.9
Columbus, Rickenbckr AFB	724285	39.82	82.93	227	98.63	8293	-16.3	-12.5	9.2	8.0	7.1	10.2	-3.4	9.1	-2.8	3.2	210	3.7	270	35.4	-20.2	2.5	4.8
Dayton, Intl Airport	724290	39.90	84.20	306																			

Table 1B Cooling and Dehumidification Design Conditions—United States

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Clovis, Cannon AFB	35.3	17.9	34.0	18.0	32.6	18.2	21.1	29.1	20.5	28.6	20.0	28.5	19.1	16.3	24.0	18.4	15.6	23.3	17.8	15.0	22.9	13.6
Farmington	34.3	15.8	33.1	15.7	31.5	15.5	18.3	28.6	17.7	28.1	17.1	27.5	15.5	13.5	20.4	14.7	12.8	20.2	13.9	12.2	20.4	16.0
Gallup	31.9	13.8	30.7	13.6	29.6	13.6	16.7	24.7	16.1	24.6	15.6	24.1	14.8	13.4	18.1	14.1	12.8	17.7	13.4	12.2	17.9	17.0
Roswell	36.8	18.2	35.6	18.1	34.5	18.1	21.2	30.3	20.7	30.1	20.2	29.4	19.1	15.9	23.0	18.6	15.4	22.9	18.0	14.8	22.8	13.8
Truth Or Consequences	36.3	16.3	35.1	16.2	33.9	16.1	18.9	29.5	18.4	29.3	17.9	29.0	15.8	13.5	21.7	15.2	12.9	21.7	14.6	12.4	22.1	13.9
Tucumcari	36.4	17.9	35.1	18.1	33.7	17.9	20.8	30.6	20.2	29.7	19.7	28.8	18.5	15.6	22.7	17.8	14.9	22.6	17.2	14.3	22.4	13.8
NEW YORK																						
Albany	32.0	21.8	30.2	21.1	28.7	20.3	23.6	29.3	22.6	27.8	21.8	26.3	21.9	16.8	25.9	21.1	15.9	24.9	20.2	15.1	24.3	13.2
Binghamton	29.4	21.2	27.9	20.4	26.5	19.6	22.6	27.3	21.7	26.0	20.8	24.8	21.2	16.8	25.2	20.3	15.9	24.1	19.5	15.1	23.2	9.7
Buffalo	30.0	21.2	28.7	20.7	27.4	20.0	23.2	27.6	22.3	26.6	21.6	25.5	21.8	16.9	25.8	21.0	16.1	24.9	20.2	15.2	24.1	9.8
Central Islip	31.1	22.6	29.7	22.1	28.3	21.3	24.4	28.6	23.7	27.3	23.1	26.0	23.5	18.4	26.3	22.9	17.7	25.4	21.9	16.6	24.8	8.4
Elmira/Corning	32.1	22.4	30.5	21.4	29.0	20.5	24.0	29.9	23.0	28.0	22.0	26.8	22.1	17.4	27.0	21.3	16.5	25.6	20.5	15.7	24.3	13.4
Glens Falls	31.2	22.6	29.7	21.5	28.2	20.9	24.4	29.3	23.2	27.7	22.1	26.4	23.1	18.1	27.1	21.6	16.5	25.9	20.7	15.5	24.6	12.3
Massena	30.7	22.4	29.1	21.4	27.6	20.5	23.7	28.9	22.7	27.4	21.7	25.9	22.1	16.9	26.8	21.1	15.9	25.4	20.2	15.0	24.5	12.1
New York, JFK Airport	32.5	23.1	30.9	22.4	29.5	21.7	24.6	29.9	23.8	28.8	23.1	27.6	23.1	17.8	26.8	22.4	17.1	26.5	21.7	16.3	25.9	7.7
New York, La Guardia A	33.5	23.5	31.5	22.8	30.2	22.2	25.0	30.8	24.2	29.3	23.6	28.1	23.6	18.4	27.0	23.0	17.8	26.5	21.9	16.6	26.5	8.1
Newburgh	31.1	23.1	29.7	22.1	28.5	21.2	24.7	29.2	23.6	28.1	22.6	26.9	23.5	18.6	27.6	22.0	17.0	26.6	21.0	15.9	25.3	9.5
Niagara Falls	30.7	22.2	29.4	21.5	28.2	20.6	24.1	29.0	23.1	27.2	22.1	26.0	22.8	17.9	27.2	21.6	16.6	25.4	20.8	15.8	24.5	10.5
Plattsburgh, AFB	30.2	21.7	28.6	20.7	26.6	20.0	23.2	28.0	22.2	26.8	21.2	25.3	21.6	16.4	26.1	20.6	15.4	24.7	19.7	14.5	23.8	10.9
Poughkeepsie	33.1	23.7	31.2	22.4	29.5	21.5	24.7	30.6	23.7	29.3	22.8	27.6	23.1	18.0	27.8	21.8	16.6	26.6	21.1	15.9	25.8	12.8
Rochester	31.4	22.6	29.9	21.7	28.4	20.8	24.1	29.2	23.1	27.7	22.1	26.7	22.5	17.6	27.2	21.6	16.5	25.9	20.7	15.6	24.8	11.2
Rome, Griffiss AFB	31.3	21.9	29.8	21.0	28.4	20.3	23.6	29.0	22.6	27.5	21.6	26.3	21.7	16.7	26.7	20.9	15.9	25.5	20.0	15.0	24.2	12.7
Syracuse	31.2	22.4	29.7	21.5	28.3	20.9	23.8	29.2	22.9	28.0	22.0	26.6	22.3	17.2	26.9	21.3	16.2	25.7	20.4	15.3	24.8	11.3
Watertown	29.5	21.7	28.1	21.2	26.4	20.6	23.4	27.7	22.5	26.4	21.6	25.1	21.9	16.8	25.7	21.1	15.9	25.0	20.3	15.2	24.1	11.4
White Plains	31.9	23.3	30.4	22.5	28.9	21.4	24.6	30.2	23.7	28.4	22.9	26.9	23.2	18.3	26.9	22.2	17.2	26.4	21.4	16.3	25.3	10.0
NORTH CAROLINA																						
Asheville	31.0	22.2	29.6	21.7	28.4	21.3	23.6	28.8	22.9	27.8	22.3	26.8	22.2	18.3	25.8	21.5	17.5	25.3	20.9	16.9	24.6	10.8
Cape Hatteras	30.8	25.6	30.1	25.2	29.3	24.8	26.6	29.7	26.1	28.8	25.6	28.4	25.7	21.0	28.5	25.2	20.3	28.1	24.7	19.7	27.5	6.3
Charlotte	34.2	23.4	32.8	23.2	31.6	22.8	24.9	31.2	24.3	30.6	23.8	29.8	23.2	18.5	27.5	22.7	17.9	26.9	22.2	17.4	26.4	9.9
Cherry Point, MCAS	34.8	26.2	33.6	25.5	32.1	25.1	27.2	33.0	26.5	32.1	25.9	31.0	25.6	20.9	30.5	25.0	20.1	30.0	24.5	19.5	29.2	9.2
Fayetteville, Fort Bragg	35.7	24.9	34.5	24.5	33.1	24.1	26.3	32.8	25.7	31.9	25.1	31.1	24.7	19.9	29.1	24.2	19.3	28.6	23.7	18.7	28.1	10.1
Goldsboro, Johnson AFB	35.6	25.2	34.2	24.5	32.9	24.3	26.4	32.8	25.8	31.7	25.2	30.8	24.7	19.8	29.0	24.3	19.3	28.4	23.9	18.8	27.8	10.2
Greensboro	33.4	23.8	32.2	23.3	30.9	22.8	25.1	30.8	24.4	30.1	23.8	29.4	23.5	18.9	27.6	22.9	18.2	27.0	22.3	17.6	26.4	10.3
Hickory	34.2	22.6	32.8	22.5	31.2	22.5	24.6	30.3	24.0	29.7	23.5	29.0	23.4	19.0	26.7	22.8	18.3	26.6	21.8	17.2	25.5	10.9
Jacksonville, New River MCAF	34.6	25.9	33.4	25.4	31.8	24.8	27.1	32.4	26.3	31.6	25.7	30.7	25.5	20.7	30.0	24.9	20.0	29.4	24.4	19.4	28.7	9.5
New Bern	34.6	25.6	33.6	25.3	32.0	24.6	27.0	32.7	26.2	31.7	25.6	30.5	25.4	20.6	29.9	24.8	19.9	29.0	24.3	19.2	28.2	9.5
Raleigh/Durham	33.8	24.4	32.4	23.7	31.2	23.2	25.5	31.3	24.9	30.4	24.3	29.5	24.0	19.2	27.9	23.4	18.5	27.3	22.9	17.9	26.7	10.4
Wilmington	33.9	25.8	32.7	25.3	31.5	24.8	26.8	31.9	26.2	31.0	25.7	30.1	25.6	20.8	29.2	25.0	20.1	28.6	24.5	19.5	28.1	8.7
Winston-Salem	33.6	23.4	31.9	23.1	30.8	22.7	24.8	30.0	24.3	29.8	23.7	29.2	23.6	19.1	27.3	23.0	18.4	26.9	22.0	17.3	26.2	9.8
NORTH DAKOTA																						
Bismarck	34.1	19.9	32.1	19.4	30.1	18.8	22.3	29.9	21.1	29.1	20.1	27.8	19.9	15.5	26.3	18.6	14.3	24.8	17.3	13.2	23.7	14.7
Devils Lake	33.0	20.5	30.6	19.4	28.9	18.7	22.3	30.0	21.0	28.3	19.8	26.4	20.0	15.5	25.6	18.7	14.3	25.1	17.0	12.8	24.0	11.7
Fargo	32.9	21.8	31.0	21.2	29.3	20.3	23.9	30.2	22.8	28.7	21.6	27.4	22.1	17.4	27.6	20.8	16.0	26.7	19.6	14.8	24.9	12.4
Grand Forks, AFB	33.0	21.4	30.9	20.6	29.2	19.8	23.7	29.9	22.4	28.6	21.1	26.9	21.7	16.9	27.3	20.4	15.6	25.6	19.2	14.4	24.3	12.7
Minot, AFB	34.7	20.2	32.1	19.5	30.1	18.9	22.5	30.7	21.2	29.7	20.0	28.0	20.0	15.6	26.4	18.6	14.3	25.3	17.0	12.9	23.9	13.7
Minot, Intl Airport	33.3	19.6	31.1	18.8	29.1	18.2	21.7	29.2	20.5	28.2	19.3	26.4	19.4	15.1	25.4	17.9	13.7	23.9	16.7	12.7	22.7	12.7
Williston	35.4	19.3	33.3	18.7	30.8	18.1	21.6	30.7	20.4	29.9	19.3	28.5	18.9	14.7	25.6	17.1	13.1	24.2	16.0	12.2	23.0	14.3
OHIO																						
Akron/Canton	31.1	22.2	29.6	21.6	28.3	20.9	23.8	29.0	22.9	27.6	22.1	26.6	22.3	17.8	26.7	21.4	16.8	25.7	20.7	16.1	24.9	10.4
Cincinnati, Lunken Field	34.1	23.4	32.2	23.9	31.1	22.6	25.2	31.4	24.6	30.5	24.0	29.1	23.7	18.9	27.8	23.2	18.3	27.1	22.1	17.1	26.9	11.1
Cleveland	31.4	22.9	30.0	22.1	28.6	21.4	24.2	29.7	23.3	28.3	22.4	27.1	22.6	17.8	27.6	21.7	16.9	26.4	20.9	16.0	25.4	10.3
Columbus, Intl Airport	32.4	23.1	31.1	22.7	29.7	21.9	24.7	30.5	23.9	29.2	23.1	27.8	23.0	18.3	27.8	22.3	17.5	27.1	21.5	16.7	26.2	10.7
Columbus, Rickenbckr AFB	33.6	23.6	31.7	22.9	30.3																	

Table 1A Heating and Wind Design Conditions—United States

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							Dry	Bulb	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Eugene	726930	44.12	123.22	114	99.96	6193	-6.0	-3.6	9.1	7.9	7.1	9.6	7.9	8.5	7.2	3.5	360	5.2	360	37.0	-9.2	2.1	4.4
Hillsboro	726986	45.53	122.95	62	100.58	8293	-7.0	-4.2	8.5	7.8	6.7	10.2	-3.2	8.4	1.3	3.6	60	3.9	360	37.7	-9.5	2.1	3.5
Klamath Falls	725895	42.15	121.73	1247	87.21	8293	-15.8	-12.5	11.0	9.8	8.4	12.6	3.8	10.2	0.8	2.5	320	3.9	320	36.1	-19.9	2.3	4.8
Meacham	726885	45.52	118.40	1236	87.33	8293	-23.0	-17.7	5.2	4.4	3.8	5.7	0.7	5.0	0.3	0.6	130	2.3	360	33.8	-29.7	2.6	6.8
Medford	725970	42.37	122.87	405	96.55	6193	-6.3	-4.5	8.4	6.9	5.8	8.7	10.7	6.6	10.0	1.2	130	4.2	290	40.2	-9.4	1.9	3.6
North Bend	726917	43.42	124.25	4	101.28	6193	-1.3	0.2	11.1	10.0	9.1	10.1	10.8	8.9	10.1	2.9	140	6.2	340	27.9	-4.6	2.2	3.1
Pendleton	726880	45.68	118.85	456	95.97	6193	-15.9	-11.7	12.3	10.6	9.1	12.0	6.7	10.1	5.7	2.6	140	4.1	310	38.8	-18.1	2.0	6.2
Portland	726980	45.60	122.60	12	101.18	6193	-5.8	-2.9	11.0	9.3	8.1	12.5	2.7	11.1	3.6	5.7	120	5.0	340	37.1	-7.8	2.4	3.3
Redmond	726835	44.25	121.15	938	90.55	6193	-17.2	-12.7	8.9	7.6	7.1	9.1	5.7	8.2	4.9	2.5	320	4.7	340	36.7	-21.5	1.8	5.7
Salem	726940	44.92	123.00	61	100.59	6193	-6.6	-4.1	10.2	8.7	7.5	11.0	8.0	9.6	7.9	2.6	350	4.4	360	37.6	-10.0	1.8	3.7
Sexton Summit	725975	42.62	123.37	1171	88.03	8293	-6.1	-4.4	10.9	9.6	8.7	12.2	2.7	10.9	3.6	4.1	120	2.9	340	31.6	-8.7	2.7	4.7
PENNSYLVANIA																							
Allentown	725170	40.65	75.43	117	99.93	6193	-14.9	-12.3	11.9	10.4	9.2	12.7	-3.3	11.2	-4.6	4.2	270	4.9	240	34.9	-18.7	1.6	2.9
Altoona	725126	40.30	78.32	458	95.94	8293	-15.0	-12.3	9.1	8.2	7.4	10.1	-6.8	9.1	-5.8	4.0	270	3.4	250	33.5	-20.5	2.0	4.4
Bradford	725266	41.80	78.63	653	93.72	6193	-21.2	-18.3	8.5	8.0	7.1	9.6	-5.8	8.4	-6.0	3.1	270	4.2	240	30.6	-26.3	1.6	2.8
Du Bois	725125	41.18	78.90	554	94.84	8293	-17.8	-15.0	9.3	8.3	7.6	10.3	-6.8	9.3	-6.5	5.0	280	4.3	270	32.0	-22.8	1.7	3.9
Erie	725260	42.08	80.18	225	98.65	6193	-16.6	-14.1	11.9	10.7	9.7	12.7	-2.5	11.4	-2.5	6.1	200	5.4	250	32.3	-20.2	1.7	3.6
Harrisburg	725115	40.20	76.77	94	100.20	6193	-13.0	-10.7	10.0	8.7	7.9	10.9	-1.8	9.7	-1.9	3.7	270	4.2	250	36.0	-16.7	1.8	3.2
Philadelphia, Intl Airport	724080	39.88	75.25	9	101.22	6193	-11.9	-9.7	10.9	9.6	8.5	11.7	-0.8	10.1	-1.4	5.2	290	4.8	230	35.7	-15.3	1.6	3.1
Philadelphia, Northeast A	724085	40.08	75.02	37	100.88	8293	-11.7	-9.5	9.3	8.3	7.6	9.8	-0.9	8.6	-1.4	4.5	300	4.4	260	36.2	-15.9	1.4	3.4
Philadelphia, Willow Gr NAS	724086	40.20	75.15	110	100.01	8293	-12.0	-9.8	7.9	6.8	5.9	8.3	-1.0	7.3	-1.2	2.4	300	2.8	250	37.2	-16.9	3.0	3.2
Pittsburgh, Allegheny Co. A	725205	40.35	79.93	382	96.82	8293	-15.3	-11.9	9.2	8.3	7.7	10.2	-4.2	9.2	-4.4	5.0	250	4.8	240	34.2	-20.2	1.7	5.2
Pittsburgh, Intl Airport	725200	40.50	80.22	373	96.92	6193	-16.9	-14.1	10.9	9.5	8.4	11.7	-4.7	10.2	-3.9	4.5	260	4.9	230	33.8	-21.0	1.7	3.7
Wilkes-Barre/Scranton	725130	41.33	75.73	289	97.90	6193	-16.7	-14.2	9.1	8.0	7.3	9.5	-3.1	8.4	-4.2	3.8	230	4.8	220	33.5	-20.6	1.6	2.7
Williamsport	725140	41.25	76.92	160	99.42	6193	-16.6	-13.7	10.3	9.0	8.1	10.7	-4.9	9.5	-3.8	3.4	270	4.6	250	34.4	-21.3	1.7	3.3
RHODE ISLAND																							
Providence	725070	41.73	71.43	19	101.10	6193	-14.8	-12.3	11.9	10.4	9.2	12.1	-0.8	10.4	-0.2	5.1	340	5.7	230	35.1	-18.8	2.1	2.8
SOUTH CAROLINA																							
Beaufort, MCAS	722085	32.48	80.72	12	101.18	8293	-2.3	-0.4	7.9	6.8	6.0	8.4	8.0	7.5	7.4	2.0	300	3.2	270	38.2	-10.8	1.6	4.6
Charleston	722080	32.90	80.03	15	101.14	6193	-3.9	-2.0	9.8	8.6	7.7	9.8	10.8	8.6	10.6	3.3	20	4.5	230	36.4	-7.8	1.3	3.1
Columbia	723100	33.95	81.12	69	100.50	6193	-6.3	-4.2	8.7	7.7	6.8	9.1	8.8	8.1	9.3	2.1	220	4.1	240	37.7	-10.6	1.7	3.1
Florence	723106	34.18	79.72	45	100.79	8293	-5.1	-2.7	8.5	7.8	6.9	8.8	10.5	8.0	9.9	3.0	360	4.3	240	38.0	-9.8	1.5	4.2
Greer/Greenville	723120	34.90	82.22	296	97.82	6193	-7.1	-4.8	8.9	7.9	7.0	9.2	7.3	8.2	6.8	2.7	50	3.9	230	35.9	-11.9	1.4	3.1
Myrtle Beach, AFB	747910	33.68	78.93	8	101.23	8293	-3.8	-1.4	7.9	6.9	6.0	7.9	9.3	6.9	8.2	1.6	360	3.1	290	36.9	-8.6	1.6	4.1
Sumter, Shaw AFB	747900	33.97	80.47	74	100.44	8293	-4.2	-1.9	8.1	7.0	6.1	8.6	8.9	7.5	8.8	2.2	10	3.5	240	37.5	-8.3	1.7	3.4
SOUTH DAKOTA																							
Chamberlain	726530	43.80	99.32	530	95.12	8293	-25.0	-21.8	12.2	10.8	9.5	12.6	-8.0	11.0	-6.8	5.0	270	6.0	190	41.2	-24.5	4.5	10.2
Huron	726540	44.38	98.22	393	96.69	6193	-27.1	-24.4	13.0	11.3	10.0	12.9	-10.2	11.3	-9.3	3.9	290	6.4	180	38.8	-31.6	2.6	3.3
Pierre	726686	44.38	100.28	531	95.11	6193	-25.4	-22.5	12.9	11.2	10.0	14.1	-9.6	12.2	-6.6	4.8	320	6.3	180	41.0	-28.9	2.1	3.2
Rapid City	726620	44.05	103.07	966	90.25	6193	-23.8	-20.6	16.2	13.9	12.1	16.7	-3.6	14.2	-3.3	4.2	350	5.8	160	38.6	-27.3	1.9	3.0
Sioux Falls	726510	43.58	96.73	435	96.21	6193	-26.5	-23.7	12.5	10.9	9.7	13.2	-9.4	11.5	-8.2	3.5	310	6.7	180	37.8	-30.7	2.3	2.7
TENNESSEE																							
Bristol	723183	36.48	82.40	463	95.89	6193	-12.8	-9.8	8.8	7.6	6.6	9.3	1.8	8.3	2.0	2.5	270	3.5	250	33.5	-18.2	1.7	4.2
Chattanooga	723240	35.03	85.20	210	98.83	6193	-9.7	-6.9	8.4	7.5	6.6	8.9	2.8	7.9	3.6	3.2	360	3.6	280	36.2	-14.1	2.0	3.9
Crossville	723265	35.95	85.08	573	94.63	8293	-13.7	-9.7	7.3	6.4	5.9	7.9	0.3	7.0	2.3	1.7	310	3.4	270	33.9	-19.2	2.2	4.8
Jackson	723346	35.60	88.92	132	99.75	8293	-11.0	-7.5	8.8	8.0	7.2	9.2	8.0	8.3	6.7	3.8	360	3.5	240	36.6	-15.6	1.3	4.9
Knoxville	723260	35.82	83.98	299	97.78	6193	-10.5	-7.5	9.2	7.9	6.7	9.5	9.1	8.3	7.3	3.2	50	3.4	250	35.1	-15.8	1.7	4.3
Memphis	723340	35.05	90.00	87	100.28	6193	-8.9	-6.3	9.8	8.6	7.8	10.0	5.3	8.9	5.6	4.4	20	4.1	240	36.9	-12.6	1.6	4.0
Nashville	723270	36.13	86.68	180	99.18	6193	-12.2	-9.0	9.6	8.5	7.6	9.8	7.6	8.8	5.7	3.7	340	4.2	230	36.2	-17.0	1.8	4.3
TEXAS																							
Abilene	722660	32.42	99.68	546	94.94	6193	-8.9	-5.7	11.8	10.8	9.8	11.5	8.7	10.3	7.6	5.2	0	5.0	140	39.1	-12.1	1.6	3.3
Amarillo	723630	35.23	101.70	1099	88.80	6193	-14.4	-11.3	13.4	11.9	10.7	13.4	4.2	12.1	3.1	6.3	20	6.7	200	37.8	-18.2	1.6	3.1
Austin	722540	30.30	97.70	189	99.08	6193	-3.7	-1.3	10.3	9.1	8.0	11.1	5.0	9.7	6.2	5.3	10	4.3	180	38.4	-6.9	1.3	3.3
Beaumont/Port Arthur	722410	29.95	94.02	7	101.24	6193	-1.8	0.2	10.1	9.0	8.1	10.2	10.4	9.2	10.6	4.6	340	4.2	200	35.9	-5.4	1.4	2.5
Beeville, Chase Field NAS	722556	28.37	97.67	58	100.63	8293	-2.1	0.8	9.9	8.8	7.9	10.3	14.3	9.1	11.5	5.7	350	4.1	150	40.1	-5.7	1.4	4.6
Brownsville	722500	25.90	97.43	6	101.25	6193	2.1	4.2	12.1	10.8	9.8	11.4	17.8	10.3	16.4	5.9	330	7.0	160	36.6	-0.4	1.3	2.9
College Station/Bryan	722445	30.58	96.37	98	100.15	8293	-5.8	-1.9	9.2	8.3	7.6	9.2	8.5	8.3	9.3	5.5	350	4.2	170	38.6	-8.2	1.3	4.6
Corpus Christi	722510	27.77	97.50	13	101.17	6193	0.1	2.1	12.														

Table 1B Cooling and Dehumidification Design Conditions—United States

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Eugene	32.9	19.3	30.6	18.6	28.6	17.9	20.3	30.6	19.3	29.1	18.4	27.4	16.5	11.9	23.3	15.6	11.2	22.5	14.8	10.6	21.4	15.3
Hillsboro	33.5	20.4	30.9	19.4	28.9	18.6	21.4	31.7	20.2	29.8	19.1	27.9	17.8	12.9	26.3	16.3	11.7	23.9	15.5	11.1	22.3	14.8
Klamath Falls	32.9	17.7	30.7	16.9	29.2	16.0	18.7	30.5	17.8	28.9	17.0	27.3	14.7	12.2	23.4	13.8	11.5	22.8	12.8	10.7	21.6	19.0
Meacham	30.3	15.0	28.7	14.4	26.6	13.8	16.0	27.9	15.1	26.9	14.3	25.8	11.1	9.6	19.1	10.2	9.0	18.0	9.2	8.4	17.8	20.6
Medford	36.8	19.3	34.9	18.8	32.9	18.1	20.3	34.5	19.5	32.9	18.6	31.3	15.6	11.6	23.7	14.5	10.8	23.2	13.6	10.2	22.7	18.7
North Bend	21.8	15.8	20.6	15.6	19.6	15.0	16.8	20.3	16.2	19.6	15.6	18.8	15.4	10.9	18.2	14.7	10.4	17.5	14.1	10.0	17.0	7.1
Pendleton	35.9	18.0	33.9	17.3	32.0	16.6	18.8	33.3	17.9	32.0	17.1	30.4	14.0	10.5	21.5	12.7	9.7	20.8	11.5	8.9	21.0	15.1
Portland	32.4	19.5	30.1	18.8	28.1	18.0	20.4	30.8	19.5	28.8	18.6	26.9	16.6	11.8	23.7	15.7	11.2	22.3	15.1	10.7	21.6	12.0
Redmond	33.7	16.5	31.8	15.8	29.9	15.1	17.4	31.2	16.6	30.0	15.7	28.3	12.6	10.2	19.9	11.3	9.3	19.4	10.2	8.6	19.1	19.4
Salem	33.2	19.6	30.8	18.6	28.6	17.9	20.2	31.4	19.3	29.4	18.3	27.4	16.0	11.5	24.1	15.2	10.8	22.9	14.4	10.3	21.6	15.5
Sexton Summit	28.5	15.8	26.4	15.0	24.8	14.2	16.9	26.4	15.9	25.2	15.0	23.3	13.0	10.8	21.3	11.7	9.9	20.2	11.0	9.4	18.9	10.5
PENNSYLVANIA																						
Allentown	32.4	22.6	30.9	22.1	29.6	21.4	24.2	29.9	23.4	28.8	22.7	27.6	22.6	17.5	27.0	21.8	16.7	26.1	21.1	15.9	25.6	10.8
Altoona	31.4	22.2	29.9	21.3	28.6	20.6	23.2	29.2	22.5	28.4	21.7	26.8	21.4	17.0	26.0	20.7	16.2	25.2	20.1	15.6	24.3	10.8
Bradford	28.2	20.4	26.9	19.8	25.6	18.8	22.0	26.3	21.1	25.1	20.2	23.6	20.7	16.6	24.1	19.8	15.8	23.0	19.1	15.0	22.4	11.8
Du Bois	30.0	20.9	28.7	20.3	27.0	19.3	22.5	27.4	21.6	26.3	20.9	25.3	20.9	16.6	24.2	20.3	16.0	23.6	19.7	15.4	22.9	10.8
Erie	29.6	22.0	28.2	21.3	26.9	20.8	23.5	27.7	22.7	26.7	21.8	25.6	22.2	17.4	25.9	21.3	16.4	25.2	20.6	15.6	24.4	8.7
Harrisburg	33.3	23.5	31.7	22.8	30.2	22.2	25.1	30.7	24.2	29.4	23.4	28.2	23.6	18.6	27.8	22.7	17.6	26.8	21.9	16.8	26.1	10.4
Philadelphia, Intl Airport	33.4	23.9	31.9	23.3	30.6	22.6	25.4	31.1	24.7	29.7	23.9	28.7	23.9	18.8	28.2	23.2	18.0	27.3	22.6	17.3	26.6	9.8
Philadelphia, Northeast A	34.1	24.3	32.2	23.5	31.0	22.9	25.7	31.3	24.9	30.7	24.1	29.1	24.3	19.3	28.6	23.5	18.4	27.7	22.5	17.3	27.5	10.6
Philadelphia, Willow Gr NAS	34.0	23.7	32.2	23.2	30.9	22.3	25.3	31.7	24.5	30.3	23.7	29.2	23.6	18.7	28.5	22.9	17.9	27.7	21.7	16.6	27.3	10.8
Pittsburgh, Allegheny Co. A	32.0	22.2	30.7	21.4	29.6	20.9	23.7	29.6	23.1	28.7	22.3	27.4	21.9	17.4	26.3	21.3	16.7	25.6	20.7	16.1	24.9	10.0
Pittsburgh, Intl Airport	31.4	22.1	29.9	21.3	28.7	20.6	23.6	29.2	22.7	27.9	21.9	26.8	21.8	17.3	26.4	21.0	16.4	25.7	20.2	15.6	24.8	10.8
Wilkes-Barre/Scranton	31.0	21.7	29.5	21.2	28.1	20.4	23.4	28.6	22.7	27.4	21.9	26.2	21.9	17.1	25.9	21.2	16.4	25.2	20.4	15.6	24.5	10.4
Williamsport	31.9	22.5	30.3	21.8	28.8	21.0	24.2	29.3	23.3	28.1	22.6	26.8	22.7	17.8	26.6	21.9	16.9	25.7	21.2	16.2	24.8	11.3
RHODE ISLAND																						
Providence	31.8	22.8	30.0	21.8	28.4	21.1	24.3	29.5	23.4	27.5	22.6	26.4	22.9	17.7	26.5	22.1	16.8	25.6	21.3	16.0	25.1	9.7
SOUTH CAROLINA																						
Beaufort, MCAS	35.2	25.6	34.1	25.3	33.1	25.0	26.9	32.2	26.4	31.8	25.9	31.1	25.5	20.7	29.4	25.0	20.1	29.2	24.6	19.6	28.7	9.3
Charleston	34.3	25.6	33.1	25.1	32.0	24.7	26.7	31.9	26.1	31.2	25.6	30.5	25.4	20.7	29.0	24.8	19.8	28.6	24.3	19.2	28.1	9.0
Columbia	35.6	24.2	34.3	23.8	33.1	23.6	25.7	32.3	25.2	31.4	24.7	30.6	24.1	19.2	27.8	23.6	18.6	27.3	23.2	18.1	26.9	11.1
Florence	35.8	24.7	34.5	24.7	33.4	24.3	26.5	32.4	25.8	31.8	25.3	31.1	25.1	20.3	29.2	24.4	19.5	28.3	23.9	18.9	27.7	11.0
Greer/Greenville	33.9	23.3	32.6	23.1	31.3	22.8	24.8	31.1	24.2	30.3	23.8	29.4	23.1	18.5	27.3	22.6	18.0	26.8	22.1	17.4	26.4	10.1
Myrtle Beach, AFB	33.8	26.0	32.2	25.8	31.2	25.4	27.4	31.8	26.7	31.1	26.1	30.3	26.0	21.4	30.8	25.4	20.6	29.9	24.9	20.0	29.1	8.0
Sumter, Shaw AFB	35.1	24.2	33.8	24.1	32.1	23.7	25.8	31.7	25.2	31.0	24.7	30.2	24.4	19.5	28.2	23.9	18.9	27.6	23.4	18.4	27.0	10.3
SOUTH DAKOTA																						
Chamberlain	36.5	22.0	34.5	21.6	32.1	20.9	24.5	32.8	23.4	31.7	22.4	30.3	21.9	17.7	29.0	20.9	16.6	27.7	19.9	15.6	26.9	13.2
Huron	35.1	22.3	33.0	21.8	31.1	21.2	24.5	31.8	23.4	30.3	22.4	29.0	22.4	18.0	28.7	21.3	16.7	27.2	20.3	15.7	26.1	13.4
Pierre	37.1	21.1	34.8	20.8	32.7	20.2	23.3	32.4	22.4	31.4	21.6	30.1	20.8	16.5	27.1	19.8	15.5	26.4	18.8	14.5	25.6	14.2
Rapid City	35.1	18.2	32.9	18.1	30.9	17.7	21.0	29.6	20.1	28.8	19.2	27.7	18.4	14.9	24.6	17.4	14.0	23.8	16.3	13.1	22.9	14.1
Sioux Falls	34.4	22.8	32.4	22.2	30.7	21.4	24.6	31.4	23.6	30.5	22.6	29.1	22.5	18.1	28.7	21.4	17.0	27.7	20.5	16.0	26.5	12.3
TENNESSEE																						
Bristol	31.7	22.3	30.4	22.0	29.3	21.6	23.9	29.6	23.3	28.6	22.6	27.8	22.2	17.9	27.1	21.6	17.2	25.8	21.1	16.6	25.2	10.7
Chattanooga	34.5	23.9	33.1	23.7	31.9	23.3	25.4	31.7	24.8	30.9	24.3	30.0	23.8	19.2	27.8	23.2	18.5	27.5	22.7	17.9	26.9	10.8
Crossville	31.7	22.6	30.6	22.4	29.4	22.1	24.3	29.2	23.6	28.5	23.0	27.5	23.1	19.2	26.7	22.0	17.9	26.1	21.5	17.3	25.5	11.0
Jackson	35.1	25.0	34.0	24.7	33.0	24.4	26.4	33.0	25.7	32.0	25.3	31.2	24.7	20.0	29.7	24.1	19.3	29.2	23.7	18.8	28.7	11.0
Knoxville	33.3	23.4	31.9	23.2	30.7	22.8	24.9	31.0	24.3	30.2	23.8	29.2	23.3	18.7	27.8	22.7	18.1	27.2	22.2	17.5	26.5	10.1
Memphis	35.4	25.3	34.2	25.1	33.2	24.7	26.7	33.1	26.2	32.5	25.6	31.6	25.1	20.4	30.3	24.4	19.6	29.8	23.9	19.0	29.0	9.3
Nashville	34.6	24.2	33.2	23.8	32.0	23.4	25.6	31.9	25.0	31.1	24.4	30.2	23.9	19.2	28.3	23.3	18.5	27.7	22.8	18.0	27.2	10.6
TEXAS																						
Abilene	37.2	21.4	36.0	21.5	34.8	21.4	23.9	31.9	23.4	31.6	22.9	31.1	21.8	17.6	27.1	21.2	17.0	26.6	20.7	16.4	26.2	11.4
Amarillo	35.7	19.2	34.3	19.0	33.1	18.8	21.6	30.2	20.9	29.8	20.5	29.4	19.2	16.0	24.2	18.6	15.3	23.8	18.0	14.8	23.3	12.9
Austin	36.8	23.4	35.8	23.4	34.7	23.4	25.6	31.7	25.1	31.1	24.7	30.4	24.2	19.6	26.9	23.8	19.1	26.7	23.4	18.6	26.6	11.2
Beaumont/Port Arthur	34.4	26.0	33.6	25.9	32.7	25.8	27.4	32.0	26.9	31.5	26.6	31.2	26.3	21.7	29.7	25.8	21.2	29.3	25.4	20.7	28.9	8.8
Beeville, Chase Field NAS	38.1	24.9	36.6	25.2	35.7	25.2	27.7	32.7	27.1	32.6	26.6	32.5	26.5	22.2	29.9	25.8	21.2	29.2	25.3	20.6	28.8	12.0
Brownsville	35.1	25.3	34.3	25.2	33.6	25.2	26.7	31.4	26.3	31.3	26.1	31.1	25.6	20.8	28.3	25.2	20.3	28.2	24.9	20.0	28.0	9.2
College Station/Bryan	36.5	23.9	35.6	24.1	34.7	24.1	26.0	31.8	25.6	31.4	25.3	31.1	24.8	20.1	27.6	24.5	19.7	27.4	24.1	19.2	27.0	11.9
Corpus Christi	34.9	25.5	34.2	25.4	33.4	25.4	27.1	31.9	26.7	31.5	26.3											

Table 1A Heating and Wind Design Conditions—United States

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Lubbock, Intl Airport	722670	33.65	101.82	988	90.01	6193	-11.7	-8.3	13.2	11.4	10.2	13.5	6.3	12.1	6.8	5.3	0	6.2	160	38.9	-15.5	1.4	3.1
Lubbock, Reese AFB	722675	33.60	102.05	1017	89.69	8293	-11.4	-7.8	11.3	9.8	8.6	11.2	9.1	9.8	6.6	4.6	20	4.9	170	39.1	-14.2	1.7	2.7
Lufkin	722446	31.23	94.75	88	100.27	6193	-4.9	-2.6	8.0	7.1	6.3	8.2	6.5	7.4	8.0	2.7	330	3.5	230	37.4	-8.6	1.8	2.9
Marfa	722640	30.37	104.02	1481	84.75	8293	-9.6	-7.3	10.9	9.4	8.2	11.2	6.6	9.6	7.4	2.3	360	4.1	220	36.3	-14.8	1.3	2.8
McAllen	722506	26.18	98.23	33	100.93	8293	1.3	4.2	10.5	9.7	9.0	10.4	20.2	9.4	19.9	4.8	350	6.3	130	40.9	-2.7	2.4	4.5
Midland/Odessa	722650	31.95	102.18	872	91.28	6193	-8.2	-5.4	12.7	11.1	9.9	12.1	9.8	10.4	8.9	4.2	20	5.7	180	39.3	-12.8	1.4	3.8
San Angelo	722630	31.37	100.50	582	94.53	6193	-6.9	-4.4	11.6	10.2	9.2	11.3	11.2	10.0	10.8	4.3	20	4.9	160	39.5	-10.7	1.6	3.4
San Antonio, Intl Airport	722530	29.53	98.47	242	98.45	6193	-3.3	-1.0	9.7	8.6	7.7	10.3	6.3	9.1	6.9	4.4	350	4.4	160	37.7	-7.0	1.6	2.9
San Antonio, Kelly AFB	722535	29.38	98.58	210	98.83	8293	-2.7	-0.2	8.4	7.4	6.5	9.2	10.5	8.1	10.9	3.7	360	3.5	160	39.3	-5.8	1.6	3.6
San Antonio, Randolph AFB	722536	29.53	98.28	232	98.57	8293	-2.9	-0.6	8.4	7.4	6.5	8.8	7.4	7.8	8.7	3.2	340	3.3	150	38.2	-6.5	1.2	3.7
Sanderson	747300	30.17	102.42	865	91.36	8293	-4.9	-2.5	8.4	7.0	5.9	9.0	6.5	7.6	8.7	2.6	360	3.3	120	38.7	-12.8	1.6	4.6
Victoria	722550	28.85	96.92	36	100.89	6193	-1.7	0.7	11.5	10.3	9.2	11.4	9.9	10.2	10.7	5.3	360	5.1	180	37.0	-5.2	1.4	2.9
Waco	722560	31.62	97.22	155	99.48	6193	-5.7	-3.2	11.6	10.4	9.4	13.0	3.1	11.3	5.8	5.9	360	5.1	180	39.8	-9.1	1.6	3.6
Wichita Falls, Sheppard AFB	723510	33.98	98.50	314	97.61	6193	-9.9	-7.1	12.8	11.3	10.2	12.6	5.7	11.2	6.0	5.3	360	5.6	180	41.7	-13.7	1.9	3.7
UTAH																							
Cedar City	724755	37.70	113.10	1714	82.36	6193	-16.5	-13.3	11.4	10.0	8.9	10.7	3.6	9.4	4.0	1.7	140	5.3	200	36.1	-21.1	1.3	4.6
Ogden, Hill AFB	725755	41.12	111.97	1459	84.98	8293	-14.7	-11.6	9.6	8.4	7.5	10.0	-2.6	8.7	-2.5	4.2	110	2.7	190	35.5	-17.2	1.6	3.5
Salt Lake City	725720	40.78	111.97	1288	86.78	6193	-14.7	-11.7	12.0	10.1	8.8	11.9	5.7	9.6	4.2	2.9	160	5.0	340	37.9	-19.2	1.1	3.7
VERMONT																							
Burlington	726170	44.47	73.15	104	100.08	6193	-23.9	-21.2	10.4	9.2	8.2	10.8	-1.3	9.5	-2.9	2.9	70	4.9	180	33.8	-28.3	1.5	3.1
Montpelier/Barre	726145	44.20	72.57	355	97.13	8293	-23.1	-21.0	9.4	8.3	7.6	9.9	-6.6	8.8	-6.5	1.6	320	4.0	220	32.6	-28.0	2.0	3.3
VIRGINIA																							
Fort Belvoir	724037	38.72	77.18	21	101.07	8293	-11.0	-7.8	8.0	6.4	5.2	8.6	1.9	7.4	1.2	0.9	320	2.5	160	37.8	-16.6	1.3	4.2
Hampton, Langley AFB	745980	37.08	76.37	3	101.29	8293	-6.3	-4.2	9.9	8.6	7.7	9.8	4.8	8.8	4.2	4.3	330	4.1	240	36.1	-10.4	1.8	3.4
Lynchburg	724100	37.33	79.20	286	97.94	6193	-11.1	-8.2	8.5	7.6	6.9	9.2	1.8	8.2	1.8	3.3	360	3.8	230	35.1	-15.2	1.6	3.2
Newport News	723086	37.13	76.50	13	101.17	8293	-7.5	-5.3	8.6	8.0	7.3	8.8	4.7	8.2	4.9	3.5	350	4.5	220	37.1	-11.7	1.3	2.6
Norfolk	723080	36.90	76.20	9	101.22	6193	-6.7	-4.7	11.3	9.9	8.9	11.8	4.3	10.4	4.5	5.4	340	5.2	230	36.2	-9.8	1.6	3.0
Oceana, NAS	723075	36.82	76.03	7	101.24	8293	-5.8	-3.9	9.4	8.3	7.4	9.4	5.4	8.4	5.4	3.4	310	4.0	220	36.5	-10.1	1.0	3.8
Quantico, MCAS	724035	38.50	77.30	4	101.28	8293	-9.0	-6.3	7.4	6.3	5.4	8.3	2.0	6.9	3.6	2.8	340	2.4	230	37.6	-13.6	2.0	3.3
Richmond	724010	37.50	77.33	54	100.68	6193	-10.1	-7.6	8.8	7.9	7.0	9.2	4.2	8.2	4.1	3.1	340	4.4	230	36.4	-14.4	1.4	3.2
Roanoke	724110	37.32	79.97	358	97.10	6193	-11.1	-8.6	10.1	8.8	7.5	12.2	-0.7	10.4	-0.1	4.6	320	4.4	290	35.4	-15.3	1.8	3.1
Sterling	724030	38.95	77.45	98	100.15	6193	-12.8	-10.2	9.9	8.3	7.2	11.2	-0.3	9.5	-0.7	2.9	340	4.2	250	36.0	-18.2	1.8	3.9
Washington, R. Reagan A	724050	38.85	77.03	20	101.08	8293	-9.3	-6.5	10.1	8.9	8.1	10.7	1.2	9.5	1.9	5.0	340	4.8	170	37.0	-13.5	1.4	3.8
WASHINGTON																							
Bellingham	727976	48.80	122.53	48	100.75	8293	-9.2	-6.0	10.3	9.1	8.2	12.3	0.8	10.1	1.1	7.4	40	4.0	290	30.5	-11.4	1.7	4.1
Hanford	727840	46.57	119.60	223	98.67	8293	-15.1	-11.1	11.2	9.4	8.2	10.8	6.8	8.5	6.7	2.7	20	3.4	20	40.4	-16.9	1.7	5.0
Olympia	727920	46.97	122.90	61	100.59	6193	-7.8	-4.8	9.2	7.9	7.1	9.4	7.0	8.4	7.2	2.1	180	3.8	50	34.6	-12.0	2.2	4.5
Quillayute	727970	47.95	124.55	62	100.58	6193	-5.1	-2.8	14.7	11.9	9.2	18.5	7.1	15.5	7.3	2.9	60	3.8	240	30.8	-7.5	4.7	3.6
Seattle, Intl Airport	727930	47.45	122.30	137	99.69	6193	-4.8	-2.2	9.8	8.6	7.6	10.6	6.9	9.5	6.7	4.4	10	4.5	350	33.4	-7.4	2.0	3.8
Spokane, Fairchild AFB	727855	47.62	117.65	750	92.63	6193	-17.4	-13.8	11.9	10.3	9.1	12.7	3.9	11.1	3.4	3.1	50	4.0	240	36.5	-21.4	1.8	4.8
Stampede Pass	727815	47.28	121.33	1209	87.62	8293	-16.1	-12.4	9.5	8.3	7.3	12.0	-7.4	10.0	-4.0	5.9	90	3.3	100	29.1	-16.4	1.8	4.0
Tacoma, McChord AFB	742060	47.13	122.48	98	100.15	8293	-7.5	-4.7	8.1	6.9	5.8	9.6	7.1	7.9	7.5	1.0	180	3.1	20	34.5	-10.9	1.5	3.8
Walla Walla	727846	46.10	118.28	367	96.99	8293	-15.6	-11.1	9.9	8.6	7.8	10.9	9.7	9.6	8.6	2.7	180	4.1	300	40.3	-17.4	1.8	6.5
Wenatchee	727825	47.40	120.20	379	96.85	8293	-15.9	-12.6	9.8	8.6	7.7	7.7	2.0	5.5	-0.3	1.4	100	3.9	280	38.1	-18.7	1.4	4.0
Yakima	727810	46.57	120.53	325	97.48	6193	-15.4	-11.8	10.7	9.1	7.6	10.1	8.2	8.3	6.3	2.9	250	3.3	90	38.1	-18.7	1.8	4.7
WEST VIRGINIA																							
Bluefield	724125	37.30	81.20	871	91.29	8293	-14.9	-11.3	6.8	6.0	5.4	7.9	1.3	6.5	0.5	2.9	270	2.6	290	31.1	-21.1	2.2	4.7
Charleston	724140	38.37	81.60	299	97.78	6193	-14.4	-11.5	8.0	7.0	6.1	9.1	3.3	8.1	0.8	2.9	250	3.5	240	34.4	-18.7	1.6	3.7
Elkins	724170	38.88	79.85	609	94.22	6193	-18.8	-15.0	9.0	7.9	7.1	9.8	-0.9	8.6	-1.2	1.6	280	3.7	290	31.3	-24.2	1.6	3.0
Huntington	724250	38.37	82.55	255	98.30	6193	-14.6	-11.5	8.3	7.2	6.3	8.8	-0.2	7.7	-0.2	3.4	270	3.6	270	34.2	-19.0	2.8	4.2
Martinsburg	724177	39.40	77.98	170	99.30	8293	-13.1	-10.2	9.2	8.2	7.3	10.1	0.6	9.0	1.0	3.3	270	4.0	290	37.0	-19.4	2.2	4.6
Morgantown	724176	39.65	79.92	380	96.84	8293	-15.3	-11.7	7.9	6.7	6.0	8.4	0.1	7.8	0.6	2.8	210	3.6	240	33.8	-19.9	2.0	4.8
Parkersburg	724273	39.35	81.43	262	98.22	8293	-15.4	-11.5	8.0	7.0	6.3	9.0	0.1	7.9	-1.5	3.1	240	3.7	270	35.0	-19.9	1.7	5.1
WISCONSIN																							
Eau Claire	726435	44.87	91.48	276	98.05	6193	-27.7	-24.9	9.6	8.7	7.7	9.5	-9.9	8.8	-10.6	3.1	250	5.8	220	35.2	-31.5	1.8	3.2
Green Bay	726450	44.48	88.13	214	98.78	6193	-24.8	-21.9	11.0	9.8	8.8	11.1	-7.3	9.8	-7.6	4.3	270	5.5	200	33.8	-28.1	1.6	3.1
La Crosse	726430	43.87	91.25	202	98.92	6193	-25.6	-22.4	10.1	9.													

Station	Cooling DB/MWB						Evaporation WB/MDb						Dehumidification DP/MDb and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDb	WB	MDb	WB	MDb	DP	HR	MDb	DP	HR	MDb	DP	HR	MDb	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Lubbock, Intl Airport	36.3	19.6	34.9	19.7	33.7	19.6	22.5	30.6	21.9	30.1	21.4	29.7	20.5	17.1	25.0	19.8	16.4	24.6	19.2	15.8	24.2	12.3
Lubbock, Reese AFB	36.4	19.4	35.1	19.4	33.9	19.3	22.7	30.3	22.0	30.0	21.4	29.6	20.7	17.4	25.8	19.8	16.4	25.2	19.1	15.7	24.9	13.2
Lufkin	35.8	24.6	34.7	24.7	33.7	24.6	26.3	32.2	26.0	31.9	25.6	31.6	25.1	20.4	28.6	24.6	19.8	28.3	24.1	19.2	28.0	11.6
Marfa	34.4	16.4	33.2	16.3	31.6	16.4	19.9	27.5	19.3	27.0	18.8	26.7	18.2	15.7	22.2	17.1	14.7	21.7	16.4	14.0	21.4	17.4
McAllen	38.0	24.7	36.7	24.6	35.9	24.7	26.9	32.9	26.4	32.4	26.1	31.6	25.6	20.9	28.5	25.2	20.4	28.0	24.9	20.0	27.7	11.5
Midland/Odessa	37.4	19.6	36.1	19.4	34.8	19.5	22.6	30.3	22.0	30.2	21.5	30.0	20.8	17.2	24.5	20.1	16.4	24.0	19.4	15.8	24.0	13.2
San Angelo	37.5	21.2	36.3	21.2	35.1	21.2	23.7	32.0	23.2	31.4	22.8	30.9	21.7	17.5	26.4	21.1	16.9	25.9	20.7	16.5	25.7	12.4
San Antonio, Intl Airport	36.4	23.0	35.4	23.0	34.4	23.1	25.6	30.7	25.1	30.4	24.7	29.9	24.3	19.9	27.3	23.9	19.3	26.9	23.4	18.8	26.8	10.6
San Antonio, Kelly AFB	37.1	23.2	36.2	23.5	35.3	23.4	26.2	31.5	25.7	31.2	25.2	31.0	25.1	20.7	28.3	24.5	20.0	27.6	24.0	19.4	27.0	11.4
San Antonio, Randolph AFB	36.5	23.4	35.6	23.4	34.7	23.2	25.7	32.4	25.2	31.6	24.7	30.9	24.2	19.7	27.6	23.8	19.2	27.1	23.5	18.8	27.0	12.4
Sanderson	36.2	19.7	35.2	20.0	34.2	20.0	23.2	30.2	22.6	30.0	22.1	30.1	21.2	17.6	26.3	20.6	17.0	25.5	20.0	16.3	25.2	11.5
Victoria	35.2	24.6	34.4	24.7	33.6	24.8	26.4	31.2	26.2	31.1	25.8	30.7	25.4	20.7	28.1	25.1	20.2	27.8	24.7	19.8	27.6	9.7
Waco	38.2	23.9	37.1	23.9	35.9	23.8	25.8	33.7	25.4	33.2	25.0	32.6	24.1	19.3	28.2	23.6	18.7	27.9	23.1	18.2	27.7	12.0
Wichita Falls, Sheppard AFB	39.2	23.1	37.7	23.0	36.4	23.0	25.1	34.0	24.6	33.4	24.1	32.9	22.9	18.4	27.7	22.4	17.7	27.6	21.9	17.2	27.3	13.3
UTAH																						
Cedar City	33.9	14.9	32.6	14.7	31.2	14.3	17.6	26.5	16.8	26.4	16.2	26.3	15.2	13.3	19.7	13.9	12.2	19.8	12.6	11.2	20.2	15.8
Ogden, Hill AFB	33.8	15.9	32.1	15.8	30.7	15.4	18.3	28.4	17.6	27.2	16.8	27.4	15.3	13.0	22.2	14.0	11.9	22.6	12.8	11.0	22.9	12.2
Salt Lake City	35.8	16.7	34.6	16.5	33.2	16.2	18.9	29.6	18.2	29.6	17.5	29.2	15.8	13.1	22.5	14.4	12.0					

DP = dew-point temperature, °C	MWB = mean coincident wet-bulb temperature, °C	A = airport	NAF = Naval Air Facility
MDb = mean coincident dry-bulb temperature, °C	MWS = mean coincident wind speed, m/s	ANGB = Air National Guard Base	NAWS = Naval Air Weapons Station
StdD = standard deviation, °C	HR = humidity ratio, grams of moisture per kilogram of dry air	MCAF = Marine Corps Air Facility	RAF = Royal Air Force

Table 2A Heating and Wind Design Conditions—Canada

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
ALBERTA																							
Calgary Intl A	718770	51.12	114.02	1084	88.96	6193	-30.0	-27.1	12.3	10.7	9.5	14.1	-1.5	12.4	-2.7	2.9	0	4.7	160	31.8	-33.2	1.5	3.1
Cold Lake A	711200	54.42	110.28	544	94.96	6193	-35.1	-32.2	9.5	8.1	7.1	9.5	-7.8	8.2	-11.8	1.2	270	4.2	180	31.2	-40.0	1.8	3.5
Coronation	718730	52.07	111.45	791	92.18	6193	-33.0	-30.3	11.1	9.5	8.3	12.5	-10.9	10.4	-10.7	3.8	320	4.9	160	33.1	-37.4	1.7	3.5
Edmonton Intl A	711230	53.30	113.58	723	92.94	6193	-33.4	-30.5	10.8	9.2	8.0	10.9	-11.3	9.4	-11.6	2.5	180	3.8	180	30.8	-38.0	1.7	4.5
Fort McMurray A	719320	56.65	111.22	369	96.97	6193	-35.8	-33.9	7.5	6.6	6.0	7.8	-8.7	6.8	-11.9	1.2	90	3.8	250	32.4	-41.0	2.0	2.7
Grande Prairie A	719400	55.18	118.88	669	93.54	6193	-35.4	-32.6	11.8	10.0	8.6	13.0	-0.1	10.8	-2.2	1.3	320	3.5	270	30.6	-40.6	1.5	3.7
Lethbridge A	718740	49.63	112.80	929	90.65	6193	-29.9	-26.9	16.0	14.1	12.4	20.0	3.6	17.6	3.5	2.4	250	5.7	270	34.5	-34.2	1.8	3.6
Medicine Hat A	718720	50.02	110.72	716	93.01	6193	-31.2	-28.4	11.7	10.0	8.8	13.0	2.1	11.1	0.3	2.1	230	4.7	220	36.0	-35.8	2.0	4.0
Peace River A	710680	56.23	117.43	571	94.65	6193	-35.3	-32.9	9.2	8.1	7.4	9.7	-0.9	8.6	-4.6	1.9	0	4.1	270	30.6	-40.9	1.6	3.7
Red Deer A	718780	52.18	113.90	905	90.92	6193	-32.8	-29.6	9.8	8.1	7.5	12.0	-10.8	9.9	-10.4	2.8	200	4.5	180	31.3	-37.2	1.7	3.6
Rocky Mtn. House	719280	52.43	114.92	989	89.99	6193	-31.7	-29.1	8.5	7.2	6.0	8.6	-3.3	7.2	-6.5	1.4	340	3.7	160	30.5	-37.6	1.5	2.8
Vermilion A		53.35	110.83	618	94.12	6193	-34.3	-31.6	10.0	8.6	7.6	9.5	-10.6	8.3	-11.6	1.5	270	4.7	180	32.1	-41.9	2.0	3.7
Whitecourt	719300	54.15	115.78	782	92.28	6193	-34.3	-31.2	7.7	6.8	6.1	8.4	-5.5	7.4	-8.0	1.9	270	3.3	90	30.4	-40.7	1.1	3.0
BRITISH COLUMBIA																							
Abbotsford A	711080	49.03	122.37	58	100.63	6193	-9.3	-6.5	9.1	7.5	6.5	13.0	0.6	11.0	0.9	5.5	90	3.3	220	33.3	-12.5	2.2	3.7
Cape St. James	710310	51.93	131.02	92	100.22	6193	-4.0	-1.7	22.4	20.5	18.0	26.9	4.5	24.1	5.5	9.8	50	5.0	300	20.8	-5.6	1.9	3.1
Castlegar A	718840	49.30	117.63	495	95.52	6693	-15.0	-12.9	8.0	6.9	6.3	9.4	-7.7	8.5	-6.0	3.5	0	3.3	180	36.4	-19.2	1.6	3.9
Comox A	718930	49.72	124.90	24	101.04	6193	-6.2	-4.0	13.1	11.1	9.4	14.0	6.0	12.7	5.8	3.0	290	3.0	340	30.6	-8.5	2.1	2.9
Cranbrook A	718800	49.60	115.78	939	90.54	7093	-25.9	-22.2	9.0	7.9	7.1	8.9	0.7	7.9	0.8	1.0	200	4.6	210	34.2	-29.7	1.5	3.7
Fort Nelson A	719450	58.83	122.58	382	96.82	6193	-36.3	-34.4	7.3	6.3	5.4	6.8	-13.6	5.5	-16.5	0.5	220	2.4	120	30.9	-41.3	1.8	3.5
Fort St. John A	719430	56.23	120.73	695	93.25	6193	-34.4	-31.8	10.9	9.6	8.4	13.1	-4.8	11.2	-5.7	2.9	0	3.8	230	29.7	-37.5	1.6	3.5
Kamloops A	718870	50.70	120.45	346	97.24	6693	-22.1	-18.4	10.4	9.0	7.9	11.2	-3.5	9.6	-2.9	1.9	90	3.4	270	36.7	-25.5	1.5	4.9
Penticton A	718890	49.47	119.60	344	97.26	6193	-15.0	-12.4	10.2	8.8	7.8	12.7	1.1	11.1	1.4	3.7	340	3.8	180	35.4	-17.3	1.5	4.0
Port Hardy A	711090	50.68	127.37	22	101.06	6193	-5.5	-3.5	12.7	10.8	9.2	14.5	3.1	13.0	3.8	3.4	110	4.1	340	24.4	-7.6	1.9	2.7
Prince George A	718960	53.88	122.68	691	93.29	6193	-31.9	-27.8	9.3	7.9	6.8	12.2	0.0	10.4	-4.5	0.9	0	2.7	180	29.4	-38.3	5.1	3.3
Prince Rupert A	718980	54.30	130.43	34	100.92	6393	-13.7	-10.5	12.3	10.2	8.9	13.3	6.4	11.6	5.9	2.5	70	3.6	270	24.1	-16.5	2.5	3.8
Quesnel A	711030	53.03	122.52	545	94.95	6193	-29.8	-25.6	7.8	6.7	6.0	8.3	-8.0	7.4	-6.8	0.3	340	2.4	340	33.1	-34.7	2.2	4.6
Sandspit A	711010	53.25	131.82	6	101.25	6193	-6.3	-4.0	17.1	14.1	12.1	18.8	6.4	16.3	5.5	8.0	320	4.2	270	22.3	-7.8	1.9	2.8
Smithers A	719500	54.82	127.18	523	95.20	6193	-28.2	-24.2	7.7	6.6	5.8	8.2	-5.3	7.2	-7.2	1.3	140	2.8	320	30.9	-32.0	2.2	3.9
Spring Island	714790	50.12	127.93	98	100.15	6193	-1.7	-0.5	18.3	15.6	13.0	19.6	7.5	17.7	7.0	2.6	50	2.8	320	25.5	-3.7	3.4	2.5
Terrace A	719510	54.47	128.58	217	98.75	6193	-19.1	-16.7	11.5	10.1	8.9	14.1	-12.2	12.9	-10.3	8.6	0	3.7	270	31.7	-20.7	2.2	3.2
Tofino A	711060	49.08	125.77	24	101.04	6193	-3.7	-1.9	10.6	9.0	7.9	12.8	7.7	10.8	7.2	2.1	70	3.1	290	27.2	-6.2	2.2	3.1
Vancouver Intl A	718920	49.18	123.17	2	101.30	6193	-7.8	-4.7	10.0	8.3	7.1	11.3	5.2	9.4	5.8	2.7	90	3.3	290	28.0	-10.0	1.6	3.5
Victoria Intl A	717990	48.65	123.43	19	101.10	6193	-5.3	-3.2	8.8	7.3	6.3	10.8	2.5	9.1	3.5	4.5	50	2.8	90	30.3	-7.7	1.8	3.2
Williams Lake A	711040	52.18	122.05	940	90.53	6193	-29.0	-25.5	10.0	8.5	7.4	10.9	-1.7	9.3	-1.2	1.2	320	2.8	140	31.1	-34.1	2.2	4.4
MANITOBA																							
Brandon A	711400	49.92	99.95	409	96.51	6193	-33.7	-31.3	12.0	10.3	9.0	12.6	-16.9	10.9	-16.6	4.1	270	5.5	160	34.6	-37.8	1.7	2.5
Churchill A	719130	58.75	94.07	29	100.98	6193	-37.7	-36.2	15.3	13.3	11.8	16.0	-23.8	13.4	-25.7	6.5	270	5.8	230	29.9	-40.6	2.5	2.2
Dauphin A	718550	51.10	100.05	305	97.71	6193	-33.5	-30.8	12.7	11.1	9.9	13.7	-16.6	12.4	-15.3	4.0	250	5.8	200	34.1	-37.6	1.9	2.4
Portage La Prairie A	718510	49.90	98.27	269	98.13	6193	-31.7	-29.6	11.7	10.1	9.0	12.8	-17.5	11.0	-17.0	3.8	250	5.2	180	35.0	-35.1	1.9	2.3
The Pas A	718670	53.97	101.10	271	98.11	6193	-35.3	-33.3	10.8	9.3	8.3	11.1	-21.1	9.6	-19.0	2.6	290	4.8	160	31.6	-40.0	1.9	2.3
Thompson A	710790	55.80	97.87	218	98.73	6893	-38.9	-36.8	8.9	8.0	7.1	8.3	-20.8	7.4	-21.7	1.4	270	4.5	180	31.6	-44.6	2.1	2.4
Winnipeg Intl A	718520	49.90	97.23	239	98.49	6193	-32.8	-30.6	12.9	11.3	10.1	13.3	-14.9	11.7	-15.0	3.2	320	5.7	180	34.5	-36.2	1.9	2.6
NEW BRUNSWICK																							
Charlo A	717110	47.98	66.33	38	100.87	6793	-25.5	-23.5	10.6	9.3	8.3	12.1	-16.1	10.8	-13.6	5.1	250	4.8	250	31.9	-29.3	1.5	2.5
Chatham A	717170	47.00	65.45	31	100.95	6193	-24.3	-21.7	10.8	9.2	8.1	12.0	-8.9	10.5	-9.1	3.2	270	5.1	230	33.6	-28.8	1.2	2.4
Fredericton A	717000	45.87	66.53	20	101.08	6193	-24.3	-21.5	10.0	8.8	7.7	11.2	-8.3	9.6	-8.0	2.3	270	5.0	230	33.4	-29.6	1.4	3.0
Moncton A	717050	46.12	64.68	71	100.47	6193	-23.3	-20.8	11.7	10.1	8.9	13.2	-7.0	11.6	-7.2	5.6	270	5.8	250	31.5	-27.2	1.1	2.5
Saint John A	716090	45.32	65.88	109	100.02	6193	-22.7	-20.2	11.6	10.0	8.9	14.2	-4.3	12.6	-5.3	4.0	340	5.1	230	29.1	-27.8	2.2	2.6
NEWFOUNDLAND																							
Battle Harbour	718170	52.30	55.83	8	101.23	6193	-25.4	-23.2	18.0	15.6	14.1	21.4	-8.4	18.8	-9.3	8.1	270	7.6	230	25.3	-27.5	2.6	3.3
Bonavista	711960	48.67	53.12	27	101.00	6193	-16.1	-14.0	19.1	17.0	15.1	21.3	-6.3	18.8	-5.3	8.0	280	7.6	230	27.3	-17.9	1.5	3.2
Cartwright	718180	53.70	57.03	14	101.16	6493	-28.0	-25.9	15.8	13.5	11.9	18.0	-7.6	15.7	-7.5	5.5	220	5.2	210	28.7	-30.5	2.3	2.5
Daniels Harbour	711850	50.23	57.58	19	101.10	6693	-21.6	-19.3	18.0	15.6	13.9	20.1	-8.7	17.2	-6.3	5.4	270	6.6	230	23.8	-24.4	1.8	3.6

Table 2B Cooling and Dehumidification Design Conditions—Canada

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
ALBERTA																						
Calgary Intl A	28.5	15.4	26.4	14.7	24.7	14.1	16.9	25.3	15.9	24.1	15.0	23.0	13.9	11.3	19.6	12.9	10.6	18.4	11.7	9.8	17.8	12.2
Cold Lake A	27.8	17.5	25.8	16.7	24.1	15.7	18.9	25.4	17.8	24.2	16.7	22.4	16.5	12.5	21.9	15.4	11.7	20.5	14.4	10.9	19.2	11.1
Coronation	29.5	16.7	27.5	15.6	25.4	15.2	18.1	26.5	17.1	25.3	16.2	23.9	15.3	12.0	20.7	14.2	11.1	19.5	13.2	10.4	18.7	12.3
Edmonton Intl A	27.6	17.1	25.6	16.5	24.0	15.7	18.9	25.0	17.7	23.9	16.5	22.5	16.4	12.7	22.5	15.2	11.8	20.7	14.1	11.0	19.1	12.1
Fort McMurray A	28.7	17.5	26.5	16.5	24.6	15.5	18.8	26.3	17.7	24.4	16.5	22.6	16.1	12.0	21.5	15.0	11.1	20.1	14.1	10.5	19.0	12.2
Grande Prairie A	27.4	16.4	25.4	15.3	23.6	14.5	17.6	24.8	16.5	23.2	15.4	21.8	15.1	11.6	20.1	14.0	10.8	18.4	13.0	10.1	17.4	11.6
Lethbridge A	30.9	16.3	29.1	15.9	27.1	15.3	18.3	27.3	17.2	26.1	16.2	25.1	15.1	12.0	21.0	14.0	11.2	20.4	12.9	10.4	19.2	13.8
Medicine Hat A	32.2	17.4	30.6	16.9	28.8	16.1	18.7	29.1	17.7	28.1	16.9	26.6	15.4	11.9	21.3	14.3	11.1	20.6	13.2	10.3	20.0	13.9
Peace River A	27.2	16.7	25.3	15.8	23.6	14.9	18.1	24.8	16.8	23.6	15.8	21.8	15.4	11.7	20.8	14.3	10.9	19.4	13.3	10.2	18.3	11.9
Red Deer A	27.9	16.8	25.9	15.9	24.2	15.1	18.2	25.3	17.1	24.1	16.0	22.6	15.4	12.2	21.8	14.3	11.4	20.3	13.3	10.6	19.0	12.7
Rocky Mtn. House	26.9	16.6	25.3	16.0	23.8	15.2	18.0	25.4	17.0	23.8	15.9	22.4	15.5	12.4	20.9	14.4	11.6	19.9	13.5	10.9	18.9	12.5
Vermilion A	28.5	17.6	26.4	16.9	24.7	16.1	19.1	25.6	17.9	24.8	16.9	23.4	16.4	12.6	22.4	15.4	11.8	20.8	14.4	11.0	19.5	12.2
Whitecourt	26.9	16.3	25.1	15.7	23.5	14.9	18.2	24.7	16.9	23.4	15.8	21.6	15.7	12.3	20.7	14.6	11.4	19.3	13.6	10.7	18.0	13.0
BRITISH COLUMBIA																						
Abbotsford A	29.2	19.6	26.9	18.7	25.0	17.7	20.3	28.1	19.1	26.3	18.0	24.4	16.9	12.1	24.7	15.9	11.4	23.0	15.1	10.8	21.0	11.9
Cape St. James	18.0	14.8	16.6	14.2	15.7	13.7	15.5	17.0	14.8	16.0	14.2	15.3	14.8	10.6	15.9	14.2	10.2	15.2	13.7	9.9	14.7	4.2
Castlegar A	33.3	18.0	31.0	17.3	29.0	16.6	19.2	29.6	18.2	28.5	17.2	27.0	15.6	11.8	21.9	14.7	11.1	21.0	13.9	10.5	19.7	15.5
Comox A	26.7	17.2	24.6	16.6	22.9	16.0	18.1	24.6	17.3	23.1	16.5	21.9	15.7	11.2	19.9	15.0	10.7	19.1	14.3	10.2	18.3	9.1
Cranbrook A	31.2	16.2	29.4	15.6	27.3	14.9	17.2	28.1	16.4	26.9	15.6	25.5	13.8	11.0	18.6	12.7	10.3	18.6	11.6	9.5	18.5	13.8
Fort Nelson A	27.6	16.6	25.6	15.7	23.9	14.8	17.9	25.1	16.8	23.5	15.8	22.0	15.4	11.4	19.8	14.3	10.7	18.8	13.3	10.0	18.0	11.7
Fort St. John A	26.3	16.0	24.4	15.0	22.6	14.2	17.2	24.2	16.1	22.4	15.0	20.9	14.7	11.4	19.3	13.7	10.6	18.2	12.5	9.8	17.3	10.4
Kamloops A	33.6	18.1	31.2	17.3	29.2	16.6	19.0	31.3	18.1	29.3	17.2	27.3	15.1	11.2	20.9	14.1	10.5	20.3	13.2	9.9	20.2	13.7
Penticton A	32.1	18.4	30.3	17.7	28.5	17.0	19.4	29.6	18.5	28.4	17.7	27.0	15.7	11.6	22.9	14.7	10.9	22.0	13.8	10.3	21.7	14.7
Port Hardy A	19.9	15.0	18.4	14.3	17.1	13.8	15.8	18.7	15.0	17.5	14.3	16.5	14.5	10.3	16.9	13.9	9.9	16.0	13.3	9.5	15.4	6.9
Prince George A	27.1	15.8	25.4	15.2	23.5	14.2	17.1	25.4	16.0	23.2	15.0	21.7	14.2	11.0	18.6	13.3	10.4	17.8	12.1	9.6	16.9	12.9
Prince Rupert A	18.9	14.4	17.3	13.8	16.3	13.4	15.4	17.9	14.6	16.6	13.9	15.8	14.3	10.2	16.2	13.6	9.8	15.5	13.1	9.4	14.9	5.8
Quesnel A	29.5	16.7	27.2	15.7	25.2	15.1	17.9	26.6	16.8	24.9	15.9	23.4	15.2	11.5	19.2	14.1	10.7	18.4	13.2	10.1	17.3	14.1
Sandspit A	19.7	15.5	18.5	14.8	17.2	14.2	16.2	18.9	15.4	17.7	14.7	16.7	15.1	10.7	16.9	14.4	10.2	16.3	13.8	9.8	15.8	4.8
Smithers A	27.2	16.0	25.0	15.2	22.8	14.3	16.9	25.5	15.9	23.5	14.9	21.4	14.0	10.6	18.3	13.1	10.0	17.6	12.0	9.3	16.8	12.2
Spring Island	20.2	15.3	18.7	14.8	17.2	14.2	16.1	18.8	15.4	17.6	14.8	16.7	15.1	10.8	16.7	14.6	10.5	16.1	14.1	10.2	15.4	4.9
Terrace A	28.2	16.6	25.6	15.8	23.3	14.8	17.5	26.3	16.4	24.2	15.4	22.0	14.3	10.4	18.8	13.4	9.8	17.8	12.6	9.3	17.7	9.5
Tofino A	22.2	16.4	20.1	15.3	18.6	14.5	16.8	21.0	15.8	19.2	15.1	17.6	15.2	10.8	17.3	14.6	10.4	16.6	14.1	10.1	15.8	6.8
Vancouver Intl A	24.6	18.2	23.2	17.6	21.8	16.9	18.8	23.8	18.0	22.4	17.2	21.3	16.6	11.8	21.7	15.9	11.3	20.9	15.3	10.9	19.9	7.8
Victoria Intl A	26.2	17.3	24.1	16.7	22.2	15.9	18.0	25.1	17.1	23.3	16.2	21.6	15.0	10.7	20.3	14.3	10.2	19.3	13.7	9.8	18.3	10.2
Williams Lake A	28.1	14.8	25.9	14.1	23.9	13.4	15.8	25.2	14.9	23.9	14.1	22.3	12.9	10.4	16.9	11.6	9.5	16.2	10.6	8.9	15.8	12.2
MANITOBA																						
Brandon A	30.8	19.6	28.9	19.0	26.8	18.2	21.6	27.7	20.3	26.7	19.1	25.1	19.5	15.0	24.7	18.2	13.8	23.3	16.8	12.6	22.3	13.1
Churchill A	25.0	16.6	22.1	15.3	19.5	14.2	17.5	23.2	16.0	21.2	14.5	18.9	15.1	10.8	20.1	13.5	9.7	18.3	11.8	8.6	16.9	9.3
Dauphin A	30.4	19.6	28.6	18.9	26.6	18.0	21.3	27.6	20.2	26.5	19.0	25.1	19.2	14.5	25.0	18.0	13.4	23.2	16.6	12.3	22.1	12.3
Portage La Prairie A	31.1	20.1	29.2	19.5	27.2	18.4	22.1	28.4	20.8	26.8	19.7	25.6	20.2	15.4	25.6	18.8	14.1	23.8	17.8	13.2	22.8	11.4
The Pas A	28.1	18.6	26.1	17.6	24.5	16.6	19.8	26.1	18.7	24.3	17.7	22.8	17.9	13.3	22.6	16.6	12.2	21.3	15.6	11.4	20.2	10.2
Thompson A	28.1	17.5	26.1	16.6	24.3	15.7	19.1	25.6	17.8	24.1	16.7	22.5	16.6	12.1	21.9	15.3	11.1	20.4	14.2	10.4	19.1	12.8
Winnipeg Intl A	30.8	19.9	29.0	19.6	27.0	18.7	22.1	28.0	20.9	26.8	19.8	25.3	20.2	15.3	25.4	18.9	14.1	23.9	17.9	13.2	22.9	11.4
NEW BRUNSWICK																						
Charlo A	28.2	19.8	25.9	19.1	24.1	18.1	21.3	25.8	20.2	24.2	19.1	22.8	19.8	14.6	23.3	18.9	13.8	22.2	17.9	12.9	21.1	10.2
Chatham A	29.9	20.3	28.1	19.2	26.1	18.3	21.8	27.1	20.7	25.5	19.8	24.0	20.1	14.8	24.1	19.2	14.0	22.9	18.3	13.2	21.9	11.3
Fredericton A	30.0	20.6	28.2	19.7	26.3	18.8	22.1	27.7	21.0	26.0	20.0	24.5	20.2	14.9	25.0	19.3	14.1	23.6	18.4	13.3	22.3	11.5
Moncton A	28.2	20.1	26.4	19.4	24.9	18.5	21.7	26.1	20.6	24.7	19.7	23.4	20.1	14.9	24.1	19.2	14.1	22.9	18.3	13.3	21.8	10.8
Saint John A	25.6	18.4	24.0	17.6	22.2	16.5	20.0	23.8	18.8	22.1	17.8	20.8	18.7	13.7	21.6	17.6	12.8	20.3	16.6	12.0	19.0	9.4
NEWFOUNDLAND																						
Battle Harbour	18.3	14.2	15.8	13.0	14.3	11.9	14.9	17.1	13.4	15.5	12.1	13.9	13.9	9.9	16.2	12.1	8.8	14.5	11.0	8.2	13.0	5.8
Bonavista	23.5	18.3	21.5	17.3	19.9	16.6	19.3	22.1	18.2	20.6	17.1	19.3	18.2	13.1	21.1	17.0	12.2	19.8	16.0	11.4	18.6	6.5
Cartwright	23.9	16.5	21.3	15.1	19.2	14.3	17.2	22.2	15.9	20.2	14.8	18.7	15.2	10.8	19.2	14.0	10.0	18.2	12.8	9.2	17.0	9.7
Daniels Harbour	20.3	17.4	19.1	16.8	18.2	16.1	18.2	19.6	17.4	18.7	16.4	17.7	17.8	12.8	19.2	16.7	11.9	18.1	15.8	11.2	17.3	5.4
Deer Lake A	27.0	18.6	25.2	17.6	23.5	16.8	20.2	24.8	19.1	23.1	18.1	21.9	18.7	13.6	22.5	17.5	12.6	2				

Table 2A Heating and Wind Design Conditions—Canada

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							Dry	Bulb	Speed, m/s		0.4%		1%		99.6%		0.4%		Mean DB		StdD DB		
									99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Iqaluit A (Frobisher)	719090	63.75	68.55	33	100.93	6193	-39.6	-37.9	14.4	12.5	10.9	17.8	-24.3	15.3	-24.4	1.7	320	5.2	320	20.2	-41.7	2.4	2.6
Resolute A	719240	74.72	94.98	67	100.52	6393	-40.9	-39.7	17.3	15.1	13.3	18.7	-26.0	16.5	-27.7	4.2	320	5.5	110	12.8	-45.0	2.1	2.7
NOVA SCOTIA																							
Greenwood A	713970	44.98	64.92	28	100.99	6193	-18.8	-16.2	13.1	11.3	10.0	15.8	-4.1	13.2	-5.2	3.1	300	6.5	250	31.9	-24.0	1.3	3.0
Halifax Intl A	713950	44.88	63.50	145	99.60	6993	-19.0	-16.7	12.1	10.3	9.1	13.4	-3.1	12.1	-3.6	5.1	320	5.2	200	30.4	-22.4	1.5	2.4
Sable Island	716000	43.93	60.02	4	101.28	6193	-9.8	-8.1	17.0	15.0	13.4	19.3	-1.4	17.4	-1.8	10.6	290	5.7	200	22.8	-12.4	1.4	2.2
Shearwater A	716010	44.63	63.50	51	100.71	6193	-17.0	-15.0	13.1	11.2	9.7	14.5	-4.4	12.7	-4.3	5.2	340	4.5	230	29.5	-20.7	1.8	2.3
Sydney A	717070	46.17	60.05	62	100.58	6193	-18.4	-16.1	13.5	11.8	10.4	15.6	-5.0	13.2	-4.4	5.9	270	6.2	230	30.6	-21.6	1.4	2.5
Truro	713980	45.37	63.27	40	100.85	6193	-22.8	-19.8	10.7	9.2	8.2	13.2	-4.0	11.5	-4.1	2.4	0	4.7	270	30.0	-26.9	1.8	3.2
Yarmouth A	716030	43.83	66.08	43	100.81	6193	-14.0	-12.1	12.5	11.1	10.0	13.5	-3.3	12.5	-2.8	5.3	320	4.4	190	26.2	-17.1	1.5	2.0
ONTARIO																							
Armstrong A	718410	50.30	89.03	351	97.18	6193	-36.3	-34.4	9.6	8.5	7.5	9.4	-19.1	8.2	-19.2	1.2	270	5.5	0	31.2	-44.8	1.8	2.7
Atikokan	717480	48.75	91.62	393	96.69	6793	-35.2	-32.8	7.2	6.3	5.5	7.1	-14.2	6.1	-14.6	0.3	270	3.4	230	31.8	-40.9	2.0	2.1
Big Trout Lake	718480	53.83	89.87	224	98.66	6793	-35.8	-34.4	10.4	9.2	8.2	10.5	-18.1	9.3	-18.9	2.5	290	4.0	200	29.7	-40.9	1.8	2.7
Earlton A	717350	47.70	79.85	243	98.44	6193	-32.6	-29.6	9.6	8.4	7.7	10.6	-10.1	9.3	-10.9	1.8	320	5.2	200	32.6	-38.6	2.1	2.8
Geraldton	718340	49.78	86.93	351	97.18	6893	-35.7	-33.5	9.2	7.9	7.1	9.7	-16.2	8.6	-15.6	0.7	270	4.7	0	30.7	-42.5	2.3	3.7
Gore Bay A	717330	45.88	82.57	193	99.03	6193	-24.3	-21.4	12.0	10.4	9.2	13.1	-5.3	11.4	-5.8	3.1	0	4.8	180	29.7	-29.6	2.5	3.3
Kapuskasing A	718310	49.42	82.47	227	98.63	6193	-34.4	-31.7	8.7	7.6	6.9	9.5	-15.0	8.6	-15.0	1.8	270	4.6	230	32.3	-39.4	1.5	2.8
Kenora A	718500	49.78	94.37	411	96.48	6193	-32.7	-30.2	9.2	8.2	7.5	9.3	-14.0	8.4	-14.7	3.6	320	4.9	180	31.7	-35.8	1.9	2.8
London A	716230	43.03	81.15	278	98.03	6193	-19.3	-16.7	11.2	9.9	8.7	13.2	-6.2	11.4	-6.3	3.8	250	5.1	250	32.2	-23.9	1.9	3.1
Mount Forest	716310	43.98	80.75	415	96.44	6293	-21.5	-19.3	11.0	9.5	8.4	12.4	-7.1	11.0	-7.6	2.7	90	4.4	250	30.4	-26.4	1.2	2.5
Muskoka A	716300	44.97	79.30	282	97.98	6193	-27.0	-24.0	9.4	8.5	7.8	10.3	-6.0	9.0	-5.9	2.9	320	4.1	270	30.8	-34.3	1.2	3.1
North Bay A	717310	46.35	79.43	371	96.95	6193	-27.9	-25.1	8.8	7.7	7.0	10.4	-8.7	9.1	-8.9	2.8	0	4.4	230	30.0	-32.3	1.8	3.0
Ottawa Intl A	716280	45.32	75.67	114	99.96	6193	-24.8	-22.2	10.0	8.8	7.7	11.9	-8.5	10.3	-9.3	3.9	290	4.5	250	33.0	-28.4	1.5	2.8
Sault Ste. Marie A	712600	46.48	84.52	192	99.04	6293	-25.2	-22.3	11.8	10.2	8.8	12.5	-8.0	10.6	-7.9	1.9	90	3.9	220	31.3	-31.9	1.8	3.3
Simcoe	715270	42.85	80.27	241	98.46	6293	-18.6	-16.2	10.6	9.1	8.1	12.5	-4.8	10.6	-4.2	4.6	270	5.0	230	32.5	-23.2	1.6	2.6
Sioux Lookout A	718420	50.12	91.90	390	96.73	6193	-34.5	-31.9	7.5	6.7	6.1	8.4	-16.6	7.5	-16.7	1.9	270	4.0	200	31.9	-39.3	1.8	2.7
Sudbury A	717300	46.62	80.80	348	97.21	6193	-28.4	-25.6	13.2	11.7	10.4	13.4	-10.6	12.1	-10.6	4.6	0	6.2	230	31.8	-32.7	2.2	2.9
Thunder Bay A	717490	48.37	89.32	199	98.96	6193	-30.2	-27.6	10.8	9.2	7.9	11.3	-12.8	9.8	-14.2	3.8	250	5.1	200	32.4	-34.9	2.1	2.6
Timmins A	717390	48.57	81.37	295	97.83	6193	-33.5	-30.5	9.4	8.5	7.6	9.8	-14.3	8.7	-14.1	2.0	180	4.4	250	32.7	-39.3	2.0	2.6
Toronto Intl A	716240	43.67	79.63	173	99.26	6593	-19.9	-17.2	11.6	10.0	8.8	13.0	-5.8	11.4	-5.1	4.1	340	5.3	270	33.1	-24.0	1.6	3.1
Trenton A	716210	44.12	77.53	86	100.30	6193	-22.1	-19.6	11.5	9.9	8.6	13.4	-5.3	11.7	-4.6	2.8	50	5.5	230	31.4	-26.7	1.7	3.1
Warton A	716330	44.75	81.10	222	98.69	6193	-20.3	-17.6	11.3	10.0	8.7	11.9	-3.0	10.5	-4.0	3.2	340	5.4	230	30.9	-25.9	1.3	3.9
Windsor A	715380	42.27	82.97	190	99.06	6193	-16.9	-14.6	12.4	10.8	9.4	13.2	-5.4	11.8	-5.7	5.3	230	5.5	250	34.4	-20.5	1.5	3.0
PRINCE EDWARD ISLAND																							
Charlottetown A	717060	46.28	63.13	54	100.68	6193	-21.0	-18.9	10.8	9.9	8.8	15.7	-8.5	13.0	-7.6	5.7	270	5.3	230	29.4	-24.6	1.3	2.6
Summerside A	717020	46.43	63.83	24	101.04	6193	-20.5	-18.4	14.2	12.4	11.0	17.7	-8.0	15.5	-7.9	6.7	270	5.6	200	29.5	-23.6	1.5	2.3
QUEBEC																							
Bagotville A	717270	48.33	71.00	159	99.43	6193	-30.7	-28.4	11.7	10.2	9.1	13.2	-16.0	11.5	-15.2	2.8	270	4.6	270	32.5	-34.5	1.4	2.8
Baie Comeau A	711870	49.13	68.20	22	101.06	6593	-28.4	-25.7	12.1	10.6	9.2	13.2	-10.1	11.3	-10.3	4.7	270	5.7	230	27.8	-33.3	1.8	3.8
Grindstone Island		47.38	61.87	59	100.62	6193	-18.5	-16.3	21.9	19.3	17.2	24.4	-6.5	21.7	-6.2	10.5	290	8.1	250	25.9	-20.4	1.1	3.1
Kuujuaupik A	719050	55.28	77.77	12	101.18	6193	-36.2	-34.3	12.8	11.1	9.9	11.8	-17.5	10.5	-19.0	3.5	120	6.0	180	29.3	-41.4	2.2	2.6
Kuujuaq A	719060	58.10	68.42	37	100.88	6193	-36.5	-34.8	12.9	10.9	9.5	14.0	-16.9	12.1	-19.0	2.2	230	4.9	180	27.9	-40.5	1.9	2.0
La Grande Riviere A	718270	53.63	77.70	195	99.00	7793	-36.0	-34.3	10.0	8.8	7.7	10.3	-17.6	9.0	-18.8	2.6	270	5.7	240	29.6	-39.2	2.0	1.9
Lake Eon A	714210	51.87	63.28	561	94.76	6193	-34.9	-33.0	10.4	9.2	8.2	10.4	-15.7	9.3	-17.6	2.2	270	4.3	230	26.7	-41.0	1.4	2.2
Mont Joli A	717180	48.60	68.22	52	100.70	6193	-24.5	-22.3	12.6	10.9	9.8	15.8	-13.3	13.3	-12.6	6.5	290	6.3	230	30.6	-27.8	1.7	2.5
Montreal Intl A	716270	45.47	73.75	36	100.89	6193	-24.4	-21.8	10.2	9.0	7.9	13.2	-7.4	11.5	-7.7	3.2	250	5.0	230	32.0	-28.3	1.3	2.5
Montreal Mirabel A	716278	45.68	74.03	82	100.34	7693	-26.9	-24.0	9.2	7.9	6.9	11.1	-10.6	9.5	-11.9	2.6	240	3.8	240	31.2	-31.7	1.0	2.4
Nitchequon		53.20	70.90	536	95.05	6193	-36.3	-35.0	11.3	10.0	9.0	13.0	-21.3	11.2	-20.6	2.5	270	4.7	230	25.6	-43.2	2.0	2.6
Quebec A	717140	46.80	71.38	73	100.45	6193	-26.4	-24.0	10.8	9.4	8.3	13.2	-10.4	11.6	-11.5	4.3	250	5.2	250	31.7	-30.4	1.3	2.7
Riviere Du Loup	717150	47.80	69.55	148	99.56	6693	-25.1	-23.4	9.3	8.3	7.5	10.6	-9.9	9.3	-10.7	4.3	180	5.1	230	29.3	-27.6	1.1	2.6
Roberval A	717280	48.52	72.27	179	99.19	6193	-30.7	-28.5	10.4	9.1	8.1	12.1	-13.1	10.2	-12.0	3.1	270	5.3	220	32.3	-34.3	1.7	2.4
Schefferville A	718280	54.80	66.82	521	95.22	6193	-36.3	-34.7	11.8	10.3													

Table 2B Cooling and Dehumidification Design Conditions—Canada

Station	Cooling DB/MWB						Evaporation WB/MDb						Dehumidification DP/MDb and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDb	WB	MDb	WB	MDb	DP	HR	MDb	DP	HR	MDb	DP	HR	MDb	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Iqaluit A (Frobisher)	15.7	10.1	13.6	8.9	11.5	8.0	10.6	15.2	9.3	12.8	8.2	11.4	7.8	6.6	11.9	6.6	6.1	10.9	5.6	5.7	9.8	6.9
Resolute A	10.2	7.3	8.6	6.1	6.9	5.1	7.5	10.1	6.2	8.3	5.2	6.9	5.4	5.6	8.4	4.4	5.2	7.4	3.5	4.9	6.2	4.7
NOVA SCOTIA																						
Greenwood A	28.6	20.5	26.8	19.6	25.4	18.7	22.1	26.2	21.2	24.9	20.3	23.8	20.7	15.4	24.2	19.8	14.6	23.4	18.9	13.7	22.4	11.1
Halifax Intl A	26.9	19.7	25.3	18.8	23.8	17.9	21.2	24.9	20.3	23.3	19.3	22.0	20.1	15.1	22.7	19.2	14.2	21.6	18.4	13.5	20.5	9.3
Sable Island	21.1	19.5	20.3	18.8	19.6	18.1	20.0	20.7	19.3	19.9	18.6	19.3	19.7	14.4	20.5	19.0	13.8	19.7	18.3	13.2	19.1	4.6
Shearwater A	25.5	19.1	23.8	18.0	22.1	17.4	20.6	23.5	19.6	22.1	18.7	20.8	19.7	14.5	21.9	18.8	13.7	20.6	18.1	13.1	19.7	7.3
Sydney A	27.1	20.1	25.4	19.3	23.7	18.4	21.5	25.5	20.4	23.8	19.4	22.3	20.2	15.0	23.5	19.2	14.1	22.2	18.3	13.3	21.1	9.6
Truro	26.3	20.3	25.0	19.3	23.7	18.7	21.7	25.0	20.7	23.6	19.8	22.1	20.5	15.2	23.7	19.7	14.5	22.5	19.0	13.9	21.3	10.7
Yarmouth A	22.9	18.6	21.4	18.0	20.3	17.3	19.9	21.7	18.8	20.6	18.0	19.6	19.2	14.0	20.8	18.3	13.3	19.8	17.2	12.3	18.9	7.3
ONTARIO																						
Armstrong A	27.2	18.7	25.8	18.4	24.1	17.3	20.7	25.4	19.3	24.1	18.2	22.5	19.2	14.6	22.6	17.9	13.4	21.8	16.3	12.1	20.5	13.7
Atikokan	28.7	19.5	26.8	18.9	25.2	17.9	21.6	26.4	20.4	24.8	19.3	23.5	20.1	15.5	24.1	19.0	14.5	23.0	17.9	13.5	21.8	12.8
Big Trout Lake	26.0	17.5	24.1	16.9	22.2	16.1	19.2	23.9	18.1	22.1	17.1	21.0	17.6	13.0	21.3	16.4	12.0	20.1	15.4	11.2	19.3	9.1
Earlton A	29.3	20.3	27.2	19.4	25.5	18.4	21.9	26.9	20.7	25.2	19.6	24.1	20.3	15.4	24.6	19.2	14.4	23.2	18.2	13.5	22.0	12.0
Geraldton	27.2	18.9	25.7	18.1	24.1	17.0	20.7	25.0	19.5	23.6	18.4	22.5	19.3	14.7	23.1	18.3	13.8	22.1	16.7	12.4	20.6	12.3
Gore Bay A	26.7	20.0	25.3	19.3	24.0	18.4	21.6	25.1	20.6	23.6	19.7	22.6	20.4	15.4	23.3	19.5	14.6	22.3	18.6	13.8	21.6	9.1
Kapuskasing A	29.0	19.3	26.9	18.5	25.2	17.6	21.1	26.1	19.9	24.7	18.8	23.3	19.4	14.5	23.8	18.3	13.6	22.4	16.9	12.4	21.2	12.5
Kenora A	28.9	19.4	27.0	18.5	25.4	17.8	21.3	26.2	20.2	24.8	19.1	23.7	19.7	15.2	24.0	18.6	14.1	22.9	17.4	13.1	22.0	9.1
London A	29.6	21.9	28.2	21.1	26.7	20.4	23.4	28.0	22.4	26.7	21.5	25.2	21.8	17.0	26.1	21.0	16.2	24.9	20.2	15.4	23.8	11.0
Mount Forest	28.2	21.2	26.5	20.2	25.2	19.2	22.4	26.5	21.3	25.1	20.3	23.7	20.9	16.4	24.8	20.0	15.5	23.5	19.2	14.7	22.5	11.3
Muskoka A	28.7	20.8	26.8	19.8	25.5	19.0	22.3	26.6	21.2	24.9	20.2	23.6	20.9	16.1	24.5	20.0	15.2	23.3	19.0	14.3	22.1	11.5
North Bay A	27.2	19.5	25.6	18.8	24.2	18.0	21.2	25.2	20.2	23.7	19.3	22.5	20.0	15.4	23.2	19.1	14.5	22.1	18.2	13.7	21.2	9.5
Ottawa Intl A	30.1	21.3	28.5	20.5	26.8	19.5	22.8	28.0	21.8	26.4	20.8	25.3	21.1	16.0	25.5	20.2	15.1	24.6	19.2	14.2	23.7	10.3
Sault Ste. Marie A	28.1	20.6	26.1	19.4	24.4	18.3	21.9	26.2	20.7	24.4	19.6	23.2	20.4	15.4	24.3	19.4	14.5	22.9	18.3	13.5	21.6	11.6
Simcoe	29.6	22.0	28.4	21.2	26.7	20.3	23.4	28.1	22.4	26.6	21.5	25.2	21.7	16.8	25.9	20.9	16.0	24.9	20.2	15.3	23.7	10.7
Sioux Lookout A	28.9	19.3	26.9	18.1	25.3	17.4	21.0	26.4	19.8	24.4	18.8	23.1	19.4	14.8	23.2	18.3	13.8	21.9	17.1	12.8	21.1	10.5
Sudbury A	29.0	19.4	27.0	18.6	25.4	17.8	21.2	26.4	20.2	24.8	19.1	23.3	19.7	15.0	23.4	18.7	14.1	22.4	17.7	13.2	21.4	10.6
Thunder Bay A	28.7	19.7	26.5	18.6	24.7	17.6	21.2	26.5	19.8	24.7	18.6	23.0	19.3	14.4	24.4	18.1	13.3	22.2	16.8	12.3	20.9	12.1
Timmins A	29.1	19.2	27.1	18.2	25.3	17.5	21.1	26.4	19.9	24.8	18.8	23.2	19.3	14.6	23.5	18.2	13.6	22.4	17.0	12.6	21.0	12.8
Toronto Intl A	30.3	21.8	28.7	20.9	27.1	20.1	23.3	28.5	22.2	26.9	21.3	25.5	21.6	16.6	26.1	20.7	15.7	25.0	19.8	14.8	23.8	11.2
Trenton A	28.7	21.6	27.1	20.9	25.8	20.1	23.1	27.1	22.1	25.6	21.3	24.6	21.7	16.5	25.5	20.9	15.7	24.5	20.1	14.9	23.5	10.0
Warton A	28.0	21.1	26.4	20.3	25.0	19.5	22.3	26.4	21.3	25.0	20.4	23.8	21.0	16.1	24.8	20.1	15.2	23.6	19.2	14.4	22.6	10.0
Windsor A	31.4	22.7	29.9	21.9	28.5	21.2	24.3	29.5	23.3	28.1	22.5	26.9	22.8	17.9	27.7	21.8	16.8	26.1	21.0	16.0	25.1	9.7
PRINCE EDWARD ISLAND																						
Charlottetown A	26.3	20.4	24.9	19.4	23.5	18.5	21.5	25.0	20.5	23.5	19.5	22.4	20.2	15.0	23.6	19.4	14.2	22.4	18.5	13.4	21.4	8.4
Summerside A	26.1	19.9	24.7	19.0	23.5	18.2	21.4	24.6	20.4	23.3	19.4	22.0	20.1	14.8	23.4	19.3	14.1	22.2	18.5	13.4	21.1	8.0
QUEBEC																						
Bagotville A	28.8	19.3	26.7	18.2	24.9	17.4	20.8	26.0	19.7	24.6	18.7	23.2	19.1	14.1	23.1	18.1	13.3	22.1	16.8	12.2	21.0	11.0
Baie Comeau A	23.6	17.1	21.7	16.3	20.3	15.4	18.4	21.8	17.3	20.4	16.3	19.2	16.9	12.1	20.1	15.9	11.3	18.8	15.0	10.7	17.6	9.5
Grindstone Island	22.9	19.1	21.3	18.4	20.2	17.7	20.2	21.9	19.2	20.7	18.3	19.8	19.5	14.3	21.3	18.7	13.6	20.3	17.7	12.8	19.7	4.8
Kuujuarapik A	24.1	16.1	21.3	14.9	19.0	13.9	17.4	22.1	15.9	20.0	14.4	18.2	15.4	10.9	19.5	13.9	9.9	18.0	12.1	8.8	16.4	8.8
Kuujuak A	23.2	15.3	20.5	14.0	18.2	13.0	16.4	20.7	14.9	19.1	13.4	17.6	14.4	10.3	18.4	12.9	9.3	17.1	11.1	8.3	15.4	10.4
La Grande Riviere A	25.8	16.5	23.6	15.3	21.4	14.3	18.1	22.9	16.8	21.0	15.6	20.1	16.4	11.9	19.8	15.2	11.0	18.3	13.7	10.0	17.4	11.8
Lake Eon A	23.2	15.6	21.1	14.6	19.5	13.9	17.0	21.0	16.0	19.5	14.9	17.9	15.5	11.8	18.5	14.6	11.1	17.4	13.7	10.5	16.7	9.1
Mont Joli A	26.4	19.6	24.6	18.5	23.2	17.7	20.7	25.0	19.5	23.7	18.4	22.1	19.0	13.9	23.8	17.9	12.9	22.3	16.6	11.9	21.0	9.1
Montreal Intl A	29.5	21.9	28.1	20.9	26.5	20.1	23.1	27.9	22.0	26.5	21.1	25.2	21.3	16.0	26.1	20.4	15.1	24.9	19.6	14.4	23.8	9.8
Montreal Mirabel A	28.8	21.4	27.2	20.3	25.8	19.5	22.5	27.3	21.4	25.8	20.5	24.4	20.9	15.7	25.3	19.9	14.7	24.0	19.1	14.0	22.8	11.2
Nitchequon	22.1	15.7	20.4	14.5	18.8	13.9	17.0	20.1	16.0	18.5	15.0	17.5	15.9	12.1	18.4	14.9	11.3	17.1	13.9	10.6	16.4	7.8
Quebec A	28.7	20.9	26.9	19.9	25.3	18.8	22.5	26.7	21.2	25.2	20.2	23.8	21.0	15.8	24.9	19.9	14.7	23.6	18.7	13.6	22.5	10.6
Riviere Du Loup	25.9	19.9	24.5	19.3	23.3	18.4	21.3	24.5	20.3	23.2	19.2	22.3	20.2	15.2	23.3	19.2	14.2	22.4	18.2	13.3	21.3	8.6
Roberval A	28.5	20.1	26.3	19.1	24.6	18.3	21.6	26.3	20.5	24.8	19.3	23.5	20.0	15.0	24.3	18.9	14.0	23.1	17.8	13.1	22.0	9.9
Schefferville A	23.1	14.6	20.8	13.7	18.8	12.8	16.2	20.5	14.9	19.0	13.8	17.5	14.4	10.9	17.7	13.2	10.1	16.8	11.7	9.1	15.7	8.9
Sept-Iles A	22.3	15.7	20.6	15.2	19.2	14.6	17.5	20.3	16.5	19.2	15.7	18.1	16.3	11.7	18.6	15.4	11.0	17.7	14.5	10.4	16.9	7.

							Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Dry Bulb		Speed, m/s			0.4%		1%		99.6%		0.4%		Mean DB		StdD DB	
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
ALGERIA																							
Algiers	603900	36.72N	3.25E	25	101.03	8293	2.0	3.1	11.0	9.5	8.3	11.8	12.9	9.8	13.0	0.7	200	5.2	60	40.8	-0.1	2.5	1.4
Annaba	603600	36.83N	7.82E	4	101.28	8293	4.1	5.1	11.2	9.9	8.9	12.1	12.2	10.0	11.5	2.2	220	4.8	240	41.0	1.3	3.2	1.2
Biskra	605250	34.80N	5.73E	87	100.28	8293	5.0	6.2	15.1	13.2	11.6	14.9	13.4	12.9	14.4	3.0	10	4.9	180	44.8	2.3	1.5	1.3
Constantine	604190	36.28N	6.62E	694	93.26	8293	-0.6	0.4	10.5	9.0	7.6	11.8	7.6	9.8	8.0	0.8	320	5.2	240	39.7	-2.7	1.4	0.8
El Golea	605900	30.57N	2.87E	397	96.65	8293	0.3	1.7	11.7	9.9	8.3	11.6	14.6	9.6	13.8	1.8	320	3.7	180	45.2	-2.2	1.3	1.5
Oran	604900	35.63N	0.60W	90	100.25	8293	1.9	3.2	12.8	10.8	9.5	14.6	13.9	11.8	14.2	0.9	200	6.3	240	40.2	-2.1	4.9	6.9
Tebessa	604750	35.48N	8.13E	813	91.93	8293	-1.9	-0.5	11.6	9.9	8.4	13.2	6.4	10.3	9.2	0.6	280	5.0	220	39.4	-3.8	1.7	1.1
ARGENTINA																							
Buenos Aires	875760	34.82S	58.53W	20	101.08	8293	-0.7	1.0	10.4	9.1	8.1	9.8	11.9	8.5	11.5	2.0	270	4.9	270	36.6	-2.9	1.4	1.1
Comodoro Rivadavia	878600	45.78S	67.50W	46	100.77	8293	-1.7	-0.4	19.3	16.5	14.8	19.0	10.4	16.1	10.2	4.7	270	9.8	290	36.0	-3.6	4.0	1.1
Cordoba	873440	31.32S	64.22W	474	95.76	8293	-0.4	1.3	12.2	10.5	9.5	12.6	10.9	10.5	15.8	1.4	270	7.2	20	37.8	-3.9	1.7	1.8
Junin Airport	875480	34.55S	60.95W	81	100.36	8293	-1.3	0.2	11.5	10.1	8.8	11.7	12.8	10.1	12.9	0.6	270	5.2	360	37.4	-3.6	3.3	1.1
Formosa	871620	26.20S	58.23W	60	100.61	8293	4.7	6.6	13.2	11.8	10.2	12.5	19.6	11.7	17.7	2.6	270	7.5	360	39.8	1.2	1.0	1.8
Marcos Juarez	874670	32.70S	62.15W	114	99.96	8293	-1.5	0.2	12.6	10.9	9.9	11.9	13.9	10.5	12.9	1.2	50	4.8	360	38.1	-4.7	1.9	2.1
Mendoza	874180	32.83S	68.78W	704	93.15	8293	-0.9	0.6	9.8	8.0	6.9	8.3	13.3	6.6	11.7	1.3	230	5.1	50	39.0	-3.5	1.5	1.0
Paso De Los Libres	872890	29.68S	57.15W	70	100.49	8293	2.2	4.0	13.7	11.8	10.6	13.7	11.7	12.1	13.9	0.6	180	5.9	360	38.3	0.3	1.1	1.3
Posadas	871780	27.37S	55.97W	125	99.83	8293	4.1	5.9	9.8	8.5	7.5	10.4	21.8	9.2	18.9	2.5	180	5.1	360	38.6	1.3	1.2	2.6
Reconquista	872700	29.18S	59.67W	53	100.69	8293	2.8	4.4	12.2	9.5	9.1	12.0	15.7	9.4									

WMO# = World Meteorological Organization number
 Elev. = elevation, m
 PWD = prevailing wind direction, ° True
 DB = dry-bulb temperature, °C
 Lat. = latitude °
 Long. = longitude °
 StdP = standard pressure at station elevation, kPa
 WS = wind speed, m/s

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
ALGERIA																						
Algiers	35.2	21.7	33.2	21.8	31.7	22.0	25.0	30.3	24.4	29.4	23.8	28.6	23.5	18.4	27.5	23.0	17.8	27.1	22.2	16.9	26.6	11.6
Annaba	34.5	21.8	32.1	22.1	30.5	22.7	25.5	29.1	24.8	28.5	24.2	28.1	24.3	19.2	27.8	23.7	18.5	27.2	23.0	17.8	26.8	9.5
Biskra	42.3	20.4	40.9	20.4	39.6	20.3	22.5	36.3	21.9	36.2	21.5	35.7	18.2	13.2	28.4	17.1	12.3	27.8	16.3	11.7	28.4	11.1
Constantine	37.5	18.9	35.8	19.3	34.0	19.1	21.8	31.3	21.0	30.6	20.3	29.8	19.1	15.1	24.7	18.2	14.3	24.4	17.2	13.4	23.8	15.0
El Golea	42.7	20.4	41.4	20.0	40.1	19.8	22.2	38.6	21.5	38.1	20.8	37.2	16.6	12.4	28.0	15.5	11.5	29.0	14.5	10.8	29.2	14.3
Oran	33.2	20.3	31.4	20.8	30.0	20.8	24.1	29.1	23.5	28.1	23.0	27.3	22.6	17.5	26.4	22.1	17.0	26.3	21.6	16.4	26.0	10.2
Tebessa	37.2	18.2	35.9	18.0	34.4	17.9	20.5	31.6	19.8	30.7	19.2	30.0	17.5	13.8	23.0	16.8	13.2	22.3	16.0	12.6	22.3	15.1
ARGENTINA																						
Buenos Aires	33.9	22.8	32.1	22.3	30.7	21.6	24.7	30.1	23.8	28.9	23.1	28.2	23.2	18.0	26.9	22.4	17.1	26.2	21.7	16.4	25.3	12.0
Comodoro Rivadavia	30.6	16.1	28.7	15.4	26.9	14.7	17.3	27.7	16.4	25.7	15.6	24.7	14.0	10.0	18.8	12.9	9.3	17.8	11.7	8.6	18.5	10.4
Cordoba	34.5	22.6	33.0	22.0	31.7	21.7	25.2	31.1	24.2	30.0	23.3	29.0	23.5	19.4	28.8	22.5	18.2	27.5	21.6	17.2	26.5	11.7
Junin Airport	33.5	22.2	31.9	21.9	30.4	21.5	24.3	29.6	23.4	28.7	22.7	28.1	22.9	17.8	26.5	22.0	16.8	25.8	21.1	15.9	24.9	12.0
Formosa	36.6	24.7	35.4	24.6	34.2	24.4	26.8	32.6	26.4	32.4	25.9	31.7	25.4	20.7	29.7	24.9	20.1	29.0	24.4	19.5	28.4	10.3
Marcos Juarez	35.0	23.2	33.4	23.1	32.0	23.0	25.8	31.3	24.9	30.4	24.1	29.4	24.3	19.5	29.2	23.4	18.4	27.7	22.6	17.6	26.7	12.3
Mendoza	35.4	20.0	34.0	19.4	32.8	19.5	22.7	31.5	21.8	30.3	21.1	29.5	20.0	16.0	27.0	19.1	15.1	26.5	18.2	14.3	26.0	12.3
Paso De Los Libres	35.8	23.6	34.5	23.8	33.1	23.0	26.1	31.7	25.3	30.9	24.7	30.2	24.5	19.6	28.8	23.8	18.8	28.3	23.1	18.0	27.5	11.2
Posadas	35.9	24.5	34.8	24.3	33.8	24.1	26.6	33.0	26.0	32.4	25.5	31.6	24.9	20.3	30.6	24.2	19.4	29.7	23.8	18.9	29.1	10.6
Reconquista	35.5	25.5	34.2	25.2	32.9	24.7	27.3	32.8	26.6	31.9	25.9	30.8	25.9	21.4	30.5	25.2	20.5	29.8	24.6	19.7	28.8	9.9
Resistencia	36.6	24.2	35.2	24.2	34.0	24.2	26.8	32.8	26.2	32.1	25.7	31.1	25.2	20.5	29.9	24.8	20.0	29.3	24.2	19.2	28.5	11.2
Rio Gallegos	24.5	14.1	22.4	13.0	20.9	12.1	15.1	22.8	14.0	21.0	13.0	19.4	11.6	8.5	17.0	10.7	8.0	16.0	9.7	7.5	15.4	10.8
Rosario	34.0	23.1	32.4	22.7	31.1	22.4	25.4	30.4	24.6	29.4	23.8	28.6	24.0	18.9	28.2	23.1	17.9	27.4	22.3	17.0	26.3	11.4
Salta Airport	31.9	18.3	30.4	18.8	29.1	18.7	22.1	27.8	21.5	26.9	21.0	26.2	20.5	17.6	24.5	19.9	17.0	24.2	19.4	16.4	23.5	10.6
San Juan	37.6	20.8	36.1	20.1	34.7	19.9	23.0	33.8	22.2	32.6	21.5	31.7	19.9	15.7	27.9	18.8	14.6	27.5	18.0	13.9	27.0	13.2
San Miguel De Tucuman	35.7	23.6	34.1	23.5	32.8	23.1	26.1	32.3	25.4	31.3	24.7	30.4	24.5	20.6	29.7	23.8	19.7	28.9	23.1	18.9	28.2	9.7
ARMENIA																						
Yerevan	35.6	20.5	34.2	20.4	32.8	19.6	22.2	33.0	21.1	32.5	20.3	31.3	18.4	14.8	29.5	17.1	13.6	27.6	16.1	12.8	27.0	13.6
ASCENSION ISLAND																						
Georgetown	30.0	24.1	29.6	23.9	29.2	23.7	25.0	28.7	24.6	28.4	24.3	28.0	23.9	18.9	27.3	23.5	18.5	26.9	23.1	18.0	26.9	4.3
AUSTRALIA																						
Adelaide	35.2	18.0	33.1	17.8	31.1	17.3	21.0	28.5	20.0	27.4	19.1	26.8	19.0	13.8	23.4	17.7	12.7	22.7	16.3	11.6	22.3	10.8
Alice Springs	40.0	18.1	38.9	17.7	37.5	17.8	23.0	28.5	22.2	28.2	21.5	28.6	21.8	17.6	25.1	20.7	16.4	24.9	19.2	14.9	25.1	13.7
Brisbane	31.2	22.5	30.0	22.4	29.1	22.1	25.1	28.7	24.4	27.9	23.7	27.3	24.1	19.0	27.3	23.2	18.0	26.5	22.6	17.3	26.1	7.6
Cairns	33.0	25.3	32.1	25.1	31.2	24.9	27.1	30.8	26.6	30.5	26.1	29.8	26.1	21.5	29.3	25.6	20.9	28.9	25.1	20.2	28.4	7.3
Canberra	32.5	17.1	30.3	17.1	28.3	16.6	19.7	26.2	18.8	25.6	18.1	24.9	17.8	13.7	21.7	16.7	12.8	21.2	15.8	12.0	20.0	13.3
Darwin	34.0	23.8	33.2	24.2	33.0	24.4	27.7	31.4	27.3	31.0	27.0	30.8	27.0	22.8	30.2	26.2	21.7	29.4	26.1	21.6	29.2	7.2
Kalgoorlie/Boulder	39.0	18.1	37.1	17.7	35.1	17.3	20.9	30.7	20.1	29.7	19.3	29.8	18.6	14.0	23.4	17.2	12.8	21.9	16.2	12.0	21.7	13.6
Learmonth	40.4	21.3	38.8	21.1	37.3	21.2	26.1	31.1	25.6	30.8	25.0	30.4	24.9	20.0	28.7	24.2	19.1	28.3	23.4	18.2	28.6	13.1
Perth	37.2	19.2	35.1	19.0	32.9	18.6	22.0	30.5	21.2	29.7	20.5	28.2	19.6	14.4	24.1	18.7	13.6	23.4	18.0	13.0	23.1	12.5
Port Hedland	40.3	21.4	38.9	21.6	37.6	21.8	27.9	33.1	27.4	32.6	27.0	32.0	26.7	22.3	30.5	26.2	21.6	30.1	25.7	21.0	29.8	10.7
Sydney Intl Airport	32.2	20.0	29.5	19.7	27.9	20.1	23.0	28.0	22.3	26.2	21.7	25.3	21.7	16.4	24.8	21.1	15.8	24.3	20.6	15.3	23.9	6.7
Townsville	33.6	24.2	32.8	24.7	31.9	24.7	27.1	31.0	26.6	30.4	26.2	29.7	26.1	21.5	29.1	25.7	21.0	28.9	25.1	20.2	28.5	6.5
AUSTRIA																						
Aigen/Ennstal (Mil)	27.8	18.7	26.0	17.8	24.3	17.1	19.7	26.3	18.7	24.7	17.7	23.2	17.2	13.3	23.4	16.3	12.5	22.1	15.4	11.8	20.7	11.1
Graz	29.2	20.3	27.9	19.8	26.2	18.6	21.4	27.0	20.5	25.6	19.7	24.9	19.7	15.0	23.8	18.8	14.2	22.7	17.9	13.4	21.8	11.4
Innsbruck	29.2	18.1	27.8	17.5	26.1	16.6	19.1	27.1	18.3	25.5	17.6	23.6	16.9	13.0	20.3	16.1	12.3	19.5	15.2	11.6	19.4	11.4
Klagenfurt	29.4	18.7	27.9	18.4	26.1	17.4	20.1	27.4	19.1	26.3	18.3	24.6	17.5	13.2	22.0	16.8	12.6	21.6	16.0	12.0	20.2	12.8
Linz	29.7	19.1	27.9	18.2	26.1	17.3	20.3	27.4	19.3	25.1	18.5	23.1	18.2	13.6	21.1	17.4	12.9	20.8	16.9	12.5	20.2	10.9
Salzburg	29.8	19.3	27.9	18.5	26.1	17.5	19.9	28.0	19.1	26.9	18.2	24.8	17.2	13.0	22.4	16.2	12.2	21.4	15.8	11.8	21.3	10.5
Vienna, Hohe Warte	30.1	20.1	28.5	19.3	26.8	18.7	21.1	28.4	20.3	26.8	19.6	25.0	18.9	14.0	23.3	18.2	13.4	23.0	17.5	12.8	22.4	9.3
Vienna, Schwechat	30.1	19.4	28.4	18.7	26.9	18.1	20.5	28.6	19.6	26.3	18.9	25.5	18.0	13.2	22.7	17.2	12.6	22.0	16.4	11.9	21.8	10.6
Zeltweg	27.7	19.0	25.9	18.1	24.4	17.3	19.7	26.6	18.8	24.7	17.9	23.4	17.2	13.4	23.3	16.4	12.7	22.0	15.7	12.1	20.8	11.7
AZORES																						
Lajes	26.5	21.9	25.8	21.4	24.9	20.8	22.5	25.4	22.0	24.9	21.5	23.7	21.6	16.4	24.0	21.0	15.8	23.7	20.3	15.1	23.3	6.3
BAHAMAS																						
Nassau	33.0	25.9	32.2	25.7	31.9	25.6	27.1	30.6	26.7	30.4	26.4	30.3	26.2	21.6	28.6	26.0	21.4	28.5	25.4	20.6	28.3	6.9
BAHRAIN																						
Al-Manamah	39.2	25.1	38.2	25.5	37.2	26.2	30.7	34.7	30.2	34.2	29.7	33.8	29.9	27.0	33.7	29.1	25.8	33.4	28.7	25.2	33.4	6.9
BELARUS																						
Babruysk (Bobruysk)	27.8	18.6	26.1	18.4	24.5	17.2	20.1	25.8	19.2	24.4	18.2	23.1	18.3	13.5	23.0	17.2	12.5	21.4	16.3	11.8	20.4	11.5
Homyl' (Gomel')	28.3	18.8	26.7	18.3	25.2	17.6	20.3	25.5	19.4	24.7	18.6	23.5	18.5	13.6	22.5	17.5	12.7	21.8	16.6	12.0	21.2	9.0
Hrodna (Grodno)	27.6	18.7	25.8	18.0	24.1	17.1	20.1	25.9	19.0	23.9	18.0	22.6	18.1	13.2	22.5	17.1	12.4	21.4	16.1	11.6	20.3	10.8
Mahilyow (Mogilev)	26.8	19.0	25.2	18.0	23.7	17.2	19.9	24.8	19.0	24.0	1											

Table 3A Heating and Wind Design Conditions—World Locations

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Brussels	64510	50.90N	4.53E	58	100.63	8293	-9.3	-6.2	12.0	10.4	9.2	13.8	7.7	11.8	7.0	3.1	50	3.6	60	31.5	-9.5	2.1	4.8
Charleroi	64490	50.47N	4.45E	192	99.04	8293	-9.3	-6.2	11.3	10.0	8.8	12.8	6.3	10.7	6.1	4.4	50	3.5	50	31.8	-9.9	2.1	4.4
Florennes	64560	50.23N	4.65E	299	97.78	8293	-10.3	-7.1	10.9	9.4	8.4	12.9	6.4	10.9	4.8	4.1	70	3.6	170	30.7	-10.8	2.0	4.4
Koksijde	64000	51.08N	2.65E	9	101.22	8293	-8.4	-5.8	13.3	11.8	10.4	14.9	7.9	13.1	7.2	4.4	90	4.6	100	30.3	-10.1	1.8	4.3
Luxembourg	65900	49.62N	6.22E	379	96.85	8293	-10.5	-7.9	10.7	9.3	8.2	11.9	5.1	10.2	1.1	4.9	50	3.8	80	31.2	-11.3	2.0	4.0
Oostende	64070	51.20N	2.87E	5	101.26	8293	-7.8	-5.4	15.0	13.2	11.7	18.0	7.8	14.8	7.4	4.9	70	4.6	100	30.0	-9.2	1.8	3.6
Saint Hubert	64760	50.03N	5.40E	557	94.81	8293	-11.8	-8.7	10.0	8.8	7.9	11.5	1.8	10.0	-0.5	5.1	90	3.5	30	28.0	-12.0	1.6	4.5
BENIN																							
Cotonou	653440	6.35N	2.38E	9	101.22	8293	21.7	22.3	8.4	7.7	7.2	9.0	26.5	8.2	26.6	2.1	20	5.5	200	36.5	18.3	2.2	3.7
Parakou	653300	9.35N	2.62E	393	96.69	8293	18.2	19.3	6.4	5.5	4.9	5.5	24.2	5.0	24.4	1.6	40	2.4	40	39.5	12.6	2.8	5.1
BERMUDA																							
Hamilton, Bermuda	780160	32.37N	64.68W	3	101.29	8293	12.9	13.9	13.0	11.4	10.2	13.4	18.3	12.6	18.0	7.2	310	4.8	190	32.1	8.3	0.7	4.2
BOLIVIA																							
Cochabamba	852230	17.45S	66.10W	2531	74.39	8293	1.8	2.9	10.0	8.2	5.8	9.8	18.9	7.6	19.1	0.0	180	2.8	360	31.4	-1.2	1.1	1.3
La Paz	852010	16.52S	68.18W	4014	61.53	8293	-4.0	-3.0	8.5	7.7	6.4	9.6	11.1	8.4	11.0	0.9	330	3.4	60	20.8	-6.0	2.6	1.1
BOSNIA-HERZEGOVINA																							
Banja Luka	132420	44.78N	17.22E	156	99.46	8293	-12.0	-8.9	5.9	4.3	3.4	6.4	11.1	4.5	9.8	1.1	320	2.0	360	36.6	-14.5	2.2	4.2
BRAZIL																							
Arch De Fernando	824000	3.85S	32.42W	56	100.65	8293	22.9	23.3	8.2	7.3	6.6	8.5	26.0	7.8	26.2	3.1	130	4.6	150	36.9	17.0	3.6	8.6
Belem	821930	1.38S	48.48W	16	101.13	8293	22.4	22.8	7.6	6.4	5.5	6.9	28.6	5.7	28.3	0.7	90	2.9	90	35.7	17.3	1.8	7.8
Brasilia	833780	15.87S	47.93W	1061	89.21	8293	9.1	10.8	7.6	6.3	5.4	8.0	21.5	6.5	22.3	0.2	90	3.2	90	34.4	6.7	1.8	3.2
Campinas	837210	23.00S	47.13W	661	93.63	8293	8.2	9.9	10.6	10.0	9.2	10.5	18.3	10.1	17.3	3.7	150	3.3	330	35.3	5.4	1.6	2.5
Campo Grande	836120	20.47S	54.67W	556	94.82	8293	8.0	10.2	11.0	10.0	9.2	12.1	15.6	10.5	16.9	7.3	180	4.8	360	36.7	4.8	1.8	2.1
Caravelas	834970	17.63S	39.25W	4	101.28	8293	16.3	17.3	10.1	8.9	7.9	8.6	23.7	7.8	24.0	0.4	240	5.3	60	35.1	13.7	2.2	1.8
Curitiba	838400	25.52S	49.17W	908	90.88	8293	2.4	4.5	8.2	7.0	5.9	8.9	19.8	7.9	18.4	1.1	270	3.8	300	33.6	-3.6	1.9	6.4
Fortaleza	823980	3.78S	38.53W	25	101.03	8293	22.5	22.9	8.9	8.2	7.6	8.7	29.0	8.2	29.1	2.1	180	6.0	120	36.2	18.5	2.2	5.4
Goiania	834240	16.63S	49.22W	747	92.67	8293	11.5	12.9	8.0	6.6	5.4	7.3	25.2	5.9	25.5	0.3	180	1.8	360	36.8	5.5	0.9	6.0
Maceio	829930	9.52S	35.78W	115	99.95	8293	19.2	19.8	8.0	6.8	6.0	7.7	25.7	6.2	25.7	0.2	180	4.5	100	35.1	14.6	2.2	5.9
Manaus, E.Gomes Airport	821110	3.03S	60.05W	2	101.30	8293	21.1	21.8	5.5	5.0	4.4	5.4	29.2	4.7	29.2	0.3	120	2.2	60	37.8	15.2	0.9	7.8
Manaus, Ponta Pelada	823320	3.15S	59.98W	84	100.32	8293	21.9	22.7	6.6	5.6	5.2	6.9	28.5	5.8	28.5	1.6	30	4.3	90	36.6	17.5	1.1	7.3
Natal	825990	5.92S	35.25W	52	100.70	8293	21.0	21.6	9.3	8.5	7.9	10.0	28.5	9.1	27.9	2.9	150	5.1	100	35.2	16.4	2.6	5.4
Porto Alegre	839710	30.00S	51.18W	3	101.29	8293	4.4	6.1	8.4	7.4	6.4	8.8	11.5	7.5	13.0	0.7	240	3.0	290	37.9	2.8	1.7	2.9
Recife	828990	8.07S	34.85W	19	101.10	8293	21.1	21.8	7.7	6.5	5.9	8.3	26.3	7.5	26.2	2.3	240	5.2	120	36.2	19.0	1.7	2.2
Rio De Janeiro, Galeao	837460	22.82S	43.25W	6	101.25	8293	14.9	15.9	8.5	7.7	6.8	7.6	23.4	6.6	23.0	1.2	320	3.1	50	41.5	10.0	1.4	5.2
Salvador	832480	12.90S	38.33W	6	101.25	8293	20.1	21.0	9.3	8.4	7.6	9.5	24.2	8.8	24.6	0.7	180	5.5	90	34.9	15.0	1.7	7.1
Santarem	822440	2.43S	54.72W	72	100.46	8293	22.2	22.9	8.5	8.0	7.1	8.4	27.2	7.7	27.3	2.6	210	5.4	90	35.8	17.9	1.8	8.9
Sao Paulo	837800	23.62S	46.65W	803	92.04	8293	8.8	9.9	6.9	5.9	5.2	6.4	19.0	5.4	18.0	2.0	160	2.6	330	34.3	5.9	1.5	2.1
Vitoria	836490	20.27S	40.28W	4	101.28	8293	16.3	17.2	9.7	8.4	7.5	8.2	25.0	7.2	24.7	0.6	210	5.1	30	36.9	12.3	1.1	5.7
BULGARIA																							
Botevgrad	156270	42.67N	24.83E	2389	75.73	8293	-21.5	-19.0	34.1	27.8	23.7	34.4	-9.2	28.5	-11.9	13.4	320	3.9	270	19.0	-22.4	1.7	3.4
Burgas	156550	42.48N	27.48E	28	100.99	8293	-8.3	-6.2	13.8	10.7	9.5	13.9	3.0	11.4	0.5	4.2	270	4.9	110	34.5	-10.7	1.7	2.9
Lom	155110	43.82N	23.25E	33	100.93	8293	-10.0	-7.6	12.4	10.3	8.1	13.8	1.5	11.9	4.7	0.8	270	1.9	50	35.5	-12.7	2.6	4.3
Musala	156150	42.18N	23.58E	2927	70.76	8293	-23.4	-20.8	28.2	20.2	16.0	34.3	-7.1	28.3	-8.9	7.5	20	3.3	320	18.6	-24.8	3.8	3.2
Plovdiv	156250	42.13N	24.75E	185	99.12	8293	-9.9	-7.1	13.2	11.8	10.2	14.1	4.8	12.2	5.0	1.1	40	2.6	90	37.0	-14.2	2.3	4.0
Ruse	155350	43.85N	25.95E	45	100.79	8293	-11.3	-8.8	14.1	11.9	9.4	14.2	4.1	12.1	0.5	2.3	50	3.5	270	38.4	-13.9	3.0	2.7
Sofia	156140	42.65N	23.38E	595	94.38	8293	-12.1	-9.9	9.3	7.6	6.4	9.8	0.4	8.2	-0.1	1.1	360	2.4	110	34.3	-16.3	2.7	4.7
Varna	155520	43.20N	27.92E	43	100.81	8293	-8.5	-6.5	14.4	11.5	9.4	17.8	-1.7	13.6	0.3	6.7	360	4.0	90	33.3	-10.8	2.2	2.7
BRUNEI																							
Brunei Intl Airport	963150	4.93N	114.93E	15	101.14	8293	21.4	22.0	7.3	6.3	5.5	8.1	28.0	7.2	27.8	0.0	220	3.7	320	35.4	19.3	1.4	2.6
CANARY ISLANDS																							
Las Palmas	600300	27.93N	15.38W	25	101.03	8293	13.0	13.9	14.2	13.3	12.5	11.9	18.6	10.6	18.5	1.8	320	8.7	30	34.4	10.8	2.4	0.5
Santa Cruz De Tenerife	600250	28.05N	16.57W	72	100.46	8293	13.8	14.1	13.1	11.9	10.9	12.6	20.1	11.3	19.8	3.4	360	8.5	60	38.4	10.3	3.0	3.6
CAPE VERDE																							
Sal Island	85940	16.73N	22.95W	55	100.67	8293	17.1	17.8	12.2	11.3	10.5	12.5	22.2	11.8	22.2	4.6	30	6.5	60	32.7	14.2	1.0	2.4
CHILE																							
Antofagasta	854420	23.43S	70.43W	120	99.89	8293	10.2	11.0	9.9	9.1	8.4	10.1	15.3	9.1	15.1	2.7	90	6.7	190	26.7	6.7	1.5	2.0
Arica	854060	18.33S	70.33W	59	100.62	8293	11.2	12.6	9.0	8.2	7.3	7.6	17.9	7.0	17.8	2.0	90	6.6	210	29.3	7.8	1.6	2.4
Concepcion	856820	36.77S	73.05W	16	101.13	8293	1.8	2.8	13.2	11.5	10.3	16.1	12.2	13.0	11.9	1.8	140	8.5	240	33.2	-1.0	8.6	0.8
Iquique	854180	20.53S	70.18W	52	100.70	8293	12.1	12.9	9.7	8.9	8.2	9.0	17.7	8.1	17.1	2.9	160	6.4	210	28.8	10.0	1.4	1.3
La Serena	854880	29.92S	71.20W	146	99.58	8293	5.8	6.6	8.1	7.3	6.6	8.4	12.7	6.8	13.6	2.8	120	5.8	270	27.0	1.5	6.4	3.5
Puerto Montt	857990	41.42S	73.08W	86	100.30	8293	-2.1	-0.9	12.1	10.2	8.8	13.1	9.4	11.6	8.9	0.7	280	4.4	150	26.9	-4.3	2.1	1.3
Punta Arenas	859340	53.00S	70.85W	37	100.88	8293	-5.0	-3.7	19.9	17.2	14.2	18.2	5.9	13.5	3.1	2.9	290	8.2	270	24.4	-8.2	3.6	2.4
Santiago	855740	33.38S	70.78W	476	95.74	8293	-1.4	-0.1	8.5	7.3	6.3	7.2	9.7	5.3	10.0	0.9	20	5.4	210	38.6	-3.7	5.1	1.3
Temuco	857430	38.75S	72.63W	120	99.89	8293	-1.9	-0.7	10.0	8.3													

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Brussels	27.9	19.6	26.2	18.9	24.5	18.2	20.7	26.5	19.8	24.9	18.7	23.3	18.7	13.6	23.2	17.8	12.9	22.2	16.9	12.1	21.4	9.4
Charleroi	28.0	19.2	26.2	18.6	24.5	17.7	20.4	26.0	19.4	24.7	18.4	23.0	18.3	13.5	23.1	17.4	12.7	21.8	16.6	12.1	20.6	9.3
Florennes	26.9	18.9	25.2	18.3	23.5	17.4	20.2	25.4	19.1	23.9	18.1	22.5	18.4	13.8	22.8	17.3	12.8	21.3	16.4	12.1	20.1	9.0
Koksijde	25.9	19.2	23.9	18.4	22.2	17.6	20.0	24.3	19.0	23.0	18.1	21.4	18.4	13.3	22.5	17.5	12.5	20.9	16.7	11.9	19.9	8.4
Luxembourg	28.0	18.1	26.1	17.4	24.5	16.6	19.5	25.4	18.5	24.2	17.6	22.5	17.5	13.1	21.8	16.6	12.4	20.2	15.7	11.7	19.7	9.5
Oostende	25.2	18.9	23.0	18.2	21.3	17.4	19.7	23.6	18.8	22.2	18.0	20.9	18.2	13.1	21.4	17.5	12.5	20.7	16.7	11.9	19.6	7.8
Saint Hubert	25.2	17.5	23.6	16.9	22.0	15.9	18.7	23.3	17.6	22.0	16.7	20.8	17.0	13.0	20.4	16.0	12.2	19.2	15.2	11.5	18.5	8.1
BENIN																						
Cotonou	32.1	26.3	31.7	26.5	31.4	26.5	27.6	31.1	27.4	30.9	27.2	30.6	26.7	22.3	29.6	26.4	21.9	29.6	26.2	21.6	29.5	4.8
Parakou	36.8	21.6	36.0	21.4	35.2	21.4	25.7	32.8	25.3	32.1	25.0	31.5	23.9	19.7	29.1	23.6	19.3	28.8	23.2	18.9	28.4	11.5
BERMUDA																						
Hamilton, Bermuda	31.2	25.5	30.9	25.4	30.1	25.0	26.8	29.7	26.4	29.3	26.0	29.0	26.1	21.5	28.9	25.4	20.6	28.5	25.0	20.1	28.1	4.6
BOLIVIA																						
Cochabamba	29.1	13.6	28.1	13.5	27.2	13.3	16.2	24.5	15.7	24.4	15.2	23.6	14.1	13.8	18.0	13.2	13.0	16.7	13.0	12.8	16.6	15.0
La Paz	17.3	6.6	16.7	6.4	15.9	6.1	9.2	14.2	8.7	13.8	8.2	13.1	7.2	10.4	10.6	6.8	10.2	10.0	6.2	9.7	9.4	12.6
BOSNIA–HERZEGOVINA																						
Banja Luka	33.1	20.4	31.0	20.3	29.2	19.6	22.3	29.2	21.4	28.4	20.4	27.4	20.1	15.1	26.1	19.0	14.1	24.3	18.2	13.4	23.0	12.7
BRAZIL																						
Arch De Fernando	31.0	25.6	30.3	25.3	30.1	25.2	26.5	29.7	26.2	29.5	26.0	29.3	25.6	21.0	28.7	25.2	20.5	28.5	25.0	20.2	28.4	4.5
Belem	33.1	25.5	32.5	25.3	32.1	25.4	27.0	30.8	26.6	30.7	26.4	30.4	26.1	21.5	28.8	25.9	21.3	28.7	25.2	20.4	28.1	8.2
Brasilia	31.8	18.3	30.9	18.2	30.0	18.5	21.7	26.6	21.3	26.2	21.0	26.1	20.4	17.2	22.6	20.1	16.9	22.3	19.9	16.6	22.1	13.0
Campinas	33.2	22.8	32.2	21.9	31.2	22.0	24.6	29.6	24.0	28.9	23.6	28.3	23.2	19.5	26.0	22.9	19.1	25.6	22.2	18.3	25.0	9.9
Campo Grande	35.0	21.9	34.1	21.9	33.2	21.9	25.1	30.5	24.6	30.2	24.2	29.8	23.9	20.1	26.8	23.2	19.2	26.4	22.8	18.8	26.3	10.2
Caravelas	31.8	25.1	31.2	25.0	30.8	24.9	26.1	30.3	25.8	29.6	25.6	29.2	25.2	20.3	27.4	24.9	20.0	27.2	24.6	19.6	26.9	7.6
Curitiba	30.8	20.3	29.6	20.1	28.5	20.1	22.7	27.2	22.1	26.5	21.6	25.8	21.7	18.3	24.0	21.0	17.5	23.3	20.5	17.0	23.3	9.7
Fortaleza	32.2	25.4	32.1	25.3	31.9	25.3	26.7	30.4	26.5	30.5	26.2	29.9	26.1	21.6	27.3	25.9	21.3	27.4	25.2	20.4	27.4	6.2
Goiania	34.1	19.6	33.2	19.9	32.6	20.0	23.7	29.6	23.2	29.1	22.8	28.7	22.1	18.4	25.5	21.7	17.9	25.0	21.3	17.5	24.5	12.8
Maceio	32.2	24.0	31.8	23.9	31.2	23.8	25.7	29.3	25.3	29.1	25.0	29.0	24.9	20.2	27.2	24.2	19.4	26.6	24.0	19.1	26.4	7.9
Manaus, E.Gomes Airport	35.9	25.4	35.1	25.6	34.6	25.5	28.2	32.1	27.6	31.9	27.1	31.0	27.2	23.0	29.8	26.9	22.6	29.5	26.2	21.6	28.6	11.3
Manaus, Ponta Pelada	34.2	25.2	33.9	25.4	33.1	25.4	27.2	31.4	26.8	31.3	26.6	31.1	26.2	21.8	29.1	26.0	21.6	28.9	25.4	20.8	28.5	7.9
Natal	32.4	25.4	32.1	25.1	31.7	25.0	26.4	30.4	26.1	30.1	25.9	29.9	25.7	21.1	27.8	25.1	20.3	27.6	24.9	20.1	27.5	6.8
Porto Alegre	35.0	24.5	33.5	24.0	32.0	23.3	26.0	31.8	25.2	30.8	24.7	29.8	24.5	19.5	28.5	23.9	18.8	27.6	23.2	18.0	26.8	9.5
Recife	33.1	25.7	32.7	25.6	32.1	25.4	26.6	31.7	26.3	31.2	26.1	30.9	25.2	20.4	28.6	25.1	20.3	28.6	24.9	20.0	28.4	6.3
Rio De Janeiro, Galeao	38.9	26.1	37.1	25.2	35.9	24.9	27.7	35.2	27.0	34.2	26.4	32.6	26.1	21.5	30.1	25.2	20.3	28.9	25.0	20.1	28.9	10.7
Salvador	32.0	25.8	31.2	25.5	31.0	25.4	26.9	30.5	26.5	30.2	26.1	29.7	26.1	21.5	29.3	25.2	20.3	28.9	25.1	20.2	28.7	6.0
Santarem	34.0	25.2	33.2	25.1	33.0	25.3	26.6	31.5	26.4	31.3	26.2	31.0	25.5	20.9	28.1	25.2	20.5	28.0	25.1	20.4	28.0	7.8
Sao Paulo	31.9	20.3	30.9	20.3	29.9	20.4	22.9	27.4	22.3	27.1	21.9	26.8	21.8	18.2	24.9	21.1	17.4	24.1	20.8	17.1	23.8	8.3
Vitoria	34.1	25.2	33.2	25.0	32.4	24.9	26.5	31.2	26.0	30.5	25.7	30.1	25.8	21.1	28.3	25.0	20.1	27.2	24.6	19.6	27.6	8.1
BULGARIA																						
Botevgrad	15.6	9.6	14.1	8.9	12.7	8.1	11.1	14.0	10.2	12.5	9.5	11.7	10.1	10.3	11.8	9.2	9.7	11.0	8.4	9.2	10.2	4.3
Burgas	30.8	22.1	29.1	21.5	28.0	20.6	23.5	27.7	22.6	27.3	21.8	26.3	22.1	16.8	26.2	21.1	15.8	25.2	20.2	14.9	24.4	11.1
Lom	32.3	23.2	30.6	22.2	29.2	21.5	23.9	30.9	23.0	29.7	22.1	28.3	21.6	16.3	28.5	20.7	15.4	27.3	19.8	14.6	26.1	10.6
Musala	13.1	6.9	11.6	6.2	10.3	5.8	8.2	11.4	7.4	10.5	6.6	9.4	6.8	8.8	9.0	5.9	8.3	8.2	5.2	7.9	7.6	5.1
Plovdiv	33.7	21.3	32.1	21.0	30.6	20.5	23.0	31.4	22.0	30.4	21.1	29.0	20.0	15.0	28.3	19.1	14.2	26.8	18.3	13.5	25.3	11.9
Ruse	34.5	22.7	32.6	21.5	31.0	21.0	23.6	32.2	22.5	31.1	21.6	29.8	20.6	15.3	29.2	19.5	14.3	26.9	18.7	13.6	25.6	11.5
Sofia	31.3	18.7	29.5	18.4	27.9	17.7	20.1	28.2	19.2	27.6	18.5	26.4	17.1	13.1	23.5	16.2	12.4	22.5	15.5	11.8	22.0	12.1
Varna	29.6	22.3	28.2	21.9	27.1	20.9	23.6	27.6	22.7	26.8	21.9	25.9	22.3	17.1	26.5	21.3	16.0	25.6	20.4	15.2	24.8	9.6
BRUNEI																						
Brunei Intl Airport	33.6	26.1	33.1	26.3	32.6	26.3	27.7	31.4	27.5	31.2	27.2	30.9	26.9	22.6	30.0	26.5	22.1	29.7	26.2	21.7	29.4	7.8
CANARY ISLANDS																						
Las Palmas	30.2	19.9	28.8	20.1	27.2	20.4	24.7	26.6	23.7	25.8	23.0	25.5	24.0	18.9	25.9	23.0	17.8	25.2	22.1	16.8	24.6	5.5
Santa Cruz De Tenerife	32.9	20.1	30.5	20.1	28.9	20.4	23.8	27.9	23.2	27.2	22											

Table 3A Heating and Wind Design Conditions—World Locations

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Anyang	538980	36.12N	114.37E	76	100.42	8293	-7.9	-6.3	7.3	6.2	5.2	6.4	2.2	5.3	1.7	0.5	290	3.2	180	38.0	-10.8	1.2	2.0
Baoding	546020	38.85N	115.57E	19	101.10	8293	-10.4	-8.9	6.5	5.5	4.7	6.1	0.1	4.9	-2.1	0.7	220	3.0	200	37.5	-12.8	1.9	2.4
Bayan Mod	524950	40.75N	104.50E	1329	86.35	8293	-20.5	-18.5	12.3	10.3	8.8	11.5	-6.5	9.4	-5.4	2.5	270	3.4	180	35.5	-23.1	1.1	2.3
Beijing	545110	39.93N	116.28E	55	100.67	8293	-10.4	-9.2	9.2	7.6	6.3	9.4	-1.1	7.9	-2.4	2.0	340	3.1	200	38.1	-13.4	1.9	1.7
Bengbu	582210	32.95N	117.37E	22	101.06	8293	-5.6	-4.2	7.3	6.2	5.3	6.9	3.1	5.8	2.6	1.3	20	3.7	180	37.2	-8.9	1.3	2.3
Changchun	541610	43.90N	125.22E	238	98.50	8293	-24.7	-22.7	13.0	10.4	8.7	11.4	-7.7	9.5	-7.3	2.6	270	4.2	250	32.5	-27.3	1.4	2.7
Changsha (576790)	576870	28.23N	112.87E	68	100.51	8293	-1.5	-0.4	7.7	6.5	5.5	7.6	5.3	6.4	4.5	1.5	320	3.1	200	38.1	-4.1	2.1	3.4
Chengdu	562940	30.67N	104.02E	508	95.37	8293	-0.1	1.2	5.1	4.2	3.5	3.8	6.9	3.3	6.6	0.2	20	1.9	200	33.8	-2.6	1.5	1.4
Dalian	546620	38.90N	121.63E	97	100.17	8293	-12.5	-10.7	12.6	10.9	9.7	13.0	-10.0	11.5	-7.4	6.5	360	4.1	180	32.8	-14.7	2.2	2.3
Dandong	544970	40.05N	124.33E	14	101.16	8293	-17.0	-14.8	9.2	7.8	6.9	10.3	-8.7	8.5	-7.6	2.4	340	2.5	220	31.9	-19.3	1.2	2.9
Datong	534870	40.10N	113.33E	1069	89.12	8293	-20.9	-19.2	10.4	8.7	7.4	8.8	-9.5	7.9	-8.1	2.4	360	3.8	160	33.6	-23.9	0.7	1.9
Degen	564440	28.50N	98.90E	3488	65.87	8293	-7.7	-6.6	11.6	9.8	8.4	14.4	-1.6	11.8	-0.4	1.1	320	5.3	180	24.1	-10.2	3.0	2.6
Dinghai	584770	30.03N	122.12E	37	100.88	8293	-0.7	0.5	9.2	7.7	6.8	8.9	3.9	7.8	4.9	3.3	340	2.9	140	35.2	-2.7	0.9	1.4
Erenhot	530680	43.65N	112.00E	966	90.25	8293	-28.8	-26.9	13.0	11.0	9.4	11.2	-13.3	9.2	-12.8	2.3	70	5.3	140	35.6	-32.3	1.1	2.7
Fuzhou	588470	26.08N	119.28E	85	100.31	8293	4.2	5.3	8.2	7.1	6.2	7.7	12.4	6.3	11.0	3.0	320	4.4	140	37.9	1.8	0.9	1.7
Golmud	528180	36.42N	94.90E	2809	71.83	8293	-17.6	-15.8	8.8	7.5	6.6	7.5	-6.7	6.4	-7.2	1.4	250	2.8	70	30.1	-21.1	1.2	2.4
Guangzhou	592870	23.13N	113.32E	8	101.23	8293	5.3	6.7	6.8	5.7	5.0	6.7	11.7	5.6	11.7	2.7	360	2.3	270	36.4	2.9	0.8	1.5
Guilin	579570	25.33N	110.30E	166	99.35	8293	1.3	2.2	9.2	7.9	6.9	9.7	5.9	8.4	6.0	4.9	20	2.5	20	36.2	-1.0	0.9	2.5
Guiyang	578160	26.58N	106.72E	1074	89.07	8293	-2.2	-1.0	6.7	5.5	4.8	5.6	9.0	4.8	7.3	2.0	40	3.4	160	33.0	-3.1	1.9	0.9
Hami	522030	42.82N	93.52E	739	92.76	8293	-18.0	-16.0	7.3	5.7	4.6	4.2	-6.6	3.5	-8.1	1.2	40	1.1	250	39.1	-20.0	1.7	2.3
Hangzhou	584570	30.23N	120.17E	43	100.81	8293	-2.4	-1.1	7.4	6.4	5.5	7.4	4.7	6.3	4.7	1.9	340	3.6	160	37.5	-5.6	1.0	2.1
Harbin	509530	45.75N	126.77E	143	99.62	8293	-29.2	-26.8	10.1	8.5	7.3	8.0	-10.4	7.1	-13.3	1.1	200	5.0	180	32.8	-32.7	1.3	2.3
Hefei	583210	31.87N	117.23E	36	100.89	8293	-4.4	-2.8	8.3	7.1	6.2	7.4	4.0	6.8	3.7	1.7	340	3.6	180	36.8	-7.4	1.3	3.0
Hohhot	534630	40.82N	111.68E	1065	89.17	8293	-20.2	-18.6	8.8	7.4	6.3	7.6	-11.7	6.6	-11.6	0.7	360	3.5	180	33.3	-22.4	1.4	1.7
Jinan	548230	36.68N	116.98E	58	100.63	8293	-8.0	-6.4	8.8	7.6	6.7	8.2	0.3	7.1	2.2	2.2	70	4.3	200	36.9	-10.6	1.1	2.3
Jingdezhen	585270	29.30N	117.20E	60	100.61	8293	-2.2	-0.7	6.4	5.4	4.6	6.1	6.2	5.2	5.4	1.7	40	3.2	250	38.1	-5.8	2.0	6.1
Jinzhou	543370	41.13N	121.12E	70	100.49	8293	-16.4	-14.8	11.0	9.5	8.2	10.3	-7.9	8.8	-6.8	2.5	360	3.9	200	34.2	-18.3	1.7	2.5
Jixi	509780	45.28N	130.95E	234	98.55	8293	-25.6	-23.3	10.3	8.9	7.5	10.4	-16.3	9.3	-15.2	2.7	250	3.4	270	33.0	-27.2	1.6	2.3
Kashi	517090	39.47N	75.98E	1291	86.75	8293	-13.6	-11.1	6.8	5.0	3.9	3.4	-1.9	2.8	-2.6	0.6	320	1.8	180	35.5	-15.0	1.8	3.5
Korla	516560	41.75N	86.13E	933	90.61	8293	-14.4	-12.0	9.3	7.5	6.3	6.4	-4.2	5.3	-4.7	0.5	70	2.0	40	37.8	-16.6	1.4	4.2
Kowloon	450070	22.33N	114.18E	24	101.04	8293	9.0	10.8	10.0	8.8	8.0	9.1	16.9	8.3	17.1	3.5	330	4.6	250	35.4	7.1	1.2	1.4
Kunming	567780	25.02N	102.68E	1892	80.57	8293	0.1	1.3	8.4	7.2	6.2	8.6	15.4	7.6	15.1	0.7	140	4.9	250	29.8	-2.7	3.3	2.4
Lanzhou	528890	36.05N	103.88E	1518	84.37	8293	-12.2	-10.7	4.6	3.7	3.2	2.9	-2.1	2.3	-3.4	0.2	90	2.2	70	34.4	-14.5	1.1	1.9
Lhasa	555910	29.67N	91.13E	3650	64.50	8293	-10.3	-9.1	7.3	6.0	5.0	7.2	4.0	6.0	4.6	1.9	90	2.6	290	29.5	-16.9	4.3	10.8
Liuzhou	590460	24.35N	109.40E	97	100.17	8293	3.1	4.2	6.1	5.2	4.5	5.5	10.0	4.9	8.8	2.5	340	2.6	200	37.1	1.9	1.0	1.0
Longzhou	594170	22.37N	106.75E	129	99.78	8293	6.0	7.3	4.5	3.8	3.3	4.3	16.3	3.5	15.0	0.4	90	2.1	200	37.9	3.6	1.1	1.9
Macau	450110	22.20N	113.53E	59	100.62	8293	6.9	8.3	8.4	7.4	6.6	8.3	9.9	7.6	10.6	6.0	360	3.0	200	34.6	5.3	0.9	1.5
Mudanjiang	540940	44.57N	129.60E	74	100.44	8293	-26.1	-24.2	9.7	8.1	6.8	8.8	-15.2	7.7	-13.8	1.3	180	3.2	200	32.8	-28.7	1.4	2.4
Nanchang	586060	28.60N	115.92E	50	100.73	8293	-1.0	-0.1	7.1	6.1	5.3	7.4	5.4	6.4	4.9	2.7	20	2.8	220	37.7	-3.3	1.2	2.2
Nanjing	582380	32.00N	118.80E	12	101.18	8293	-5.2	-3.5	7.9	6.9	6.0	7.5	3.3	6.7	2.7	0.8	340	4.0	220	36.5	-8.0	1.4	2.0
Nanning	594310	22.82N	108.35E	73	100.45	8293	5.4	6.4	5.2	4.3	3.5	4.5	16.7	3.9	16.2	0.8	90	1.8	160	37.6	3.6	1.2	1.2
Nenjiang	505570	49.17N	125.23E	243	98.44	8293	-35.4	-32.6	12.1	10.1	8.6	8.8	-18.2	7.3	-18.5	0.7	20	5.8	160	33.0	-38.0	2.4	2.9
Qingdao	548570	36.07N	120.33E	77	100.40	8293	-7.4	-6.1	13.9	12.0	10.4	15.2	-5.8	12.9	-3.9	7.4	340	4.8	160	32.3	-9.4	1.2	1.7
Qiqihar	507450	47.38N	123.92E	148	99.56	8293	-27.9	-25.7	10.2	8.5	7.4	7.9	-15.4	6.6	-15.6	1.7	290	4.3	180	33.4	-29.9	2.1	2.7
Shanghai	583670	31.17N	121.43E	7	101.24	8293	-3.1	-1.8	8.7	7.6	6.7	8.7	3.4	7.7	3.8	2.5	290	3.5	200	36.6	-6.0	1.1	1.5
Shantou	593160	23.40N	116.68E	3	101.29	8293	6.7	8.1	7.9	6.7	5.9	7.1	13.8	6.3	13.7	3.0	20	3.6	200	34.9	4.2	1.0	1.8
Shaoguan	590820	24.80N	113.58E	68	100.51	8293	2.5	3.8	6.3	5.3	4.4	6.0	11.3	5.0	11.1	1.1	360	2.2	180	38.2	0.6		

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Anyang	34.6	22.6	33.4	23.2	32.2	23.3	27.1	31.1	26.3	30.1	25.6	29.1	26.0	21.6	29.8	25.3	20.6	28.7	24.5	19.7	28.4	8.0
Baoding	34.4	22.0	33.0	22.5	31.7	22.7	26.6	30.3	25.8	29.5	25.0	28.8	25.6	20.9	28.7	24.7	19.8	28.1	23.9	18.8	27.7	8.2
Bayan Mod	32.8	14.9	31.5	14.4	30.0	13.8	17.7	26.7	16.7	25.9	15.8	25.6	14.9	12.5	20.7	13.6	11.4	19.8	12.4	10.5	20.4	11.5
Beijing	34.2	21.9	32.9	21.8	31.5	21.9	26.2	30.5	25.4	29.0	24.7	28.3	25.1	20.3	28.4	24.2	19.2	27.6	23.6	18.5	27.1	8.7
Bengbu	35.2	26.5	33.7	26.0	32.3	25.2	28.0	33.1	27.5	32.1	26.9	31.2	26.7	22.3	30.8	26.2	21.7	30.4	25.7	21.0	29.8	6.6
Changchun	30.1	21.3	28.9	21.0	27.6	20.4	24.4	28.1	23.4	26.7	22.5	25.4	23.3	18.6	27.0	22.4	17.6	25.8	21.4	16.5	24.6	7.5
Changsha (576790)	35.6	26.7	34.6	26.6	33.6	26.2	27.8	32.8	27.4	32.5	27.0	32.0	26.7	22.5	30.3	26.2	21.8	29.8	25.7	21.1	29.6	7.0
Chengdu	31.5	24.7	30.6	24.3	29.6	23.9	26.5	30.0	25.7	28.9	25.1	28.1	25.6	22.2	29.0	24.9	21.2	27.8	24.3	20.5	27.2	6.8
Dalian	30.0	23.1	28.7	22.4	27.6	22.0	25.0	28.0	24.4	26.6	23.7	25.8	24.2	19.3	26.6	23.7	18.8	25.8	23.0	18.0	25.5	5.5
Dandong	29.3	23.9	28.0	22.8	26.9	22.1	25.1	27.8	24.4	26.4	23.7	25.5	24.3	19.3	26.4	23.8	18.7	25.6	23.2	18.0	25.0	6.8
Datong	30.7	17.0	29.2	16.7	27.9	16.5	20.7	26.1	19.8	25.1	19.0	24.2	19.2	15.9	22.9	18.2	14.9	22.2	17.2	14.0	22.2	10.7
Degen	19.4	11.2	18.2	11.2	17.2	10.9	13.0	16.8	12.5	16.3	12.0	15.8	11.7	13.3	14.3	11.2	12.8	13.7	10.7	12.4	13.2	6.7
Dinghai	32.2	27.2	31.1	26.7	30.1	26.2	27.6	31.5	27.1	30.6	26.6	29.6	26.6	22.3	30.4	26.1	21.6	29.5	25.7	21.1	28.7	5.4
Erenhot	32.7	16.0	31.0	15.5	29.3	15.1	18.8	26.3	18.0	25.6	17.2	24.9	16.7	13.4	21.1	15.6	12.5	20.3	14.5	11.6	20.4	11.7
Fuzhou	35.4	27.0	34.4	26.8	33.3	26.5	27.9	33.9	27.4	33.1	26.9	32.3	26.3	22.0	31.7	25.9	21.4	30.9	25.6	21.1	30.0	7.7
Golmud	26.9	11.3	25.3	10.3	23.8	9.8	12.6	23.8	11.7	22.3	10.8	21.5	8.6	9.8	15.8	7.2	8.9	15.7	6.0	8.2	14.6	10.5
Guangzhou	34.6	26.4	33.9	26.3	33.0	26.2	27.7	31.9	27.4	31.5	27.1	31.1	26.7	22.3	29.5	26.4	21.9	29.1	26.1	21.5	29.0	6.9
Guilin	34.5	25.5	33.5	25.5	32.6	25.3	27.1	31.2	26.7	30.8	26.4	30.5	26.2	22.1	29.0	25.7	21.4	28.5	25.4	21.0	28.3	7.4
Guiyang	30.5	21.3	29.5	21.3	28.6	21.0	22.9	28.0	22.5	27.4	22.1	26.7	21.6	18.6	25.2	21.1	18.0	24.9	20.7	17.5	24.5	7.0
Hami	36.1	19.0	34.6	18.1	33.2	17.8	21.0	32.3	19.9	31.8	19.0	30.5	17.4	13.6	26.4	15.9	12.4	25.1	14.7	11.4	24.1	13.3
Hangzhou	35.8	27.2	34.4	26.6	33.1	26.6	28.2	33.4	27.6	32.8	27.0	31.9	27.0	22.8	31.4	26.2	21.7	30.0	25.9	21.3	29.7	7.5
Harbin	30.4	20.8	29.0	20.0	27.7	20.1	24.1	27.8	23.1	26.3	22.1	25.4	23.0	18.1	26.7	22.0	17.0	25.6	21.0	15.9	24.4	8.5
Hefei	34.8	27.1	33.5	26.8	32.2	26.0	28.0	33.1	27.5	32.5	27.0	31.4	26.7	22.4	30.9	26.2	21.7	30.5	25.7	21.1	29.9	6.1
Hohhot	30.9	17.7	29.4	17.3	28.0	16.7	21.1	26.7	20.0	25.2	19.1	24.4	19.4	16.1	23.9	18.4	15.1	23.0	17.3	14.1	22.1	10.5
Jinan	34.8	22.9	33.5	23.1	32.3	22.9	26.7	31.5	26.1	30.8	25.4	29.6	25.4	20.7	29.5	24.7	19.9	29.0	24.1	19.1	28.3	7.3
Jingdezhen	36.0	26.6	34.7	26.1	33.7	26.0	27.5	33.2	27.1	32.6	26.7	31.9	26.2	21.8	29.7	25.8	21.3	29.5	25.4	20.7	29.3	8.3
Jinzhou	31.1	22.1	29.7	21.4	28.5	21.2	25.2	28.2	24.4	27.2	23.7	26.2	24.3	19.4	27.0	23.5	18.5	26.1	22.8	17.7	25.6	7.5
Jixi	30.3	21.1	28.5	20.3	27.1	19.8	23.5	28.2	22.5	25.9	21.4	25.0	22.1	17.3	26.0	21.1	16.2	25.2	20.1	15.2	24.3	8.4
Kashi	33.5	18.8	32.2	18.1	31.0	17.7	20.8	29.2	19.9	28.9	19.0	28.4	18.2	15.4	25.6	16.9	14.1	24.4	15.8	13.1	24.1	12.3
Korla	34.9	19.2	33.7	18.6	32.4	18.1	21.0	32.0	19.8	30.8	19.0	30.0	17.3	13.9	27.2	16.0	12.7	25.4	14.9	11.9	24.7	10.6
Kowloon	33.2	26.1	32.8	26.1	32.0	26.1	27.6	31.1	27.3	30.7	27.0	30.6	27.0	22.8	29.7	26.2	21.7	29.3	26.1	21.5	29.3	4.5
Kunming	26.6	17.0	25.8	17.2	25.0	17.1	20.1	24.6	19.6	23.8	19.2	23.1	18.7	17.1	22.3	18.4	16.8	21.9	18.1	16.5	21.4	8.5
Lanzhou	31.5	17.7	30.2	17.0	28.8	16.6	19.7	27.4	18.9	26.6	18.1	25.5	17.5	15.1	23.3	16.4	14.1	22.6	15.4	13.2	22.0	11.1
Lhasa	24.8	10.7	23.6	10.8	22.5	10.4	13.1	20.6	12.6	20.0	12.2	19.4	10.7	12.7	15.1	10.2	12.2	14.6	9.8	11.9	14.5	11.7
Liuzhou	35.2	25.5	34.3	25.6	33.6	25.5	27.2	32.2	26.8	31.8	26.5	31.5	26.0	21.6	29.6	25.6	21.1	29.3	25.3	20.7	29.1	7.0
Longzhou	35.8	26.5	34.8	26.4	33.9	26.2	27.9	33.4	27.5	32.7	27.2	32.1	26.7	22.6	30.2	26.3	22.1	29.8	26.0	21.7	29.6	7.6
Macao	33.1	27.3	32.4	27.2	31.7	26.9	28.1	32.0	27.7	31.3	27.4	30.9	27.1	23.0	30.4	26.7	22.4	30.0	26.6	22.3	29.8	4.2
Mudanjiang	30.7	21.5	28.8	20.3	27.4	19.8	23.6	28.7	22.5	26.5	21.5	25.4	22.0	17.2	26.8	21.1	16.2	25.8	20.1	15.2	24.4	8.9
Nanchang	35.7	26.8	34.6	26.7	33.5	26.5	28.1	32.6	27.7	32.2	27.2	31.8	27.0	22.8	30.6	26.5	22.2	30.4	26.1	21.6	30.1	6.9
Nanjing	34.6	27.1	33.2	26.8	31.9	26.0	28.1	32.4	27.6	31.9	27.1	31.1	27.1	22.9	30.8	26.5	22.0	30.3	26.0	21.4	29.8	6.2
Nanning	34.9	26.2	34.1	26.3	33.3	26.1	27.8	32.2	27.4	31.6	27.1	31.2	26.7	22.5	29.9	26.4	22.1	29.6	26.1	21.7	29.3	6.6
Nenjiang	29.8	19.4	28.0	18.7	26.5	18.8	22.4	26.3	21.3	25.2	20.5	24.1	21.1	16.2	24.7	20.1	15.2	23.3	19.1	14.3	22.6	9.5
Qingdao	29.2	23.6	28.2	23.6	27.3	23.4	25.8	27.5	25.3	26.9	24.8	26.4	25.3	20.7	27.0	24.8	20.0	26.5	24.3	19.4	26.0	4.5
Qiqihar	30.7	20.8	29.1	20.3	27.7	20.0	23.7	27.6	22.6	26.8	21.7	25.7	22.5	17.5	26.4	21.3	16.2	25.0	20.3	15.2	24.0	7.9
Shanghai	34.4	27.4	33.1	27.4	31.8	26.7	28.4	33.0	27.7	31.9	27.1	31.0	27.2	23.0	31.0	26.8	22.4	30.6	26.1	21.5	29.6	6.4
Shantou	32.8	26.8	32.0	26.6	31.4	26.4	27.6	31.5	27.2	30.8	27.0	30.3	26.7	22.3	29.6	26.3	21.8	29.2	26.1	21.5	28.9	5.2
Shaoguan	35.7	25.8	34.8	25.8	33.9	25.7	27.1	32.8	26.7	32.2	26.5	31.8	25.8	21.3	29.3	25.5	20.9	29.1	25.2	20.5	28.8	7.6
Shenyang	31.1	23.2	29.9	22.7	28.8	22.0	25.3	29.6</														

Table 3A Heating and Wind Design Conditions—World Locations

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
Ia	Ib	Ic	Id	Ie	If	Ig	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Zhangjiakou	544010	40.78N	114.88E	726	92.90	8293	-17.0	-15.4	7.7	6.6	5.6	7.3	-9.5	6.4	-8.9	3.1	340	2.5	140	34.8	-19.5	0.6	2.0
Zhanjiang	596580	21.22N	110.40E	28	100.99	8293	7.6	8.9	7.1	5.9	5.2	6.2	12.4	5.4	13.4	3.6	340	3.5	250	36.2	5.7	1.7	2.2
Zhengzhou	570830	34.72N	113.65E	111	100.00	8293	-7.4	-5.9	9.3	7.4	6.2	10.5	4.5	8.6	3.6	1.2	180	3.4	160	37.7	-10.6	1.4	2.3
COLOMBIA																							
Bogota	802220	4.70N	74.13W	2548	74.23	8293	2.2	3.9	9.4	8.0	6.4	10.3	17.6	8.5	17.4	0.2	320	4.5	90	28.0	-0.9	4.7	1.5
COOK ISLANDS																							
Rarotonga Island	918430	21.20S	159.82W	7	101.24	8293	16.8	17.8	11.1	9.8	8.9	11.5	21.9	10.3	22.2	0.5	150	4.9	80	31.5	14.6	1.7	1.4
CROATIA																							
Pula	132090	44.90N	13.92E	63	100.57	8293	-4.1	-2.8	11.5	9.4	7.7	11.8	1.8	9.6	3.5	3.3	20	2.8	270	33.5	-6.2	1.1	2.0
Split	133330	43.53N	16.30E	21	101.07	8293	-1.9	-0.1	10.6	8.4	7.0	10.4	4.9	8.5	6.6	3.9	340	3.7	230	34.6	-7.1	3.9	9.3
Zagreb	131310	45.73N	16.07E	107	100.05	8293	-13.2	-10.0	8.5	7.2	5.9	7.7	4.0	6.3	3.9	1.0	240	2.9	230	33.5	-16.5	3.2	4.6
CUBA																							
Guantanamo	783670	19.90N	75.15W	17	101.12	8293	19.2	20.1	10.0	8.9	7.9	9.3	29.2	8.4	29.0	3.5	360	5.2	130	37.6	16.0	2.6	4.6
CYPRUS																							
Akrotiri	176010	34.58N	32.98E	23	101.05	8293	4.6	6.0	11.1	10.0	9.0	12.9	11.4	11.5	12.3	2.3	350	4.3	260	35.2	2.4	1.7	2.4
Larnaca	176090	34.88N	33.63E	2	101.30	8293	3.0	4.6	11.9	10.2	8.9	12.5	12.2	10.8	12.2	3.2	310	5.5	200	36.9	0.8	1.2	1.9
Paphos	176000	34.72N	32.48E	8	101.23	8293	4.0	5.4	10.6	9.2	8.0	13.2	12.9	11.3	13.0	3.9	30	4.0	280	33.5	2.1	1.8	1.9
CZECH REPUBLIC																							
Brno	117230	49.15N	16.70E	246	98.40	8293	-14.4	-10.9	10.6	9.2	8.2	11.5	-1.0	9.5	-0.7	3.4	60	4.5	180	32.6	-15.8	1.6	4.0
Cheb	114060	50.08N	12.40E	471	95.79	8293	-15.6	-12.4	7.1	6.1	5.3	7.6	2.8	6.4	2.1	1.0	40	2.3	220	32.1	-17.1	2.1	3.5
Ostrava	117820	49.68N	18.12E	256	98.29	8293	-17.1	-12.9	10.1	9.1	8.3	11.5	-0.1	10.3	0.6	2.3	20	4.6	190	32.3	-19.6	1.7	5.5
Plzen	114480	49.65N	13.27E	364	97.03	8293	-16.7	-12.8	9.4	8.3	7.4	10.7	5.0	9.1	3.5	1.0	20	3.5	120	33.3	-18.2	2.2	5.1
Praded Mountain	117350	50.07N	17.23E	1492	84.64	8293	-19.0	-16.4	21.0	18.2	16.1	22.6	-6.9	19.0	-5.4	8.4	20	5.2	180	22.1	-20.2	1.7	4.3
Prague	115180	50.10N	14.28E	366	97.00	8293	-16.1	-12.4	12.4	10.4	9.0	13.9	4.0	11.9	2.3	1.9	10	3.5	160	32.8	-18.0	2.0	4.9
Pribyslav	116590	49.58N	15.77E	536	95.05	8293	-16.2	-13.0	12.8	11.2	9.8	13.3	1.1	12.1	-0.7	2.1	360	3.9	130	30.4	-18.9	2.7	4.0
DENMARK																							
Alborg	60300	57.10N	9.87E	3	101.29	8293	-13.1	-9.2	13.0	11.4	10.2	14.3	7.0	12.5	5.8	2.6	220	4.7	100	28.0	-14.1	2.2	6.9
Copenhagen	61800	55.63N	12.67E	5	101.26	8293	-11.1	-8.0	13.0	11.6	10.5	13.2	4.3	12.0	3.1	5.1	360	4.7	160	27.5	-10.3	1.8	4.5
Hammerodde	61930	55.30N	14.78E	11	101.19	8293	-6.7	-5.3	19.5	16.7	15.0	20.2	1.1	18.5	1.0	8.9	70	5.2	230	26.7	-5.6	1.9	3.3
Mon Island	61790	54.95N	12.55E	15	101.14	8293	-8.0	-5.7	19.1	15.8	14.3	20.4	2.8	18.2	1.9	6.2	320	4.0	70	25.4	-7.2	2.2	4.3
Odense	61200	55.47N	10.33E	17	101.12	8293	-10.2	-7.7	13.1	11.5	10.2	13.5	5.5	12.2	4.2	3.4	40	4.9	120	29.0	-12.6	2.3	5.3
Skagen	60410	57.77N	10.65E	7	101.24	8293	-9.3	-6.4	18.4	16.0	14.4	18.3	2.0	16.2	3.2	7.4	40	4.6	360	24.5	-8.8	1.9	4.4
Tirstrup	60700	56.30N	10.62E	25	101.03	8293	-13.0	-9.1	12.0	10.5	9.4	12.3	4.6	10.9	3.7	2.4	20	4.8	280	27.8	-14.0	1.9	6.1
ECUADOR																							
Guayaquil	842030	2.15S	79.88W	9	101.22	8293	19.7	19.9	7.3	6.5	6.0	7.7	23.2	7.1	23.1	3.6	210	3.2	40	34.9	10.5	1.3	6.3
Quito	840710	0.15S	78.48W	2812	71.80	8293	7.0	7.9	7.8	6.6	5.9	6.6	17.6	6.0	17.8	0.3	350	4.1	150	28.8	4.7	4.3	1.8
EGYPT																							
Alexandria	623180	31.20N	29.95E	7	101.24	8293	6.8	7.8	10.7	9.2	8.1	13.0	13.6	11.3	14.6	2.1	190	4.3	340	39.0	2.9	1.8	2.1
Cairo	623660	30.13N	31.40E	74	100.44	8293	7.0	8.0	9.5	8.3	7.3	10.3	14.6	8.7	16.4	2.6	210	5.6	350	42.1	3.1	1.6	2.7
Luxor	624050	25.67N	32.70E	88	100.27	8293	4.4	5.7	7.2	6.1	5.2	6.8	17.8	5.8	17.7	0.9	180	2.6	330	46.1	0.9	1.7	1.0
ESTONIA																							
Kopu/Cape Ristna	261150	58.92N	22.07E	9	101.22	8293	-15.1	-11.9	13.2	11.1	9.4	12.9	3.2	10.7	2.9	2.3	80	2.7	70	26.4	-14.1	2.3	6.7
Tallinn	260380	59.35N	24.80E	44	100.80	8293	-19.8	-16.0	9.2	8.1	7.3	9.8	0.9	8.6	0.0	2.9	140	3.6	40	28.0	-19.6	2.4	4.8
FAEROE ISLANDS																							
Torshavn	60110	62.02N	6.77W	39	100.86	8293	-3.2	-2.3	18.2	15.3	13.7	21.5	5.7	19.2	6.2	5.8	320	4.8	210	18.1	-5.4	1.9	1.4
FIJI																							
Nadi	916800	17.75S	177.45E	18	101.11	8293	16.0	17.1	8.9	7.8	7.0	8.7	25.8	7.7	26.0	1.6	120	5.8	350	34.9	13.1	2.0	3.3
Nausori	916830	18.05S	178.57E	7	101.24	8293	16.9	17.9	9.1	8.2	7.3	8.9	23.8	8.1	23.5	0.3	320	4.7	60	32.9	15.0	1.1	1.0
FINLAND																							
Helsinki	29740	60.32N	24.97E	56	100.65	8293	-23.7	-19.5	10.0	8.8	7.9	10.9	1.5	9.7	-0.1	2.4	340	4.8	210	28.4	-24.7	1.7	5.3
Jyvaskyla	29350	62.40N	25.68E	145	99.60	8293	-29.2	-24.8	8.9	7.7	6.8	10.2	-2.2	8.4	-3.4	0.7	330	3.8	180	28.5	-30.2	2.4	4.2
Kauhava	29130	63.10N	23.03E	44	100.80	8293	-29.0	-25.6	9.4	8.3	7.4	10.4	-0.5	9.3	-0.6	0.8	80	3.8	230	27.6	-29.6	1.3	4.5
Kuopio	29170	63.02N	27.80E	102	100.11	8293	-29.7	-25.6	8.4	7.4	6.7	9.3	-1.2	8.3	-2.0	0.6	140	3.3	170	27.5	-29.5	1.4	4.4
Lahti	29650	60.97N	25.63E	84	100.32	8293	-26.3	-21.9	6.3	5.4	4.8	6.9	0.8	6.0	-0.3	0.6	350	2.7	150	28.5	-28.1	1.5	4.0
Pello	28440	66.80N	24.00E	84	100.32	8293	-31.4	-29.1	6.4	5.6	5.0	6.3	-3.7	5.4	-4.4	0.4	300	3.0	340	27.6	-34.7	2.7	3.0
Pori	29520	61.47N	21.80E	17	101.12	8293	-24.3	-20.2	11.1	9.8	8.7	13.2	2.7	11.3	1.7	2.3	90	5.0	140	27.5	-24.8	1.4	4.4
Suomussalmi	28790	64.90N	29.02E	224	98.66	8293	-29.7	-27.2	7.4	6.4	5.8	7.9	-1.2	6.9	-3.0	0.5	360	3.1	270	28.2	-32.1	5.6	3.7
Tampere	29440	61.42N	23.58E	112	99.99	8293	-26.2	-22.2	8.4	7.5	6.8	9.5	1.2	8.4	0.2	0.8	10	4.0	10	28.8	-27.2	1.4	4.8
Turku	29720	60.52N	22.27E	59	100.62	8293	-23.1	-19.6	9.5	8.3	7.4	11.1	0.5	9.4	-0.1	2.7	40	4.0	230	28.4	-23.9	1.2	5.4
FRANCE																							
Bordeaux	75100	44.83N	0.70W	61	100.59	8293	-5.8	-3.0	9.9	8.3	7.1	10.6	10.3	9.0	10.4	1.6	40	3.3	80	35.9	-7.4	1.5	4.1
Clermont-Ferrand	74600	45.78N	3.17E	330	97.42	8293	-9.1	-6.8	10.7	8.9	7.5	11.4	9.4	9.7	9.2	1.4	360	3.4	20	36.2	-11.8	1.6	3.9
Dijon	72800	47.27N	5.08E	227	98.63	8293	-9.8	-6.8	10.2	8.7	7.6	11.0	7.0	9.7	6.0	3.1	20	4.6	170	33.5	-11.3	1.9	4.5
Brest	71100	48.45N	4.42W	103	100.09	8293	-2.8	-1.0	11.8	10.4	9.3	12.7	8.7	11.4	8.0	3.4	120	4.0	40	29.5	-4.4	2.2	2.4
Lyon	74810	45.73N	5.08E	240	98.47	8293	-8.5	-5.1	11.4	9.6	8.2	11.8	6.6	10.0	7.2	1.4	20	5.2	180	34.8	-9.7	1.5	4.1
Marseille	76500	43.45N	5.23E	36	100.89	8293	-3.9	-2.0	16.8	14.4	12.4	17.1	6.7	14.4	6.5	3.8	360	5.6	280	35.1	-5.6	1.8	3.1
Montpellier	76430	43.58N	3.97E	6	101.25	8293	-3.8	-1.8	12.7	11.0	9.6	12.2	9.6	10.6	10.2	3.3	340	5.6	180	35.7	-5.9	1.4	3.0

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Zhangjiakou	31.9	18.4	30.5	18.2	29.1	18.0	22.4	27.4	21.5	26.8	20.7	25.9	20.9	17.0	25.3	19.7	15.8	24.6	18.8	14.9	24.1	9.5
Zhanjiang	33.9	26.5	33.1	26.6	32.3	26.6	28.0	31.4	27.7	30.9	27.4	30.6	27.2	23.1	29.8	26.9	22.6	29.5	26.6	22.2	29.4	4.7
Zhengzhou	34.7	23.6	33.4	23.5	32.1	23.5	27.4	31.5	26.6	30.4	25.8	29.4	26.3	22.0	30.1	25.5	21.0	28.9	24.8	20.1	28.4	8.1
COLOMBIA																						
Bogota	21.1	13.3	20.2	13.5	20.0	13.5	15.3	18.9	14.9	18.6	14.6	18.2	14.1	13.8	17.5	13.8	13.5	17.0	13.1	12.9	16.5	11.5
COOK ISLANDS																						
Rarotonga Island	29.7	25.5	29.3	25.3	28.9	25.1	26.5	28.7	26.2	28.4	25.9	28.1	25.9	21.2	28.0	25.6	20.9	27.8	25.2	20.3	27.6	4.6
CROATIA																						
Pula	31.8	21.4	30.2	20.6	29.1	20.2	23.3	27.9	22.5	27.8	21.5	27.1	21.9	16.7	26.0	20.8	15.6	25.1	19.9	14.7	24.1	10.6
Split	32.8	21.2	31.7	20.4	30.2	20.0	22.5	29.9	21.7	29.3	21.1	28.7	20.1	14.8	25.9	19.1	13.9	25.3	18.2	13.1	24.7	10.3
Zagreb	31.1	21.3	29.5	21.0	28.1	20.1	22.5	29.4	21.6	28.1	20.8	26.9	20.2	15.1	25.6	19.2	14.2	24.9	18.5	13.5	23.6	12.3
CUBA																						
Guantanamo	34.2	25.8	34.0	25.7	33.2	25.4	27.6	32.8	27.1	32.6	26.7	32.3	26.1	21.5	31.5	25.6	20.9	31.3	25.1	20.2	30.8	8.5
CYPRUS																						
Akrotiri	32.7	21.7	31.4	22.2	30.3	22.6	25.6	29.2	25.1	28.7	24.6	28.1	24.6	19.6	27.7	24.0	18.9	27.6	23.4	18.2	27.3	7.2
Larnaca	33.8	21.7	32.7	22.1	31.6	22.4	25.7	29.9	25.1	29.5	24.6	29.1	24.2	19.1	28.5	23.8	18.7	28.2	23.1	17.9	27.7	9.9
Paphos	30.9	24.7	30.1	24.6	29.2	24.3	26.2	29.8	25.7	29.2	25.1	28.5	25.1	20.2	29.2	24.6	19.6	28.8	24.0	18.9	28.2	8.6
CZECH REPUBLIC																						
Brno	29.5	19.1	27.7	18.5	26.1	17.6	20.2	27.5	19.3	26.2	18.5	24.3	17.7	13.1	23.2	17.0	12.5	21.9	16.2	11.9	21.3	10.8
Cheb	28.4	18.5	26.6	17.5	24.8	16.7	19.3	26.6	18.3	24.7	17.4	23.2	16.8	12.7	21.8	16.0	12.0	20.2	15.2	11.4	19.5	10.8
Ostrava	29.5	19.3	27.6	18.3	25.8	17.7	20.3	27.6	19.4	26.1	18.5	24.2	17.9	13.3	22.6	17.1	12.6	21.5	16.3	12.0	21.2	11.5
Plzen	29.0	19.4	27.1	18.5	25.3	17.7	20.3	27.5	19.3	25.5	18.4	24.0	17.9	13.4	23.6	17.0	12.7	22.6	16.1	12.0	20.8	11.3
Praded Mountain	18.6	13.0	17.0	12.3	15.6	11.7	14.1	17.3	13.2	15.8	12.3	14.7	13.1	11.3	15.0	12.1	10.6	14.1	11.3	10.0	13.3	5.4
Prague	28.8	18.4	26.8	17.8	25.0	17.1	19.7	26.2	18.7	24.7	17.8	23.4	17.3	12.9	22.1	16.4	12.2	20.6	15.8	11.7	20.3	11.1
Pribyslav	27.0	18.1	25.2	17.5	23.5	16.7	19.1	25.4	18.1	23.5	17.2	22.4	16.8	12.8	21.7	16.0	12.1	20.6	15.2	11.5	19.7	10.3
DENMARK																						
Alborg	25.0	17.1	23.1	16.3	21.5	15.5	18.1	23.7	17.2	21.8	16.2	20.3	16.0	11.4	20.2	15.1	10.7	19.3	14.2	10.1	18.1	8.4
Copenhagen	25.0	17.2	23.2	16.4	21.9	15.8	18.2	23.2	17.4	21.7	16.5	20.4	16.2	11.5	20.0	15.5	11.0	19.4	14.8	10.5	18.9	8.1
Hammerodde	22.8	17.8	21.3	17.4	20.1	16.8	18.8	21.3	18.0	20.5	17.2	19.5	17.9	12.9	20.2	17.0	12.1	19.2	16.2	11.5	18.7	3.9
Mon Island	23.1	18.2	21.6	17.4	20.4	16.7	19.0	21.9	18.1	20.9	17.2	19.7	17.8	12.8	20.8	16.8	12.0	20.0	16.0	11.4	19.1	5.6
Odense	25.8	17.8	24.1	17.0	22.3	16.2	18.8	23.7	17.8	22.9	16.9	21.2	16.9	12.1	21.1	15.9	11.3	20.1	15.0	10.7	19.1	9.6
Skagen	22.1	18.9	20.7	17.9	19.4	17.1	19.5	21.3	18.4	20.3	17.5	18.9	18.7	13.5	20.7	17.6	12.6	19.4	16.8	12.0	18.5	5.3
Tirstrup	25.2	17.5	23.7	16.8	22.0	15.9	18.6	23.5	17.6	21.8	16.6	20.5	17.0	12.2	19.8	16.0	11.4	19.0	15.0	10.7	18.2	9.9
ECUADOR																						
Guayaquil	33.2	24.5	32.9	24.6	32.1	24.4	26.7	31.2	26.2	30.4	25.9	29.6	25.8	21.1	29.3	25.2	20.4	28.2	25.0	20.1	27.9	7.4
Quito	22.0	12.5	21.2	12.3	20.8	12.1	14.6	19.4	14.1	19.0	13.7	18.4	13.0	13.3	16.1	12.2	12.6	15.1	12.1	12.5	14.8	10.2
EGYPT																						
Alexandria	32.5	21.6	30.9	22.9	29.9	23.1	25.0	29.7	24.4	28.8	24.0	28.5	23.5	18.3	27.9	23.0	17.8	27.5	22.5	17.2	27.4	6.3
Cairo	38.0	20.3	36.2	20.5	35.1	20.8	24.1	31.5	23.6	30.4	23.1	30.1	22.2	17.0	26.0	21.9	16.7	25.8	21.2	16.0	25.6	13.3
Luxor	43.1	22.2	42.0	21.9	40.9	21.7	24.0	39.4	23.3	38.7	22.7	38.2	18.9	13.8	33.4	17.8	12.9	32.6	16.9	12.2	32.5	17.0
ESTONIA																						
Kopu/Cape Ristna	22.6	17.5	21.1	17.0	19.8	16.3	18.7	21.6	17.7	20.1	16.9	19.2	17.6	12.6	20.4	16.7	11.9	19.4	15.8	11.2	18.4	4.8
Tallinn	24.9	17.6	23.3	16.9	21.6	16.0	19.0	23.0	17.9	21.9	16.9	20.6	17.4	12.5	20.8	16.3	11.7	20.0	15.2	10.8	18.7	8.2
FAEROE ISLANDS																						
Torshavn	14.3	12.4	13.5	11.8	12.7	11.5	13.0	13.9	12.4	13.1	11.9	12.5	12.6	9.1	13.3	12.0	8.8	12.7	11.5	8.5	12.2	3.0
FIJI																						
Nadi	32.3	25.0	31.7	25.0	31.2	24.8	26.6	30.4	26.2	30.0	25.9	29.7	25.6	20.9	28.5	25.2	20.4	28.2	24.9	20.0	28.0	7.9
Nausori	31.2	25.8	30.6	25.7	30.0	25.4	26.7	29.8	26.3	29.3	26.0	28.9	25.9	21.2	28.2	25.6	20.9	28.0	25.2	20.3	27.7	6.1
FINLAND																						
Helsinki	25.9	17.6	24.1	16.3	22.7	15.9	18.7	23.6	17.6	22.4	16.7	20.8	17.0	12.2	19.6	15.9	11.4	19.2	14.9	10.7	18.4	9.8
Jyväskylä	25.4	16.8	23.8	16.2	21.9	15.3	18.4	23.0	17.2	22.0	16.1	20.3	16.5	12.0	20.5	15.3	11.1	18.5	14.3	10.3	17.6	9.8
Kauhava	25.0	16.7	23.2	16.1	21.2	15.1	18.2	22.9	17.0	21.3	16.0	20.1	16.5	11.8	20.2	15.3	10.9	18.5	14.3	10.2	17.7	10.0
Kuopio	25.4	16.9	23.7	16.2	21.9	15.7	18.6	23.3	17.4	21.7	16.4	20.5	16.7	12.0	20.7	15.7	11.3	19.1	14.6	10.5	18.1	7.1
Lahti	26.1	17.8	24.5	17.0	22.8	16.2	19.1	24.2	17.9	23.2	16.9	21.6	17.0	12.3	21.2	15.8	11.3	20.0	14.9	10.7	18.8	10.6
Pello	24.2																					

Table 3A Heating and Wind Design Conditions—World Locations

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Nancy	71800	48.68N	6.22E	217	98.75	8293	-10.2	-8.1	9.4	8.2	7.1	10.3	6.5	9.2	4.1	3.2	60	3.7	220	33.4	-12.2	2.2	3.7
Nantes	72220	47.17N	1.60W	27	101.00	8293	-5.2	-2.8	10.7	9.3	8.1	12.2	11.1	10.6	10.1	3.1	60	4.1	60	33.7	-6.5	1.8	3.7
Nice	76900	43.65N	7.20E	10	101.20	8293	1.6	2.9	11.2	9.4	7.8	10.5	11.9	8.7	11.0	4.7	340	3.6	160	32.2	-0.4	1.5	2.7
Nîmes	76450	43.87N	4.40E	62	100.58	8293	-3.3	-1.1	10.4	9.1	7.9	10.1	4.1	8.8	6.3	4.3	20	4.1	40	36.2	-4.7	1.1	3.5
Orleans	72490	47.98N	1.75E	125	99.83	8293	-8.4	-5.3	11.8	10.2	9.0	13.2	10.0	11.6	8.9	3.6	60	3.8	80	33.7	-12.0	1.7	11.3
Paris, De Gaulle	71570	49.02N	2.53E	109	100.02	8293	-7.8	-5.0	12.1	10.3	9.1	14.1	9.7	11.9	7.6	4.6	60	4.1	60	33.1	-9.0	2.2	4.6
Paris, Orly	71490	48.73N	2.40E	96	100.18	8293	-7.1	-4.8	11.2	9.7	8.4	12.8	8.8	10.8	8.5	3.7	20	3.4	100	33.4	-8.2	2.0	4.2
St.-Quentin	70610	49.82N	3.20E	101	100.12	8293	-8.2	-5.6	11.9	10.3	9.1	14.4	8.0	12.3	7.6	5.0	60	3.8	120	31.3	-10.3	2.3	4.3
Strasbourg	71900	48.55N	7.63E	154	99.49	8293	-11.0	-8.2	9.8	8.3	7.2	11.7	8.7	9.5	4.9	2.9	340	3.4	20	34.1	-12.5	1.4	4.5
Toulouse	76300	43.63N	1.37E	153	99.50	8293	-5.8	-3.0	9.8	8.5	7.5	10.0	8.9	8.7	9.1	2.2	280	3.3	140	37.0	-7.2	2.0	4.5
FRENCH POLYNESIA																							
Moruroa Island	919520	21.82S	138.80W	3	101.29	8293	19.6	20.2	13.0	11.7	10.6	14.0	22.4	12.6	21.9	7.0	140	4.7	60	32.0	18.3	2.1	0.5
Papeete, Tahiti	919380	17.55S	149.62W	2	101.30	8293	19.8	20.6	9.7	8.3	7.2	10.0	25.4	8.7	26.1	1.5	120	3.0	260	33.0	18.2	0.4	1.1
GERMANY																							
Aachen	105010	50.78N	6.10E	205	98.89	8293	-10.1	-7.2	10.4	9.1	7.9	11.8	7.9	10.3	6.6	1.9	50	2.5	210	32.3	-9.9	1.9	4.7
Ahlhorn (Ger-AFB)	102180	52.88N	8.23E	56	100.65	8293	-11.8	-9.0	11.2	9.8	8.7	13.4	7.2	11.2	5.7	3.0	90	4.0	10	32.1	-12.8	2.2	5.3
Berlin	103840	52.47N	13.40E	49	100.74	8293	-11.8	-9.2	10.4	9.1	8.1	11.5	6.5	9.5	5.1	3.4	80	3.7	150	33.8	-12.2	2.1	4.9
Bitburg	106100	49.95N	6.57E	374	96.91	8293	-10.9	-8.0	10.2	8.9	7.9	12.0	5.4	10.1	3.5	4.7	60	3.1	10	32.5	-11.5	2.0	3.8
Bremen	102240	53.05N	8.80E	5	101.26	8293	-11.3	-8.7	11.3	9.9	8.8	12.6	6.4	10.9	5.6	3.7	70	4.5	100	32.2	-12.6	3.4	5.3
Bremerhaven	101290	53.53N	8.58E	11	101.19	8293	-9.4	-7.0	13.7	12.2	10.9	15.3	6.3	13.4	5.9	3.6	60	4.3	130	31.1	-9.1	2.2	4.1
Dresden	104880	51.13N	13.78E	226	98.64	8293	-13.3	-10.3	9.6	8.3	7.3	10.2	5.3	8.8	4.8	1.9	320	3.0	990	33.6	-14.6	1.6	6.2
Dusseldorf	104000	51.28N	6.78E	44	100.80	8293	-9.9	-6.9	10.4	9.2	8.1	11.8	7.0	10.1	6.4	2.8	60	3.8	130	33.4	-10.8	1.5	4.9
Eggebek (Ger-Navy)	100340	54.63N	9.35E	22	101.06	8293	-11.9	-8.6	12.7	11.3	10.0	14.1	4.5	12.4	3.6	3.2	30	5.0	90	30.0	-13.8	1.7	5.3
Ehrenberg	105440	50.50N	9.95E	925	90.70	8293	-14.8	-12.1	15.3	13.5	12.0	16.7	-2.7	14.7	-4.1	6.9	100	5.1	190	28.2	-15.2	1.7	4.7
Frankfurt Am Main	106370	50.05N	8.60E	113	99.97	8293	-11.0	-8.2	10.2	8.8	7.7	11.3	7.2	9.4	5.3	3.3	30	3.9	40	34.1	-12.1	1.7	4.3
Grafenwohr	106870	49.70N	11.95E	415	96.44	8293	-18.9	-14.8	6.5	5.5	4.8	7.1	3.8	5.9	2.5	0.6	10	2.1	10	33.5	-21.6	2.3	5.3
Greifswald	101840	54.10N	13.40E	6	101.25	8293	-12.8	-9.4	10.4	9.0	7.9	11.3	5.2	9.5	4.5	1.6	250	3.6	50	31.9	-13.3	2.3	6.1
Hamburg	101470	53.63N	10.00E	16	101.13	8293	-11.6	-8.9	10.2	9.0	8.1	10.6	5.6	9.5	4.2	2.5	60	4.7	90	31.5	-12.5	2.5	5.0
Hannover	103380	52.47N	9.70E	54	100.68	8293	-12.7	-9.8	10.2	8.9	8.0	11.1	6.0	9.6	5.0	2.5	80	4.2	110	32.5	-13.1	2.2	5.6
Heidelberg	107340	49.40N	8.65E	109	100.02	8293	-10.0	-7.1	7.5	6.3	5.3	8.1	6.6	6.9	6.3	1.9	170	2.8	10	35.8	-11.2	1.6	4.8
Hof	106850	50.32N	11.88E	568	94.69	8293	-16.0	-13.0	9.7	8.5	7.6	10.4	2.1	9.3	1.1	2.5	140	3.3	150	30.8	-18.0	1.6	3.9
Husum (Ger-AFB)	100260	54.52N	9.15E	37	100.88	8293	-11.2	-8.2	13.1	11.4	10.1	14.4	6.0	12.8	5.4	3.9	50	4.2	90	29.9	-13.2	2.7	5.0
Kap Arkona	100910	54.68N	13.43E	41	100.83	8293	-8.1	-5.9	19.1	17.0	15.2	20.5	2.9	18.6	2.7	6.7	360	5.4	70	27.0	-8.5	2.0	4.6
Kiel/Holtenau (Ger-Navy)	100460	54.38N	10.15E	31	100.95	8293	-9.9	-7.2	11.3	9.9	8.7	12.7	4.8	10.8	3.3	4.0	40	3.8	160	29.7	-12.0	2.7	5.9
Koln	105130	50.87N	7.17E	99	100.14	8293	-11.4	-8.1	9.2	8.1	7.2	11.0	7.4	9.2	6.2	1.9	110	3.5	130	33.4	-13.3	1.7	5.9
Lahr	108050	48.37N	7.83E	156	99.46	8293	-11.4	-8.2	8.7	7.3	6.2	10.0	8.2	8.9	7.2	1.7	20	2.4	120	34.3	-13.5	1.5	5.6
Landsberg (Ger-AFB)	108570	48.07N	10.90E	628	94.00	8293	-14.9	-12.1	11.8	9.9	8.3	13.4	5.2	11.6	2.8	1.5	70	2.9	260	32.0	-17.5	1.8	4.3
Leck (Ger-AFB)	100220	54.80N	8.95E	13	101.17	8293	-11.5	-8.2	12.5	11.1	9.9	14.2	5.5	12.6	4.4	2.3	80	4.5	110	29.6	-15.8	2.1	6.1
Leipzig	104690	51.42N	12.23E	133	99.74	8293	-13.4	-10.4	12.5	10.8	9.4	13.4	5.5	11.3	4.8	2.8	70	4.0	190	33.6	-14.3	1.8	6.8
Memmingen (Ger-AFB)	109470	47.98N	10.23E	644	93.82	8293	-14.8	-12.0	11.2	9.5	8.2	13.1	3.4	11.5	3.4	2.2	50	3.8	220	32.4	-18.2	2.4	4.5
Munich	108660	48.13N	11.70E	529	95.13	8293	-15.4	-12.5	11.9	9.6	7.9	12.9	5.3	10.6	4.5	1.6	80	3.6	30	32.5	-18.6	2.0	4.5
Neuburg (Ger-AFB)	108530	48.72N	11.22E	387	96.76	8293	-15.9	-12.5	9.4	8.0	6.7	10.2	4.2	9.1	4.3	1.6	60	1.9	200	33.5	-18.5	2.3	6.6
Nordholz (Ger-Navy)	101360	53.77N	8.67E	31	100.95	8293	-10.9	-8.2	13.2	11.7	10.4	15.1	5.8	12.8	5.0	3.8	80	5.0	120	31.3	-11.3	2.5	4.6
Ramstein (US-AFB)	106140	49.43N	7.60E	238	98.50	8293	-11.8	-9.0	8.7	7.5	6.3	9.3	6.6	8.0	6.2	0.9	10	2.4	240	34.0	-13.7	2.1	4.4
Sollingen (Can-AFB)	107220	48.77N	8.10E	128	99.80	8293	-10.8	-8.1	10.0	8.7	7.7	11.5	7.3	10.1	6.5	2.6	30	2.5	10	34.5	-12.4	1.8	4.5
Stuttgart	107380	48.68N	9.22E	419	96.39	8293	-12.7	-10.0	9.4	7.9	6.8	10.3	5.0	9.0	4.4	1.9	90	3.0	90	33.2	-15.4	2.2	5.7
GEORGIA																							
Batumi	374840	41.65N	41.63E	6	101.25	8293	-1.7	-0.2	13.5	12.2	10.6	13.7	9.5	12.7	9.8	6.0	130	4.2	300	32.9	-6.3	5.0	6.8
K'ut'aisi (Kutaisi)	373950	42.27N	42.63E	116	99.94	8293	-2.4	-1.1	21.7	18.1	16.0	21.7	7.3	17.8	8.3	3.9	90	9.6	90	36.1	-4.9	1.8	2.3
Sokhumi (Sukhumi)	372600	42.87N	41.13E	13	101.17	8293	-1.5	-0.5	7.9	6.5	5.6	8.4	6.7	7.1	5.4	2.7	50	4.0	320	32.3	-3.8	1.8	2.2
Tbilisi	375490	41.68N	44.95E	467	95.84	8293	-6.0	-4.7	21.7	18.8	16.6	22.6	2.1	20.1	2.1	2.6	320	4.5	180	36.2	-8.7	1.7	2.2
GIBRALTAR																							
North Front	84950	36.15N	5.35W	5	101.26	8293	7.8	8.9	14.6	12.5	11.1	16.0	14.1	14.4	13.9	4.0	270	6.2	200	36.1	4.7	2.6	2.4
GREECE																							
Andravida	166820	37.92N	21.28E	12	101.18	8293	-0.2	1.1	10.0	8.5	7.4	12.0	13.2	10.0	12.8	0.9	130	5.3	350	36.2	-2.8	1.5	1.5
Athens	167160	37.																					

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
I	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Nancy	29.9	20.4	28.0	19.6	26.2	18.6	21.4	27.9	20.3	26.2	19.4	24.7	19.2	14.3	24.6	18.2	13.5	22.9	17.4	12.8	21.4	11.6
Nantes	30.2	20.2	28.2	20.0	26.2	18.8	22.0	27.5	20.9	26.2	19.9	24.6	20.1	14.8	24.4	19.1	13.9	22.9	18.2	13.1	21.3	10.1
Nice	29.1	23.2	28.1	22.8	27.2	22.5	25.3	27.7	24.5	26.9	23.7	26.2	24.4	19.4	27.0	23.8	18.7	26.6	22.8	17.5	25.9	6.8
Nîmes	33.2	20.7	31.7	20.4	30.3	20.2	23.0	28.8	22.1	28.1	21.4	27.3	21.4	16.2	24.9	20.5	15.3	24.6	19.5	14.3	23.8	10.9
Orleans	30.1	19.9	28.2	19.1	26.7	18.5	21.7	28.0	20.3	25.9	19.4	24.7	19.6	14.5	25.6	18.2	13.3	22.7	17.3	12.6	21.8	11.8
Paris, De Gaulle	29.8	20.8	27.7	19.9	25.9	19.0	21.9	27.1	20.7	25.9	19.7	24.3	20.0	14.9	24.6	18.9	13.9	23.3	17.9	13.0	22.2	10.4
Paris, Orly	29.9	20.3	28.0	19.4	26.1	18.6	21.4	27.9	20.3	25.9	19.5	24.4	19.2	14.1	23.7	18.2	13.3	22.9	17.4	12.6	21.9	10.2
St-Quentin	27.9	20.1	26.0	19.4	24.3	18.4	21.3	26.0	20.0	24.8	19.0	23.3	19.7	14.6	23.9	18.4	13.4	22.1	17.4	12.6	21.2	10.5
Strasbourg	30.5	20.9	28.8	20.0	27.0	19.2	21.9	27.9	20.9	26.8	20.0	25.5	19.9	14.9	24.7	18.9	14.0	23.8	18.0	13.2	22.5	11.5
Toulouse	33.0	21.1	31.0	20.7	29.1	20.0	23.0	30.2	21.9	28.0	21.0	27.2	20.9	15.8	26.3	19.9	14.9	25.2	19.0	14.0	23.8	11.9
FRENCH POLYNESIA																						
Moruroa Island	30.5	25.9	30.0	25.6	29.5	25.4	26.8	29.2	26.5	28.9	26.1	28.5	26.2	21.6	28.2	25.7	21.0	27.9	25.4	20.6	27.8	3.8
Papeete, Tahiti	31.8	26.3	31.4	26.0	31.0	25.8	27.0	30.9	26.6	30.5	26.3	30.2	25.8	21.1	30.0	25.5	20.7	29.6	25.1	20.2	29.3	6.1
GERMANY																						
Aachen	28.6	18.9	26.9	18.6	25.2	17.8	20.2	26.8	19.4	25.4	18.5	24.0	18.0	13.3	22.6	17.2	12.6	21.7	16.3	11.9	20.9	8.6
Ahlhorn (Ger-AFB)	28.8	18.5	26.9	18.1	24.9	17.5	20.0	26.8	19.0	25.5	18.0	23.6	17.8	12.9	21.9	16.9	12.1	21.0	16.0	11.4	20.4	10.1
Berlin	29.9	18.8	27.9	18.1	26.1	17.5	20.1	27.0	19.2	25.9	18.3	24.1	17.9	12.9	22.3	16.9	12.1	21.2	15.9	11.4	20.8	9.3
Bitburg	28.8	19.0	26.9	18.6	25.0	17.6	20.0	26.6	19.2	25.4	18.2	24.0	18.0	13.5	22.5	17.0	12.7	21.9	16.0	11.9	21.0	10.3
Bremen	27.9	19.1	26.1	18.1	24.2	17.3	20.0	25.8	19.1	24.6	18.1	22.7	18.1	13.0	21.8	17.1	12.2	21.4	16.1	11.4	20.2	10.0
Bremerhaven	27.1	18.7	25.0	17.9	23.0	17.2	20.1	25.1	19.1	23.1	18.2	22.0	18.5	13.4	21.6	17.5	12.5	21.3	16.6	11.8	20.3	6.5
Dresden	29.7	18.8	27.5	18.2	25.8	17.4	20.1	27.4	19.1	25.3	18.2	24.2	17.6	13.0	22.4	16.8	12.3	21.6	15.9	11.6	20.5	9.8
Dusseldorf	29.6	19.6	27.8	18.6	26.0	17.8	20.5	27.4	19.6	26.0	18.7	24.3	18.2	13.2	22.9	17.4	12.5	22.0	16.5	11.8	21.4	9.7
Eggebek (Ger-Navy)	26.8	18.4	24.8	17.2	22.9	16.5	19.1	25.1	18.1	23.6	17.2	21.7	17.0	12.2	21.3	16.0	11.4	20.2	15.1	10.7	19.3	9.6
Ehrenberg	24.0	16.5	22.2	15.7	20.6	14.9	17.5	22.3	16.5	21.1	15.5	19.5	15.6	12.4	20.0	14.6	11.6	18.3	13.8	11.0	17.1	7.5
Frankfurt Am Main	30.3	19.4	28.5	18.8	26.7	17.9	20.5	27.8	19.6	26.6	18.7	24.8	18.2	13.3	22.6	17.4	12.6	21.5	16.5	11.9	20.9	11.0
Grafenwohr	29.2	18.8	27.8	18.7	25.9	17.7	20.0	27.1	19.1	26.2	18.1	24.7	17.2	12.9	20.3	16.8	12.6	21.4	15.9	11.9	20.7	13.9
Greifswald	27.2	19.0	25.0	18.1	23.2	17.2	19.9	25.4	18.9	23.7	17.9	22.2	18.1	13.0	22.1	17.0	12.1	20.9	16.0	11.4	20.0	9.1
Hamburg	27.8	18.9	25.9	18.0	24.0	17.1	19.9	25.7	18.8	24.3	17.9	22.6	17.8	12.8	22.1	16.9	12.1	21.0	16.0	11.4	20.1	9.3
Hannover	28.8	19.3	26.9	18.4	25.1	17.6	20.3	26.5	19.3	25.3	18.4	23.4	18.3	13.3	22.5	17.3	12.4	21.4	16.3	11.7	20.8	10.4
Heidelberg	32.1	20.3	30.1	19.6	28.2	19.0	21.4	30.0	20.6	28.7	19.7	26.9	19.0	14.0	25.0	18.0	13.1	23.8	17.1	12.4	21.9	11.1
Hof	27.0	17.5	25.0	16.9	23.3	16.1	18.8	25.0	17.8	23.2	16.8	21.9	16.6	12.7	21.3	15.7	11.9	19.7	14.9	11.3	18.7	10.3
Husum (Ger-AFB)	26.1	18.0	24.2	17.6	22.2	16.4	19.5	24.2	18.4	22.9	17.4	21.0	17.8	12.8	21.3	16.8	12.0	19.8	15.9	11.3	19.0	8.6
Kap Arkona	23.1	18.2	21.7	17.7	20.5	16.9	19.1	22.2	18.2	21.1	17.4	20.0	17.7	12.8	20.9	16.9	12.1	19.9	16.1	11.5	19.2	5.1
Kiel/Holtenau (Ger-Navy)	25.8	18.0	24.0	17.0	22.2	16.4	18.7	24.2	17.8	22.7	16.9	21.3	16.8	12.0	21.5	15.9	11.3	20.2	15.0	10.7	19.2	8.6
Koln	29.6	19.2	27.7	18.3	25.9	17.5	20.3	27.1	19.4	25.9	18.6	24.4	18.1	13.2	22.7	17.2	12.4	21.5	16.4	11.8	20.8	11.0
Lahr	30.2	20.7	28.8	20.0	26.9	19.0	21.7	28.5	20.7	27.4	19.8	25.4	19.2	14.2	25.1	18.3	13.4	23.3	17.8	13.0	22.9	11.5
Landsberg (Ger-AFB)	28.2	19.1	26.2	17.7	24.9	17.2	19.4	27.3	18.5	25.2	17.6	23.4	16.8	12.9	22.0	15.9	12.2	21.3	15.0	11.5	20.6	11.2
Leck (Ger-AFB)	26.2	18.2	24.2	17.0	22.2	16.4	19.2	25.0	18.0	23.8	17.0	21.4	17.0	12.1	21.8	16.0	11.4	20.2	15.0	10.7	19.3	9.1
Leipzig	29.7	19.0	27.6	18.4	25.8	17.6	20.2	27.0	19.2	25.7	18.4	24.3	17.8	13.0	22.9	17.0	12.3	21.7	16.1	11.6	21.1	10.3
Memmingen (Ger-AFB)	28.2	19.0	26.8	18.1	25.0	17.0	19.2	27.1	18.4	25.4	17.5	23.6	16.2	12.5	22.9	15.2	11.7	20.9	14.8	11.4	20.7	11.1
Munich	29.0	18.7	27.1	18.0	25.5	17.4	19.6	26.7	18.8	25.6	18.1	24.3	17.1	13.0	22.2	16.4	12.4	21.4	15.7	11.9	20.7	11.2
Neuburg (Ger-AFB)	29.2	19.0	27.2	18.1	25.9	17.6	20.0	27.5	19.1	26.5	18.1	24.7	17.1	12.8	22.9	16.2	12.1	21.8	15.2	11.3	20.7	12.6
Nordholz (Ger-Navy)	27.2	18.3	25.1	17.5	23.1	16.8	19.6	24.8	18.5	23.5	17.6	21.9	17.5	12.6	21.0	16.6	11.9	20.3	15.8	11.3	19.5	8.2
Ramstein (US-AFB)	30.2	19.8	28.2	18.8	26.8	18.2	20.9	28.2	19.7	26.3	18.8	25.4	18.2	13.5	22.1	17.2	12.6	22.4	16.2	11.9	21.6	12.4
Solling (Can-AFB)	30.8	20.6	28.8	19.9	27.0	18.9	21.7	28.4	20.8	27.0	19.9	25.3	19.2	14.2	23.9	18.8	13.8	23.4	17.9	13.1	22.5	11.0
Stuttgart	29.1	18.9	27.3	18.3	25.6	17.4	19.9	27.3	19.0	25.7	18.2	24.3	17.3	13.0	23.1	16.5	12.4	21.9	15.8	11.8	21.1	10.8
GEORGIA																						
Batumi	27.7	22.8	26.9	22.2	26.1	21.7	23.8	26.8	23.1	26.0	22.4	25.2	22.8	17.5	26.1	22.1	16.8	25.3	21.4	16.1	24.5	5.8
K'ut'aisi (Kutaisi)	32.1	21.4	30.3	21.2	28.9	21.1	24.2	28.6	23.4	27.2	22.7	26.3	22.9	17.9	26.3	22.2	17.1	25.4	21.6	16.5	25.0	8.3
Sokhumi (Sukhumi)	28.9	22.8	27.8	22.6	26.9	22.2	24.4	27.4	23.7	26.6	23.1	25.9	23.4	18.2	26.2	22.7	17.4	25.5	22.2	16.9	25.0	7.3
Tbilisi	33.5	21.2	31.9	21.2	30.4	20.7	22.9	31.3	22.1	30.2	21.2	28.8	20.2	15.8	27.2	19.4	15.0	26.2	18.6	14.2	25.6	10.2
GIBRALTAR																						
North Front	31.1	20.4	29.2	20.1	27.9	20.1	23.4	26.2	22.9	25.6	22.3	25.0	22.5	17.2	24.6	22.0	16.7	24.6	21.4	16.1	23.7	7.0
GREECE																						
Andravida	32.9	20.9	31.6	21.5	30.3	21.4	24.1	28.9	23.5	28.2	22.8	27.9	22.9	17.7	26.4	22.0	16.7	26.2	21.1	15.8	25.5	11.8
Athens	34.1	20.6	33.0	20.1	31.8	20.1	23.8	29.7	22.9	29.2	22.1	28.5	21.9	16.6	28.2	20.8	15.5	27.5	19.8	14.5	26.7	9.4
Elefsis (Hel-AFB)	36.1	21.1	34.9	20.1	33.2	19.8	23.6	31.3	22.6	30.9	21.6	30.1	21.0	15.7	28.6	19.9	14.7	27.6	18.8	13.7	26.7	10.1
Iraklion	31.2	18.9	29.9	19.5	28.8	19.9	23.2	27.5	22.6	27.3	22.0	26.5	21.8	16.5	26.7	21.0	15.7	26.3	20.1	14.9	25.9	5.9
Larisa	36.0	20.3	34.1	20.1	32.8	19.8	21.9	32.6	21.1	30.9	20.5	30.1	19.1	14.0	23.6	18.2	13.2	23.3	17.6	12.7	23.1	14.0
Preveza	31.2	21.6	29.9	21.6	28.8	22.1	24.4	28.1	23													

MDB = mean coincident dry-bulb temp., °C	MWS = mean coincident wind speed, m/s	HR = humidity ratio, grams of moisture per kilogram of dry air
MWB = mean coincident wet-bulb temp., °C	StdD = standard deviation, °C	A = airport DP = dew-point temperature, °C

Table 3A Heating and Wind Design Conditions—World Locations

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Narsarsuaq	42700	61.18N	45.42W	26	101.01	8293	-27.8	-24.7	20.9	17.4	13.7	23.6	1.0	20.6	1.7	0.9	60	7.5	70	20.0	-26.1	1.4	6.0
GUAM																							
Andersen AFB (Guam)	912180	13.58N	144.93E	185	99.12	8293	23.3	23.7	9.0	7.9	7.2	8.4	25.9	7.9	25.9	3.8	70	3.8	90	32.8	22.0	1.6	0.6
HUNGARY																							
Budapest	128390	47.43N	19.27E	185	99.12	8293	-13.2	-10.2	16.1	12.8	10.6	15.6	4.3	12.1	4.2	0.9	170	4.5	200	34.5	-16.5	1.2	4.4
Debrecen	128820	47.48N	21.63E	112	99.99	8293	-14.6	-11.6	9.6	8.0	6.7	10.0	1.9	8.3	1.6	1.6	50	2.5	90	33.5	-16.4	1.5	3.7
Nagykanizsa	129250	46.45N	16.98E	141	99.64	8293	-13.5	-10.2	8.7	7.3	6.2	8.7	0.3	7.3	1.8	2.1	360	2.7	230	33.0	-17.2	1.5	4.6
Pecs	129420	46.00N	18.23E	203	98.91	8293	-11.2	-9.0	9.7	7.9	6.7	10.3	2.1	8.8	0.6	2.6	320	3.2	270	33.8	-13.5	1.3	3.4
Siofok	129350	46.92N	18.03E	108	100.03	8293	-11.3	-8.5	13.4	11.4	9.5	13.3	-0.7	11.3	4.0	2.0	320	2.2	270	32.8	-13.8	1.7	4.6
Szombathely	128120	47.27N	16.63E	221	98.70	8293	-12.0	-9.5	13.1	10.9	9.0	12.1	-4.0	9.5	-0.2	3.4	270	3.2	180	32.8	-14.1	1.7	3.9
ICELAND																							
Akureyri	40630	65.68N	18.08W	27	101.00	8293	-13.4	-11.5	13.4	11.4	9.8	15.3	0.3	13.3	2.9	3.0	160	4.9	180	22.2	-16.5	1.7	1.2
Keflavik	40180	63.97N	22.60W	54	100.68	8293	-8.1	-6.9	18.1	15.3	13.5	20.8	0.8	18.5	0.9	6.3	20	5.0	350	18.7	-11.3	3.6	1.1
Raufarhofn	40770	66.45N	15.95W	10	101.20	8293	-12.2	-10.4	16.5	14.4	12.7	19.3	-0.6	17.0	-0.3	6.2	230	6.2	320	20.0	-15.8	2.1	1.7
Reykjavik	40300	64.13N	21.90W	61	100.59	8293	-9.8	-8.1	18.1	15.4	13.7	21.0	2.5	18.6	2.5	4.3	90	5.5	360	18.4	-12.1	1.9	1.4
INDIA																							
Ahmadabad	426470	23.07N	72.63E	55	100.67	8293	11.3	12.8	7.0	5.9	5.1	6.3	23.5	5.3	23.3	1.0	360	3.0	270	43.9	6.3	1.7	3.8
Bangalore	432950	12.97N	77.58E	921	90.74	8293	14.9	15.7	6.0	5.2	4.4	5.0	21.7	4.3	22.1	1.4	90	1.7	90	37.0	12.2	1.1	1.9
Bombay	430030	19.12N	72.85E	14	101.16	8293	16.5	17.6	6.7	6.0	5.3	5.4	26.2	5.0	26.6	0.2	360	3.1	320	38.5	13.4	1.3	1.6
Calcutta	428090	22.65N	88.45E	6	101.25	8293	12.0	13.1	5.6	4.7	3.8	3.3	22.9	3.0	22.6	0.2	360	2.0	180	39.2	10.2	1.1	0.8
Cuddalore	433290	11.77N	79.77E	12	101.18	8293	19.9	20.7	6.2	5.4	4.8	5.8	26.0	5.2	26.5	0.7	320	2.6	250	40.4	17.3	1.5	1.7
Goa/Panaji	431920	15.48N	73.82E	60	100.61	8293	19.6	20.3	7.5	6.4	5.5	5.2	28.6	4.4	28.6	2.2	50	2.7	320	37.2	16.4	1.5	3.0
Hyderabad	431280	17.45N	78.47E	545	94.95	8293	14.5	15.8	9.2	8.3	7.7	5.6	24.5	5.1	25.0	0.4	50	3.7	320	41.6	11.5	1.1	2.0
Jaipur	423480	26.82N	75.80E	390	96.73	8293	6.8	8.2	7.1	5.8	5.0	5.3	17.9	4.4	18.0	0.2	90	3.8	320	43.5	3.9	1.2	1.7
Madras	432790	13.00N	80.18E	16	101.13	8293	19.9	20.5	7.4	6.4	5.7	5.6	26.8	4.8	26.8	0.9	290	3.7	270	41.2	18.3	1.2	1.0
Nagpur	428670	21.10N	79.05E	310	97.66	8293	11.8	13.0	7.6	6.1	5.3	4.9	23.7	3.5	23.3	1.0	360	2.8	320	44.9	9.2	1.3	1.8
New Delhi	421820	28.58N	77.20E	216	98.76	8293	6.6	7.6	7.4	6.3	5.4	6.4	18.9	5.7	18.7	0.7	270	3.3	320	43.4	5.0	1.2	1.1
Poona	430630	18.53N	73.85E	559	94.79	8293	9.8	10.9	5.3	4.4	3.5	3.4	25.9	2.8	25.6	0.0	70	1.5	270	40.4	7.2	0.7	1.5
Sholapur	431170	17.67N	75.90E	479	95.70	8293	16.2	17.2	3.6	3.1	2.5	2.8	23.5	2.4	23.8	0.5	90	0.9	320	42.5	13.1	1.7	1.7
Trivandrum	433710	8.48N	76.95E	64	100.56	8293	22.0	22.6	6.4	5.8	5.1	7.5	28.2	6.5	28.1	1.1	360	2.5	320	37.4	18.3	1.7	2.6
INDIAN OCEAN ISLANDS																							
Diego Garcia Isl.	619670	7.30S	72.40E	3	101.29	8293	23.0	23.8	9.3	8.4	7.7	9.5	26.5	9.0	26.5	4.8	110	3.1	90	35.2	19.9	2.2	6.0
IRELAND																							
Belmullet	39760	54.23N	10.00W	10	101.20	8293	-1.2	0.2	17.6	15.1	13.5	20.1	9.0	17.9	8.6	3.6	90	4.7	180	24.2	-3.1	2.3	2.0
Birr	39650	53.08N	7.88W	72	100.46	8293	-4.2	-2.5	10.4	9.1	8.1	12.5	7.4	11.1	7.4	0.6	90	3.0	150	24.9	-6.9	4.5	2.8
Claremorris	39700	53.72N	8.98W	69	100.50	8293	-3.6	-2.2	13.1	11.4	9.8	15.2	7.5	13.4	7.2	2.7	70	3.6	90	24.8	-6.1	2.4	2.2
Clones	39740	54.18N	7.23W	89	100.26	8293	-3.7	-2.1	12.3	10.5	9.2	13.6	7.2	12.3	7.6	1.8	60	3.1	120	25.3	-6.4	2.3	2.6
Cork	39550	51.85N	8.48W	162	99.39	8293	-1.4	-0.2	15.1	13.3	11.9	17.7	6.6	15.2	7.0	5.7	40	4.2	330	24.1	-3.5	2.0	1.9
Dublin	39690	53.43N	6.25W	85	100.31	8293	-1.6	-0.4	13.8	12.3	10.9	15.6	6.9	13.5	6.8	4.2	250	4.9	230	24.9	-3.6	1.8	1.8
Kilkenny	39600	52.67N	7.27W	64	100.56	8293	-3.7	-2.3	11.9	10.0	8.5	13.1	8.5	11.7	8.4	1.0	360	3.1	180	26.2	-6.6	2.2	2.3
Malin	39800	55.37N	7.33W	25	101.03	8293	-0.3	0.8	20.0	18.1	15.9	22.3	6.1	20.2	6.2	6.2	170	7.2	200	22.4	-2.0	1.2	1.7
Mullingar	39710	53.53N	7.37W	104	100.08	8293	-3.7	-2.4	11.4	9.9	8.8	13.1	6.2	11.5	7.5	1.4	70	3.9	100	25.2	-6.4	2.1	1.9
Rosslare	39570	52.25N	6.33W	25	101.03	8293	0.2	1.2	14.5	13.1	11.8	16.0	5.0	13.9	6.3	6.5	90	5.1	220	22.7	-1.1	1.9	1.3
Shannon	39620	52.70N	8.92W	20	101.08	8293	-2.0	-0.6	13.9	12.0	10.4	16.3	7.2	14.0	7.6	2.9	70	4.1	110	25.7	-4.4	2.4	1.7
Valentia Observatory	39530	51.93N	10.25W	14	101.16	8293	-0.6	0.8	14.9	13.3	11.8	17.1	8.4	15.1	8.7	3.0	60	4.6	270	25.0	-2.8	2.2	1.5
ISRAEL																							
Jerusalem	401840	31.78N	35.22E	754	92.59	8293	0.6	1.6	10.5	9.3	8.3	12.6	5.0	10.5	5.7	2.5	270	4.5	290	36.4	-0.8	3.0	1.3
Lod	401800	32.00N	34.90E	49	100.74	8293	4.2	5.6	10.1	8.7	7.7	11.4	13.3	9.8	12.1	1.7	150	4.8	320	39.3	2.0	1.6	1.6
Ovda (Isr-AFB/Civ)	401980	30.00N	34.83E	432	96.24	8293	2.3	3.7	10.4	8.7	7.8	11.1	9.5	9.2	12.3	2.2	210	4.3	40	40.6	-0.1	0.7	1.3
Tel Aviv-Yafo	401760	32.10N	34.78E	4	101.28	8293	6.4	7.6	12.6	9.9	8.4	13.2	13.4	10.9	13.5	3.1	120	4.1	310	37.2	5.1	3.0	1.4
ITALY																							
Bologna/Borgo (AFB)	161400	44.53N	11.30E	42	100.82	8293	-5.5	-3.9	7.2	5.9	4.9	6.3	4.8	4.9	2.8	0.5	220	2.4	80	36.0	-8.0	1.9	3.3
Brindisi	163200	40.65N	17.95E	10	101.20	8293	2.1	3.9	11.5	9.8	8.5	13.2	10.4	11.6	10.6	3.9	360	4.5	180	37.1	-0.6	2.4	1.3
Catania	164600	37.47N	15.05E	17	101.12	8293	1.8	3.0	10.1	8.5	7.3	11.4	12.0	9.6	12.6	2.3	230	4.6	90	39.3	-0.6	3.0	1.2
Genova	161200	44.42N	8.85E	3	101.29	8293	0.1	2.0	12.1	10.8	9.7	12.6	6.1	11.6	6.7	6.8	40	3.3	50	33.3	-1.6	1.3	2.3
Messina	164200	38.20N	15.55E	51	100.71	8293	6.1	7.3	8.5	7.3	6.2	9.1	13.4	7.8	13.8	2.0	310	2.8	60	36.3	3.2	2.7	2.2
Milan, Linate	160800	45.43N	9.28E	103	100.09	8293	-6.0	-4.1	7.2	5.4	4.3	8.9	7.8	6.3	7.9	0.4	90	2.2	220	34.8	-7.7	3.3	2.8
Milan, Malpensa	160660	45.62N	8.73E	211	98.82	8293	-9.6	-7.9	8.0	5.5	4.2	8.6	6.3	5.1	4.7	0.1	360	1.8	210	34.4	-12.6	1.7	2.6
Naples	162890	40.85N	14.30E	72	100.46	8293	0.0	1.2	10.1	8.2	6.9	11.8	9.7	9.2	9.4	1.8	340	3.4	200	36.4	-2.3	2.1	1.6
Palermo	164050	38.18N	13.10E	34	100.92	8293	6.9	7.9	13.5	11.6	9.9	14.1	13.8	12.7	13.0	4.8	210	5.1	250	37.9	3.6	2.9	2.6
Perugia	161810	43.08N	12.50E	205	98.89	8293	-4.4	-2.9	9.4	8.2	7.1	9.8	7.7	8.6	7.1	0.5	360	2.3	270	35.6	-8.4	1.6	4.0
Pisa	161580	43.68N	10.38E	1	101.31	8293	-3.1	-1.9	10.0	8.4	7.1	10.0											

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR										Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%				
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB		
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5	
Narsarsuaq	18.1	9.9	16.7	9.4	15.3	8.6	11.2	15.5	10.4	14.3	9.8	13.7	9.6	7.4	10.6	8.7	7.0	10.1	7.9	6.6	9.7	6.8	
GUAM																							
Andersen AFB (Guam)	31.2	26.0	30.7	26.0	30.3	25.8	27.3	29.8	26.9	29.4	26.6	29.2	26.5	22.5	29.0	26.1	22.0	28.5	25.7	21.4	28.2	4.2	
HUNGARY																							
Budapest	32.1	20.4	30.2	19.9	28.8	19.0	21.4	30.5	20.6	29.2	19.7	26.9	18.2	13.4	21.6	17.9	13.1	23.4	17.0	12.4	23.5	12.2	
Debrecen	31.2	21.7	29.5	21.1	27.9	20.1	22.4	30.1	21.5	28.6	20.6	27.2	19.7	14.6	26.5	18.8	13.8	25.5	18.0	13.1	24.2	11.3	
Nagykanizsa	30.6	21.0	29.0	20.6	27.4	19.8	22.0	28.8	21.2	27.5	20.3	26.5	19.9	14.9	25.3	18.9	13.9	23.9	18.1	13.2	23.0	12.6	
Pecs	31.3	21.3	29.8	20.8	28.1	20.0	22.2	29.9	21.3	28.9	20.4	27.1	19.4	14.5	26.9	18.5	13.7	26.3	17.6	12.9	24.7	10.5	
Siofok	29.8	21.9	28.2	21.3	26.9	20.5	22.9	28.6	21.9	27.3	20.9	26.3	20.8	15.7	27.4	19.8	14.7	26.0	18.8	13.8	24.7	8.1	
Szombathely	30.2	20.6	28.4	20.0	26.8	19.4	21.7	28.1	20.8	26.8	19.9	25.7	19.6	14.7	24.7	18.6	13.8	23.7	17.8	13.1	22.5	11.0	
ICELAND																							
Akureyri	19.0	13.4	17.4	12.4	15.9	11.5	14.1	18.1	12.8	16.6	11.8	15.4	12.0	8.8	16.0	10.8	8.1	14.7	9.7	7.5	13.3	5.3	
Keflavik	14.9	11.1	13.7	10.5	12.8	10.3	12.0	13.6	11.3	12.7	10.8	12.1	11.2	8.3	12.3	10.8	8.1	11.8	10.0	7.7	11.3	4.2	
Raufarhofn	15.4	11.5	13.6	10.5	12.3	9.9	12.1	14.7	11.0	13.3	10.1	11.9	10.5	7.9	13.9	9.6	7.4	12.0	8.9	7.1	10.9	4.1	
Reykjavik	15.6	11.5	14.2	10.9	13.3	10.4	12.5	14.5	11.7	13.6	11.0	12.9	11.4	8.4	13.4	10.6	8.0	12.5	10.0	7.7	11.7	4.7	
INDIA																							
Ahmadabad	42.1	23.5	41.0	23.4	39.7	23.7	28.7	34.6	28.2	33.6	27.8	32.9	27.6	23.7	31.1	27.1	23.0	30.5	26.7	22.4	30.1	12.7	
Bangalore	34.4	19.5	33.6	19.4	32.8	19.5	23.4	28.8	22.8	28.0	22.4	27.4	22.2	18.9	25.1	21.6	18.2	24.6	21.2	17.8	24.3	10.7	
Bombay	35.0	22.8	34.0	23.3	33.2	24.0	27.7	31.6	27.4	31.3	27.1	30.9	26.7	22.3	30.2	26.4	21.9	29.9	26.1	21.5	29.6	5.2	
Calcutta	37.0	25.7	35.9	26.0	35.0	26.3	29.3	34.2	28.9	33.3	28.5	32.7	28.2	24.4	32.2	27.8	23.8	31.6	27.5	23.4	31.1	10.0	
Cuddalore	37.4	25.4	36.4	25.5	35.5	25.6	28.7	32.8	28.3	32.4	28.0	32.0	27.7	23.7	31.3	27.3	23.1	31.0	27.0	22.7	30.8	8.2	
Goa/Panaji	33.7	25.1	33.2	25.2	32.7	25.1	28.2	31.3	27.6	31.1	27.2	30.6	27.3	23.3	30.5	26.7	22.5	29.8	26.3	21.9	29.3	5.8	
Hyderabad	40.3	21.6	39.2	21.5	38.1	21.5	25.2	32.0	24.7	31.2	24.4	30.5	23.7	19.8	27.3	23.3	19.3	26.8	23.0	19.0	26.4	10.5	
Jaipur	42.2	20.7	40.8	20.5	39.5	20.8	26.9	31.3	26.5	30.7	26.1	30.3	26.0	22.4	28.7	25.6	21.9	28.3	25.2	21.3	28.0	12.4	
Madras	38.1	25.1	37.0	25.2	36.0	25.2	28.3	32.6	27.9	32.0	27.5	31.4	27.3	23.2	30.6	27.0	22.7	30.2	26.6	22.2	29.8	8.1	
Nagpur	43.5	21.8	42.2	21.5	41.0	21.3	26.7	32.3	26.2	31.3	25.9	30.6	25.6	21.6	28.6	25.2	21.1	28.2	24.9	20.7	27.9	12.7	
New Delhi	41.7	22.0	40.5	22.4	39.2	22.6	28.0	33.2	27.6	32.6	27.2	32.0	26.9	23.2	30.4	26.5	22.6	30.0	26.1	22.1	29.8	12.0	
Poona	38.0	19.3	37.0	19.4	36.0	19.2	24.5	29.9	23.9	29.1	23.5	28.3	23.1	19.1	26.6	22.7	18.7	25.9	22.3	18.2	25.5	16.1	
Sholapur	40.8	21.9	39.8	21.9	38.8	21.8	26.6	34.0	25.8	33.1	25.1	32.5	24.9	21.2	30.0	24.1	20.2	28.6	23.5	19.4	28.0	11.7	
Trivandrum	33.5	25.6	33.0	25.5	32.5	25.4	27.2	31.3	27.0	30.9	26.7	30.6	26.2	21.8	29.2	26.0	21.5	29.0	25.7	21.1	28.8	6.5	
INDIAN OCEAN ISLANDS																							
Diego Garcia Isl	32.1	26.6	31.6	26.1	31.1	26.0	28.0	30.3	27.4	30.2	26.9	29.8	27.2	23.0	29.2	26.8	22.4	29.1	26.2	21.6	28.8	5.2	
IRELAND																							
Belmullet	21.0	16.9	19.1	16.2	17.7	15.5	17.7	20.0	16.7	18.4	15.9	17.4	16.7	11.9	18.6	15.9	11.3	17.8	15.2	10.8	16.9	4.9	
Birr	24.2	17.6	22.2	17.0	20.5	16.2	18.6	22.5	17.6	21.1	16.8	19.7	17.2	12.4	20.3	16.2	11.6	18.8	15.5	11.1	18.6	8.3	
Claremorris	22.7	17.8	20.9	16.8	19.2	16.0	18.4	21.6	17.4	20.1	16.5	18.6	17.1	12.3	19.6	16.3	11.7	18.6	15.5	11.1	17.9	7.7	
Clones	23.3	17.6	21.4	16.8	19.9	16.0	18.3	22.2	17.4	20.6	16.5	19.2	16.9	12.2	19.7	16.0	11.5	18.8	15.2	10.9	18.3	7.6	
Cork	21.7	16.8	20.2	16.2	19.0	15.7	17.7	20.3	17.0	19.2	16.3	18.1	16.9	12.3	18.4	16.1	11.7	17.8	15.5	11.2	17.1	6.7	
Dublin	22.0	17.0	20.6	16.3	19.4	15.6	17.9	20.5	17.1	19.7	16.3	18.8	16.8	12.1	19.5	15.9	11.4	18.5	15.1	10.8	17.6	7.0	
Kilkenny	24.3	17.7	22.5	16.8	20.9	16.3	18.6	22.5	17.7	21.2	16.9	20.0	17.2	12.4	20.2	16.3	11.7	19.1	15.5	11.1	18.3	8.8	
Malin	19.3	15.9	18.1	15.5	17.0	14.8	16.7	18.5	15.9	17.6	15.2	16.7	15.8	11.3	17.5	15.1	10.8	16.8	14.5	10.3	16.2	4.2	
Mullingar	23.2	17.5	21.3	16.8	19.7	16.1	18.3	21.7	17.4	20.4	16.6	19.1	17.0	12.3	19.6	16.1	11.6	18.7	15.4	11.1	18.0	8.0	
Rosslare	20.0	16.6	18.9	15.9	18.0	15.4	17.3	19.1	16.6	18.2	16.0	17.5	16.5	11.8	18.3	15.9	11.3	17.5	15.2	10.8	16.8	4.9	
Shannon	23.8	17.9	21.9	17.0	20.2	16.1	18.6	22.2	17.7	20.9	16.9	19.6	17.1	12.2	20.0	16.3	11.6	19.4	15.6	11.1	18.6	6.7	
Valentia Observatory	21.7	17.3	20.0	16.8	18.7	16.1	18.2	20.5	17.5	19.2	16.7	18.2	17.4	12.5	18.9	16.7	11.9	18.5	16.0	11.4	17.8	5.2	
ISRAEL																							
Jerusalem	31.6	18.1	30.2	17.7	29.1	17.4	21.3	27.4	20.5	26.3	19.8	25.6	19.6	15.7	23.6	18.7	14.8	22.4	18.1	14.3	21.9	10.2	
Lod	34.2	20.5	32.2	22.0	31.2	22.5	25.3	30.3	24.7	29.6	24.2	29.2	23.9	18.9	28.6	23.1	18.0	28.0	22.6	17.4	27.5	9.5	
Ovda (Isr-ABF/Civ)	37.6	18.5	36.2	18.2	35.2	18.1	22.8	31.8	21.7	30.7	20.8	29.7	20.1	15.6	26.8	19.0	14.5	25.8	18.0	13.6	24.5	13.9	
Tel Aviv-Yafo	31.2	20.6	30.0	23.6	29.3	23.5	25.7	29.1	25.1	28.5	24.6	28.2	24.6	19.6	28.2	24.0	18.9	27.9	23.4	18.2	27.6	5.5	
ITALY																							
Bologna/Borgo (AFB)	33.8	23.7	32.2	22.9	31.0	22.4	24.9	31.6	24.1	30.3													

Table 3A Heating and Wind Design Conditions—World Locations

							Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							Dry Bulb		Speed, m/s			0.4%		1%		99.6%		0.4%		Mean DB		StdD DB	
Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
JAMAICA																							
Kingston	783970	17.93N	76.78W	9	101.22	8293	21.9	22.3	14.9	13.9	12.9	14.8	28.5	13.8	28.7	2.5	330	11.2	110	35.4	20.2	1.3	0.8
Montego Bay	783880	18.50N	77.92W	3	101.29	8293	21.3	21.9	12.8	11.5	10.4	12.6	26.6	11.5	26.8	2.3	140	9.5	70	35.2	15.9	2.0	8.4
JAPAN																							
Aomori	475750	40.82N	140.77E	3	101.29	8293	-7.5	-6.4	9.4	8.4	7.4	9.7	-0.6	8.4	-0.4	3.7	230	4.6	220	33.1	-9.3	1.1	1.7
Asahikawa	474070	43.77N	142.37E	116	99.94	8293	-19.1	-16.4	5.6	5.1	4.4	5.4	-3.0	4.6	-3.7	0.7	80	2.9	270	32.5	-22.5	1.4	2.7
Atsugi	476790	35.45N	139.45E	65	100.55	8293	-1.9	-0.9	10.2	9.0	8.0	9.4	8.2	8.4	7.9	2.0	360	4.6	180	34.8	-4.2	1.5	1.1
Fukuoka	478080	33.58N	130.45E	12	101.18	8293	-1.0	0.0	9.2	8.2	7.3	9.4	4.2	8.6	5.0	3.4	10	5.0	10	35.3	-3.3	1.1	1.3
Hakodate	474300	41.82N	140.75E	36	100.89	8293	-10.3	-8.8	9.1	7.9	6.9	9.3	0.0	7.9	-0.9	2.3	290	3.3	220	29.9	-12.6	1.2	1.5
Hamamatsu	476810	34.75N	137.70E	48	100.75	8293	-1.2	-0.2	9.8	8.8	8.0	9.9	6.8	9.1	6.5	3.7	10	5.6	270	34.2	-3.1	1.5	1.0
Hiroshima	477650	34.40N	132.47E	53	100.69	8293	-1.3	-0.3	9.4	8.2	7.2	8.8	7.2	7.8	6.1	2.8	20	4.4	220	35.0	-2.8	1.8	1.5
Hyakuri (Jasdf)	477150	36.18N	140.42E	35	100.91	8293	-7.0	-5.2	9.7	8.3	7.2	8.5	6.3	7.4	5.5	1.1	250	4.8	130	33.2	-9.8	1.1	1.2
Kadena	479310	26.35N	127.77E	45	100.79	8293	10.1	11.2	10.5	9.2	8.2	10.0	15.9	8.9	16.4	4.3	70	5.2	240	34.6	7.3	1.1	1.4
Kagoshima	478270	31.57N	130.55E	5	101.26	8293	0.3	1.4	7.5	6.4	5.6	6.5	9.5	5.9	9.2	2.5	300	4.0	270	34.5	-1.7	1.1	1.1
Kumamoto	478190	32.82N	130.72E	39	100.86	8293	-2.1	-0.9	6.7	5.6	4.9	6.3	5.5	5.3	6.5	1.4	360	3.6	240	35.6	-4.5	1.2	1.1
Maebashi	476240	36.40N	139.07E	113	99.97	8293	-3.4	-2.2	7.9	6.8	5.9	8.1	6.1	7.2	6.4	3.3	330	3.6	110	36.6	-5.7	1.6	1.7
Maizuru	477500	35.45N	135.32E	22	101.06	8293	-2.2	-1.3	8.4	7.0	5.9	8.2	5.3	6.8	5.1	1.8	240	3.1	20	34.9	-3.9	1.0	1.5
Matsumoto	476180	36.25N	137.97E	611	94.20	8293	-8.9	-7.5	7.9	7.0	6.2	7.4	4.2	7.0	4.6	1.2	30	4.0	170	33.7	-11.6	1.4	1.4
Matsuyama	478870	33.83N	132.78E	34	100.92	8293	-0.6	0.4	6.1	5.3	4.6	6.2	5.7	5.4	6.0	2.0	110	3.4	270	34.1	-2.3	0.9	1.2
Miho (Civ/Jasdf)	477430	35.48N	133.25E	9	101.22	8293	-1.2	-0.8	10.9	9.5	8.4	11.8	1.8	10.4	2.7	6.2	260	5.9	260	34.0	-3.5	1.6	1.2
Miyako Jima Island	479270	24.78N	125.28E	41	100.83	8293	12.3	13.2	11.5	9.9	9.0	10.0	17.9	9.2	17.6	5.6	360	5.8	210	33.3	10.8	0.6	1.2
Morioka	475840	39.70N	141.17E	157	99.45	8293	-9.8	-8.0	8.5	7.4	6.6	8.2	-0.5	7.1	0.3	1.9	140	4.2	190	33.1	-12.4	1.0	1.8
Nagasaki	478170	32.73N	129.87E	35	100.91	8293	0.4	1.4	7.8	6.5	5.7	7.1	9.6	6.1	9.3	2.4	300	2.9	230	34.6	-1.1	1.0	0.9
Nagoya	476350	35.25N	136.93E	17	101.12	8293	-3.0	-1.9	9.6	8.2	7.1	9.7	7.3	8.5	6.7	1.4	350	3.9	10	35.7	-5.1	1.5	1.3
Naha	479300	26.18N	127.65E	8	101.23	8293	11.8	12.8	13.0	11.4	10.2	13.4	14.6	12.2	14.9	7.1	10	5.8	200	32.7	10.5	0.6	1.1
Naze	479090	28.38N	129.50E	7	101.24	8293	9.2	10.1	7.1	6.1	5.3	7.1	13.1	6.3	13.5	3.1	190	3.3	210	34.6	7.4	2.1	0.7
New Tokyo Intl Apt	476860	35.77N	140.38E	44	100.80	8293	-5.1	-3.9	9.7	8.4	7.3	9.3	7.6	8.1	6.1	2.1	330	4.7	10	33.7	-8.3	1.3	2.2
Niigata	476040	37.92N	139.05E	7	101.24	8293	-2.7	-1.7	10.5	9.2	8.1	12.0	3.2	10.2	2.4	5.0	200	4.5	140	35.9	-4.7	2.2	2.1
Nyutabaru (Jasdf)	478540	32.08N	131.45E	82	100.34	8293	-2.0	-0.8	9.5	8.1	7.0	9.8	7.8	8.6	8.7	3.0	270	5.5	230	34.8	-4.6	1.2	1.1
Oita	478150	33.23N	131.62E	13	101.17	8293	-1.0	0.0	7.4	6.3	5.6	7.3	6.4	6.5	6.2	2.9	170	3.9	10	34.4	-3.5	0.9	1.8
Osaka	477710	34.78N	135.45E	15	101.14	8293	-2.0	-1.0	8.4	7.4	6.6	8.0	6.8	7.0	6.8	2.1	10	4.0	10	35.8	-3.6	1.1	1.2
Owase	476630	34.07N	136.20E	27	101.00	8293	-1.0	0.1	7.6	6.3	5.4	7.7	8.0	6.6	8.2	1.3	280	4.1	70	35.2	-3.0	1.4	1.5
Sapporo	474120	43.05N	141.33E	19	101.10	8293	-11.0	-9.5	7.1	6.2	5.4	6.9	-0.2	5.7	-1.7	1.4	130	3.2	150	31.6	-13.6	1.5	2.0
Sendai	475900	38.27N	140.90E	43	100.81	8293	-4.6	-3.5	10.3	8.9	7.7	10.5	2.9	9.2	2.8	2.9	350	3.9	130	32.7	-5.9	2.0	1.3
Shimonoseki	477620	33.95N	130.93E	19	101.10	8293	0.8	1.8	10.8	9.0	7.8	9.5	6.4	8.7	6.6	4.6	330	4.1	100	32.9	-1.0	0.8	1.3
Shizuhamu (Jasdf)	476580	34.82N	138.30E	10	101.20	8293	-1.0	0.0	10.8	9.7	8.7	11.3	8.5	10.4	8.2	4.0	10	5.7	260	34.9	-2.8	1.5	1.1
Tokyo, Intl Airport	476710	35.55N	139.78E	8	101.23	8293	-0.8	0.2	12.3	10.8	9.5	11.9	9.9	10.5	7.4	3.3	280	6.4	10	34.4	-2.6	1.4	1.7
Tosashimizu	478980	32.72N	133.02E	33	100.93	8293	1.2	2.5	10.3	8.6	7.4	9.3	12.9	7.7	11.1	3.4	350	3.4	250	31.3	-0.4	1.0	1.2
Wakkanai	474010	45.42N	141.68E	11	101.19	8293	-11.7	-10.3	12.2	10.4	9.2	12.8	-3.6	11.2	-3.7	4.0	190	4.5	240	27.3	-13.0	2.0	2.2
JORDAN																							
Amman	402700	31.98N	35.98E	773	92.38	8293	0.8	1.8	10.3	8.9	7.8	12.1	6.2	9.8	6.0	2.7	90	3.6	290	38.2	-3.3	1.6	6.7
KAZAKHSTAN																							
Almaty (Alma Ata)	368700	43.23N	76.93E	847	91.56	8293	-19.5	-16.1	4.5	3.4	2.8	3.5	-1.9	2.9	-3.4	0.6	360	1.4	330	36.4	-20.2	1.7	3.2
Aqmola (Tselinograd)	351880	51.13N	71.37E	348	97.21	8293	-29.4	-27.0	10.6	9.3	8.2	11.4	-6.7	9.8	-9.4	2.3	270	2.8	230	36.6	-32.4	3.2	3.2
Aqtobe (Aktyubinsk)	352290	50.30N	57.23E	227	98.63	8293	-28.6	-25.6	11.2	9.9	8.3	12.2	-7.1	10.3	-6.9	1.1	190	3.4	60	37.2	-32.0	2.2	2.0
Atyrau (Gur'yev)	357000	47.02N	51.85E	-15	101.51	8293	-21.9	-19.3	13.4	11.8	10.0	15.7	-7.5	12.6	-5.5	1.7	90	4.4	140	39.3	-24.6	1.4	2.8
Oral (Ural'sk)	351080	51.25N	51.40E	36	100.89	8293	-27.6	-25.1	12.3	10.3	9.3	14.0	-8.4	12.3	-9.1	2.5	360	4.9	140	37.9	-31.3	2.3	2.7
Pavlodar	360030	52.28N	76.95E	123	99.86	8293	-31.1	-28.5	9.6	8.5	7.5	10.1	-6.2	9.1	-6.7	2.4	60	3.2	230	36.2	-33.0	1.7	3.6
Qaraghandy (Karaganda)	353940	49.80N	73.13E	555	94.83	8293	-28.0	-25.2	10.0	8.7	7.8	11.4	-6.9	9.9	-7.2	2.2	120	3.9	20	35.4	-29.9	1.8	3.8
Qostanay (Kustanay)	289520	53.22N	63.62E	156	99.46	8293	-29.6	-27.1	11.0	9.5	8.5	11.9	-9.8	10.2	-7.2	2.6	180	4.2	90	36.0	-32.4	1.7	2.9
Semey (Semipalatinsk)	361770	50.35N	80.25E	196	98.99	8293	-31.4	-28.8	8.9	7.4	6.4	9.8	-3.0	7.9	-5.2	0.4	90	2.8	90	37.0	-34.3	1.9	3.9
Zhambyl (Dzhambul)	383410	42.85N	71.38E	653	93.72	8293	-20.6	-17.0	12.0	9.7	7.1	12.1	2.5	9.6	2.1	0.8	180	3.9	20	38.8	-21.4	1.7	3.9
KENYA																							
Arissa	637230	0.47S	39.63E	147	99.57	8293	21.1	21.8	13.1	11.5	10.0	13.3	28.3	12.3	28.1	3.1	180	3.6	180	40.6	14.9	4.2	4.6
Kisumu	637080	0.10S	34.75E	1146	88.29	8293	15.8	16.4	9.8	8.4	7.4	8.4	24.7	7.2	26.1	1.6	90	5.7	230	37.8	11.3	6.2	3.9
Lodwar	636120																						

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
JAMAICA																						
Kingston	33.2	25.6	32.9	25.6	32.2	25.4	27.1	31.5	26.6	31.4	26.2	30.9	26.0	21.4	29.5	25.2	20.4	29.3	25.0	20.1	29.2	6.5
Montego Bay	32.2	25.9	32.1	25.9	31.8	25.8	26.9	31.1	26.6	31.1	26.2	30.8	25.8	21.1	29.8	25.2	20.3	29.7	25.0	20.1	29.8	6.3
JAPAN																						
Aomori	29.8	23.5	28.2	22.8	26.6	21.9	24.4	28.8	23.6	27.4	22.8	26.0	23.1	17.9	26.6	22.4	17.1	26.4	21.7	16.4	25.5	7.2
Asahikawa	29.9	22.7	28.0	21.3	26.4	20.2	23.6	28.7	22.7	27.0	21.6	25.1	22.0	16.9	27.5	21.1	16.0	25.6	20.2	15.1	24.6	8.7
Atsugi	32.2	25.0	31.1	24.6	30.0	24.2	26.0	30.7	25.5	28.9	25.0	29.0	25.0	20.2	27.8	24.2	19.3	28.1	23.9	18.9	27.4	6.5
Fukuoka	33.8	24.9	32.7	25.6	31.2	24.9	26.3	31.5	25.9	30.6	25.5	29.8	25.1	20.2	28.5	24.2	19.1	27.6	24.1	19.0	27.9	7.3
Hakodate	27.9	23.0	26.5	22.1	25.1	21.4	23.8	27.0	23.0	25.7	22.1	24.5	22.8	17.6	25.9	22.0	16.7	24.9	21.1	15.8	24.3	6.1
Hamamatsu	32.0	24.7	30.9	24.6	29.9	24.4	26.3	29.8	25.9	28.7	25.5	27.9	25.8	21.2	27.4	25.1	20.3	27.0	24.8	20.0	27.1	6.6
Hiroshima	32.6	25.3	31.6	25.1	30.6	24.8	26.3	30.9	25.8	30.3	25.4	29.5	25.1	20.3	29.0	24.6	19.7	28.3	24.2	19.2	27.9	6.5
Hyakuri (Jasdf)	31.8	25.4	30.1	25.1	28.9	24.6	26.2	30.5	25.7	29.1	25.1	28.2	25.1	20.3	28.1	24.8	19.9	27.9	24.1	19.1	27.0	7.4
Kadena	33.2	27.2	32.9	27.0	32.1	26.8	28.3	32.1	28.0	31.4	27.6	31.1	27.2	23.1	30.7	27.1	23.0	30.4	26.9	22.7	30.1	5.4
Kagoshima	32.7	25.6	32.0	25.4	31.2	25.2	26.6	30.7	26.2	30.1	25.9	29.7	25.6	20.9	28.7	25.2	20.3	28.5	24.9	20.0	28.4	6.2
Kumamoto	33.6	25.4	32.7	25.1	31.6	25.0	26.6	31.0	26.2	30.5	25.7	29.7	25.6	20.9	28.5	25.1	20.3	28.0	24.7	19.8	27.8	7.8
Maebashi	33.5	24.8	32.1	24.2	30.7	23.7	25.6	31.8	25.0	30.7	24.5	29.3	24.0	19.1	28.0	23.5	18.6	28.1	22.9	17.9	27.6	7.5
Maizuru	33.0	25.1	31.8	24.9	30.5	24.5	25.9	31.1	25.4	30.5	24.9	29.5	24.6	19.6	28.5	24.0	18.9	27.8	23.6	18.5	27.4	7.6
Matsumoto	31.9	22.4	30.5	22.0	29.1	21.4	23.3	29.6	22.7	28.6	22.1	27.7	21.7	17.6	26.0	21.0	16.9	25.4	20.4	16.2	25.1	9.4
Matsuyama	32.6	24.8	31.7	24.6	30.8	24.3	25.7	30.8	25.2	30.0	24.9	29.5	24.4	19.4	27.8	24.0	19.0	27.6	23.5	18.4	27.6	6.7
Miho (Civ/Jasdf)	32.2	25.6	31.1	25.2	30.0	24.6	26.1	30.4	25.7	29.5	25.1	28.9	25.1	20.2	28.7	24.2	19.1	27.9	24.0	18.9	27.4	6.4
Miyako Jima Island	32.1	26.8	31.6	26.7	31.1	26.5	27.7	30.7	27.3	30.4	27.1	30.0	27.0	22.8	29.5	26.6	22.3	28.9	26.2	21.7	28.8	4.7
Morioka	30.5	23.8	28.9	23.0	27.5	21.9	24.6	29.0	23.9	27.8	23.2	26.3	23.4	18.5	26.6	22.8	17.9	26.2	22.1	17.1	25.7	7.7
Nagasaki	32.1	25.2	31.1	25.3	30.2	25.2	26.7	29.6	26.2	29.1	25.8	28.8	26.0	21.4	28.8	25.5	20.8	28.1	25.0	20.2	27.7	5.6
Nagoya	33.8	25.2	32.2	24.5	31.1	24.0	26.1	31.0	25.6	30.0	25.1	29.7	25.0	20.1	28.0	24.1	19.0	27.4	23.8	18.7	27.5	7.8
Naha	32.1	26.6	31.2	26.4	31.0	26.4	27.7	30.6	27.3	30.3	27.0	30.2	27.0	22.7	29.9	26.2	21.6	29.3	26.2	21.6	29.2	3.8
Naze	32.5	26.3	31.9	26.2	31.3	26.1	27.2	31.1	26.8	30.7	26.6	30.3	26.1	21.5	29.6	25.7	21.0	29.4	25.5	20.7	29.1	5.4
New Tokyo Intl Apt	31.9	25.5	30.8	25.4	29.2	24.7	26.2	30.5	25.8	29.3	25.2	28.4	25.2	20.4	28.0	24.9	20.1	27.8	24.1	19.1	27.2	7.5
Niigata	32.3	24.8	30.9	24.3	29.7	24.0	25.7	30.6	25.1	29.7	24.5	28.9	24.3	19.3	28.5	23.7	18.5	27.8	23.1	17.9	27.6	6.0
Nyutabaru (Jasdf)	32.1	25.3	30.9	25.3	29.8	25.0	26.3	29.9	26.0	29.2	25.6	28.4	25.8	21.3	27.7	25.1	20.4	27.5	24.9	20.2	27.5	6.1
Oita	32.6	25.4	31.5	25.2	30.4	24.8	26.2	30.8	25.7	30.1	25.3	29.3	25.0	20.1	28.4	24.5	19.5	28.0	24.1	19.0	27.7	6.8
Osaka	34.0	24.8	32.9	24.7	31.8	24.0	26.2	31.3	25.7	30.4	25.3	29.8	25.0	20.1	28.3	24.2	19.2	27.3	24.0	18.9	28.0	8.0
Owase	32.2	24.5	30.7	24.4	29.6	24.3	25.8	29.9	25.3	29.3	24.9	28.7	24.7	19.8	28.1	24.2	19.2	27.6	23.7	18.6	27.1	6.1
Sapporo	29.1	22.7	27.3	21.9	25.7	20.5	23.6	28.0	22.6	26.5	21.6	25.0	22.1	16.8	26.6	21.2	15.9	25.8	20.3	15.0	24.5	6.5
Sendai	30.2	24.1	28.7	23.3	27.4	22.8	25.1	28.6	24.5	27.5	23.8	26.4	24.1	19.1	27.1	23.5	18.4	26.4	22.9	17.7	25.8	5.3
Shimonoseki	31.2	25.2	30.4	24.9	29.6	24.7	26.0	29.9	25.6	29.4	25.2	28.8	24.8	19.9	28.3	24.4	19.4	28.0	24.1	19.0	27.7	4.4
Shizuhamu (Jasdf)	32.9	26.1	31.8	25.5	30.2	25.1	26.7	30.9	26.2	30.1	25.9	29.1	26.0	21.4	28.5	25.2	20.4	28.1	24.9	20.0	28.0	6.6
Tokyo, Intl Airport	32.8	25.6	31.2	25.1	30.2	24.8	26.6	31.3	26.1	30.1	25.7	29.1	25.2	20.4	28.6	25.0	20.1	28.6	24.2	19.1	27.8	6.2
Tosashimizu	29.9	25.8	29.2	25.7	28.6	25.5	26.7	29.0	26.4	28.6	26.0	28.1	26.1	21.6	28.4	25.7	21.0	28.1	25.4	20.7	27.8	3.3
Wakkanai	24.8	21.6	23.5	20.8	22.5	20.1	22.2	24.4	21.3	23.2	20.3	22.2	21.4	16.1	23.9	20.5	15.2	22.9	19.6	14.3	22.0	4.2
JORDAN																						
Amman	34.9	18.6	33.2	18.1	31.9	17.8	21.9	28.5	20.9	28.0	20.2	27.4	20.2	16.4	24.4	19.0	15.2	23.2	18.1	14.3	22.5	11.3
KAZAKHSTAN																						
Almaty (Alma Ata)	32.9	18.1	31.4	17.8	29.9	17.2	19.7	29.2	18.9	28.7	18.1	28.1	16.6	13.1	24.7	15.3	12.0	23.0	14.3	11.3	22.9	11.0
Aqmola (Tselinograd)	31.7	17.5	29.6	16.8	27.9	16.4	19.3	27.0	18.4	26.0	17.7	25.6	17.0	12.7	21.5	16.1	11.9	20.5	14.9	11.0	20.4	10.8
Aqtobe (Aktyubinsk)	34.1	19.4	32.0	18.6	30.0	17.7	20.5	30.5	19.7	29.2	18.9	27.6	17.5	12.9	22.9	16.7	12.2	22.2	15.7	11.5	22.3	12.8
Atyrau (Gur'yev)	36.3	20.0	34.5	19.2	32.7	18.9	22.4	30.5	21.3	29.4	20.5	29.0	20.1	14.8	25.7	18.9	13.7	24.2	17.7	12.7	24.2	11.2
Oral (Ural'sk)	33.8	19.5	31.7	18.8	29.8	18.3	21.1	29.9	20.2	28.9	19.5	27.6	18.5	13.4	23.7	17.5	12.6	23.2	16.6	11.9	22.1	12.5
Pavlodar	32.2	18.6	30.4	18.1	28.7	17.2	20.2	27.9	19.5	26.8	18.7	26.2	18.1	13.2	22.5	17.0	12.3	21.8	16.0	11.5	21.5	11.2
Qaraghandy (Karaganda)	31.5	16.1	29.4	15.9	27.7	15.4	18.2	26.1	17.4	25.4	16.7	24.8	16.0	12.2	20.0	14.8	11.2	19.5	13.7	10.5	19.1	11.3
Qostanay (Kustanay)	32.2	18.7	30.2	18.4	28.3	17.8	20.5	28.2	19.7	27.3	18.9	26.1	18.1	13.3	22.9	17.1	12.4	22.5	16.3	11.8	21.9	10.4
Semey (Semipalatinsk)	32.8	18.7	30.7	17.9	29.0	17.5	20.2	28.8	19.5	27.8	18.7	26.6	17.6	12.9	22.5	16.8	12.3	22.2	15.9	11.6	21.7	12.5
Zhambyl (Dzhambul)	35.6	17.6	33.9	17.5	32.5	17.0	19.3	31.4	18.6	31.0	17.9	29.9	15.4	11.8	22.2	14.4	11.1	22.2	13.4	10.4	22.3	13.9
KENYA																						
Arissa	37.2	23.3	36.6	23.2	35.9	23.3	26.0	32.1	25.4	31.7	25.1	31.0	24.5	19.8	28.1	24.1	19.3	27.3	23.7	18.9	26.9	10.6
Kisumu	32.5	18.7	31.5	19.0	30.7	19.2	22.2	28.0	21.7	27.6	21.4	27.2	20.5	17.5	24.7	20.1	17.0	24.2	19.7	16.6	23.8	11.0
Lodwar	37.6	20.6	37.0	20.8	36.5	20.8	24.1	30.4	23.6	30.2	23.2	30.4	22.6	18.4	26.3	22.0	17.8	26.1	21.5	17.2	26.1	11

Table 3A Heating and Wind Design Conditions—World Locations

							Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Dry Bulb		Speed, m/s			0.4%		1%		99.6%		0.4%		Mean DB		StdD DB	
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
KOREA, SOUTH (Republic of Korea)																							
Cheju	471820	33.50N	126.55E	27	101.00	8293	-1.1	-0.1	12.2	10.7	9.6	12.4	3.0	11.2	4.6	6.2	40	6.3	230	33.8	-3.2	1.2	1.4
Inch'on	471120	37.48N	126.63E	70	100.49	8293	-11.2	-9.5	9.9	8.5	7.3	10.1	-4.6	8.8	-5.3	4.7	320	3.1	230	33.5	-12.8	3.8	2.6
Kangnung	471050	37.75N	128.90E	27	101.00	8293	-8.7	-6.9	8.1	7.0	6.1	8.7	-1.5	7.6	-1.5	5.2	250	2.8	90	34.8	-10.9	1.7	2.3
Kwangju	471560	35.13N	126.92E	72	100.46	8293	-7.1	-5.8	7.7	6.7	5.8	7.5	0.1	6.8	0.4	1.9	20	3.3	250	34.1	-9.2	1.5	1.8
Osan	471220	37.08N	127.03E	12	101.18	8293	-13.9	-11.8	7.7	6.4	5.4	7.3	-2.0	6.2	-1.9	1.3	10	2.6	10	34.8	-16.8	1.2	3.0
Seoul	471100	37.55N	126.80E	19	101.10	8293	-14.1	-12.1	8.6	7.5	6.5	8.3	-4.5	7.2	-3.7	1.2	10	4.2	160	33.5	-16.8	0.9	3.4
Taegu	471430	35.88N	128.62E	61	100.59	8293	-8.2	-6.7	9.1	7.9	7.0	9.8	-0.5	8.6	0.2	3.6	290	3.9	270	35.6	-11.0	1.4	1.7
Taejon	471330	36.30N	127.40E	78	100.39	8293	-11.0	-9.3	6.8	5.8	5.0	5.5	2.6	4.7	1.1	0.3	110	2.8	270	34.9	-13.5	1.9	1.5
Ulsan	471520	35.55N	129.32E	33	100.93	8293	-6.8	-5.4	7.1	6.2	5.4	8.0	-0.3	7.0	-0.5	3.0	320	3.6	140	35.0	-9.3	1.7	1.9
KUWAIT																							
Kuwait	405820	29.22N	47.98E	55	100.67	8293	3.2	5.0	11.5	10.4	9.5	10.5	16.0	9.3	15.3	1.7	300	6.1	340	49.4	0.7	1.3	1.3
KYRGYZSTAN																							
Bishkek (Frunze)	383530	42.85N	74.53E	635	93.93	8293	-22.4	-18.8	9.2	7.7	6.5	8.3	0.0	6.8	0.5	1.2	150	3.4	220	38.4	-24.0	1.2	4.2
Tianshan (Mtn Stn)	369820	41.92N	78.23E	3614	64.80	8293	-32.6	-30.8	9.7	8.5	7.4	9.0	-15.8	7.7	-17.4	0.3	360	4.7	210	19.8	-35.6	4.3	2.2
LATVIA																							
Liepaja	264060	56.55N	21.02E	8	101.23	8293	-17.1	-12.9	12.4	10.6	9.5	12.0	3.8	10.4	3.3	3.3	30	3.8	120	28.1	-16.0	1.6	6.1
Riga	264220	56.97N	24.07E	3	101.29	8293	-19.6	-15.5	10.8	9.2	8.2	10.3	2.6	9.2	2.1	2.0	40	4.1	150	29.5	-19.2	2.0	7.3
LIBYA																							
Banghazi	620530	32.08N	20.27E	132	99.75	8293	6.7	7.5	13.5	12.2	10.3	13.1	12.8	10.4	13.7	2.3	90	6.6	350	41.1	3.9	1.0	1.6
Tripoli	620100	32.67N	13.15E	81	100.36	8293	4.1	5.1	10.3	9.4	8.4	9.6	15.0	8.4	14.6	1.7	240	5.6	60	45.5	1.9	1.7	1.1
LIECHTENSTEIN																							
Vaduz	69900	47.13N	9.53E	463	95.89	8293	-11.1	-8.6	10.0	7.6	6.0	9.7	9.9	8.1	9.0	1.2	180	4.5	320	31.7	-13.1	1.1	3.7
LITHUANIA																							
Kaunas	266290	54.88N	23.88E	75	100.43	8293	-19.9	-15.9	10.2	9.1	8.1	10.2	-0.3	9.3	0.2	2.5	70	3.7	180	29.9	-18.7	2.0	4.7
Klaipeda	265090	55.70N	21.15E	10	101.20	8293	-17.4	-13.3	13.7	11.7	10.0	12.8	4.2	10.9	3.9	3.4	70	3.7	140	28.3	-15.6	1.7	5.7
Vilnius	267300	54.63N	25.28E	156	99.46	8293	-20.4	-16.7	11.3	10.1	9.0	11.2	-1.4	10.0	-1.5	2.2	70	4.7	140	30.2	-20.6	1.6	4.3
MACEDONIA																							
Skopje	135860	41.97N	21.65E	239	98.49	8293	-12.4	-9.3	9.0	7.7	6.2	8.3	2.2	6.7	1.1	0.4	50	2.0	270	38.0	-15.8	2.5	5.2
MADEIRA ISLANDS																							
Funchal	85210	32.68N	16.77W	55	100.67	8293	11.9	12.8	13.5	11.9	10.4	15.0	16.3	12.8	16.5	3.6	310	4.9	30	30.7	10.0	2.9	1.0
MALAYSIA																							
George Town	486010	5.30N	100.27E	4	101.28	8293	22.8	22.9	6.5	5.6	5.1	6.0	27.5	5.2	28.4	1.1	350	3.7	270	35.7	21.2	2.2	0.7
Kota Baharu	486150	6.17N	102.28E	5	101.26	8293	21.6	22.2	7.7	6.8	6.1	8.1	27.4	7.4	27.2	0.5	190	4.0	90	35.1	20.1	1.6	0.8
Kuala Lumpur	486470	3.12N	101.55E	22	101.06	8293	21.6	22.0	7.0	6.1	5.3	5.9	29.5	5.1	29.4	0.5	340	3.4	270	36.6	19.9	1.7	1.9
Kuantan	486570	3.78N	103.22E	16	101.13	8293	21.1	21.5	7.1	6.2	5.5	7.3	28.2	6.7	27.9	2.1	350	3.5	230	37.4	14.7	2.9	13.0
Malacca	486650	2.27N	102.25E	9	101.22	8293	22.0	22.4	7.0	6.0	5.2	7.6	29.0	6.8	28.8	1.3	10	3.5	20	36.2	18.8	1.9	3.1
Sitiawan	486200	4.22N	100.70E	8	101.23	8293	21.8	22.3	6.0	5.2	4.5	5.1	28.9	4.4	29.3	0.6	60	3.3	180	37.3	19.0	3.3	2.7
Kuching	964130	1.48N	110.33E	27	101.00	8293	21.8	22.0	5.4	4.7	4.1	5.8	28.0	5.1	27.9	0.9	260	2.2	360	37.3	19.6	2.3	4.1
Miri	964490	4.33N	113.98E	18	101.11	8293	22.4	22.8	8.0	6.7	5.7	7.9	28.0	7.0	28.4	1.1	120	3.9	270	37.0	18.9	4.6	5.7
MALI																							
Bamako	612910	12.53N	7.95W	381	96.83	8293	15.1	16.8	8.9	7.6	6.7	8.2	25.2	7.3	25.0	3.0	40	4.0	80	43.1	9.8	3.4	3.7
MALTA																							
Luqa	165970	35.85N	14.48E	91	100.24	8293	6.8	7.8	11.5	10.2	9.1	12.9	13.2	11.4	13.2	2.6	270	4.1	310	37.3	3.3	2.3	1.7
MARSHALL ISLANDS																							
Kwajalein Atoll	913660	8.73N	167.73E	8	101.23	8293	24.4	24.8	11.1	10.3	9.6	12.4	27.3	11.4	27.5	5.5	70	4.9	70	34.9	15.3	3.9	13.1
MAURITANIA																							
Nouadhibou	614150	20.93N	17.03W	3	101.29	8293	12.9	13.9	14.4	13.4	12.5	13.4	17.2	12.3	17.4	6.3	360	6.3	20	38.3	8.9	1.6	3.5
Nouakchott	614420	18.10N	15.95W	3	101.29	8293	12.8	13.9	10.4	9.5	8.5	11.8	23.7	10.5	23.9	3.8	60	6.3	80	44.8	6.7	0.7	3.7
MEXICO																							
Acapulco	768056	16.77N	99.75W	5	101.26	8293	20.0	20.9	10.2	8.3	7.6	7.7	28.9	6.3	29.1	1.0	320	7.4	200	36.2	15.8	1.5	4.8
Merida	766440	20.98N	89.65W	10	101.20	8293	13.9	15.8	15.1	10.1	8.5	10.0	25.0	8.4	25.0	2.0	90	6.6	140	39.7	8.1	1.2	1.2
Mexico City	766790	19.43N	99.08W	2234	77.21	8293	4.0	5.4	22.6	9.8	8.0	22.8	10.9	9.8	19.1	2.1	90	4.8	360	31.3	0.0	1.2	2.3
Puerto Vallarta (766010)	766014	20.68N	105.25W	6	101.25	8293	14.8	15.6	7.9	6.2	5.4	5.5	25.9	5.3	25.8	0.2	10	7.5	330	34.5	12.4	0.9	0.8
Tampico (765491)	765494	22.28N	97.87W	24	101.04	8293	9.9	11.8	14.5	10.5	9.4	15.1	15.2	12.6	16.6	3.8	270	4.9	90	36.2	6.2	2.4	3.6
Veracruz	766910	19.20N	96.13W	14	101.16	8293	14.0	15.2	20.6	15.2	12.9	20.8	20.9	15.5	20.0	2.0	330	9.6	90	38.4	9.8	2.2	2.5
MICRONESIA																							
Chuuk Intl/Moen Isl	913340	7.47N	151.85E	2	101.30	8293	24.0	24.4	9.2	8.2	7.4	9.4	27.1	8.5	27.6	3.9	100	3.9	40	39.0	13.3	4.4	14.3
MIDWAY ISLAND																							
Midway Island NAF	910660	28.22N	177.37W	4	101.28	8293	14.8	15.4	10.9	9.9	9.1	13.1	19.2	11.7	19.5	4.6	360	4.2	110	31.7	7.5	1.0	11.2
MOLDOVA																							
Chisinau (Kishinev)	338150	47.02N	28.87E	180	99.18	8293	-14.2	-12.0	6.8	5.9	5.2	7.4	-0.3	6.3	-1.9	2.1	300	2.8	200	32.9	-15.4	2.1	3.2
MONGOLIA																							
Ulaanbataar	442920	47.93N	106.98E	1316	86.48	8293	-30.3	-28.6	10.4	9.4	7.6	8.3	-17.8	6.6	-17.4	0.8	320	3.7	270	31.4	-32.6	2.9	2.6
Ulaangom	442120	49.97N	92.08E	936	90.57	8293	-40.2	-38.4	7.9	6.0	4.9	3.9	-34.0	3.2	-33.8	0.6	180	2.1	50	31.8	-41.6	2.8	2.2
MOROCCO																							
Al Hoceima	601070	35.18N	3.85W	14	101.16	8293	6.9	7.8	10.9	9.5	8.1	10.7	14.5	8.4	14.5	1.3	180	5.2	360	36.4	3.9	5.0	2.2

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
KOREA, SOUTH (Republic of Korea)																						
Cheju	31.8	25.8	30.2	25.9	29.2	25.7	27.5	30.0	26.8	29.3	26.2	28.8	27.0	22.8	29.1	26.1	21.6	28.4	25.8	21.2	28.2	5.4
Inch'on	30.5	24.4	29.1	23.4	27.8	22.8	25.2	28.8	24.6	27.6	24.0	26.6	24.3	19.4	27.2	23.7	18.7	26.4	23.2	18.1	26.0	5.8
Kangnung	32.5	24.1	30.7	23.3	29.2	22.3	25.3	30.4	24.7	29.4	23.9	27.9	23.9	18.8	27.9	23.2	18.0	27.6	22.6	17.4	26.7	5.8
Kwangju	32.1	25.4	30.9	24.7	29.7	24.0	26.4	30.4	25.7	29.3	25.2	28.5	25.3	20.6	28.4	24.7	19.9	27.7	24.2	19.3	27.4	7.0
Osan	32.2	25.4	31.0	24.7	29.8	24.1	26.6	31.1	25.8	29.7	25.1	28.5	25.8	21.1	29.8	24.8	19.9	28.4	24.0	18.9	27.6	8.0
Seoul	31.8	24.8	30.1	24.0	29.0	23.1	26.5	30.2	25.8	28.1	25.0	26.7	26.0	21.4	28.0	25.1	20.3	27.1	24.2	19.2	26.3	8.0
Taegu	33.6	25.3	32.0	24.3	30.7	23.5	26.3	31.6	25.6	30.6	25.0	29.3	24.9	20.1	29.3	24.2	19.3	28.3	23.6	18.6	27.9	7.3
Taejon	32.5	24.5	31.2	24.0	29.9	23.1	25.9	29.7	25.2	29.0	24.7	28.4	24.9	20.2	27.7	24.3	19.4	27.1	23.7	18.7	26.7	8.0
Ulsan	32.9	25.5	31.4	25.2	29.9	24.3	26.4	31.4	25.8	30.1	25.3	29.0	25.1	20.3	28.8	24.6	19.7	28.4	24.2	19.2	27.9	6.4
KUWAIT																						
Kuwait	47.2	20.6	46.2	20.4	45.2	19.8	28.0	34.7	25.8	33.0	24.1	33.4	26.2	21.8	33.3	23.8	18.8	30.5	21.2	16.0	29.3	15.4
KYRGYZSTAN																						
Bishkek (Frunze)	35.1	19.3	33.7	18.6	32.2	18.1	20.7	32.2	19.9	30.8	19.1	29.6	17.1	13.2	25.1	16.2	12.4	23.4	15.4	11.8	23.1	14.2
Tianshan (Mtn Stn)	13.9	5.5	12.3	4.8	10.8	3.9	6.7	12.1	5.6	10.5	4.8	9.2	4.5	8.2	7.6	3.4	7.6	6.6	2.5	7.1	5.9	11.6
LATVIA																						
Liepaja	24.6	17.9	22.9	16.5	21.2	16.5	19.2	22.4	18.2	21.3	17.2	20.1	18.0	12.9	21.1	16.9	12.1	19.8	16.0	11.4	18.8	5.7
Riga	26.1	18.2	24.3	17.6	22.7	16.6	19.6	23.7	18.7	22.7	17.7	21.4	18.1	13.0	21.8	17.1	12.2	20.5	16.0	11.4	19.9	7.9
LIBYA																						
Banghazi	37.2	22.1	35.2	21.6	33.6	21.3	25.5	31.7	24.6	30.2	24.0	29.2	24.0	19.2	28.1	23.1	18.1	27.0	22.5	17.5	26.5	9.3
Tripoli	41.4	24.3	39.6	23.6	37.7	23.0	27.0	37.2	25.7	34.2	24.7	32.5	24.7	19.9	30.9	23.6	18.6	29.1	22.7	17.6	28.3	13.8
LIECHTENSTEIN																						
Vaduz	28.3	19.2	26.8	18.3	25.3	17.7	20.1	26.8	19.3	25.5	18.5	24.0	17.7	13.4	23.4	17.0	12.8	22.2	16.2	12.2	21.4	9.2
LITHUANIA																						
Kaunas	26.9	19.2	25.2	18.2	23.6	17.1	20.3	25.3	19.2	23.7	18.1	22.1	18.4	13.4	23.0	17.4	12.6	21.9	16.4	11.8	20.2	9.2
Klaipeda	24.9	18.6	23.0	17.5	21.2	16.9	19.6	23.3	18.4	21.7	17.5	20.4	18.1	13.0	21.8	17.1	12.2	20.3	16.2	11.5	19.3	5.4
Vilnius	27.1	18.1	25.3	17.7	23.8	16.7	19.8	25.3	18.7	23.6	17.7	22.2	17.8	13.0	21.9	16.8	12.2	21.0	15.9	11.5	19.9	9.0
MACEDONIA																						
Skopje	35.2	20.2	33.3	19.8	31.8	19.4	21.7	32.3	21.0	31.1	20.1	30.0	18.1	13.4	25.5	17.2	12.6	24.4	16.8	12.3	24.0	15.2
MADEIRA ISLANDS																						
Funchal	27.1	20.3	26.1	20.3	25.2	20.1	22.1	25.4	21.5	24.6	21.0	24.4	21.0	15.8	24.2	20.2	15.0	23.8	19.8	14.6	23.6	4.7
MALAYSIA																						
George Town	32.9	26.0	32.2	25.8	32.0	25.8	27.6	31.3	27.2	30.8	27.0	30.5	26.9	22.6	29.6	26.2	21.6	29.1	26.1	21.5	28.9	7.4
Kota Baharu	32.9	26.2	32.4	26.1	32.0	26.0	27.2	31.2	26.9	31.0	26.6	30.8	26.1	21.5	29.3	25.7	21.0	29.1	25.5	20.7	28.9	7.1
Kuala Lumpur	34.2	25.4	33.8	25.5	33.2	25.5	27.3	32.1	26.9	31.9	26.7	31.5	26.2	21.7	29.4	25.9	21.3	29.0	25.5	20.8	28.7	9.0
Kuantan	33.5	26.0	33.0	25.9	32.5	25.9	27.2	31.7	26.9	31.3	26.6	30.9	26.1	21.5	29.2	25.7	21.0	28.9	25.6	20.9	28.7	8.5
Malacca	33.5	25.3	32.9	25.4	32.4	25.4	27.2	31.1	27.0	30.9	26.7	30.6	26.2	21.6	28.9	26.0	21.4	28.8	25.7	21.0	28.6	8.5
Sitiawan	33.3	26.2	32.9	26.1	32.5	26.1	27.4	32.1	27.1	31.7	26.9	31.3	26.2	21.6	29.7	26.0	21.4	29.6	25.7	21.0	29.2	8.2
Kuching	34.0	26.0	33.2	25.8	32.9	25.8	27.3	32.0	26.8	31.6	26.5	31.3	26.1	21.6	30.0	25.8	21.2	29.4	25.2	20.4	28.5	8.8
Miri	32.2	26.3	31.8	26.3	31.4	26.2	27.6	31.0	27.2	30.6	27.0	30.4	26.6	22.2	29.8	26.2	21.7	29.3	26.1	21.5	29.1	6.6
MALI																						
Bamako	40.0	20.3	39.2	20.3	38.3	20.3	26.2	32.6	25.7	31.9	25.4	31.2	25.0	21.0	28.6	24.2	20.0	27.9	24.0	19.8	27.7	12.3
MALTA																						
Luqa	33.2	21.7	31.3	22.4	30.1	22.2	25.1	28.8	24.5	27.9	24.0	27.7	24.1	19.2	26.8	23.2	18.2	26.4	22.9	17.8	26.2	8.0
MARSHALL ISLANDS																						
Kwajalein Atoll	31.4	26.1	31.2	26.0	30.9	26.0	27.2	30.6	26.9	30.4	26.7	30.2	26.0	21.4	29.8	25.7	21.0	29.5	25.6	20.9	29.3	4.2
MAURITANIA																						
Nouadhibou	33.1	20.6	31.2	20.5	29.8	20.3	24.4	28.4	23.5	27.2	22.7	27.0	23.2	18.0	26.1	22.1	16.8	25.8	21.3	16.0	24.8	8.8
Nouakchott	41.4	21.2	39.7	20.6	37.8	20.4	27.1	31.2	26.6	30.4	26.2	29.9	26.1	21.5	29.1	25.8	21.1	28.8	25.1	20.2	28.5	12.8
MEXICO																						
Acapulco	33.2	26.5	33.1	26.5	32.9	26.5	27.7	32.2	27.3	31.9	27.0	31.7	26.2	21.6	30.4	26.1	21.5	30.2	26.0	21.4	29.8	7.2
Merida	37.8	24.4	36.4	24.5	35.2	24.5	27.0	32.6	26.6	32.3	26.2	31.7	25.7	21.0	29.9	25.2	20.4	28.9	25.0	20.1	28.3	12.5
Mexico City	29.0	13.8	27.9	13.7	26.9	13.5	16.6	23.2	16.1	23.0	15.7	22.0	14.9	14.0	18.4	14.1	13.2	17.8	13.9	13.1	17.3	13.8
Puerto Vallarta (766010)	33.2	27.2	32.9	27.0	32.2	26.7	28.1	32.0	27.6	32.0	27.2	31.4	27.1	22.9	30.9	26.3	21.8	30.3	26.1	21.5	30.1	7.9
Tampico (765491)	33.1	26.9	32.2	26.5	32.0	26.4	28.5	31.5	27.6	31.1	27.1	30.7	27.9	24.0	30.9	26.9	22.6	30.1	26.2	21.7	29.1	6.3
Veracruz	34.2	26.6	33.2	26.7	32.8	26.6	27.7	32.8	27.2	32.1	26.8	31.7	26.2	21.7	29.7	26.1	21.5	29.6	25.8	21.1	29.4	8.3
MICRONESIA																						
Chuuk Intl/Moen Isl	31.2	26.5	31.0	26.4	30.7	26.3	27.2	30.5	27.0	30.3	26.7	30.0	26.2	21.6	29.8	25.9	21.2	29.5	25.7	21.0	29.3	4.1
MIDWAY ISLAND																						
Midway Island NAF	30.7	24.1	30.2	24.0	29.8	23.8	25.1	29.0	24.7	28.9	24.4	28.8	24.0	18.9	27.7	23.6	18.4	27.5	23.2	18.0	27.5	4.5
MOLDOVA																						
Chisinau (Kishinev)	30.2	19.6	28.7	19.1	27.3	18.4	21.1	27.4	20.1	26.6	19.3	25.6	18.9	14.0	24.2	17.9	13.1	23.1	17.0	12.4	22.1	9.1
MONGOLIA																						
Ulaanbataar	27.6	15.4	25.5	14.8	23.7	14.2	17.0	24.0	16.1	23.0	15.2	21.8	14.7	12.3	19.2	13.6	11.4	18.8	12.6	10.7	17.9	9.8
Ulaangom	27.9	16.1	26.3	15.5	24.8	14.9	17.3	25.5	16.4	24.4	15.7	23.0	14.4	11.5	20.2	13.3	10.7	20.2	12.4	10.0	19.1	10.7
MOROCCO																						
Al Hoceïma	30.5	22.8	29.1	22.5	27.9	22.5	25.0	27.8	24.4	27.1	23.9	26.6	24.2	19.1	26.9	23.6	18.5	26.3	23.0	17.8	25.6	6.2

Table 3A Heating and Wind Design Conditions—World Locations

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Casablanca	601550	33.57N	7.67W	62	100.58	8293	5.7	6.7	9.4	8.0	7.1	10.4	14.4	8.4	14.5	2.3	180	3.4	360	35.2	2.8	3.3	1.3
Casablanca/Nouasser	601560	33.37N	7.58W	206	98.87	8293	3.1	4.2	10.2	9.0	8.1	11.5	13.7	9.1	13.7	0.7	160	5.9	340	41.9	1.0	2.2	0.7
Midelt	601950	32.68N	4.73W	1515	84.40	8293	-1.7	-0.6	14.3	12.2	10.4	18.5	7.7	12.4	7.1	2.7	260	4.1	200	35.4	-4.1	0.7	1.2
Ouarzazate	602650	30.93N	6.90W	1140	88.36	8293	0.4	1.5	14.4	12.0	9.9	13.1	12.2	9.9	10.7	0.8	320	5.4	240	39.1	-1.9	0.6	0.9
Oujda	601150	34.78N	1.93W	470	95.80	8293	1.0	2.2	13.3	11.4	9.9	13.7	12.3	12.0	13.0	1.6	240	6.6	360	41.0	-1.5	1.5	1.2
Safi	601850	32.28N	9.23W	45	100.79	8293	5.4	6.4	9.4	8.3	7.5	9.0	14.9	7.9	14.4	3.1	60	5.2	20	40.9	3.0	2.9	1.3
Tanger	601010	35.73N	5.90W	21	101.07	8293	4.8	5.9	19.3	16.7	14.2	18.5	13.1	15.0	14.0	1.8	100	10.6	80	37.2	2.1	2.1	1.8
NETHERLANDS																							
Amsterdam	62400	52.30N	4.77E	-2	101.35	8293	-8.3	-6.0	13.8	12.1	10.7	15.5	8.4	13.7	6.7	5.0	70	4.9	70	30.0	-8.9	1.9	4.6
Beek	63800	50.92N	5.78E	116	99.94	8293	-10.0	-7.0	12.1	10.6	9.4	13.3	7.1	11.7	6.1	4.6	60	3.7	40	32.1	-10.6	2.1	4.7
De Bilt	62600	52.10N	5.18E	4	101.28	8293	-9.1	-6.5	8.7	7.6	6.8	9.5	6.6	8.4	5.7	3.1	50	3.7	70	30.7	-10.2	2.0	4.5
Eindhoven	63700	51.45N	5.42E	22	101.06	8293	-9.0	-6.2	11.0	9.5	8.5	12.2	6.8	10.3	6.7	3.3	40	4.1	50	31.8	-10.3	2.0	4.4
Gilze/Rijen	63500	51.57N	4.93E	13	101.17	8293	-9.7	-6.9	10.4	9.1	8.1	12.1	7.8	10.3	5.7	3.8	20	4.3	70	31.4	-10.5	1.8	4.1
Groningen	62800	53.13N	6.58E	4	101.28	8293	-10.1	-7.6	12.4	10.9	9.6	13.8	7.1	12.2	6.5	3.0	50	3.9	100	30.8	-11.7	1.8	4.3
Leeuwarden	62700	53.22N	5.75E	2	101.30	8293	-8.8	-6.7	13.0	11.4	10.0	14.4	5.9	12.9	6.2	3.4	80	4.7	80	29.3	-10.5	1.3	4.1
Rotterdam	63440	51.95N	4.45E	-4	101.37	8293	-8.3	-5.9	13.3	11.9	10.6	14.9	6.8	13.1	6.9	4.1	50	4.4	90	30.2	-9.2	1.9	3.7
NETHERLANDS ANTILLES																							
Willemstad	789880	12.20N	68.97W	67	100.52	8293	23.3	23.9	10.4	10.0	9.4	10.4	27.5	9.9	27.4	4.6	100	7.9	80	35.3	21.8	1.8	0.7
NEW CALEDONIA																							
Noumea	915920	22.27S	166.45E	72	100.46	8293	16.1	16.7	12.2	10.8	9.9	11.4	20.2	10.3	20.0	2.9	60	5.3	80	34.0	14.5	1.6	1.1
NEW ZEALAND																							
Auckland	931190	37.02S	174.80E	6	101.25	8293	1.8	2.8	13.7	12.4	11.2	14.5	11.9	12.7	11.9	4.6	240	5.9	20	29.6	1.7	7.6	1.2
Christchurch	937800	43.48S	172.55E	34	100.92	8293	-2.2	-1.2	12.0	10.4	9.4	10.9	8.7	9.4	8.7	0.6	280	7.0	300	33.2	-4.0	6.0	0.7
Taiaroa Head	938960	45.77S	170.73E	76	100.42	8293	3.1	3.7	23.1	20.5	17.8	23.2	6.8	20.6	6.5	8.3	240	7.8	320	25.3	1.6	1.8	0.8
Wellington (934340)	934360	41.33S	174.80E	7	101.24	8293	1.8	2.0	18.7	16.8	14.9	17.9	9.9	15.3	10.1	6.3	10	7.7	360	28.7	1.9	8.0	1.2
NIGER																							
Agadez	610240	16.97N	7.98E	502	95.44	8293	10.3	11.7	14.3	12.2	10.4	15.7	21.5	14.3	21.9	3.1	100	4.8	120	45.2	4.5	2.4	4.4
Niamey	610520	13.48N	2.17E	227	98.63	8293	15.5	16.8	10.1	8.7	7.5	10.5	22.8	9.6	23.2	2.8	40	3.7	40	44.4	11.1	1.7	2.5
NORWAY																							
Bergen	13110	60.30N	5.22E	50	100.73	8293	-9.0	-6.8	11.7	10.2	8.9	13.3	5.1	12.1	4.3	1.5	60	3.5	240	25.7	-11.1	1.5	4.0
Bodo	11520	67.27N	14.37E	13	101.17	8293	-12.8	-10.8	16.9	14.7	13.1	19.8	-0.1	17.6	-2.1	8.6	80	5.0	100	24.2	-13.1	2.2	2.6
Oslo/Fornebu	14880	59.90N	10.62E	17	101.12	8293	-18.0	-14.9	8.5	7.4	6.5	9.6	4.6	8.4	3.9	0.7	360	3.3	180	29.5	-18.6	3.1	4.8
Oslo/Gardermoen	13840	60.20N	11.08E	204	98.90	8293	-22.0	-18.9	8.9	7.8	6.8	9.9	2.1	8.5	1.3	1.1	30	3.3	180	28.0	-23.5	2.5	5.7
Stavanger	14150	58.88N	5.63E	9	101.22	8293	-10.3	-7.9	13.3	11.7	10.4	13.6	3.3	12.1	4.0	1.5	150	5.2	320	26.1	-11.8	1.9	4.1
Svinoy (Lgt-H)	12050	62.33N	5.27E	41	100.83	8293	-2.5	-1.4	23.5	21.1	18.9	25.8	7.6	22.3	5.6	6.2	140	5.6	150	21.2	-4.6	2.3	2.7
Tromsø	10250	69.68N	18.92E	10	101.20	8293	-14.2	-12.5	13.5	11.9	10.3	15.3	2.2	13.5	1.5	1.1	170	3.4	180	24.1	-15.8	1.4	2.0
Trondheim	12710	63.47N	10.93E	17	101.12	8293	-18.1	-14.2	12.3	10.4	8.8	14.4	2.4	12.1	3.4	3.8	120	4.4	260	28.4	-19.1	1.8	4.5
Utsira	14030	59.30N	4.88E	56	100.65	8293	-4.8	-2.8	21.6	19.4	17.5	21.7	3.8	20.1	2.7	6.1	90	5.0	120	22.2	-8.2	1.9	10.1
OMAN																							
Masqat	412560	23.58N	58.28E	15	101.14	8293	16.1	17.0	9.0	7.8	6.8	8.2	23.4	7.2	22.8	2.1	200	5.0	340	46.6	11.0	1.3	4.6
Salalah	413160	17.03N	54.08E	20	101.08	8293	17.4	18.3	9.5	8.3	7.3	12.5	21.1	10.4	22.6	4.4	20	5.2	200	38.4	10.9	2.8	5.6
Thamarit	413140	17.67N	54.03E	445	96.09	8293	9.0	10.8	14.4	13.3	12.2	9.5	22.0	8.4	21.4	3.1	160	4.8	340	43.9	5.8	1.5	1.5
Tur'at Masirah	412880	20.67N	58.90E	19	101.10	8293	17.1	18.4	12.0	10.9	10.1	11.0	19.0	9.6	20.1	6.3	300	5.7	210	41.2	11.8	1.5	5.3
PANAMA																							
Panama	788060	8.92N	79.60W	16	101.13	8293	22.8	22.9	7.5	6.5	5.7	6.8	27.0	5.3	27.8	0.8	10	5.2	10	37.0	19.7	2.5	5.4
Tocumen	787920	9.05N	79.37W	11	101.19	8293	19.8	20.2	7.2	6.3	5.5	5.9	26.9	5.2	27.4	0.2	300	4.3	30	35.7	14.7	1.8	6.3
PARAGUAY																							
Asuncion	862180	25.27S	57.63W	101	100.12	8293	4.9	6.9	10.2	9.0	8.1	11.0	21.4	9.6	20.6	1.0	180	6.2	360	39.6	1.6	2.4	1.5
PERU																							
Arequipa	847520	16.32S	71.55W	2520	74.50	8293	5.3	6.1	11.7	9.4	8.0	13.7	12.3	11.8	12.0	2.8	30	6.3	240	26.3	1.3	1.9	1.9
Cuzco	846860	13.55S	71.98W	3249	67.92	8293	-0.2	0.9	10.8	8.8	6.7	9.9	16.7	7.4	17.1	0.0	90	2.0	330	25.0	-2.5	2.0	1.4
Iquitos	843770	3.75S	73.25W	126	99.82	8293	19.0	20.1	8.6	5.9	4.7	7.3	25.0	5.2	25.5	1.1	170	1.7	330	36.8	11.8	1.8	10.1
Lima	846280	12.00S	77.12W	13	101.17	8293	13.9	14.5	10.6	9.1	8.0	9.4	16.9	8.2	17.3	1.9	170	5.9	170	30.5	9.9	1.2	3.4
Pisco	846910	13.75S	76.28W	7	101.24	8293	11.9	12.8	11.1	9.5	8.3	10.1	18.4	8.4	18.2	0.3	90	5.0	210	31.4	8.3	2.2	3.5
Talara	843900	4.57S	81.25W	90	100.25	8293	15.8	16.0	20.6	18.6	14.7	20.7	18.0	18.7	18.5	9.8	150	6.6	190	34.0	12.8	1.8	4.3
PHILIPPINES																							
Angeles, Clark AFB	983270	15.18N	120.55E	196	98.99	8293	19.8	20.8	6.5	5.4	4.8	5.9	28.4	5.3	27.9	2.2	10	3.1	990	37.4	18.2	1.1	1.2
Baguio	983280	16.42N	120.60E	1501	84.55	8293	11.3	12.3	9.9	6.8	5.3	6.3	18.5	5.4	18.1	1.3	90	1.6	140	33.9	9.6	3.0	0.9
Cebu/Mandaue	986460	10.30N	123.97E	24	101.04	8293	22.9	23.4	8.1	6.8	6.1	8.3	27.5	7.5	27.5	2.3	40	4.0	40	36.6	19.2	1.8	5.7
Olongapo	984260	14.80N	120.27E	17	101.12	8293	21.0	21.9	9.2	8.0	7.0	9.2	29.3	8.3	28.7	1.7	70	4.7	70	37.7	19.3	2.4	1.4
Manila, Aquino Apt	984290	14.52N	121.00E	21	101.07	8293	20.4	21.5	18.2	16.1	14.1	17.8	28.4	15.9	28.5	0.7	90	9.5	90	37.0	6.2	1.0	7.9
POLAND																							
Bialystok	122950	53.10N	23.17E	151	99.52	8293	-20.1	-16.2	8.1	7.1	6.1	8.2	-2.5	7.1	-1.2	0.9	310	2.8	180	30.5	-20.5	2.0	6.2
Gdansk	121500	54.38N	18.47E	138	99.68	8293	-17.2	-12.9	13.7	11.7	10.1	14.2	4.9	12.1	2.5	0.8	130	5.1	10	30.2	-18.7	2.9	6.1
Katowice	125600	50.23N	19.03E	284	97.96	8293	-15.9	-12.6	8.5	7.6	6.8	9.7	4.4	8.7	3.3	1.1	20	3.4	250	31.5	-18.8	1.6	5.3
Kielce	125700	50.82N	20.70E	261	98.23	8293	-18.5	-14.7	9.1	7.9	7.0	9.3	-0.5	8.3	0.7	1.9	60	3.2	190	31.1	-20.6	1.6	5.9
Kolobrzeg	121000	54.18N	15.58E	5	101.26	8293	-12.2	-8.7	8.1	7.2	6.4	8.3	3.4	7.4	2.3	2.3	110	2.5					

[illegible]

MDB = mean coincident dry-bulb temp., °C
MWB = mean coincident wet-bulb temp., °C

MWS = mean coincident wind speed, m/s
StdD = standard deviation, °C

HR = humidity ratio, grams of moisture per kilogram of dry air
A = airport DP = dew-point temperature, °C

Table 3A Heating and Wind Design Conditions—World Locations

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							Dry Bulb		Speed, m/s			0.4%		1%		99.6%		99%		Mean DB		StdD DB	
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Krakow	125660	50.08N	19.80E	237	98.51	8293	-18.2	-14.4	9.0	8.1	7.3	10.6	4.8	8.9	2.3	1.3	60	2.5	240	31.7	-19.6	1.8	5.2
Lodz	124650	51.73N	19.40E	188	99.09	8293	-16.8	-13.0	10.0	8.8	7.8	10.7	3.4	9.1	0.9	2.3	90	3.6	130	33.2	-17.9	2.2	6.2
Lublin	124950	51.22N	22.40E	240	98.47	8293	-18.8	-14.9	9.2	8.1	7.3	9.4	-1.7	8.4	-1.0	2.2	180	2.3	220	30.9	-18.9	1.4	5.9
Poznan	123300	52.42N	16.83E	92	100.22	8293	-15.9	-11.7	9.8	8.3	7.4	10.4	1.8	8.8	1.4	1.3	90	3.4	220	33.4	-16.3	2.1	6.2
Przemysl	126950	49.80N	22.77E	280	98.01	8293	-17.2	-13.8	10.4	9.3	8.5	12.2	1.2	10.3	0.4	2.4	270	2.7	250	30.2	-19.0	1.0	5.5
Snezka	125100	50.73N	15.73E	1613	83.39	8293	-19.5	-16.6	35.6	30.5	27.7	38.1	-6.9	35.0	-6.7	16.1	340	5.6	200	21.2	-19.6	1.9	5.3
Suwalki	121950	54.13N	22.95E	186	99.11	8293	-20.7	-16.8	11.7	9.3	8.2	11.9	2.0	9.6	-0.9	1.5	20	3.3	300	30.3	-20.7	2.2	4.9
Szczecin	122050	53.40N	14.62E	3	101.29	8293	-13.7	-10.3	9.9	8.6	7.6	10.2	5.3	9.0	3.3	2.0	40	3.9	220	32.4	-14.0	2.4	6.1
Torun	122500	53.03N	18.58E	72	100.46	8293	-17.0	-13.0	7.5	6.5	5.8	7.3	2.2	6.6	1.1	1.9	30	3.1	110	32.9	-17.6	1.6	6.4
Warsaw	123750	52.17N	20.97E	107	100.05	8293	-17.5	-13.4	10.8	9.4	8.4	11.3	-0.4	10.0	0.9	2.1	90	3.9	150	32.7	-17.8	2.1	6.2
Wroclaw	124240	51.10N	16.88E	121	99.88	8293	-16.7	-12.4	9.3	8.1	7.2	10.0	5.7	8.6	3.9	1.8	110	3.5	170	33.3	-17.9	1.9	6.0
PORTUGAL																							
Beja	85620	38.02N	7.87W	247	98.39	8293	2.1	3.4	9.7	8.6	7.8	10.1	12.7	8.7	11.6	3.3	90	4.4	180	40.1	0.1	1.2	1.7
Braganca	85750	41.80N	6.73W	692	93.28	8293	-3.6	-2.4	10.0	8.4	7.3	10.5	3.1	8.8	5.9	1.1	180	3.5	240	36.0	-5.8	1.4	2.0
Coimbra	85490	40.20N	8.42W	140	99.65	8293	1.9	3.2	9.8	7.6	6.4	10.2	12.3	8.3	11.9	1.8	180	2.8	310	38.5	0.0	1.2	1.2
Evora	85570	38.57N	7.90W	321	97.53	8293	2.7	4.0	10.2	9.0	8.2	10.4	10.0	9.0	9.1	4.7	320	3.4	300	38.0	0.8	1.4	1.9
Faro	85540	37.02N	7.97W	4	101.28	8293	4.8	5.9	10.5	9.3	8.3	11.3	14.0	9.7	13.9	2.3	20	4.8	110	36.1	2.1	1.5	2.1
Lisbon	85360	38.78N	9.13W	123	99.86	8293	4.0	5.1	10.2	9.1	8.2	9.9	12.8	8.4	12.9	2.0	50	4.9	330	38.6	1.4	1.7	1.4
Portalegre	85710	39.28N	7.42W	590	94.44	8293	1.3	2.7	10.5	9.0	8.1	10.8	9.1	9.6	8.2	4.7	290	3.7	240	36.8	-1.0	1.5	1.8
Porto	85450	41.23N	8.68W	73	100.45	8293	1.8	2.9	10.6	9.2	8.1	11.6	12.4	10.0	12.2	3.2	90	4.0	330	35.0	-1.0	1.3	1.4
Viana Do Castelo	85430	41.70N	8.80W	18	101.11	8293	0.4	1.5	8.3	7.1	6.0	9.0	12.7	7.6	13.1	0.5	50	2.6	160	36.2	-1.5	1.3	1.0
PUERTO RICO																							
Cieba, Roosevelt Rds	785350	18.25N	65.63W	12	101.18	8293	20.2	21.1	7.8	7.1	6.4	8.1	26.1	7.4	26.3	0.8	330	4.8	80	34.4	18.8	2.3	0.6
San Juan	785260	18.43N	66.00W	19	101.10	8293	20.3	20.8	8.3	7.6	7.1	8.4	27.0	7.7	27.0	1.3	190	5.4	170	34.7	13.6	1.2	12.4
QATAR																							
Ad Dawhah	411700	25.25N	51.57E	10	101.20	8293	10.3	11.6	11.2	9.9	8.8	9.5	18.5	8.5	18.0	3.2	290	6.9	350	46.2	6.1	1.0	3.9
ROMANIA																							
Bucharest	154200	44.50N	26.13E	91	100.24	8293	-13.5	-10.2	9.0	7.8	6.9	8.8	-2.3	7.9	-1.7	1.3	250	2.2	230	36.1	-16.8	2.1	3.6
Cluj-Napoca	151200	46.78N	23.57E	413	96.46	8293	-15.6	-13.5	9.0	7.5	6.1	8.4	-0.2	6.5	-1.3	0.9	270	2.6	140	32.2	-19.8	1.9	3.3
Constanta	154800	44.22N	28.63E	14	101.16	8293	-9.7	-7.1	13.8	11.8	10.3	15.8	-1.6	13.8	1.3	5.2	360	3.7	180	32.8	-11.8	3.0	3.4
Craiova	154500	44.23N	23.87E	195	99.00	8293	-12.3	-9.6	14.2	10.3	8.6	13.7	-1.3	10.1	3.1	2.2	270	1.9	180	36.3	-15.2	2.1	4.7
Galati	153100	45.50N	28.02E	72	100.46	8293	-13.7	-10.9	12.0	9.5	8.6	12.3	-4.0	10.0	-2.7	3.9	20	3.7	230	34.5	-15.6	2.0	3.0
Omul Mountain	152800	45.45N	25.45E	2509	74.60	8293	-25.0	-21.7	39.7	33.6	24.1	40.1	-13.4	39.6	-13.4	14.8	230	2.8	230	22.9	-27.5	7.6	5.8
Satu Mare	150100	47.78N	22.88E	124	99.84	8293	-17.8	-14.4	9.6	8.3	7.1	10.2	0.3	8.7	0.6	0.9	90	2.4	230	34.0	-20.2	2.2	4.3
Timisoara	152470	45.77N	21.25E	88	100.27	8293	-12.7	-9.9	8.7	7.4	6.3	8.0	0.5	6.9	1.0	1.7	360	2.5	200	36.2	-16.5	1.6	4.3
RUSSIA																							
Abakan	298650	53.75N	91.40E	245	98.42	8293	-33.9	-31.1	10.3	9.0	7.6	9.9	-7.6	8.6	-7.9	0.3	350	2.2	50	32.9	-35.4	2.0	3.5
Aldan	310040	58.62N	125.37E	682	93.40	8293	-40.6	-38.1	6.3	5.4	4.8	6.3	-18.9	5.4	-18.3	0.7	200	2.3	180	29.8	-42.8	1.0	3.3
Aleksandrovsk-Sahal	320610	50.90N	142.17E	31	100.95	8293	-27.2	-25.1	13.9	11.9	10.0	15.8	-14.4	12.9	-7.8	3.0	130	5.5	220	26.9	-29.8	2.5	2.7
Anadyr'	255630	64.78N	177.57E	62	100.58	8293	-38.5	-36.7	21.5	18.0	15.0	23.4	-12.0	21.0	-9.8	6.1	320	4.2	140	22.7	-39.1	3.0	2.7
Apuka	259560	60.45N	169.58E	8	101.23	8293	-27.7	-25.8	17.3	14.9	13.2	19.7	-11.0	17.6	-12.4	6.5	60	5.4	270	20.1	-31.0	2.1	2.7
Arkhangel'sk	225500	64.53N	40.47E	13	101.17	8293	-34.1	-30.3	7.5	6.5	5.8	8.2	-5.4	7.1	-5.2	0.9	130	2.8	140	29.6	-35.7	2.7	4.4
Armavir	370310	44.98N	41.12E	160	99.42	8293	-15.3	-12.5	10.2	8.3	6.8	10.5	-0.8	9.4	0.2	1.0	140	2.5	90	35.9	-20.4	2.5	3.2
Astrakhan'	348800	46.27N	48.03E	18	101.11	8293	-18.4	-15.7	11.8	9.5	8.5	12.0	-5.7	9.9	-5.6	3.0	270	4.9	90	37.7	-21.6	2.5	5.1
Barnaul	298380	53.40N	83.70E	252	98.33	8293	-29.6	-26.7	12.9	10.4	9.1	14.1	-8.2	11.7	-7.2	3.1	170	4.1	60	33.0	-31.7	3.9	5.1
Blagoveshchensk	315100	50.25N	127.50E	137	99.69	8293	-32.8	-30.5	8.7	7.5	6.2	7.9	-15.6	6.4	-17.2	0.7	310	3.1	180	32.8	-35.2	2.1	2.8
Borzya	309650	50.38N	116.52E	684	93.37	8293	-38.1	-35.7	11.4	9.7	8.3	8.4	-18.3	7.1	-21.2	1.4	80	4.3	150	31.6	-41.0	1.8	2.7
Bratsk	303090	56.07N	101.83E	489	95.59	8293	-35.4	-32.9	9.7	7.8	6.7	8.3	-13.7	6.7	-13.9	1.3	280	3.3	130	30.3	-37.5	2.2	4.4
Bryansk	268980	53.33N	34.23E	217	98.75	8293	-22.1	-19.3	10.4	9.1	8.2	11.1	-1.5	9.3	-4.3	3.0	110	4.5	220	30.0	-24.4	1.7	3.8
Chelyabinsk	286420	55.30N	61.53E	227	98.63	8293	-28.3	-26.2	12.8	10.8	9.3	12.9	-8.6	11.2	-9.4	3.1	340	5.2	190	32.3	-30.4	2.4	3.3
Cherepovets	271130	59.12N	37.93E	131	99.76	8293	-31.5	-27.4	9.8	8.2	6.9	10.1	-3.2	9.0	-4.9	0.9	20	2.9	170	28.8	-35.3	1.7	5.1
Chita	307580	52.02N	113.33E	685	93.36	8293	-35.9	-33.7	10.8	9.5	8.3	9.4	-12.3	7.7	-13.0	0.0	310	3.5	210	32.2	-37.9	1.9	1.9
Dudinka	230740	69.40N	86.17E	19	101.10	8293	-45.4	-42.5	14.4	12.1	10.3	12.9	-18.1	10.6	-18.8	2.5	100	4.4	60	28.0	-48.2	2.7	2.5
Egvekinot	253780	66.35N	179.12W	26	101.01	8293	-36.6	-33.7	15.5	13.4	11.6	18.5	-17.0	16.2	-17.4	0.7	190	3.6	160	24.1	-37.9	5.2	3.7
Groznyy	372350	43.35N	45.68E	162	99.39	8293	-14.8	-12.4	10.5	9.2	8.0	11.2	-2.3	9.6	-1.9	1.3	270	4.2	90	35.6	-19.1	2.3	2.6
Habarovsk/Novy	317350	48.52N	135.17E	72	100.46	8293	-																

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Krakov	29.2	20.4	27.2	19.3	25.2	18.2	21.2	27.9	20.1	26.0	19.2	24.4	18.9	14.1	24.2	18.0	13.3	22.8	17.1	12.6	21.6	10.9
Lodz	28.7	19.0	26.7	18.2	25.1	17.4	20.1	26.7	19.1	25.2	18.3	23.6	17.9	13.1	22.1	16.9	12.3	21.8	16.1	11.7	20.9	10.4
Lublin	27.6	19.6	25.9	18.9	24.2	17.8	20.5	26.5	19.5	24.8	18.5	23.2	18.4	13.7	23.5	17.5	12.9	22.0	16.7	12.2	21.1	10.0
Poznan	29.2	18.8	27.2	18.0	25.7	17.4	20.2	26.9	19.2	25.5	18.2	23.7	18.0	13.1	22.1	17.0	12.3	21.6	16.0	11.5	20.3	10.9
Przemysl	27.5	19.6	25.9	18.8	24.4	18.0	20.7	26.0	19.7	24.7	18.7	23.2	18.7	14.0	23.6	17.8	13.2	22.0	17.0	12.5	21.2	8.3
Snezka	17.5	12.9	15.7	12.1	14.3	11.3	13.9	16.3	12.7	14.7	11.8	13.9	12.9	11.3	14.7	11.8	10.5	13.7	10.9	9.9	12.8	4.4
Suwalki	26.8	18.7	24.9	18.2	23.3	17.2	20.1	25.1	19.1	23.6	17.9	22.3	18.3	13.5	23.0	17.2	12.6	21.3	16.2	11.8	20.2	10.3
Szczecin	28.5	19.5	26.6	18.8	24.8	18.0	20.8	26.5	19.7	25.0	18.7	23.6	18.9	13.7	23.6	17.8	12.8	22.2	16.8	12.0	21.1	9.4
Torun	28.8	19.3	26.9	18.2	25.2	17.5	20.3	26.4	19.3	25.2	18.4	23.9	18.2	13.2	22.0	17.1	12.3	21.4	16.1	11.5	20.9	10.2
Warsaw	29.0	19.7	27.0	19.0	25.2	17.9	21.0	27.6	19.9	25.3	18.9	24.3	18.9	13.9	24.2	17.9	13.0	22.5	17.0	12.3	21.4	11.0
Wroclaw	29.0	19.5	27.2	18.8	25.5	17.9	20.6	27.2	19.6	25.6	18.7	24.2	18.3	13.4	22.9	17.3	12.5	21.8	16.5	11.9	21.5	10.6
PORTUGAL																						
Beja	37.0	20.9	35.1	20.2	33.3	19.6	21.6	34.6	21.0	33.1	20.3	31.4	18.1	13.4	23.2	17.2	12.7	23.1	16.6	12.2	22.7	16.4
Braganca	33.3	18.4	31.3	17.9	29.6	17.4	19.5	31.1	18.7	29.6	18.0	28.1	15.8	12.2	22.2	15.0	11.6	21.1	14.3	11.1	20.8	13.5
Coimbra	33.9	21.2	31.5	20.6	29.3	20.0	22.3	31.3	21.4	29.7	20.6	28.2	19.3	14.3	26.3	18.6	13.7	24.4	18.0	13.2	23.3	11.9
Evora	35.7	19.9	33.7	19.1	31.8	18.7	20.7	32.5	20.1	30.9	19.4	29.7	17.8	13.3	21.3	17.1	12.7	21.6	16.4	12.1	20.8	13.1
Faro	31.9	20.3	30.1	20.2	29.0	20.3	22.9	27.6	22.2	26.8	21.6	26.4	21.4	16.1	25.1	20.8	15.5	24.8	20.0	14.7	24.2	9.5
Lisbon	34.1	20.7	32.0	20.2	29.9	19.8	22.7	30.8	21.7	28.4	20.9	27.4	20.2	15.1	24.4	19.8	14.7	24.5	18.9	13.9	23.7	10.5
Portalegre	34.6	19.1	32.7	18.5	31.0	17.8	19.9	31.7	19.3	30.5	18.7	29.4	16.7	12.8	20.8	15.9	12.1	20.8	15.2	11.6	20.4	10.8
Porto	30.1	19.4	28.0	19.1	25.9	18.3	20.8	27.2	20.1	25.6	19.4	23.8	19.1	14.0	22.0	18.3	13.3	20.9	18.0	13.1	20.6	9.6
Viana Do Castelo	32.0	21.3	30.0	20.5	27.9	19.7	22.0	30.4	21.2	28.4	20.4	26.5	19.5	14.3	24.6	18.9	13.7	23.1	18.3	13.2	22.3	10.4
PUERTO RICO																						
Cieba, Roosevelt Rds	32.2	25.4	31.9	25.3	31.2	25.0	26.9	30.5	26.5	30.4	26.1	30.1	26.1	21.5	29.4	25.2	20.4	28.9	25.0	20.1	28.9	5.6
San Juan	33.2	25.0	32.2	25.4	31.7	25.4	27.0	30.9	26.6	30.5	26.3	30.3	25.7	21.0	29.3	25.5	20.8	29.1	25.2	20.4	28.8	6.8
QATAR																						
Ad Dawhah	43.0	21.9	41.9	22.1	40.8	22.3	30.5	34.7	29.9	34.1	29.4	33.8	29.4	26.3	33.2	29.0	25.7	33.0	28.2	24.4	33.1	10.8
ROMANIA																						
Bucharest	33.0	22.0	31.2	21.2	29.9	20.7	23.6	30.5	22.6	29.4	21.7	28.3	21.9	16.8	25.7	20.8	15.6	24.8	19.9	14.8	23.7	13.3
Cluj-Napoca	29.2	20.2	27.5	19.5	26.0	18.6	21.4	26.8	20.3	25.5	19.4	24.5	19.8	15.3	24.1	18.6	14.1	22.6	17.7	13.3	21.5	11.4
Constanta	28.5	22.0	27.3	22.0	26.2	21.4	24.0	26.4	23.1	25.9	22.3	25.3	23.2	18.0	25.6	22.2	16.9	25.0	21.4	16.1	24.2	6.8
Craiova	33.2	23.5	31.5	22.6	29.9	21.8	24.8	31.4	23.6	29.9	22.6	28.5	22.9	18.1	28.6	21.7	16.8	26.8	20.7	15.7	25.9	12.2
Galati	31.6	22.0	30.1	21.3	28.7	20.7	23.4	29.1	22.4	28.3	21.5	26.7	21.7	16.5	26.6	20.6	15.4	24.9	19.7	14.5	24.0	11.2
Omul Mountain	14.2	10.1	12.5	9.1	11.1	8.3	11.2	13.3	10.0	11.7	9.0	10.5	10.2	10.6	12.0	9.2	9.9	11.0	8.2	9.2	9.7	6.2
Satu Mare	31.2	21.4	29.5	20.8	27.9	20.0	22.5	29.6	21.5	28.2	20.6	26.7	20.2	15.1	25.6	19.3	14.3	24.6	18.4	13.5	23.4	12.9
Timisoara	33.1	21.0	31.2	20.3	29.5	19.7	21.9	30.4	21.1	29.2	20.4	27.9	19.4	14.3	23.8	18.7	13.7	23.2	17.9	13.0	22.7	12.8
RUSSIA																						
Abakan	29.6	18.0	27.7	17.4	25.8	16.7	19.7	27.1	18.8	25.1	18.0	23.9	17.4	12.8	21.6	16.5	12.1	21.0	15.6	11.4	20.4	10.5
Aldan	27.2	16.3	25.2	15.5	23.3	14.9	17.6	24.9	16.7	23.1	15.8	21.5	15.3	11.8	19.7	14.3	11.0	18.9	13.3	10.3	18.6	10.2
Aleksandrovsk-Sahal	23.2	17.7	21.6	17.2	20.2	16.3	19.2	22.0	18.1	20.5	17.1	19.3	18.1	13.1	20.8	17.0	12.2	19.5	16.1	11.5	18.4	6.3
Anadyr'	18.5	13.6	16.6	12.7	14.9	11.4	14.1	17.6	13.0	16.0	11.8	14.4	12.2	8.9	15.8	11.2	8.3	14.7	10.2	7.8	13.3	5.4
Apuka	16.0	12.6	14.6	11.9	13.4	11.3	13.3	15.3	12.4	14.0	11.6	13.0	12.2	8.9	13.9	11.5	8.5	13.3	10.7	8.0	12.5	4.7
Arkhangel'sk	26.0	18.5	24.1	17.4	22.2	16.7	19.6	24.2	18.5	23.0	17.3	21.1	17.9	12.9	22.3	16.7	11.9	20.5	15.5	11.0	19.6	9.4
Armavir	32.3	20.8	30.5	20.3	29.0	19.8	22.8	28.6	21.8	27.8	21.0	27.0	20.9	15.9	26.3	19.8	14.8	24.8	18.9	14.0	23.8	12.1
Astrakhan'	34.3	21.4	32.7	20.8	31.3	20.2	23.4	30.4	22.3	29.2	21.5	28.5	21.4	16.1	26.1	20.3	15.0	25.4	19.3	14.1	24.5	10.8
Barnaul	29.2	18.8	27.4	17.9	25.8	17.4	20.2	26.8	19.3	25.3	18.4	24.1	18.0	13.3	22.7	17.1	12.6	22.0	16.2	11.9	21.0	9.4
Blagoveshchensk	29.9	20.8	28.3	20.3	26.7	19.7	23.0	27.2	22.0	25.7	21.1	24.9	21.7	16.6	25.1	20.7	15.6	24.2	19.8	14.8	23.2	9.2
Borzya	28.3	17.0	26.5	16.8	24.9	16.5	19.7	24.7	18.7	23.8	17.8	22.7	17.8	13.9	22.4	16.9	13.1	21.3	16.0	12.4	20.3	10.6
Bratsk	27.1	17.3	25.2	16.4	23.6	16.1	18.9	24.3	17.9	23.3	17.0	21.9	16.9	12.8	21.1	15.9	12.0	20.4	14.9	11.2	19.7	9.2
Bryansk	27.1	18.9	25.4	18.2	23.9	17.6	20.2	24.7	19.3	23.9	18.4	23.0	18.6	13.8	22.4	17.6	12.9	21.6	16.7	12.2	20.4	8.1
Chelyabinsk	29.4	19.1	27.6	18.5	25.9	17.7	20.4	26.9	19.5	25.7	18.7	24.2	18.2	13.5	23.1	17.4	12.8	22.0	16.5	12.1	21.3	9.2
Cherepovets	26.2	19.4	24.6	18.3	23.0	17.2	20.5	25.0	19.1	23.1	18.1	22.0	18.9	13.9	23.1	17.7	12.9	21.2	16.5	11.9	20.0	10.1
Chita	28.8	18.5	26.8	17.3	25.0	16.3	20.0	26.2	18.7	24.6	17.8	22.9	17.9	14.0	23.1	16.8	13.0	21.2	15.8	12.2	19.8	11.4
Dudinka	24.7	16.5	22.2	15.6	19.7	14.2	17.7	22.6	16.2	20.9	14.8	19.3	15.5	11.0	20.6	13.9	9.9	19.1	12.6	9.1	17.0	8.0
Egvekinot	18.0	11.9	15.8	11.0	14.1	10.1	12.8	16.4	11.5	15.3	10.6	13.4	10.7	8.0	13.9	9.8	7.6	12.2	9.0	7.2	11.2	5.1
Groznyy	32.9	21.4	31.3	20.7	29.8	20.1	22.7	30.6	21.9	28.9	21.1	27.7	20.4	15.4	25.9	19.6	14.6	25.0	19.0	14.1	24.1	10.3
Habarovsk/Novy	30.1	21.2	28.3	20.8	26.7	19.9	22.9	27.2	22.0	26.2	21.1	25.4	21.6	16.4	24.7	20.7	15.5	24.2	19.7	14.5	23.0	9.0
Irkutsk	27.0	17.3	25.3	1																		

Table 3A Heating and Wind Design Conditions—World Locations

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Kurgan	286610	55.47N	65.40E	79	100.38	8293	-31.6	-28.6	12.5	10.1	8.4	13.4	-7.0	12.1	-6.7	2.4	30	4.3	200	33.6	-34.8	2.1	4.2
Kursk	340090	51.73N	36.27E	210	98.83	8293	-22.7	-19.6	12.0	9.8	8.4	12.9	-7.5	11.3	-4.9	2.3	360	4.2	90	31.2	-25.4	1.3	5.6
Kyakhta	309250	50.37N	106.45E	801	92.07	8293	-29.4	-27.9	8.3	6.4	5.3	5.3	-14.4	4.1	-14.3	0.1	150	2.5	180	32.6	-31.8	1.8	1.9
Magadan	259130	59.58N	150.78E	118	99.92	8293	-28.7	-26.0	10.0	8.8	7.7	10.5	-7.7	9.2	-9.2	0.6	50	3.9	270	23.0	-29.7	3.3	4.5
Magnitogorsk	288380	53.35N	59.08E	382	96.82	8293	-28.5	-25.9	10.3	9.4	7.7	11.0	-14.5	10.1	-12.2	0.6	30	4.2	170	33.9	-31.4	3.0	2.0
Markovo	255510	64.68N	170.42E	33	100.93	8293	-47.5	-45.2	8.0	6.5	5.5	8.2	-12.0	6.7	-13.4	0.2	200	2.2	180	27.4	-50.3	1.6	3.5
Moscow	276120	55.75N	37.63E	156	99.46	8293	-23.1	-20.1	7.8	6.4	5.6	8.3	-3.5	7.3	-5.9	1.5	20	2.0	210	30.1	-25.8	1.8	3.0
Moscow, Vnukovo	275185	55.65N	37.27E	203	98.91	8293	-24.0	-21.1	10.3	9.2	8.2	12.2	-2.9	10.3	-2.7	2.6	10	4.1	240	29.8	-26.7	1.9	3.1
Murmansk	221130	68.97N	33.05E	51	100.71	8293	-28.7	-24.4	12.1	10.7	9.6	13.3	-2.7	11.9	-3.1	4.6	210	4.3	150	26.9	-28.4	2.0	5.7
Nikolayevsk	313690	53.15N	140.70E	68	100.51	8293	-33.1	-30.8	9.8	8.5	7.8	11.9	-8.1	8.4	-16.8	1.6	290	4.7	120	29.3	-35.2	2.1	2.5
Nikolskoe/Beringa	326180	55.20N	165.98E	6	101.25	8293	-11.0	-9.4	17.8	15.4	13.7	19.2	-3.0	17.3	-2.3	6.1	360	4.6	170	17.1	-12.6	2.5	2.2
Nizhniy Novgorod	275530	56.22N	43.82E	82	100.34	8293	-27.2	-23.8	9.3	8.3	7.3	9.9	-7.8	8.6	-4.5	1.8	350	4.1	150	31.6	-30.4	1.8	3.2
Nizhniy Tagil	282400	57.88N	60.07E	258	98.26	8293	-32.2	-28.9	7.4	6.7	5.9	8.3	-16.1	7.0	-17.4	2.4	20	3.6	250	30.9	-34.6	1.9	4.2
Novokuznetsk	298460	53.73N	87.18E	308	97.68	8293	-30.8	-27.4	13.0	10.5	9.2	14.7	-6.8	12.4	-8.0	1.8	340	3.1	150	31.3	-32.2	1.8	4.3
Novosibirsk	296340	55.03N	82.90E	177	99.22	8293	-31.7	-28.4	11.9	10.1	8.7	12.4	-7.1	11.1	-7.7	3.0	220	4.5	180	31.5	-33.7	2.5	4.8
Nyurbra	246390	63.28N	118.33E	129	99.78	8293	-52.9	-50.1	7.6	6.4	5.4	6.0	-22.7	5.3	-25.2	0.8	20	2.9	20	33.2	-54.2	5.0	3.3
Olekminsk	249440	60.40N	120.42E	226	98.64	8293	-47.7	-44.7	7.4	6.3	5.4	6.6	-19.3	5.4	-18.8	1.0	90	2.8	90	32.9	-49.0	2.6	3.7
Omsk	286980	54.93N	73.40E	123	99.86	8293	-31.3	-27.9	11.2	9.4	8.2	11.7	-8.5	9.8	-8.8	3.0	210	4.5	120	33.7	-33.4	2.4	3.7
Orel	279060	53.00N	36.03E	203	98.91	8293	-23.5	-19.9	11.8	10.0	8.8	12.5	-5.1	10.3	-4.0	3.0	360	4.5	280	30.7	-25.6	1.5	4.1
Orenburg	351210	51.78N	55.22E	109	100.02	8293	-27.7	-24.8	12.1	10.4	9.2	13.1	-7.4	11.6	-7.0	2.2	260	4.8	160	36.4	-31.1	2.4	2.5
Ozernaja	325940	51.48N	156.48E	29	100.98	8293	-15.3	-13.7	19.7	16.1	13.7	20.3	-2.1	17.1	-3.2	5.0	80	7.1	90	19.2	-18.7	2.8	1.7
Penza	279620	53.13N	45.02E	174	99.25	8293	-25.5	-22.8	12.2	10.2	8.9	13.3	-7.5	11.7	-4.9	2.5	220	4.9	130	33.1	-29.2	2.7	3.1
Perm'	282250	58.02N	56.30E	172	99.28	8293	-30.9	-27.6	9.2	7.9	7.0	9.6	-8.8	8.2	-8.6	2.5	280	4.5	200	32.0	-33.4	2.3	3.7
Petropavlovsk-Kamca	325400	52.97N	158.75E	24	101.04	8293	-14.8	-13.2	13.3	11.3	9.5	13.6	-4.4	12.0	-5.3	3.7	360	3.7	330	24.2	-18.0	2.0	1.7
Petrozavodsk	228200	61.82N	34.27E	112	99.99	8293	-28.3	-24.1	7.4	6.5	5.9	7.9	-2.9	7.2	-4.2	1.7	90	2.7	290	28.1	-28.4	1.4	5.8
Pskov	262580	57.80N	28.42E	42	100.82	8293	-24.9	-20.1	8.9	7.5	6.5	10.0	-0.7	8.5	-0.9	1.1	150	2.8	130	29.4	-25.5	2.2	5.0
Rostov-Na-Donu	347310	47.25N	39.82E	77	100.40	8293	-16.9	-14.9	13.7	11.9	10.2	15.8	-2.2	14.0	-6.6	4.8	80	5.1	110	34.1	-19.5	1.9	2.7
Rubtsovsk	360340	51.50N	81.22E	215	98.77	8293	-32.2	-29.1	14.0	12.2	10.3	14.6	-6.5	13.3	-4.8	1.8	360	3.6	30	35.3	-34.0	2.0	4.3
Ryazan'	277310	54.62N	39.72E	170	99.30	8293	-23.5	-20.9	9.7	8.0	6.8	10.3	-4.5	9.1	-4.7	2.8	310	3.3	140	31.1	-26.3	1.4	3.4
Rybinsk	272250	58.00N	38.83E	114	99.96	8293	-28.4	-24.7	9.1	8.1	7.2	9.5	-6.4	8.5	-4.9	2.3	320	3.5	210	29.4	-31.0	1.6	4.4
Samara (Kuybyshev)	289000	53.25N	50.45E	44	100.80	8293	-27.1	-24.7	11.0	9.6	8.1	10.5	-5.9	9.7	-6.5	1.0	320	3.4	110	33.8	-30.4	2.3	2.3
Saratov	341720	51.57N	46.03E	156	99.46	8293	-22.4	-20.3	12.2	10.2	9.0	12.9	-2.0	11.1	-6.0	5.8	300	4.7	70	33.0	-25.1	2.1	2.0
Smolensk	267810	54.75N	32.07E	241	98.46	8293	-22.7	-19.8	7.9	6.7	5.9	7.5	0.6	6.7	-1.4	2.6	280	2.8	230	28.9	-24.6	1.8	3.5
Sochi	371710	43.45N	39.90E	16	101.13	8293	-2.5	-1.2	8.4	7.1	6.3	10.1	6.2	8.3	6.6	3.4	70	3.4	270	30.9	-5.6	1.5	2.1
St Petersburg	260630	59.97N	30.30E	4	101.28	8293	-22.6	-18.9	8.3	7.0	6.2	10.3	0.0	8.4	-0.7	1.2	40	2.6	180	29.0	-24.0	2.0	4.7
Svobodnyy	314450	51.45N	128.12E	197	98.98	8293	-37.3	-34.7	7.7	6.6	6.0	6.9	-18.6	6.1	-19.5	0.6	290	3.2	180	32.4	-40.8	2.0	2.8
Syktyvkar	238040	61.72N	50.83E	119	99.90	8293	-35.5	-31.6	8.6	7.6	6.6	9.0	-7.2	8.0	-7.8	1.6	10	3.0	140	30.3	-37.9	1.8	4.0
Tambov	279470	52.73N	41.47E	139	99.67	8293	-25.1	-22.3	11.8	10.1	9.1	12.9	-4.0	10.3	-2.9	2.1	360	4.2	140	33.5	-28.7	2.8	3.9
Tayshet	295940	55.95N	98.00E	302	97.75	8293	-36.9	-33.7	8.4	7.3	6.3	8.2	-9.0	6.8	-10.0	0.8	330	3.1	40	31.4	-39.5	1.7	3.8
Ufa	287220	54.75N	56.00E	105	100.07	8293	-31.2	-27.7	10.3	9.0	7.9	11.4	-5.2	10.0	-7.3	1.5	140	3.7	50	33.8	-34.2	3.6	3.6
Ulan Ude	308230	51.80N	107.43E	510	95.35	8293	-35.9	-33.8	14.5	12.1	10.2	10.3	-15.7	7.4	-14.3	0.1	50	3.6	20	33.0	-38.5	2.2	2.3
Urup Island	321860	46.20N	150.50E	70	100.49	8293	-11.1	-10.0	20.4	17.7	15.6	22.5	-4.1	20.2	-4.7	10.5	320	4.8	180	21.5	-11.8	2.1	1.8
Ust'ilimsk	301170	58.03N	102.73E	402	96.59	8293	-40.1	-37.4	8.9	7.8	6.9	8.6	-12.4	7.6	-12.4	4.0	300	3.1	170	30.8	-43.2	1.4	6.1
Ust-Kamcask	324080	56.22N	162.47E	27	101.00	8293	-30.6	-27.7	13.1	11.0	9.7	15.3	-2.7	12.9	-3.7	2.5	360	3.9	180	24.5	-34.4	4.5	2.5
Vladimir	275320	56.13N	40.38E	170	99.30	8293	-26.6	-23.3	9.8	8.6	7.8	10.3	-5.9	9.3	-5.9	3.0	10	4.1	210	30.1	-29.5	1.7	4.2
Vladivostok	319600	43.12N	131.90E	184	99.13	8293	-22.1	-20.2	15.5	13.7	12.2	14.8	-15.7	13.5	-15.5	9.4	360	4.4	240	29.8	-24.5	1.3	3.1
Volgograd	3																						

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Kurgan	30.5	19.3	28.5	19.1	26.7	18.3	21.0	28.0	20.2	26.7	19.3	25.1	18.7	13.7	23.8	17.8	12.9	22.8	17.0	12.2	22.1	10.4
Kursk	28.6	19.2	26.9	18.7	25.3	18.2	20.7	25.8	19.8	25.1	18.9	23.8	18.9	14.1	23.4	17.8	13.1	22.4	16.9	12.4	21.4	9.5
Kyakhta	28.2	16.8	26.4	16.2	24.7	15.5	18.5	25.3	17.5	24.2	16.6	22.7	16.2	12.7	20.7	15.1	11.8	20.0	14.1	11.1	19.2	10.0
Magadan	18.2	12.7	16.3	11.9	15.0	11.1	13.7	16.5	12.8	15.1	12.1	14.0	12.4	9.1	14.2	11.8	8.7	13.4	11.1	8.3	13.0	5.4
Magnitogorsk	29.7	18.5	27.7	17.7	26.0	16.9	20.0	26.8	18.9	25.5	18.0	24.5	17.6	13.2	23.0	16.5	12.3	22.0	15.5	11.5	21.0	10.5
Markovo	24.5	15.9	22.4	15.1	20.3	14.0	16.8	22.9	15.6	21.3	14.5	19.3	14.2	10.1	19.2	13.0	9.4	17.4	12.0	8.8	16.5	10.2
Moscow	27.6	19.3	26.0	18.6	24.5	17.8	20.5	25.6	19.5	24.6	18.6	22.9	18.6	13.7	22.9	17.7	12.9	22.1	16.8	12.2	21.2	8.2
Moscow, Vnukovo	27.1	18.8	25.2	18.5	24.0	17.2	20.1	25.2	19.2	24.2	18.2	23.0	18.2	13.4	23.2	17.2	12.6	20.6	16.2	11.8	20.2	9.1
Murmansk	23.6	15.1	21.1	14.0	18.9	13.2	16.2	21.4	15.0	19.9	13.9	18.3	13.9	10.0	18.0	12.6	9.1	17.1	11.6	8.6	15.7	6.8
Nikolayevsk	25.7	19.3	24.1	18.5	22.6	17.6	20.3	24.4	19.2	22.7	18.2	21.9	18.7	13.6	22.6	17.8	12.9	21.5	16.8	12.1	20.2	8.6
Nikolskoe/Beringa	14.0	12.4	12.9	11.8	12.1	11.1	12.7	13.5	11.9	12.7	11.2	12.1	12.2	8.9	13.3	11.5	8.4	12.3	10.7	8.0	11.8	2.5
Nizhniy Novgorod	28.5	19.5	26.8	18.8	25.1	17.8	21.0	26.7	19.9	25.0	18.9	23.6	19.1	14.0	23.8	18.0	13.1	22.2	17.0	12.2	21.6	9.7
Nizhniy Tagil	28.4	18.5	26.6	17.9	24.7	17.2	20.0	25.8	19.0	24.4	18.0	23.1	18.0	13.3	22.2	17.1	12.6	21.4	16.1	11.8	20.0	10.2
Novokuznetsk	28.3	18.0	26.7	17.9	25.0	17.3	20.0	26.2	19.0	24.9	18.1	23.3	17.9	13.3	22.5	16.9	12.5	21.7	16.0	11.8	20.9	9.9
Novosibirsk	28.6	19.0	26.8	18.0	25.2	17.4	20.5	26.0	19.6	24.8	18.6	23.2	18.8	13.9	22.3	17.8	13.0	21.4	16.8	12.2	21.0	9.4
Nyurba	29.0	18.7	26.8	17.8	24.5	16.3	20.2	26.9	18.8	24.8	17.4	22.8	18.0	13.1	22.8	16.6	12.0	21.4	15.1	10.9	19.9	12.7
Olekminsk	29.7	18.5	27.4	17.6	25.1	16.6	19.7	27.2	18.6	25.3	17.5	23.3	17.1	12.5	21.8	16.0	11.7	22.1	15.0	10.9	20.2	11.2
Omsk	30.7	18.9	28.9	18.0	27.2	17.5	20.3	27.7	19.4	26.8	18.5	25.3	17.7	12.9	23.1	16.8	12.2	22.3	15.9	11.5	21.3	10.7
Orel	28.0	18.9	26.4	18.8	24.9	17.8	20.4	25.9	19.5	24.7	18.6	23.6	18.5	13.7	22.8	17.5	12.8	22.1	16.6	12.1	21.2	9.2
Orenburg	33.2	18.9	31.1	18.3	29.3	17.7	20.3	29.4	19.6	28.2	18.9	26.8	17.7	12.9	22.5	16.8	12.1	22.0	15.9	11.4	21.5	11.6
Ozernaja	15.6	13.4	14.2	12.5	13.1	11.5	13.9	15.4	12.8	13.9	12.0	12.8	13.2	9.5	14.7	12.2	8.9	13.4	11.4	8.4	12.7	3.3
Penza	29.7	18.6	27.9	18.0	26.2	17.4	20.6	27.2	19.6	25.4	18.6	24.1	18.3	13.5	23.3	17.5	12.8	22.1	16.6	12.1	21.1	10.4
Perm'	29.0	19.4	27.1	18.5	25.0	17.9	20.6	26.7	19.6	25.7	18.6	23.8	18.4	13.6	24.1	17.4	12.7	22.4	16.5	12.0	21.0	8.9
Petropavlovsk-Kamca	20.7	15.4	18.9	14.2	17.3	13.2	16.0	20.0	14.7	18.3	13.7	16.7	14.2	10.1	18.0	12.9	9.3	15.9	12.1	8.8	14.8	5.3
Petrozavodsk	24.8	17.9	23.0	16.9	21.3	15.8	19.1	23.2	17.9	21.5	16.7	20.3	17.6	12.8	21.1	16.3	11.7	19.7	15.2	10.9	18.6	7.6
Pskov	26.7	19.1	25.2	17.9	23.6	17.3	20.3	24.7	19.1	23.6	18.1	22.4	18.6	13.5	22.6	17.4	12.5	21.0	16.3	11.6	20.4	9.1
Rostov-Na-Donu	31.4	20.8	29.9	20.2	28.5	19.7	22.3	29.2	21.5	27.6	20.7	26.4	20.1	14.9	25.3	19.3	14.2	24.4	18.6	13.6	24.0	10.3
Rubtsovsk	30.6	19.2	28.9	18.7	27.3	17.9	20.7	27.0	19.9	26.2	19.1	25.0	18.8	14.0	22.7	17.9	13.2	21.8	16.9	12.4	21.4	11.2
Ryazan'	28.4	19.6	26.6	18.7	25.0	17.8	20.8	26.4	19.8	25.2	18.8	23.6	18.8	13.9	23.6	17.9	13.1	22.2	17.0	12.4	21.5	8.3
Rybinsk	26.6	19.9	24.8	18.6	23.1	17.7	20.6	25.6	19.5	23.4	18.5	22.2	18.7	13.7	23.0	17.8	12.9	22.0	17.0	12.3	20.8	7.2
Samara (Kuybyshev)	31.3	19.8	29.3	19.3	27.6	18.7	22.0	28.8	20.9	27.3	19.8	25.6	19.6	14.4	25.0	18.5	13.4	24.5	17.4	12.5	22.9	11.4
Saratov	30.5	18.7	28.9	18.5	27.4	17.8	20.7	27.7	19.8	26.5	19.0	25.4	18.2	13.4	23.6	17.4	12.7	22.9	16.6	12.0	22.5	8.4
Smolensk	26.0	19.1	24.6	18.1	23.1	17.0	20.0	24.6	19.0	23.3	18.1	22.0	18.3	13.6	22.5	17.4	12.8	21.4	16.4	12.0	20.3	8.4
Sochi	28.1	22.9	27.3	22.7	26.5	22.2	24.1	27.0	23.5	26.5	22.9	25.8	23.2	18.0	26.4	22.5	17.2	25.6	21.8	16.5	25.2	7.5
St Petersburg	26.3	18.4	24.6	17.6	23.0	16.7	19.7	24.4	18.7	23.1	17.7	21.8	17.9	12.9	22.1	16.8	12.0	20.8	15.9	11.3	19.8	7.5
Svobodnyy	29.4	19.6	27.9	19.4	26.2	18.7	22.0	26.4	21.0	25.1	20.1	24.3	20.6	15.6	24.1	19.6	14.7	23.0	18.7	13.9	22.3	10.4
Sykt'yvkar	28.1	19.1	25.9	18.4	23.8	16.8	20.4	26.4	19.3	24.6	18.1	22.7	18.3	13.4	23.5	17.2	12.5	21.9	16.2	11.7	20.2	9.5
Tambov	29.9	19.5	28.2	18.8	26.5	18.0	21.1	27.7	20.0	25.5	19.1	24.9	18.7	13.8	23.9	17.9	13.1	22.6	17.0	12.3	21.6	10.3
Tayshet	28.2	17.5	26.3	17.4	24.6	16.9	19.6	25.5	18.7	24.2	17.8	22.8	17.6	13.1	22.4	16.7	12.3	21.0	15.7	11.6	20.2	10.7
Ufa	30.3	19.2	28.4	19.0	26.6	18.4	21.2	27.5	20.2	26.6	19.3	25.3	19.0	14.0	24.5	17.9	13.0	22.9	17.0	12.3	22.0	10.6
Ulan Ude	29.3	17.3	27.5	16.9	25.6	16.2	19.3	25.7	18.2	24.7	17.2	23.6	16.9	12.8	22.1	15.9	12.0	21.2	14.9	11.3	19.8	11.5
Urup Island	17.3	15.1	15.5	14.1	14.1	13.1	15.8	16.7	14.4	15.2	13.2	13.9	15.5	11.1	16.2	14.1	10.1	14.6	12.8	9.3	13.4	5.1
Ust'ilimsk	28.0	17.2	25.8	16.5	24.0	15.9	19.0	24.2	18.0	23.4	16.9	22.6	17.2	12.9	21.1	15.9	11.9	20.3	14.7	11.0	19.2	11.2
Ust-Kamcatsk	19.3	14.1	17.2	13.2	15.6	12.3	14.8	17.9	13.7	16.4	12.9	15.0	13.2	9.5	15.8	12.4	9.0	14.8	11.7	8.6	13.9	5.9
Vladimir	27.7	19.5	25.8	18.7	24.1	17.5	20.6	25.9	19.6	24.6	18.6	23.0	18.7	13.8	23.5	17.7	13.0	21.8	16.8	12.2	21.0	8.5
Vladivostok	25.8	20.4	24.0	19.4	22.4	19.0	22.2	24.0	21.2	22.6	20.3	21.5	21.6	16.6	23.0	20.7	15.7	22.0	19.8	14.8	21.0	4.8
Volgograd	32.5	18.6	30.9	18.4	29.3	18.0	20.7	29.1	19.9	27.5	19.1	26.4	18.1	13.3	23.0	17.4	12.7	22.5	16.5	12.0	22.5	10.5
Vologda	2><																					

Table 3A Heating and Wind Design Conditions—World Locations

							Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							Dry Bulb		Speed, m/s			0.4%		1%		99.6%		0.4%		Mean DB		StdD DB	
Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Khamis Mushayt	411140	18.30N	42.80E	2054	78.96	8293	4.3	6.1	9.2	8.2	7.2	9.7	16.1	8.9	16.1	0.8	150	4.5	30	36.2	1.8	3.8	2.3
Makkah	410300	21.48N	39.83E	310	97.66	8293	15.2	16.8	6.4	5.4	4.8	6.7	25.1	5.6	25.4	1.6	20	3.4	300	47.5	11.7	1.1	2.4
Qasim	404050	26.30N	43.77E	650	93.76	8293	2.7	4.0	9.3	8.1	7.0	8.8	15.8	7.4	13.8	0.8	30	3.7	90	45.9	-0.1	2.1	1.8
Rafha	403620	29.63N	43.48E	447	96.07	8293	0.4	1.9	11.3	9.9	8.8	10.8	12.1	9.7	13.2	1.8	270	4.0	300	46.3	-2.6	1.5	1.5
Riyadh	404380	24.72N	46.72E	612	94.19	8293	5.1	6.8	9.9	8.5	7.5	9.2	15.6	8.0	15.5	1.6	320	4.8	360	46.0	1.9	0.8	1.5
Tabuk	403750	28.37N	36.63E	770	92.41	8293	1.1	2.6	11.0	9.1	7.5	11.0	15.5	9.0	15.4	1.1	110	4.5	270	41.8	-1.3	1.2	1.3
Turayf	403560	31.68N	38.67E	813	91.93	8293	-1.9	-0.1	11.2	9.9	8.8	11.4	7.7	10.0	7.8	2.8	270	4.2	270	40.9	-4.0	1.3	1.9
Yanbu'al Bahr	404390	24.15N	38.07E	1	101.31	8293	10.9	12.1	11.4	10.2	9.2	11.0	22.1	9.8	22.5	1.5	10	7.7	270	45.8	8.6	1.0	1.1
SENEGAL																							
Dakar	616410	14.73N	17.50W	24	101.04	8293	16.2	16.8	10.3	9.4	8.5	10.3	20.8	9.4	20.8	4.5	360	4.3	360	37.9	12.3	2.2	4.3
Saint Louis	616000	16.05N	16.45W	4	101.28	8293	15.3	16.2	10.1	9.0	8.2	10.2	24.6	8.8	24.7	3.2	40	5.0	80	42.4	11.5	1.6	2.0
Tambacounda	616870	13.77N	13.68W	50	100.73	8293	17.0	18.2	7.5	6.5	5.6	7.7	27.9	7.2	27.3	1.5	80	2.8	100	43.1	11.9	1.8	3.8
Ziguinchor	616950	12.55N	16.27W	23	101.05	8293	16.2	17.2	6.3	5.2	4.4	6.8	27.5	5.5	27.2	0.6	40	2.8	60	41.3	12.5	0.5	4.1
SINGAPORE																							
Singapore	486980	1.37N	103.98E	16	101.13	8293	22.8	23.1	8.0	7.2	6.3	8.2	28.5	7.6	28.7	2.0	330	4.7	30	33.9	18.3	1.1	6.7
SLOVAKIA																							
Bratislava	118160	48.20N	17.20E	130	99.77	8293	-13.0	-10.0	9.2	8.0	7.1	10.1	1.4	8.6	2.5	1.5	50	3.5	160	34.3	-15.2	1.6	4.9
Chopok Mountain	119160	48.93N	19.58E	2012	79.38	8293	-21.1	-19.2	23.4	20.7	18.7	27.4	-14.2	24.7	-14.2	13.1	330	4.7	180	17.1	-22.0	1.1	3.6
Kosice	119680	48.70N	21.27E	232	98.57	8293	-13.5	-11.3	12.9	11.0	9.4	13.5	-6.0	11.4	-3.7	3.9	350	3.5	180	31.8	-15.7	1.4	3.7
Lomnický Stit (Peak)	119300	49.20N	20.22E	2635	73.42	8293	-24.3	-22.3	23.1	19.8	17.1	26.5	-18.1	22.9	-16.5	10.4	310	2.5	180	14.7	-24.9	1.4	3.3
Zilina	118410	49.23N	18.62E	315	97.60	8293	-16.8	-13.6	7.9	6.7	5.6	8.4	2.8	6.8	-0.6	1.7	70	3.2	250	31.7	-19.7	1.2	3.9
SLOVENIA																							
Ljubljana	130140	46.22N	14.48E	385	96.78	8293	-13.0	-10.4	6.2	5.1	4.2	5.5	1.0	4.4	1.4	0.5	290	3.1	130	33.7	-16.2	2.5	3.2
SOUTH AFRICA																							
Bloemfontein	684420	29.10S	26.30E	1348	86.15	8293	-3.5	-2.2	10.6	9.3	8.3	9.2	12.7	8.2	14.2	0.5	220	5.4	270	36.6	-5.6	1.4	1.7
Cape Town	688160	33.98S	18.60E	42	100.82	8293	3.6	4.9	14.5	13.0	11.8	13.7	14.1	12.4	14.2	0.1	40	5.2	170	34.5	1.3	1.6	0.8
Durban	685880	29.97S	30.95E	8	101.23	8293	10.0	11.1	11.9	10.4	9.2	10.6	21.0	9.2	20.5	0.3	340	6.3	30	40.0	7.6	1.2	1.1
Johannesburg	683680	26.13S	28.23E	1700	82.50	8293	1.0	2.8	9.6	8.5	7.6	8.7	12.7	7.9	12.3	4.1	210	4.1	300	31.6	-1.6	1.0	1.7
Marion Island	689940	46.88S	37.87E	22	101.06	8293	-0.9	-0.1	26.7	23.7	21.1	26.3	3.1	23.0	5.9	7.6	200	9.6	290	20.1	-4.6	5.0	2.4
Port Elizabeth	688420	33.98S	25.60E	60	100.61	8293	6.3	7.5	14.6	12.9	11.5	13.7	14.7	12.4	15.5	0.9	270	4.3	290	35.9	3.5	2.1	1.2
Pretoria	682620	25.73S	28.18E	1322	86.42	8293	3.9	5.1	6.4	5.4	4.7	5.8	15.9	5.0	15.2	0.5	220	1.9	270	34.7	1.6	1.6	1.1
SPAIN																							
Barcelona	81810	41.28N	2.07E	6	101.25	8293	0.1	1.6	9.2	7.8	6.9	9.5	10.0	8.2	9.1	3.7	350	4.0	210	32.0	-2.0	1.6	1.9
Granada	84190	37.18N	3.78W	559	94.79	8293	-3.9	-2.4	9.2	8.0	7.0	9.0	9.6	7.4	9.6	0.1	230	5.3	180	39.6	-7.0	0.9	2.8
La Coruna	80010	43.37N	8.42W	67	100.52	8293	3.9	5.2	12.2	10.3	9.1	13.1	11.8	11.5	11.7	2.7	140	3.2	60	30.1	1.6	1.7	1.5
Madrid	82210	40.45N	3.55W	582	94.53	8293	-4.5	-3.1	10.0	8.7	7.5	10.1	8.1	8.4	8.2	0.2	360	3.4	240	38.9	-6.8	1.0	1.7
Malaga	84820	36.67N	4.48W	7	101.24	8293	3.8	4.9	12.1	10.3	9.0	14.4	12.9	12.6	13.1	4.4	320	5.6	320	39.5	0.7	1.8	1.7
Palma	83060	39.55N	2.73E	8	101.23	8293	-0.5	0.8	10.2	9.1	8.1	10.6	12.1	9.3	12.3	0.2	60	4.6	60	37.2	-3.3	1.8	1.2
Salamanca	82020	40.95N	5.50W	795	92.13	8293	-5.2	-4.0	11.9	10.0	8.6	12.6	7.9	10.6	7.2	0.6	80	3.3	300	36.4	-7.9	1.2	2.5
Santander	80230	43.47N	3.82W	65	100.55	8293	2.3	4.0	10.6	8.4	7.0	12.3	10.6	10.2	10.6	2.1	110	3.1	40	33.0	1.2	2.2	1.4
Santiago De Compostela	80420	42.90N	8.43W	367	96.99	8293	-1.2	0.1	9.6	8.3	7.3	10.4	10.3	9.3	9.7	1.4	90	2.9	280	36.2	-4.2	2.3	2.2
Sevilla	83910	37.42N	5.90W	31	100.95	8293	1.2	2.8	9.0	7.9	6.8	9.1	12.9	7.9	12.6	1.1	30	3.4	240	42.9	-1.2	1.5	1.7
Valencia	82840	39.50N	0.47W	62	100.58	8293	0.9	2.2	12.2	10.1	8.4	14.6	14.1	12.0	13.5	1.9	280	5.3	120	37.6	-1.5	2.2	1.5
Zaragoza	81605	41.67N	1.05W	263	98.21	8293	-2.2	-0.9	12.5	10.8	9.6	13.0	7.6	11.4	9.2	2.3	10	3.1	90	38.3	-4.0	5.7	2.6
SWEDEN																							
Goteborg, Landvetter	25260	57.67N	12.30E	169	99.31	8293	-16.2	-12.1	11.4	10.1	9.1	12.2	3.6	10.9	2.7	4.0	40	4.0	310	28.5	-16.4	2.3	5.4
Goteborg, Save	25120	57.78N	11.88E	53	100.69	8293	-16.1	-12.2	12.1	10.7	9.5	12.6	4.8	11.1	3.9	2.1	50	4.1	290	27.9	-16.2	1.7	5.1
Jonkoping	25500	57.77N	14.08E	232	98.57	8293	-20.0	-15.1	11.2	9.9	8.9	12.0	5.1	10.5	3.6	3.1	30	4.5	50	28.5	-21.9	2.6	5.7
Kalmar	26720	56.73N	16.30E	16	101.13	8293	-15.0	-12.0	12.2	10.4	9.5	12.3	5.1	11.4	5.1	2.6	270	4.9	270	29.1	-15.9	2.5	3.9
Karlsborg	25440	58.52N	14.53E	102	100.11	8293	-16.5	-12.9	12.0	10.4	9.1	13.3	3.4	11.5	3.1	4.7	50	2.9	190	27.1	-16.0	2.1	5.6
Karlstad	24180	59.37N	13.47E	55	100.67	8293	-20.6	-17.3	10.0	8.8	8.0	11.6	3.4	10.3	3.4	1.8	350	3.8	200	27.2	-20.5	2.0	5.5
Kiruna	20440	67.82N	20.33E	452	96.01	8293	-30.2	-27.0	11.8	10.2	8.9	13.3	-1.9	11.6	-2.4	2.0	210	4.3	190	24.2	-32.3	1.3	3.0
Malmo	26360	55.55N	13.37E	106	100.06	8293	-13.9	-10.1	13.4	12.0	10.8	14.0	2.8	12.6	2.3	3.8	340	5.2	140	27.8	-13.3	1.9	5.4
Ostersund/Froso	22260	63.18N	14.50E	370	96.96	8293	-25.8	-21.6	11.9	10.2	8.8	15.6	1.0	12.3	0.1	1.2	320	3.0	280	26.5	-27.4	1.7	5.2
Soderhamn	23760	61.27N	17.10E	36	100.89	8293	-21.4	-17.8	9.8	8.4	7.5	10.6	1.2	9.4	-1.4	2.7	290	4.6	130	28.8	-21.4	1.6	4.2
Stockholm, Arlanda	24600	59.65N	17.95E	61	100.59	8293	-18.9	-15.2	10.5	9.3	8.2	12.4	2.6	10.5	2.2	2.0	350	3.7	180	29.1	-18.5	1.9	5.7
Stockholm, Bromma	24640	59.35N	17.95E	11	101.19	8293	-18.3	-15.0	9.4	8.3	7.4	9.1	2.6	8.2	2.5	1.8	320	3.9	200	28.7	-18.4	2.1	5.4
Sundsvall	23660	62.53N	17.45E	10	101.20	8293	-25.5	-22.1	10.5	9.0	7.8	12.7	4.0	10.4	0.0	1.3	310	4.6	140	27.7	-25.5	1.7	5.2
Ungskar	26660	56.03N	15.80E	3	101.29	8293	-11.9	-8.9	18.5	16.6	15.0	19.0	1.3	17.3	2.7	5.1	20	5.4	250	23.2	-10.7	2.4	5.2
Uppsala	24580</																						

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Khamis Mushayt	31.1	13.8	30.6	13.7	30.0	13.4	19.0	24.1	18.2	23.3	17.6	23.1	17.2	15.9	21.8	16.6	15.2	21.5	15.9	14.6	21.0	12.3
Makkah	44.8	24.5	43.8	24.3	42.8	24.0	28.0	39.8	27.2	38.9	26.6	38.3	25.1	21.0	33.9	24.2	19.9	34.3	23.5	19.0	34.3	15.1
Qasim	43.5	19.4	42.8	18.5	41.8	18.0	23.6	35.9	21.2	35.6	19.9	36.8	19.9	15.8	29.1	17.0	13.1	26.4	15.1	11.6	23.7	16.3
Rafha	43.9	20.5	42.8	20.0	41.5	19.4	22.0	40.0	21.2	39.8	20.5	39.5	17.0	12.8	24.1	15.9	11.9	22.3	14.2	10.7	23.8	16.5
Riyadh	44.0	18.0	43.1	17.8	42.2	17.7	20.6	35.6	19.7	36.3	19.0	35.6	16.9	13.0	22.9	15.6	11.9	22.1	14.1	10.8	22.2	14.0
Tabuk	40.1	17.8	39.0	17.4	38.0	17.1	20.0	35.2	19.2	34.9	18.5	34.6	14.8	11.5	24.9	13.4	10.5	24.8	12.8	10.1	24.4	14.8
Turayf	38.9	17.7	37.3	17.0	36.1	16.9	20.2	33.6	19.1	32.8	18.3	32.4	15.8	12.4	25.6	14.2	11.2	24.0	13.2	10.4	23.1	15.2
Yanbu'al Bahr	42.7	24.2	41.2	24.1	39.9	24.2	28.6	35.7	27.8	35.1	27.2	34.6	27.0	22.7	32.2	26.1	21.5	31.4	25.2	20.3	31.1	14.3
SENEGAL																						
Dakar	31.8	23.4	31.0	24.9	30.2	25.1	27.0	30.2	26.6	29.5	26.2	29.0	26.2	21.7	28.8	26.0	21.4	28.6	25.5	20.8	28.4	5.4
Saint Louis	38.1	20.6	36.3	20.3	34.6	20.7	27.9	31.1	27.5	30.6	27.1	30.1	27.1	22.8	29.7	26.7	22.3	29.4	26.3	21.8	29.1	9.0
Tambacounda	40.9	21.3	40.2	21.1	39.3	21.0	27.1	32.5	26.7	31.8	26.3	31.3	25.9	21.4	29.2	25.5	20.8	28.8	25.1	20.3	28.6	12.6
Ziguinchor	38.2	22.4	36.9	21.8	35.7	22.4	28.3	32.5	27.9	32.0	27.5	31.6	27.2	23.0	31.3	26.7	22.3	30.6	26.4	21.9	30.0	15.4
SINGAPORE																						
Singapore	33.0	25.9	32.2	25.9	32.0	25.9	27.2	30.9	27.1	30.7	26.8	30.3	26.2	21.7	28.9	26.2	21.7	28.8	26.1	21.5	28.7	6.3
SLOVAKIA																						
Bratislava	31.8	20.4	30.0	20.0	28.2	19.3	21.6	29.5	20.8	28.6	19.9	26.7	19.0	14.0	25.2	18.1	13.2	24.1	17.2	12.5	23.2	12.3
Chopok Mountain	15.0	11.0	13.6	10.5	12.4	9.8	12.0	13.9	11.3	12.9	10.4	11.9	11.3	10.7	12.4	10.5	10.1	11.9	9.7	9.6	11.1	4.4
Kosice	29.6	20.1	27.9	19.4	26.2	18.6	20.9	28.3	20.1	26.7	19.2	25.1	18.3	13.6	24.5	17.6	13.0	23.2	16.8	12.3	22.4	10.7
Lomnický Stit (Peak)	11.9	8.1	10.5	7.2	9.3	6.2	9.2	10.9	8.1	9.8	7.2	8.7	8.4	9.5	10.1	7.3	8.8	8.9	6.3	8.2	8.0	4.7
Zilina	29.2	19.5	27.5	18.6	25.7	17.6	20.2	27.6	19.4	26.0	18.4	24.3	17.7	13.2	22.9	16.9	12.5	21.8	16.2	12.0	21.1	12.1
SLOVENIA																						
Ljubljana	30.1	20.0	28.3	19.2	26.9	18.5	20.9	28.4	20.0	26.8	19.2	25.8	18.2	13.7	23.2	17.6	13.2	22.5	16.9	12.6	22.3	12.4
SOUTH AFRICA																						
Bloemfontein	34.0	15.6	32.8	15.4	31.5	15.4	19.2	26.0	18.7	25.9	18.2	25.5	17.5	14.8	20.7	16.9	14.2	20.4	16.1	13.5	20.1	14.6
Cape Town	30.3	19.7	28.6	19.3	27.0	18.6	21.2	27.7	20.5	26.4	19.9	24.9	19.3	14.1	22.7	18.6	13.5	22.4	18.1	13.1	22.2	8.8
Durban	30.3	23.7	29.3	23.7	28.5	23.4	25.5	28.7	24.9	28.1	24.5	27.4	24.5	19.5	27.4	24.0	18.9	27.1	23.5	18.3	26.7	5.5
Johannesburg	29.0	15.6	27.9	15.6	26.9	15.5	18.6	24.9	18.1	24.2	17.6	23.7	16.8	14.8	20.4	16.2	14.2	19.9	15.7	13.7	19.6	10.4
Marion Island	14.0	12.0	12.7	11.3	11.8	10.6	12.6	13.5	11.7	12.4	11.0	11.5	12.2	8.9	13.0	11.4	8.4	12.0	10.7	8.0	11.3	4.5
Port Elizabeth	29.2	18.7	27.3	19.8	26.1	20.0	20.7	25.8	22.1	25.0	21.6	24.3	21.9	16.7	24.2	21.2	16.0	23.6	20.6	15.4	23.3	6.7
Pretoria	31.9	17.6	30.9	17.1	30.0	17.1	20.5	26.8	19.9	26.6	19.4	26.2	18.7	15.9	22.8	18.0	15.2	22.5	17.4	14.6	22.2	9.8
SPAIN																						
Barcelona	29.3	23.4	28.8	23.5	27.9	22.9	25.2	28.1	24.4	27.5	23.6	26.8	24.1	19.0	27.5	23.2	18.0	26.7	22.6	17.3	26.3	8.4
Granada	37.0	19.6	35.3	19.3	34.0	18.9	21.2	32.9	20.5	31.7	19.9	31.2	18.0	13.8	24.7	17.1	13.1	23.8	16.1	12.2	23.5	18.7
La Coruna	25.2	18.6	23.6	18.2	22.3	17.6	19.6	23.8	19.0	22.4	18.4	21.4	18.2	13.2	21.0	17.7	12.8	20.3	17.2	12.4	20.0	5.2
Madrid	36.0	20.7	34.7	20.0	33.1	19.6	21.9	34.4	21.0	33.0	20.1	31.6	17.8	13.7	27.5	16.8	12.9	26.6	15.8	12.0	26.0	16.2
Malaga	34.1	20.2	32.0	19.8	30.1	19.8	23.9	27.5	23.4	27.0	22.7	26.7	22.9	17.6	26.1	22.1	16.8	25.8	21.3	16.0	25.1	9.1
Palma	33.0	23.1	31.4	22.9	30.2	22.9	25.8	29.2	25.0	28.9	24.3	28.5	24.8	19.9	28.4	23.9	18.8	27.6	23.0	17.8	27.0	12.4
Salamanca	33.7	18.5	32.0	17.8	30.2	17.2	19.5	30.9	18.6	29.8	17.8	28.3	15.9	12.4	22.7	15.0	11.7	20.7	14.1	11.1	20.2	15.9
Santander	26.5	19.5	24.7	19.4	23.7	19.0	21.5	24.4	20.7	23.3	20.1	22.8	20.5	15.3	22.7	19.7	14.5	22.4	19.0	13.9	21.9	5.2
Santiago De Compostela	31.2	20.4	29.0	19.5	26.9	18.7	21.5	29.7	20.4	27.6	19.4	25.2	19.0	14.4	24.6	18.1	13.6	22.8	17.2	12.8	21.3	11.8
Sevilla	39.8	23.7	38.0	22.2	36.1	21.7	24.6	36.4	23.3	35.3	22.4	33.3	21.0	15.7	29.1	20.0	14.8	26.7	19.1	13.9	25.5	16.7
Valencia	32.2	21.9	31.0	22.1	30.0	22.1	24.7	29.2	24.1	28.5	23.6	27.8	23.2	18.1	27.1	22.9	17.8	26.9	22.1	16.9	26.4	9.2
Zaragoza	36.0	20.7	34.0	20.3	32.1	19.9	22.4	31.9	21.6	31.5	21.0	29.7	19.2	14.4	24.9	18.8	14.1	24.3	17.9	13.3	25.4	13.4
SWEDEN																						
Goteborg, Landvetter	25.8	16.6	23.9	15.8	22.0	14.8	17.7	23.5	16.7	21.6	15.8	19.9	15.9	11.5	18.7	15.0	10.9	17.7	14.1	10.2	16.7	8.3
Goteborg, Save	25.3	16.8	23.4	16.1	21.6	15.6	18.6	23.0	17.5	21.2	16.6	20.0	17.0	12.2	19.8	16.0	11.4	19.1	15.1	10.8	18.1	7.6
Jonkoping	26.1	16.2	23.9	15.4	22.0	14.6	17.5	23.4	16.6	21.6	15.7	20.2	15.9	11.6	18.3	14.9	10.9	17.5	14.0	10.3	16.7	10.9
Kalmar	26.0	17.4	24.0	16.8	22.4	15.7	18.8	24.0	17.7	22.3	16.7	20.9	17.0	12.2	20.7	15.9	11.3	19.6	14.9	10.6	18.6	10.4
Karlsborg	24.7	17.0	22.8	16.1	21.1	15.4	18.1	23.2	17.1	21.2	16.2	20.1	16.2	11.7	20.1	15.3	11.0	19.1	14.4	10.4	18.2	7.9
Karlstad	25.1	17.1	23.2	16.4	21.5	15.5	18.4	22.6	17.5	21.3	16.6	20.1	17.0	12.2	19.4	16.0	11.4	18.5	15.1	10.8		

Table 3A Heating and Wind Design Conditions—World Locations

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating Dry Bulb		Extreme Wind Speed, m/s			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
Ia	Ib	Ic	Id	Ie	If	Ig	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Lugano	67700	46.00N	8.97E	276	98.05	8293	-3.7	-2.0	7.9	6.3	5.0	7.5	7.4	5.7	7.4	1.5	360	2.8	190	32.2	-8.1	1.7	5.5
Payerne	66100	46.82N	6.95E	491	95.56	8293	-10.2	-7.2	8.1	6.8	5.8	9.1	8.2	7.9	5.8	1.7	40	3.2	230	32.1	-11.6	1.7	4.2
Saentis (Aut)	66800	47.25N	9.35E	2500	74.68	8293	-19.5	-17.1	18.5	16.0	14.2	19.8	-8.8	18.0	-8.6	6.1	260	2.9	210	17.1	-22.0	1.8	4.6
San Bernardino	67830	46.47N	9.18E	1638	83.13	8293	-14.4	-12.2	10.4	9.3	8.4	11.4	-5.4	10.4	-5.5	1.7	310	3.2	120	23.0	-17.3	1.4	4.7
Zurich	66600	47.38N	8.57E	569	94.67	8293	-10.4	-7.8	8.8	7.2	5.8	10.2	6.6	8.8	5.6	2.6	60	2.2	230	31.7	-11.5	1.5	4.4
SYRIA																							
Damascus	400800	33.42N	36.52E	605	94.27	8293	-4.1	-2.2	11.4	10.1	8.9	11.3	10.2	9.6	9.3	1.3	30	3.3	210	40.8	-7.2	1.6	2.1
TAIWAN																							
Hsinchu	467570	24.82N	120.93E	27	101.00	8293	8.6	9.8	9.7	8.1	7.0	8.4	13.8	7.4	13.0	4.1	40	3.9	270	37.3	6.8	2.4	1.7
Hualien	466990	23.98N	121.60E	19	101.10	8293	11.7	12.8	8.4	6.9	5.8	8.7	17.3	7.2	16.8	2.8	250	3.5	140	35.7	9.0	3.4	1.4
Kaohsiung	467400	22.58N	120.35E	9	101.22	8293	11.2	12.6	9.3	7.8	6.7	8.4	18.9	7.4	18.3	3.4	360	5.8	280	36.3	8.9	2.0	1.4
T'aichung	467510	24.18N	120.65E	112	99.99	8293	7.5	8.9	8.8	7.7	7.1	8.8	16.5	8.1	16.1	2.4	30	4.3	240	36.8	2.8	0.9	2.3
T'ainan (593580)	467410	23.00N	120.22E	14	101.16	8293	10.4	11.6	8.8	7.6	6.8	8.6	16.5	8.0	15.9	4.7	20	4.9	200	36.5	8.2	2.9	1.6
Taipei	466960	25.07N	121.55E	6	101.25	8293	8.8	10.0	9.0	8.0	7.3	8.5	17.2	7.9	17.2	1.8	110	5.1	290	36.7	5.7	1.5	2.1
Taipei Intl Apt	466860	25.08N	121.22E	33	100.93	8293	8.8	9.8	13.1	11.9	11.0	12.4	13.2	11.7	13.7	7.3	40	7.1	260	36.0	6.3	0.8	1.8
TAJIKISTAN																							
Dushanbe	388360	38.55N	68.78E	803	92.04	8293	-7.3	-5.1	5.6	4.4	3.5	5.7	5.2	4.2	5.7	1.1	60	1.5	270	40.7	-10.6	3.5	3.2
Khujand (Leninabad)	385990	40.22N	69.73E	428	96.29	8293	-8.4	-6.3	12.9	11.8	10.4	13.6	-0.4	12.2	0.6	6.1	240	5.0	240	40.7	-12.5	3.2	4.8
THAILAND																							
Bangkok	484560	13.92N	100.60E	12	101.18	8293	18.4	19.9	8.3	7.3	6.4	6.2	27.7	5.3	27.4	1.9	40	4.8	180	38.8	16.3	1.7	1.5
Chiang Mai	483270	18.78N	98.98E	314	97.61	8293	11.9	13.1	7.4	5.9	4.9	5.7	22.3	4.3	23.8	0.4	360	3.1	190	39.5	9.0	0.9	1.0
Chiang Rai	483030	19.92N	99.83E	395	96.67	8293	9.6	11.0	4.3	3.5	3.2	3.9	20.6	3.3	21.8	0.0	20	2.1	180	39.0	6.8	0.9	1.4
Chumphon	485170	10.48N	99.18E	5	101.26	8293	19.1	20.2	7.9	6.8	5.9	8.5	28.1	7.7	28.1	0.0	30	4.0	120	37.7	17.2	1.1	1.3
Hat Yai	485690	6.92N	100.43E	35	100.91	8293	20.9	21.8	8.1	7.1	6.2	8.3	28.5	7.3	28.5	0.2	330	3.3	240	37.7	19.6	1.1	0.8
Phetchabun	483790	16.43N	101.15E	116	99.94	8293	13.6	15.2	4.4	3.9	3.4	4.6	26.1	4.1	26.1	0.1	360	2.6	180	40.2	7.9	0.7	10.6
Phrae	483300	18.17N	100.17E	162	99.39	8293	12.9	14.3	4.3	3.5	3.2	3.3	24.7	3.0	26.3	0.2	30	2.2	240	40.6	9.1	1.1	3.2
Tak	483760	16.88N	99.15E	124	99.84	8293	14.0	15.5	8.1	6.3	5.2	3.6	26.8	3.1	26.8	0.0	270	2.1	270	40.9	11.3	0.7	1.6
TRINIDAD & TOBAGO																							
Port of Spain	789700	10.62N	61.35W	15	101.14	8293	20.1	20.9	8.4	7.8	7.2	9.0	28.9	8.2	28.8	0.1	90	5.2	90	34.4	15.8	1.1	6.5
TUNISIA																							
Bizerte	607140	37.25N	9.80E	3	101.29	8293	3.3	4.6	12.9	11.2	10.0	14.4	12.5	12.2	12.1	0.4	320	5.3	100	41.0	0.8	2.7	0.5
Gabes	607650	33.88N	10.10E	5	101.26	8293	5.8	6.8	9.1	7.4	6.6	10.0	15.1	8.3	14.1	1.9	230	4.6	250	41.9	2.5	2.8	1.9
Gafsa	607450	34.42N	8.82E	314	97.61	8293	2.1	3.5	11.8	10.3	8.8	11.5	11.2	9.5	11.4	2.4	60	3.8	240	42.6	-0.5	1.5	0.9
Kelibia	607200	36.85N	11.08E	30	100.97	8293	5.7	6.6	10.1	8.6	7.5	11.2	13.0	9.6	12.8	2.4	300	3.8	300	35.9	3.4	3.5	1.1
Qairouan (Kairouan)	607350	35.67N	10.10E	68	100.51	8293	4.4	5.5	7.4	6.3	5.5	7.2	12.4	6.0	13.7	1.0	240	3.0	180	44.0	1.4	1.7	1.6
Tunis	607150	36.83N	10.23E	4	101.28	8293	4.9	5.9	11.8	10.4	9.2	12.4	12.6	10.6	13.1	2.8	240	4.9	180	41.7	1.7	2.9	0.7
TURKEY																							
Adana	173500	37.00N	35.42E	66	100.53	8293	-0.2	1.1	8.7	7.5	6.4	9.5	8.9	8.3	9.3	2.5	30	3.5	210	39.4	-3.1	1.0	1.9
Ankara	171280	40.12N	32.98E	949	90.43	8293	-16.9	-13.1	9.2	7.9	6.9	8.7	0.6	7.3	0.8	0.4	20	3.5	270	35.0	-19.0	2.7	5.3
Erzurum	170960	39.92N	41.27E	1758	81.91	8293	-30.7	-27.4	10.5	9.8	8.8	11.7	-4.4	10.0	-5.5	0.0	310	4.3	90	31.1	-33.4	1.8	3.9
Eskisehir	171240	39.78N	30.57E	785	92.24	8293	-11.2	-9.1	8.7	7.8	6.9	8.4	-0.2	7.3	-0.5	1.4	120	3.9	320	35.3	-14.7	1.4	3.5
Istanbul	170600	40.97N	28.82E	37	100.88	8293	-3.2	-1.8	10.4	9.5	9.0	11.8	-0.1	10.1	2.8	6.2	360	5.9	60	34.9	-6.0	2.3	3.5
Izmir/Cigli (Cv/AFB)	172180	38.50N	27.02E	5	101.26	8293	-2.0	-0.8	11.6	10.2	9.2	13.7	14.0	11.7	11.7	2.7	360	6.2	350	38.3	-4.3	2.2	1.0
Malatya	172000	38.43N	38.08E	849	91.53	8293	-12.1	-9.1	10.3	9.2	7.9	11.1	-0.4	9.4	0.2	1.6	210	3.2	60	39.1	-16.1	1.4	3.6
Van	171700	38.45N	43.32E	1661	82.90	8293	-14.7	-13.0	7.2	5.6	5.0	6.9	-0.2	5.5	-0.4	1.9	90	1.4	300	32.0	-16.9	2.6	3.2
TURKMENISTAN																							
Ashgabat (Ashkhabad)	388800	37.97N	58.33E	210	98.83	8293	-6.9	-5.0	9.7	8.4	7.4	8.4	5.7	7.3	4.0	1.8	110	4.3	90	43.1	-9.7	1.4	2.2
Dashhowuz (Tashauz)	383920	41.83N	59.98E	88	100.27	8293	-14.9	-12.1	9.9	8.7	8.0	9.2	0.8	8.3	0.7	2.7	200	4.5	360	42.3	-18.2	1.0	3.3
UNITED KINGDOM & NORTHERN IRELAND																							
Aberdeen/Dyce	30910	57.20N	2.22W	65	100.55	8293	-5.7	-3.0	12.8	11.1	9.9	14.8	4.8	13.0	5.4	1.4	360	4.7	170	25.1	-10.3	1.6	4.8
Aberporth	35020	52.13N	4.57W	134	99.73	8293	-3.1	-1.5	18.3	15.9	14.4	20.8	6.7	18.6	7.5	6.4	90	5.6	130	26.6	-4.6	2.7	2.3
Aughton	33220	53.55N	2.92W	56	100.65	8293	-3.5	-2.1	11.8	10.3	9.2	13.1	6.6	11.2	6.4	3.7	130	3.9	130	27.6	-4.7	2.2	2.3
Aviemore	30630	57.20N	3.83W	220	98.71	8293	-9.4	-6.3	12.8	11.1	9.7	14.6	4.7	13.2	5.0	0.5	360	4.0	200	25.1	-12.9	5.3	4.8
Belfast	39170	54.65N	6.22W	81	100.36	8293	-2.8	-1.4	12.7	11.0	9.7	14.5	5.9	12.8	6.9	1.8	180	3.9	110	25.0	-5.7	2.1	1.9
Birmingham	35340	52.45N	1.73W	99	100.14	8293	-6.2	-4.2	10.2	9.0	8.1	11.7	6.5	10.3	6.1	1.9	70	3.9	100	28.9	-9.2	2.5	4.3
Bournemouth	38620	50.78N	1.83W	11	101.19	8293	-5.4	-3.8	12.0	10.4	9.3	13.3	9.4	11.6	8.6	1.9	20	4.4	90	28.7	-8.0	2.3	2.2
Bristol	37260	51.47N	2.60W	11	101.19	8293	-3.5	-1.7	10.5	9.2	8.0	11.9	8.4	10.2	8.3	3.4	70	3.9	90	29.2	-5.2	2.2	3.0
Camborne	38080	50.22N	5.32W	88	100.27	8293	-1.3	0.2	15.2	13.5	12.3	16.3	6.7	15.1	7.4	5.6	50	5.8	100	24.4	-2.9	2.1	3.0
Cardiff	37150	51.40N	3.35W	67	100.52	8293	-4.0	-2.2	14.0	12.3	10.9	16.9	6.9	14.6	6.6	6.2	60	4.0	60	28.5	-5.6	2.2	2.5
Edinburgh	31600	55.95N	3.35W	41	100.83	8293	-5.9	-3.8	12.5	11.0	9.8	14.7	8.3	13.2	6.8	0.7	250	4.2	250	25.9	-9.1	2.1	3.3
Exeter	38390	50.73N	3.42W	30	100.97	8293	-4.3	-2.7	12.2	10.5	9.3	14.7	8.3	12.7	7.5	3.0	40	4.4	150	27.9	-5.8	2.5	1.9
Finningley	33600	53.48N	1.00W	17	101.12	8293	-5.1	-3.3	12.4	10.7	9.6	13.9	7.3	12.2	8.1	1.8	170	4.4	150	28.9	-7.5	2.4	2.1
Glasgow	31400	55.87N	4.43W	8	101.23	8293	-6.2	-4.2	13.4	11.8	10.3	17.6	7.8	15.0	7.0	1.1	270	4.2	230	26.8	-9.6	1.9	3.1
Hemsby	34960	52.68N	1.68E	14	101.16	8293	-3.0	-1.6															

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
1	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Lugano	29.7	21.4	28.2	20.8	27.0	20.0	22.6	27.9	21.7	26.9	20.9	26.0	20.8	16.0	25.9	19.9	15.1	25.2	19.0	14.3	24.3	9.8
Payerne	28.7	19.4	27.0	18.7	25.4	18.0	20.3	27.0	19.3	25.4	18.5	24.3	17.8	13.6	23.5	17.1	13.0	22.6	16.3	12.3	21.3	11.0
Saentis (Aut)	14.1	8.5	12.6	8.0	11.5	6.8	9.8	12.4	8.9	11.2	8.1	10.4	8.8	9.6	10.5	7.9	9.0	9.6	7.0	8.5	9.0	4.3
San Bernardino	20.7	12.7	19.2	12.4	17.9	11.7	14.7	18.1	13.8	17.5	12.8	16.4	13.3	11.6	16.5	12.3	10.9	15.6	11.3	10.2	14.5	8.3
Zurich	28.1	18.8	26.4	18.1	24.8	17.3	19.7	26.5	18.9	25.0	18.1	23.3	17.5	13.4	21.8	16.8	12.8	21.1	16.1	12.3	20.5	8.9
SYRIA																						
Damascus	38.1	17.9	36.9	17.8	35.8	17.6	20.6	29.6	20.0	29.4	19.4	28.9	18.8	14.7	22.3	17.9	13.8	22.0	16.9	13.0	21.6	18.8
TAIWAN																						
Hsinchu	34.0	27.3	33.3	27.2	32.7	27.0	28.1	32.8	27.7	32.4	27.3	32.0	26.8	22.5	31.6	26.4	22.0	31.2	26.0	21.4	30.7	6.9
Hualien	32.0	26.7	31.5	26.8	31.0	26.6	27.7	31.0	27.3	30.7	27.0	30.5	26.7	22.3	30.4	26.3	21.8	30.2	25.9	21.3	30.0	5.4
Kaohsiung	33.1	26.3	32.4	26.1	32.1	26.1	27.5	31.0	27.2	30.7	26.8	30.5	26.9	22.6	29.3	26.2	21.6	29.1	26.0	21.4	29.1	6.4
T'aichung	34.2	27.7	33.8	27.6	33.0	27.4	28.9	33.1	28.4	32.8	27.9	32.3	27.8	24.2	32.4	27.1	23.2	31.9	26.8	22.7	31.5	8.4
T'ainan (593580)	33.2	27.1	32.7	27.0	32.3	26.8	28.1	31.6	27.7	31.3	27.4	31.1	27.3	23.2	30.0	26.9	22.6	29.7	26.5	22.1	29.6	5.5
Taipei	34.6	26.8	33.9	26.7	33.1	26.6	27.7	32.9	27.4	32.4	27.0	32.0	26.4	21.9	30.1	26.1	21.5	29.9	25.9	21.2	29.8	7.4
Taipei Intl Apt	34.1	26.8	33.2	26.7	32.9	26.6	27.9	32.5	27.5	32.1	27.0	31.7	26.9	22.7	30.9	26.2	21.7	30.1	25.9	21.3	30.0	7.3
TAJIKISTAN																						
Dushanbe	37.1	19.6	36.0	19.3	34.8	19.0	21.7	33.7	20.7	32.8	20.0	32.0	17.7	14.0	28.6	16.5	13.0	27.4	15.5	12.1	26.5	14.2
Khujand (Leninabad)	37.1	19.2	35.8	19.1	34.5	18.8	21.3	33.6	20.5	32.6	19.7	32.2	17.0	12.8	26.2	16.0	12.0	26.2	15.1	11.3	25.5	12.8
THAILAND																						
Bangkok	37.1	26.5	36.1	26.1	35.2	25.7	28.8	34.3	28.1	32.7	27.6	31.9	27.5	23.4	31.3	27.1	22.9	30.6	26.7	22.3	30.3	9.3
Chiang Mai	37.8	22.5	36.8	22.4	35.5	22.6	26.1	31.7	25.7	31.2	25.4	30.8	25.0	20.9	28.1	24.2	19.9	27.8	24.1	19.7	27.4	13.6
Chiang Rai	36.8	22.0	35.6	22.0	34.3	22.6	26.2	31.5	25.9	31.1	25.6	30.7	24.9	21.0	28.7	24.6	20.6	28.4	24.3	20.2	28.0	13.9
Chumphon	35.2	26.2	34.2	26.3	33.5	26.2	27.6	33.2	27.2	32.6	26.9	32.1	26.1	21.5	30.8	25.7	21.0	30.3	25.5	20.7	30.1	9.3
Hat Yai	35.0	24.9	34.2	24.9	33.9	24.9	26.7	31.6	26.6	31.5	26.2	30.9	25.9	21.3	28.5	25.3	20.5	27.9	25.2	20.4	27.8	10.0
Phetchabun	38.3	25.5	37.3	25.4	36.2	25.3	27.7	33.5	27.2	32.9	27.0	32.5	26.2	21.9	30.8	25.9	21.5	30.3	25.6	21.1	29.9	11.6
Phrae	38.6	24.6	37.4	24.8	36.3	24.5	27.3	33.1	27.0	32.5	26.7	32.2	26.0	21.8	30.0	25.6	21.3	29.7	25.3	20.9	29.4	12.3
Tak	39.1	23.2	38.1	23.5	37.1	23.3	26.7	32.2	26.3	31.7	26.1	31.3	25.4	20.9	28.6	25.1	20.5	28.5	24.7	20.0	28.2	10.4
TRINIDAD & TOBAGO																						
Port of Spain	33.0	25.1	32.2	25.0	32.0	24.9	26.6	30.6	26.3	30.3	26.1	30.1	25.7	21.0	28.5	25.2	20.4	27.9	25.1	20.2	27.8	7.9
TUNISIA																						
Bizerte	36.0	22.0	33.6	22.2	31.8	22.0	24.9	29.9	24.3	29.0	23.7	28.6	23.6	18.4	27.1	22.9	17.6	27.0	22.2	16.9	26.4	10.1
Gabes	35.6	21.9	33.1	22.8	31.6	23.0	26.4	30.4	25.8	30.0	25.2	29.6	25.2	20.3	29.5	24.5	19.5	29.2	23.7	18.5	28.7	6.5
Gafsa	40.3	20.0	38.5	20.4	36.8	20.2	22.9	33.2	22.3	32.1	21.7	31.5	20.4	15.7	26.0	19.5	14.8	25.7	18.8	14.1	25.4	13.2
Kelibia	31.5	22.6	30.1	23.0	29.2	23.0	25.5	28.5	24.9	27.8	24.3	27.4	24.6	19.7	27.3	24.0	19.0	27.1	23.3	18.1	26.5	7.3
Qairouan (Kairouan)	40.4	21.8	38.0	21.7	36.2	21.4	24.7	32.3	24.0	31.3	23.3	31.0	23.0	17.9	27.1	22.0	16.8	26.7	21.2	16.0	26.5	14.1
Tunis	36.7	22.6	34.2	23.0	32.9	22.6	25.8	31.0	25.0	30.1	24.2	29.4	24.2	19.1	28.0	23.5	18.3	27.5	22.8	17.5	27.2	12.1
TURKEY																						
Adana	36.1	21.6	34.6	21.8	33.2	22.3	26.0	31.7	25.4	30.5	24.9	29.9	24.5	19.6	27.9	24.0	19.0	28.0	23.4	18.3	27.7	11.0
Ankara	32.0	17.3	30.2	17.1	28.8	16.4	18.6	29.0	17.8	28.1	17.0	27.4	14.8	11.8	23.0	13.9	11.1	22.0	13.0	10.5	21.3	15.8
Erzurum	28.9	16.3	27.5	15.6	26.1	15.1	17.8	26.6	16.8	25.7	15.9	24.7	14.2	12.5	23.4	13.1	11.7	22.4	12.1	10.9	21.2	16.6
Eskisehir	32.2	19.8	30.8	19.4	29.2	18.9	21.4	29.2	20.4	28.5	19.7	28.1	18.8	15.0	26.7	17.6	13.9	25.3	16.7	13.1	24.1	14.4
Istanbul	30.2	21.0	29.1	20.8	28.1	20.3	23.2	27.6	22.5	26.7	21.8	25.8	22.0	16.7	25.3	21.1	15.8	24.7	20.2	15.0	24.4	8.5
Izmir/Cigli (Cv/AFB)	35.8	22.1	34.1	21.6	33.0	21.2	23.3	33.1	22.7	32.1	22.0	31.6	20.1	14.8	28.3	19.2	14.0	27.5	18.8	13.6	27.0	12.8
Malatya	36.3	20.0	35.1	19.6	33.9	19.1	21.1	34.6	20.2	33.7	19.5	33.0	15.9	12.5	30.7	14.8	11.7	29.3	13.9	11.0	28.1	15.2
Van	28.8	19.1	27.6	18.7	26.6	18.2	21.0	27.2	20.0	26.4	19.1	25.7	18.7	16.6	26.6	17.6	15.5	25.8	16.5	14.4	25.1	10.8
TURKMENISTAN																						
Ashgabat (Ashkhabad)	40.1	19.7	38.7	19.6	37.4	19.6	22.9	34.7	22.1	33.5	21.3	32.8	18.9	14.1	29.7	17.9	13.2	29.3	17.0	12.4	28.9	13.4
Dashhowuz (Tashauz)	39.2	23.3	37.4	22.6	35.8	21.9	25.1	36.4	24.1	35.1	23.1	33.9	21.2	16.0	33.5	20.2	15.0	32.3	19.1	14.0	31.1	13.5
UNITED KINGDOM & NORTHERN IRELAND																						
Aberdeen/Dyce	21.7	16.8	20.0	15.8	18.5	14.7	17.5	21.0	16.3	19.4	15.3	17.9	15.8	11.3	19.6	14.9	10.7	18.0	14.0	10.0	16.9	7.2
Aberporth	22.3	16.9	20.2	16.0	18.5	15.4	17.7	20.8	16.8	19.0	16.0	17.9	16.6	12.0	18.6	15.9	11.5	17.8	15.2	11.0	16.9	5.2
Aughton	23.9	17.6	22.0	16.6	20.3	15.8	18.3	22.7														

Station	WMO#	Lat.	Long.	Elev., m	StdP, kPa	Dates	Heating		Extreme Wind			Coldest Month				MWS/PWD to DB				Extr. Annual Daily			
							Dry Bulb		Speed, m/s			0.4%		1%		99.6%		0.4%		Mean DB		StdD DB	
							99.6%	99%	1%	2.5%	5%	WS	MDB	WS	MDB	MWS	PWD	MWS	PWD	Max.	Min.	Max.	Min.
1a	1b	1c	1d	1e	1f	1g	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	5c	5d	6a	6b	6c	6d
Lerwick	30050	60.13N	1.18W	84	100.32	8293	-2.2	-1.2	19.2	16.9	15.1	20.1	5.5	18.1	5.7	6.3	350	5.3	180	18.7	-4.4	1.9	1.1
Leuchars	31710	56.38N	2.87W	12	101.18	8293	-4.7	-2.9	14.1	12.4	10.9	16.9	6.4	14.7	6.1	2.2	250	5.8	240	25.6	-7.2	2.6	2.7
London, Gatwick	37760	51.15N	0.18W	62	100.58	8293	-5.6	-3.7	10.2	8.9	7.9	11.5	7.0	10.1	6.3	1.5	80	3.7	70	29.4	-8.7	2.5	3.4
London, Heathrow	37720	51.48N	0.45W	24	101.04	8293	-4.0	-2.3	10.0	8.8	7.9	11.4	8.2	10.0	6.4	2.7	20	4.5	70	30.5	-6.3	2.3	2.3
Lyneham	37400	51.50N	1.98W	156	99.46	8293	-5.6	-3.6	11.7	10.2	9.1	13.1	6.3	11.5	5.0	5.1	30	4.4	70	28.5	-8.0	2.3	3.5
Lynemouth	32620	55.02N	1.42W	30	100.97	8293	-2.3	-0.7	20.2	16.9	14.7	21.2	5.8	19.6	5.0	7.1	190	6.5	260	24.6	-4.4	2.8	2.4
Manchester	33340	53.35N	2.27W	78	100.39	8293	-4.2	-2.7	11.2	10.0	8.9	12.7	5.5	11.2	6.3	2.5	90	3.9	130	28.3	-6.4	2.4	2.1
Nottingham	33540	53.00N	1.25W	117	99.93	8293	-4.9	-3.2	10.7	9.5	8.4	12.4	5.0	11.0	6.2	3.5	20	3.6	210	29.1	-7.1	2.6	3.1
Oban	31140	56.42N	5.47W	4	101.28	8293	-3.2	-1.5	13.2	10.6	9.2	15.2	5.8	13.2	6.4	1.4	180	2.9	180	25.5	-5.5	1.8	2.1
Plymouth	38270	50.35N	4.12W	27	101.00	8293	-1.7	-0.3	15.2	13.4	11.8	17.6	9.5	14.9	8.8	3.7	80	4.5	80	27.0	-3.3	2.2	2.1
Stansted Airport	36830	51.88N	0.23E	106	100.06	8293	-5.2	-3.5	11.1	9.7	8.5	12.5	6.9	10.7	6.2	3.2	30	4.5	130	28.6	-7.5	2.3	3.5
Stornoway	30260	58.22N	6.32W	13	101.17	8293	-1.8	-0.4	16.7	14.5	13.0	18.8	7.2	16.4	6.1	2.8	300	4.4	160	21.3	-4.2	1.8	1.7
Valley	33020	53.25N	4.53W	11	101.19	8293	-2.7	-1.1	17.9	15.3	13.7	18.7	7.9	16.5	8.2	4.5	80	4.2	50	26.7	-4.0	2.3	2.1
Wyton Raf	35660	52.35N	0.12W	41	100.83	8293	-5.3	-3.6	11.9	10.4	9.3	13.2	6.6	11.7	6.4	3.4	40	4.4	100	29.2	-8.0	2.4	4.1
UKRAINE																							
Chernihiv (Chernigov)	331350	51.48N	31.28E	137	99.69	8293	-21.6	-18.3	9.6	8.5	7.7	9.9	-4.0	8.8	-5.0	2.4	110	4.1	160	31.8	-23.1	2.4	5.2
Chernivtsi (Chernovtsky)	336580	48.27N	25.97E	240	98.47	8293	-16.6	-14.1	12.0	9.7	8.4	12.4	-3.5	10.5	-3.4	3.7	320	3.7	110	31.7	-19.1	1.9	3.4
Dnipropetrovs'k	345040	48.37N	35.08E	142	99.63	8293	-17.6	-15.3	12.1	10.2	9.2	12.9	-2.8	11.1	-2.1	4.1	50	4.9	90	34.1			

WMO# = World Meteorological Organization number Elev. = elevation, m PWD = prevailing wind direction, ° True DB = dry-bulb temperature, °C
Lat. = latitude ° Long. = longitude ° StdP = standard pressure at station elevation, kPa WS = wind speed, m/s

Table 3B Cooling and Dehumidification Design Conditions—World Locations

Station	Cooling DB/MWB						Evaporation WB/MDB						Dehumidification DP/MDB and HR									Range of DB
	0.4%		1%		2%		0.4%		1%		2%		0.4%			1%			2%			
	DB	MWB	DB	MWB	DB	MWB	WB	MDB	WB	MDB	WB	MDB	DP	HR	MDB	DP	HR	MDB	DP	HR	MDB	
I	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	4f	4g	4h	4i	5
Lerwick	15.8	13.5	14.7	12.8	13.9	12.4	14.1	15.1	13.4	14.2	12.8	13.5	13.6	9.8	14.5	13.0	9.4	13.8	12.4	9.1	13.1	3.8
Leuchars	22.1	16.0	20.4	15.2	18.9	14.4	16.9	20.6	16.0	19.2	15.2	17.9	15.4	10.9	18.3	14.6	10.4	17.2	13.9	9.9	16.6	7.8
London, Gatwick	26.4	18.4	24.7	17.4	23.1	16.8	19.3	25.0	18.3	23.0	17.5	21.5	17.3	12.5	21.0	16.5	11.8	19.9	15.8	11.3	19.2	9.8
London, Heathrow	27.4	18.7	25.7	17.7	24.1	17.2	19.6	26.0	18.7	23.8	17.8	22.5	17.4	12.5	21.3	16.7	11.9	20.7	16.0	11.4	20.0	9.2
Lynneham	25.6	18.0	23.7	16.8	22.0	16.0	18.7	24.1	17.6	22.0	16.7	20.6	16.7	12.1	20.2	16.0	11.6	18.7	15.2	11.0	18.3	8.8
Lynemouth	20.6	16.0	19.3	15.3	18.2	14.7	16.9	19.2	16.2	18.3	15.5	17.5	16.0	11.4	17.8	15.2	10.8	17.1	14.6	10.4	16.7	4.9
Manchester	25.2	17.3	23.1	16.4	21.5	15.6	18.3	23.2	17.4	21.7	16.6	20.3	16.5	11.9	20.0	15.7	11.3	19.2	14.8	10.6	18.3	7.6
Nottingham	25.5	18.0	23.6	17.2	21.9	16.3	19.0	24.0	17.9	22.3	16.9	20.8	17.1	12.4	21.3	16.1	11.6	19.8	15.3	11.0	18.6	8.9
Oban	22.7	16.2	20.7	15.3	18.9	14.6	17.1	21.4	16.1	19.4	15.3	17.9	15.5	11.0	18.3	14.7	10.4	17.5	14.0	10.0	16.8	5.8
Plymouth	23.8	17.3	22.1	16.6	20.6	16.1	18.4	22.3	17.6	20.4	17.0	19.4	17.1	12.2	19.5	16.6	11.9	18.7	16.0	11.4	18.0	6.1
Stansted Airport	25.9	17.7	24.2	17.1	22.7	16.4	19.0	24.4	18.0	22.4	17.1	21.0	17.2	12.4	21.0	16.3	11.7	19.5	15.5	11.1	18.8	9.3
Stornoway	18.3	15.1	16.8	14.2	15.7	13.4	15.7	17.6	14.7	16.1	14.0	15.3	14.7	10.5	16.4	14.1	10.1	15.5	13.4	9.6	14.8	4.8
Valley	23.4	17.3	21.2	16.3	19.4	15.4	17.8	22.1	16.9	20.0	16.1	18.5	16.4	11.7	18.9	15.7	11.2	17.8	15.1	10.7	17.1	5.9
Wyton Raf	26.3	18.0	24.5	17.3	22.8	16.6	19.2	24.5	18.1	22.6	17.2	21.4	17.3	12.4	21.2	16.4	11.7	19.8	15.6	11.1	18.9	9.3
UKRAINE																						
Chernihiv (Chernigov)	28.7	19.8	27.2	19.2	25.6	18.2	21.1	26.8	20.2	25.7	19.2	23.9	19.1	14.1	23.9	18.2	13.3	22.8	17.4	12.7	21.9	10.1
Chernivtsi (Chernovtsky)	28.4	19.8	26.8	18.8	25.4	18.3	20.7	26.4	19.8	25.4	19.0	24.2	18.8	14.0	23.6	17.8	13.1	22.6	17.0	12.5	22.0	9.0
Dnipropetrovs'k	30.7	19.6	29.2	19.1	27.7	18.6	21.3	27.7	20.4	26.6	19.6	25.6	19.2	14.2	23.8	18.3	13.4	23.1	17.4	12.7	22.3	10.4
Donets'k	29.8	19.0	28.4	18.9	26.9	18.1	21.0	27.9	20.1	26.4	19.2	24.6	18.6	13.8	23.6	17.9	13.2	22.8	17.1	12.5	22.1	10.9
Kerch	29.6	20.7	28.4	20.6	27.3	20.1	22.8	27.3	21.9	26.8	21.1	25.8	21.2	15.9	25.7	20.2	15.0	24.8	19.4	14.2	24.0	8.1
Kharkiv (Khar'kov)	29.6	19.2	28.1	18.6	26.6	18.2	20.9	26.7	20.0	25.5	19.2	24.5	18.9	14.0	23.1	18.1	13.3	22.8	17.3	12.6	21.8	9.1
Kherson	31.5	20.1	29.9	19.8	28.5	19.1	21.9	28.6	20.9	27.0	20.2	26.1	19.8	14.6	23.9	18.9	13.8	23.7	18.1	13.1	22.6	11.8
Kirovohrad (Kirovograd)	29.9	18.4	28.4	18.1	26.8	17.6	20.5	26.3	19.5	25.3	18.7	24.6	18.6	13.7	22.8	17.6	12.9	22.0	16.7	12.1	20.9	11.4
Kryvyi Rih (Krivoy Rog)	30.7	19.4	29.3	18.8	27.7	18.3	21.1	27.6	20.2	26.6	19.4	25.7	19.0	14.0	23.8	18.0	13.1	23.0	17.1	12.4	22.0	11.7
Kyyiv (Kiev)	28.2	19.7	26.7	18.9	25.2	18.1	20.8	26.3	19.9	25.0	19.1	23.9	19.0	14.1	23.5	18.1	13.3	22.6	17.2	12.5	21.6	9.2
Luhans'k	31.2	19.2	29.5	18.8	27.9	18.0	21.1	28.2	20.2	27.0	19.4	25.6	18.8	13.7	24.3	17.9	12.9	22.5	17.1	12.3	22.1	10.6
Mariupol' (Zdanov)	29.0	21.6	27.9	20.9	26.7	20.6	23.2	27.1	22.3	26.3	21.4	25.5	22.0	16.8	25.4	20.8	15.6	24.8	19.9	14.7	24.0	8.4
Odesa	30.1	19.6	28.8	19.4	27.2	19.0	22.2	26.1	21.2	26.0	20.3	25.1	20.9	15.6	24.5	19.7	14.5	23.6	18.8	13.7	22.6	10.2
Poltava	29.4	19.0	27.8	18.7	26.4	18.1	20.8	26.3	19.9	25.6	19.1	24.6	18.9	14.0	23.7	17.9	13.1	22.6	17.0	12.4	21.7	9.8
Rivne (Rovno)	27.8	19.5	26.2	18.7	24.7	17.9	20.6	26.0	19.6	24.9	18.7	23.4	18.7	13.9	23.7	17.7	13.1	22.0	16.8	12.3	20.9	10.3
Simferopol'	30.6	19.3	29.2	18.9	27.8	18.5	21.0	27.2	20.3	26.3	19.6	25.6	19.2	14.3	23.2	18.3	13.5	22.8	17.4	12.7	22.1	11.3
Sumy	28.8	19.2	27.2	18.8	25.6	18.0	20.9	26.3	19.9	25.0	19.0	23.8	19.0	14.1	23.4	18.0	13.2	22.1	17.2	12.5	21.5	9.5
Uzhhorod (Uzhgorod)	30.1	20.5	28.6	19.8	27.1	19.0	21.4	28.2	20.5	27.4	19.7	25.9	18.9	13.9	25.2	18.0	13.1	24.0	17.2	12.5	22.9	10.4
Vinnitsya (Vinnitsa)	27.8	19.0	26.3	18.4	24.9	17.8	20.2	25.4	19.4	24.4	18.5	23.4	18.4	13.8	22.9	17.5	13.0	21.9	16.7	12.3	20.9	10.1
Zaporizhzhya	30.9	19.7	29.5	19.0	28.0	18.5	21.4	27.5	20.5	26.8	19.7	25.7	19.4	14.3	24.3	18.4	13.4	23.4	17.6	12.7	22.2	11.2
Zhytomyr (Zhitomir)	27.8	19.4	26.3	18.5	24.8	17.8	20.4	25.9	19.5	24.8	18.6	23.4	18.5	13.7	23.2	17.6	13.0	21.9	16.8	12.3	20.9	10.5
UNITED ARAB EMIRATES																						
Abu Dhabi	43.8	23.6	42.5	23.4	41.1	23.8	30.3	35.0	29.7	34.3	29.2	34.1	29.2	26.0	32.9	28.8	25.4	32.8	28.0	24.2	32.5	12.8
Dubai	41.9	23.8	40.7	24.0	39.3	24.5	30.2	34.6	29.7	34.2	29.2	34.1	29.2	25.9	33.0	28.8	25.3	32.8	28.0	24.1	32.7	9.7
Ra's Al Khaymah	43.7	24.6	42.7	25.0	41.7	25.1	30.1	37.6	29.5	37.1	29.0	36.5	28.4	24.8	34.2	27.9	24.1	34.0	27.1	22.9	33.6	12.6
Sharjah	43.1	24.9	41.9	25.2	40.9	25.2	30.1	37.1	29.4	36.1	28.8	35.6	28.8	25.4	33.5	28.0	24.2	33.0	27.1	22.9	32.7	13.3
URUGUAY																						
Colonia Del Sacramento	31.2	23.4	29.9	22.7	28.7	22.2	24.7	29.2	24.0	28.1	23.2	27.2	23.4	18.2	27.7	22.6	17.4	26.7	22.0	16.7	25.9	8.3
Montevideo	31.9	22.1	30.0	21.6	28.2	21.1	24.2	28.6	23.5	27.1	22.7	26.3	23.1	17.9	26.2	22.2	16.9	25.0	21.8	16.5	24.7	9.3
Paso De Los Toros	34.8	22.5	33.0	22.3	31.3	21.8	24.8	30.8	24.1	29.4	23.3	28.4	23.2	18.1	27.5	22.5	17.4	26.7	21.9	16.7	25.8	11.3
Rocha	31.5	22.6	29.8	22.3	28.3	21.9	24.7	28.8	23.9	27.7	23.1	26.5	23.6	18.5	26.8	22.8	17.6	25.8	22.1	16.8	24.9	10.6
Salto	36.4	23.6	34.8	23.4	33.3	23.1	26.1	32.6	25.2	31.7	24.5	30.8	24.2	19.2	29.7	23.5	18.4	28.1	22.8	17.6	27.3	12.2
Treinta Y Tres	33.4	22.6	31.8	22.2	30.1	21.9	24.9	29.9	24.1	28.9	23.4	27.4	23.6	18.5	26.9	22.8	17.6	26.2	22.1	16.9	25.5	11.6
UZBEKISTAN																						
Samarqand (Samarkand)	35.7	19.7	34.5	19.1	33.3	18.7	21.0	33.4	20.0	31.8	19.2	31.5	16.7	13.0	27.1	15.7	12.2	25.0	14.7	11.4	24.6	13.8
Tashkent	38.0	21.4	36.7	20.1	35.2	20.1	24.0	35.0	22.5	33.5	21.2	32.2	20.2	15.8	31.5	18.5	14.2	28.7	17.1	13.0	28.0	14.9
VANUATU																						
Luganville	30.3	25.3	30.0	25.3	29.6	25.2	26.6	29.2	26.2	28.9	26.0	28.7	25.7	21.1	28.3	25.5	20.8	28.0	25.2	20.4	27.7	5.8
VENEZUELA																						
Caracas	33.2	28.7	32.7	28.5	32.0	28.2	30.2	32.0	29.6	31.6	29.1	31.0	29.9	27.2	31.7	29.1	25.9	31.1	28.7	25.3	30.6	7.0
VIETNAM																						
Ho Chi Minh City	35.1	25.2	34.2	25.2	33.9	25.2	27.2	32.2	26.9	31.9	26.6	31.6	26.1	21.5	29.8	25.7	21.0	29.3	25.2	20.4	28.7	8.2
WAKE ISLAND																						
Wake Island	31.8	26.0	31.4	26.0	31.1	25.8	27.4	30.1	26.9	29.8	26.5	29.7	26.6	22.2	29.2	26.0	21.4	28.9	25.6	20.8	28.7	4.5
WALLIS & FUTUNA ISLAND																						
Wallis Islands	31.1	26.9	30.7	26.7	30.4	26.5	27.5	30.3	27.2	30.0	27.0	29.8	26.7	22.4	29.5	26.3	21.8	29.3	26.1	21.6	29.0	4.7
YUGOSLAVIA															</							

MDB = mean coincident dry-bulb temp., °C MWS = mean coincident wind speed, m/s HR = humidity ratio, grams of moisture per kilogram of dry air
 MWB = mean coincident wet-bulb temp., °C StdD = standard deviation, °C A = airport DP = dew-point temperature, °C

Table 4A Design Wet-Bulb—Mean Coincident Dry-Bulb Temperature

Location and WMO#		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual													
	%	WB	MDb	WB	MDb	WB	MDb	WB	MDb	WB	MDb	WB	MDb	WB	MDb												
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
ALABAMA																											
Birmingham 722280	0.4	17.9	19.8	18.9	21.1	20.5	24.9	22.0	26.4	24.0	29.5	25.7	32.2	26.5	32.9	26.2	31.9	25.2	30.4	23.0	26.8	20.9	23.1	19.8	22.3	25.7	31.8
	1	17.1	18.8	18.0	20.4	19.8	23.6	21.4	25.7	23.5	28.9	25.3	31.7	26.1	32.4	25.8	31.7	24.8	30.2	22.3	26.2	20.1	22.3	18.9	20.8	25.1	31.2
	2	16.3	17.8	17.1	19.2	19.1	22.9	20.7	25.2	23.0	28.3	24.8	31.1	25.8	32.1	25.5	31.6	24.4	30.0	21.7	25.6	19.4	22.1	17.9	19.9	24.6	30.3
Huntsville 723230	0.4	17.1	18.8	17.9	20.1	19.7	24.0	21.9	26.1	23.7	28.9	25.3	31.6	26.4	33.2	26.2	31.6	25.1	30.8	22.6	26.2	20.1	22.4	18.7	20.8	25.6	31.6
	1	16.1	17.9	16.9	19.1	18.9	22.8	21.1	25.9	23.1	28.1	25.0	31.3	26.1	32.7	25.7	31.4	24.7	30.2	21.9	25.7	19.2	21.8	17.7	19.4	25.0	30.9
	2	15.2	16.8	16.1	18.2	18.1	21.7	20.3	24.8	22.6	27.6	24.6	30.7	25.8	32.1	25.3	31.2	24.3	29.8	21.3	25.0	18.5	21.0	16.9	18.8	24.4	30.0
Mobile 722230	0.4	21.0	22.5	21.4	23.1	22.2	24.6	23.6	27.2	24.9	29.1	26.7	32.1	26.9	32.6	26.8	32.2	26.3	30.7	24.7	28.1	23.3	25.5	22.4	23.8	26.3	31.6
	1	20.4	22.1	20.8	22.4	21.8	24.2	23.2	26.7	24.4	28.8	26.2	31.7	26.6	32.2	26.5	31.7	25.9	30.4	24.3	27.4	22.7	24.6	21.9	23.4	25.8	31.0
	2	19.8	21.4	20.2	21.8	21.4	23.6	22.7	26.0	24.1	28.6	25.8	31.2	26.3	31.9	26.3	31.4	25.7	30.2	23.8	27.1	22.1	24.4	21.4	22.9	25.5	30.6
Montgomery 722260	0.4	19.4	22.2	20.1	22.9	21.2	25.2	22.9	27.4	24.6	30.4	26.3	33.3	27.0	33.8	26.9	33.3	25.9	31.7	24.0	28.5	22.1	25.6	21.2	24.1	26.3	32.6
	1	18.5	20.8	19.3	21.8	20.7	25.0	22.3	26.7	24.1	29.8	25.8	32.4	26.7	33.1	26.6	32.9	25.6	31.4	23.3	27.1	21.3	24.2	20.5	23.2	25.8	31.8
	2	17.7	19.8	18.6	21.1	20.1	23.8	21.7	26.3	23.7	29.2	25.6	32.1	26.3	32.7	26.3	32.3	25.2	31.0	22.8	27.2	20.6	23.6	19.6	22.2	25.3	31.1
ARIZONA																											
Flagstaff 723755	0.4	5.2	12.2	6.3	13.8	7.3	15.9	9.6	20.2	11.8	20.2	14.9	24.8	17.3	23.5	17.3	24.0	15.7	21.9	11.9	17.2	8.3	15.2	5.7	11.6	16.3	23.1
	1	4.3	10.1	5.4	12.4	6.6	14.6	8.8	19.1	11.3	20.7	14.2	26.1	16.8	23.3	16.8	23.6	15.1	21.6	10.9	17.6	7.4	14.9	4.8	10.7	15.6	22.6
	2	3.6	9.4	4.6	11.1	5.9	14.2	8.2	18.4	10.7	20.3	13.6	26.0	16.4	23.1	16.4	23.2	14.5	21.7	10.3	18.2	6.7	14.3	3.9	9.7	14.9	22.1
Phoenix, Intl Airport 722780	0.4	14.6	18.4	15.3	24.2	16.2	27.9	17.9	34.1	19.7	36.3	23.1	36.6	24.7	36.6	25.1	36.8	24.4	35.9	21.2	29.0	17.3	25.2	14.6	18.7	24.2	35.8
	1	13.8	18.0	14.7	22.8	15.6	27.3	17.3	33.2	19.1	35.2	22.2	37.4	24.4	36.6	24.7	35.9	23.9	35.7	20.7	28.4	16.4	22.8	13.8	17.4	23.7	35.4
	2	13.2	18.2	14.1	21.1	15.0	26.7	16.7	32.4	18.7	34.7	21.4	38.2	24.1	36.0	24.4	35.4	23.4	34.5	20.1	28.2	15.7	22.8	13.2	18.0	23.2	35.0
Prescott 723723	0.4	8.6	14.7	9.7	18.3	10.3	20.1	11.9	24.4	14.7	25.6	17.4	29.6	20.3	27.0	20.6	28.4	18.8	27.7	15.1	21.2	11.3	19.2	8.9	13.4	19.3	27.2
	1	7.8	13.8	8.9	16.3	9.7	19.1	11.3	23.5	14.1	24.9	16.8	30.1	19.6	27.0	20.0	27.4	18.2	26.8	14.4	20.6	10.4	17.7	8.0	13.4	18.6	26.7
	2	7.0	13.1	8.1	15.6	9.2	18.7	10.8	23.0	13.6	24.7	16.2	29.9	19.2	27.2	19.5	27.6	17.7	26.6	13.7	21.4	9.8	17.4	7.2	12.6	18.0	26.0
Tucson 722740	0.4	12.8	18.3	13.4	22.1	14.2	27.9	15.9	30.9	18.0	32.9	21.0	33.2	22.7	31.0	23.0	32.5	22.2	31.1	19.3	25.8	15.4	23.3	13.4	17.8	22.2	31.0
	1	12.2	18.0	12.8	21.4	13.6	26.4	15.2	29.3	17.5	31.9	20.5	33.4	22.3	31.0	22.7	32.5	21.8	31.1	18.8	24.8	14.7	22.1	12.4	17.5	21.7	30.4
	2	11.6	17.9	12.3	20.2	13.0	25.6	14.6	28.9	16.9	30.8	20.0	33.8	22.0	30.8	22.4	31.5	21.4	30.6	18.2	25.6	14.1	21.7	11.9	17.2	21.3	30.1
ARKANSAS																											
Fort Smith 723440	0.4	16.2	19.8	16.5	21.4	19.7	25.6	21.9	28.0	24.5	30.8	26.3	33.3	26.7	34.9	26.8	34.9	25.6	32.2	23.0	27.9	19.9	23.7	17.8	21.7	26.0	33.6
	1	14.9	17.9	15.6	19.9	18.9	24.7	21.3	26.6	23.8	30.1	25.9	32.9	26.3	34.2	26.4	34.3	25.1	31.6	22.3	27.4	19.1	23.3	16.9	20.2	25.4	32.8
	2	13.5	15.9	14.8	19.1	18.1	23.7	20.6	26.4	23.2	28.9	25.5	32.3	25.9	33.6	26.0	33.7	24.7	31.2	21.5	26.3	18.3	22.2	15.8	18.7	24.9	32.1
Little Rock, AFB 723405	0.4	17.9	20.8	17.9	20.5	20.7	24.9	22.8	27.3	24.8	30.3	26.9	33.4	27.4	34.3	27.4	33.7	26.3	32.3	23.8	28.1	21.0	24.2	19.3	21.6	26.7	33.3
	1	17.1	19.1	17.2	20.1	20.0	24.1	22.1	26.2	24.3	29.9	26.5	32.6	27.0	34.1	26.9	33.2	25.8	31.4	23.0	27.2	20.2	23.1	18.3	20.4	26.1	32.7
	2	15.9	18.1	16.2	19.2	19.3	23.4	21.5	25.7	23.9	29.4	26.1	31.8	26.7	33.9	26.6	32.8	25.4	30.7	22.3	26.4	19.6	22.2	17.3	19.3	25.6	31.8
CALIFORNIA																											
Arcata/Eureka 725945	0.4	14.3	15.8	14.9	17.3	13.6	15.6	14.5	17.1	15.6	18.7	16.3	19.3	16.8	19.0	17.8	20.7	18.1	22.5	16.7	21.6	15.7	17.7	14.6	15.7	16.8	19.7
	1	13.6	15.1	14.1	16.1	13.0	15.1	13.6	16.1	14.9	17.7	15.6	18.4	16.2	18.4	17.2	19.5	17.4	20.8	16.0	19.2	15.0	16.9	13.8	15.2	15.9	18.6
	2	13.0	14.5	13.4	15.2	12.4	14.5	12.9	15.3	14.3	16.6	15.1	17.8	15.7	18.1	16.6	18.8	16.7	19.8	15.4	18.6	14.4	16.3	13.2	14.6	15.3	17.7
Bakersfield 723840	0.4	16.2	19.9	16.7	22.1	17.7	25.1	19.1	31.6	20.8	36.2	22.5	38.4	23.6	39.2	23.9	36.5	22.7	35.7	20.4	33.7	17.1	23.2	15.2	18.4	22.6	36.6
	1	14.8	18.3	15.9	21.1	16.9	23.7	18.3	30.3	20.1	35.2	21.8	38.3	23.1	38.3	23.3	35.6	22.1	33.1	19.8	32.7	16.3	23.3	14.3	17.4	21.8	35.6
	2	13.9	17.4	15.2	20.2	16.2	22.9	17.5	28.9	19.6	33.6	21.2	37.1	22.6	37.3	22.7	35.8	21.6	33.7	19.2	31.0	15.7	22.4	13.4	17.2	21.2	35.1
Barstow/Daggett 723815	0.4	13.3	19.1	13.6	20.4	14.4	25.6	15.8	31.6	18.5	34.9	20.6	40.2	23.3	35.9	23.6	34.6	22.4	31.2	18.3	33.2	15.1	26.4	14.0	20.3	22.4	35.1
	1	12.2	17.3	12.9	20.7	13.8	25.1	15.2	30.9	17.8	34.1	20.1	39.7	22.8	35.7	23.0	34.7	21.8	32.7	17.7	32.5	14.2	23.7	12.3	18.8	21.6	35.1
	2	11.3	16.7	12.2	19.9	13.3	24.5	14.7	29.8	17.3	32.9	19.6	39.3	22.4	35.6	22.4	35.3	21.1	32.0	17.1	31.3	13.5	22.7	11.3	16.9	20.7	35.0
Fresno 723890	0.4	15.2	17.5	16.3	20.3	17.9	23.9	19.0	30.3	21.1	35.3	22.4	37.6	23.7	38.8	24.1	37.9	22.4	36.4	20.2	33.6	16.6	22.3	15.1	16.7	22.7	36.8
	1	13.9	16.9	15.7	19.8	16.9	23.4	18.3	28.6	20.4	34.0	21.9	36.8	23.3	38.0	23.3	36.7	21.8	35.8	19.6	32.2	15.9	21.7	13.7	15.9	21.9	35.6
	2	13.0	15.6	15.0	19.4	16.2	22.3	17.5	27.5	19.7	32.9	21.3	36.1	22.8	37.2	22.8	36.3	21.3	34.2	19.0	30.8	15.4	21.4	12.8	15.0	21.2	34.6
Long Beach 722970	0.4	15.8																									

Table 4B Design Dry-Bulb—Mean Coincident Wet-Bulb Temperature

Location and WMO#		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
		%	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
ALABAMA																											
Birmingham 722280	0.4	21.0	16.0	24.2	16.3	27.7	17.3	29.9	19.4	33.3	21.6	35.3	24.0	37.1	24.6	35.8	24.3	34.7	23.3	30.1	20.4	25.7	18.2	22.9	18.2	34.7	23.9
	1	19.6	15.3	22.8	15.6	26.6	17.1	29.1	19.0	32.0	21.4	34.4	23.6	35.9	24.3	34.8	23.8	33.7	23.0	29.2	20.2	24.7	17.9	21.9	17.9	33.4	23.8
Huntsville 723230	2	18.6	15.2	21.3	14.9	25.3	16.8	28.3	18.4	30.8	21.5	33.5	23.4	34.9	24.4	34.0	24.0	32.7	23.0	28.2	19.9	23.7	17.3	20.8	17.4	32.3	23.5
	0.4	19.8	15.3	22.7	15.9	26.7	16.8	29.9	19.8	32.5	20.8	35.1	23.4	36.5	24.6	35.8	24.1	34.2	23.3	29.6	20.5	25.1	17.5	21.9	17.9	34.5	23.8
Mobile 722230	1	18.7	15.0	21.3	14.6	25.4	16.8	28.9	19.1	31.4	21.2	34.1	23.2	35.6	24.3	34.9	23.7	33.0	23.3	28.6	19.7	23.9	17.2	20.6	17.3	33.2	23.6
	2	17.6	14.2	19.9	14.1	24.2	16.3	27.9	18.3	30.5	21.3	33.3	23.2	34.7	24.4	34.0	23.7	32.1	22.7	27.7	19.1	22.7	16.9	19.4	15.9	31.9	23.3
Montgomery 722260	0.4	23.9	19.6	25.1	18.4	27.8	19.4	30.2	21.3	33.2	22.4	35.2	24.7	35.7	25.1	35.2	25.3	34.1	24.2	31.2	22.9	27.6	21.1	24.9	21.3	34.3	24.7
	1	23.0	19.3	23.9	18.3	26.8	18.4	29.3	20.8	32.2	22.5	34.5	24.5	35.0	25.3	34.5	25.1	33.4	24.2	30.4	21.9	26.6	20.5	24.1	20.7	33.4	24.6
	2	22.0	18.6	23.0	18.4	25.9	18.5	28.5	20.4	31.4	22.1	33.8	24.2	34.4	25.0	33.8	24.9	32.8	24.2	29.7	21.4	25.8	20.2	23.4	20.3	32.5	24.4
	0.4	23.3	17.7	25.0	18.2	28.3	19.1	30.1	20.6	33.4	22.4	36.3	24.4	36.6	25.6	36.6	24.7	35.3	23.8	31.6	22.3	27.7	20.1	25.6	19.9	35.1	24.6
	1	22.0	16.8	23.8	17.1	27.3	18.4	29.3	20.3	32.4	22.4	35.3	24.3	35.7	25.1	35.6	24.8	34.4	23.7	30.6	21.5	26.6	19.5	24.2	19.2	34.0	24.4
	2	20.7	16.4	22.6	16.6	26.4	17.9	28.6	19.9	31.6	22.4	34.4	24.0	34.9	25.0	34.7	24.9	33.6	23.7	29.7	20.8	25.5	18.7	23.0	18.8	32.9	24.3
ARIZONA																											
Flagstaff 723755	0.4	14.2	4.7	16.2	5.8	17.8	6.4	22.4	8.4	26.1	10.1	31.8	13.3	31.3	13.7	29.8	13.9	27.8	13.1	25.2	9.7	19.3	6.8	14.6	4.7	29.5	13.1
	1	12.2	3.6	14.3	4.5	16.8	5.7	21.1	7.8	25.1	9.9	30.6	12.7	30.4	13.6	28.8	14.2	26.7	12.6	24.1	9.3	18.0	6.3	13.3	3.8	28.1	12.9
Phoenix, Intl Airport 722780	2	10.7	2.9	12.9	3.6	15.8	5.2	20.0	7.3	24.1	9.5	29.6	12.3	29.6	13.3	27.9	14.0	25.9	12.3	22.9	9.3	16.6	5.9	11.8	3.2	26.7	12.8
	0.4	25.6	12.0	29.1	13.0	32.6	14.9	37.1	16.7	40.8	18.2	45.2	20.2	44.7	21.3	43.6	22.4	42.2	21.3	38.3	18.1	30.9	14.5	25.3	11.8	43.2	20.9
Prescott 723723	1	24.2	11.4	27.7	12.7	31.3	14.3	35.8	16.4	39.7	17.7	44.2	20.0	43.8	21.4	42.8	22.3	41.2	21.1	37.1	18.0	29.8	14.5	24.2	11.5	42.0	20.9
	2	23.1	11.1	26.4	12.4	30.0	13.9	34.7	15.9	38.5	17.4	43.3	19.7	43.2	21.4	42.1	22.2	40.3	21.2	36.1	18.0	28.7	13.9	23.0	10.9	40.9	20.8
Tucson 722740	0.4	18.2	7.4	21.2	8.2	23.6	9.1	27.6	10.6	30.8	12.8	36.1	15.3	36.3	16.0	34.4	16.9	32.7	15.9	29.7	12.4	23.0	9.4	17.9	6.9	34.2	15.7
	1	16.7	6.8	19.8	7.8	22.2	8.6	26.3	10.5	29.6	12.3	35.2	15.2	35.3	16.1	33.4	17.1	31.7	15.7	28.7	12.2	21.8	9.3	16.7	6.4	32.7	15.6
	2	15.3	6.0	18.4	7.1	21.0	8.4	25.1	10.1	28.6	12.1	34.2	14.6	34.4	16.1	32.6	16.8	30.8	15.3	27.4	12.0	20.7	8.7	15.6	5.9	31.4	15.4
	0.4	25.3	10.7	28.1	12.1	31.0	13.3	35.2	14.5	38.5	16.3	42.7	18.8	41.8	19.1	39.7	20.2	38.6	18.9	35.8	16.2	29.4	13.3	25.0	10.6	40.1	18.5
	1	23.7	10.2	26.4	11.3	29.5	12.7	33.8	13.8	37.4	16.1	41.4	18.5	40.8	19.1	38.9	20.3	37.8	18.9	34.6	16.0	28.3	12.7	23.9	10.3	38.8	18.4
	2	22.5	9.9	25.2	10.8	28.2	12.1	32.4	13.6	36.2	15.6	40.6	18.2	39.9	18.9	38.1	20.0	36.9	18.6	33.4	15.5	27.3	12.2	22.7	10.1	37.6	18.4
ARKANSAS																											
Fort Smith 723440	0.4	21.1	14.2	24.2	13.9	28.1	17.4	31.0	19.4	32.5	22.5	36.1	24.7	39.3	23.8	39.1	24.4	36.1	23.2	32.1	20.3	26.5	17.5	22.3	16.7	37.0	24.3
	1	19.2	13.1	22.4	13.8	26.7	16.6	29.7	19.2	31.8	22.2	35.0	24.4	38.3	24.1	38.0	24.2	34.9	23.4	30.9	20.2	25.3	17.3	21.0	16.1	35.4	24.3
Little Rock, AFB 723405	2	17.6	12.3	20.7	13.4	25.4	16.7	28.6	18.7	30.9	21.9	34.2	24.3	37.3	24.4	37.0	24.3	33.9	23.4	29.6	20.0	24.0	16.9	19.4	14.6	34.0	24.1
	0.4	21.8	15.9	24.6	14.4	27.7	18.4	29.9	20.3	32.9	22.8	36.2	24.4	39.0	24.9	38.3	24.7	35.5	24.4	31.5	20.9	26.4	18.8	22.4	18.2	36.3	25.1
	1	20.2	15.2	22.5	14.6	26.4	17.8	28.8	19.6	32.1	22.4	35.2	24.6	37.8	25.7	37.2	24.6	34.3	23.9	30.2	20.6	24.9	18.4	21.2	17.1	34.8	24.9
	2	18.8	14.6	20.9	14.4	25.1	17.5	27.9	19.6	31.3	22.2	34.4	24.2	36.7	25.6	36.2	25.1	33.4	23.8	29.2	20.5	23.7	17.8	19.8	16.5	33.6	24.6
CALIFORNIA																											
Arcata/Eureka 725945	0.4	18.5	11.1	19.7	12.9	18.6	11.8	18.9	12.7	20.2	14.9	20.9	15.7	20.6	15.4	21.8	16.7	25.3	15.9	24.3	15.2	19.6	13.6	17.3	11.7	21.3	15.5
	1	17.0	11.7	17.9	12.3	16.8	12.1	17.4	12.3	18.4	14.4	19.4	15.0	19.6	15.2	20.6	16.6	22.7	15.9	21.9	14.7	18.4	13.4	16.4	12.3	19.7	15.0
Bakersfield 723840	2	15.9	11.6	16.8	11.9	15.7	11.5	16.3	12.2	17.2	13.8	18.4	14.6	19.0	15.2	19.7	15.9	21.1	16.0	19.9	14.5	17.4	13.6	15.6	11.9	18.6	14.6
	0.4	22.2	13.8	25.3	14.3	28.1	15.4	33.9	17.6	38.0	19.7	41.3	21.0	41.7	22.3	41.2	22.2	39.4	21.2	36.0	19.6	27.7	14.9	21.6	13.3	39.9	21.3
Barstow/Daggett 723815	1	20.5	13.5	23.8	13.7	26.6	14.8	32.1	17.2	36.6	19.4	40.2	21.1	40.8	21.6	40.2	21.7	38.3	21.2	34.4	19.1	26.2	14.7	20.1	12.6	38.5	20.8
	2	19.1	12.8	22.6	13.7	25.3	14.8	30.7	16.4	35.3	18.8	39.0	20.7	40.0	21.4	39.3	21.3	37.2	20.6	33.2	18.5	24.8	14.4	19.0	11.9	37.1	20.3
Fresno 723890	0.4	22.5	10.7	26.2	12.3	29.7	13.0	34.4	15.3	37.5	17.2	42.5	19.6	43.6	21.1	43.0	20.8	40.2	19.5	36.7	17.5	28.6	14.2	23.1	11.8	41.8	20.2
	1	21.3	10.4	24.7	11.3	28.2	12.6	32.9	14.6	36.4	17.0	41.7	19.3	42.7	20.6	42.2	20.8	39.3	19.5	35.4	17.0	27.1	13.0	21.7	11.0	40.5	19.7
Long Beach 722970	2	20.1	9.4	23.6	10.8	26.9	12.2	31.6	14.1	35.3	16.4	40.8	18.9	42.1	20.2	41.3	20.7	38.3	18.9	34.1	16.4	25.7	12.4	20.2	10.1	39.1	19.2
	0.4	19.4	12.9	23.4	14.7	26.7	16.3	32.8	17.1	37.3	19.8	40.5	21.3	41.4	22.1	40.8	22.3	38.8	21.4	35.3	19.7	26.0	14.7	19.2	12.7	39.6	21.4
Los Angeles 722950	1	17.9	12.7	22.2	14.2	25.2	15.4	31.4	17.0	36.1	19.4	39.6	20.9	40.7	21.7	39.9	21.6	37.7	20.9	33.8	18.9	24.6	14.6	17.8	12.1	38.1	20.9
	2	16.8	12.3	21.0	13.8	24.0																					

Table 4A Design Wet-Bulb—Mean Coincident Dry-Bulb Temperature

Location and WMO#		%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual												
			WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB									
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
Pueblo 724640	0.4	8.1	17.8	9.2	21.6	9.8	22.1	12.9	22.6	16.2	25.8	19.4	29.6	20.5	29.8	20.8	29.4	18.4	27.7	13.9	24.5	9.7	22.6	8.1	18.4	19.7	28.7
	1	6.9	16.2	8.2	19.2	9.1	21.3	12.1	23.2	15.6	26.2	18.7	29.6	20.1	29.2	20.2	29.0	17.8	26.8	13.3	26.2	9.1	20.8	7.2	16.9	19.0	28.4
	2	6.1	15.3	7.1	17.6	8.6	20.4	11.4	22.4	15.0	25.6	18.2	28.9	19.7	29.0	19.8	28.4	17.3	26.6	12.8	25.7	8.6	19.7	6.2	15.5	18.4	28.2
CONNECTICUT																											
Bridgeport 725040	0.4	10.0	10.9	9.1	10.9	11.2	14.1	16.1	21.6	20.7	24.9	23.2	28.8	25.2	30.1	25.5	29.4	24.4	28.1	20.4	22.3	17.3	19.1	12.4	13.6	24.3	28.1
	1	8.6	9.9	7.6	9.2	10.1	12.6	14.9	19.8	19.6	23.4	22.5	27.4	24.7	29.5	25.0	28.2	23.9	27.1	19.8	22.1	16.3	17.7	11.1	12.2	23.5	27.1
2	6.9	7.9	6.3	7.8	9.2	11.6	13.5	17.1	18.5	22.3	21.9	26.3	24.1	28.8	24.6	27.8	23.3	26.0	19.1	21.2	15.5	16.7	10.1	11.2	22.8	26.2	
Hartford, Brainard Field 725087	0.4	10.7	12.5	11.6	13.6	14.9	19.0	18.1	26.3	22.0	29.7	24.2	31.2	25.6	33.2	25.4	31.7	24.3	30.8	20.3	23.5	18.0	20.3	13.8	15.1	24.3	30.8
	1	8.2	10.6	9.8	12.6	13.3	17.0	16.7	23.1	21.0	28.7	23.5	30.7	25.1	32.3	24.7	30.8	23.6	29.2	19.1	23.3	16.6	19.1	11.7	13.6	23.4	28.9
2	5.9	7.9	7.6	10.2	11.7	15.9	15.6	21.1	20.2	26.3	22.9	29.7	24.6	31.5	24.1	29.6	22.8	27.6	18.3	22.1	15.2	17.3	9.7	11.2	22.6	27.5	
DELAWARE																											
Wilmington 724089	0.4	12.9	15.0	14.1	16.7	17.5	22.7	19.3	26.7	23.4	29.2	25.2	31.1	26.5	32.2	26.1	31.7	25.2	30.4	21.5	24.6	19.0	21.6	15.9	17.9	25.3	30.6
	1	11.3	13.0	12.7	14.7	15.9	20.7	18.4	25.2	23.3	27.9	24.6	30.3	25.9	31.8	25.6	30.4	24.6	29.4	20.8	23.7	17.5	20.1	14.5	16.4	24.6	29.3
2	9.7	10.9	11.0	13.4	14.4	17.7	17.4	22.7	21.5	26.7	24.0	29.5	25.4	31.2	25.1	29.8	24.1	28.8	20.0	22.6	16.6	18.6	12.9	14.3	23.8	28.5	
FLORIDA																											
Daytona Beach 722056	0.4	21.7	25.3	21.7	26.7	22.4	27.4	23.6	28.4	25.1	30.1	26.3	31.6	26.9	32.0	26.8	31.3	26.4	30.3	25.3	28.8	23.8	26.6	22.6	26.2	26.3	31.1
	1	21.2	24.8	21.2	25.7	21.9	26.9	22.9	27.9	24.6	29.3	25.9	31.3	26.6	31.6	26.6	31.0	26.1	30.2	25.0	28.7	23.3	26.3	22.0	25.4	25.8	30.6
2	20.7	24.4	20.7	24.9	21.6	26.3	22.5	27.4	24.1	28.8	25.7	30.8	26.3	31.4	26.3	30.9	25.8	29.9	24.6	28.1	22.9	25.9	21.4	24.8	25.6	30.2	
Jacksonville, Intl Airport 722060	0.4	21.1	24.4	21.3	25.4	22.3	27.2	23.7	28.7	25.3	30.4	26.7	33.4	27.4	33.7	27.2	32.8	26.6	31.3	25.2	29.1	23.4	26.4	22.0	25.3	26.6	32.2
	1	20.5	23.7	20.8	24.4	21.8	26.8	23.0	27.9	24.7	29.7	26.3	32.6	26.9	32.9	26.8	32.3	26.2	31.1	24.8	28.6	22.9	25.8	21.5	24.3	26.2	31.7
2	19.9	23.2	20.2	23.7	21.3	26.1	22.4	27.3	24.2	29.1	25.9	31.9	26.7	32.4	26.5	31.9	25.9	30.7	24.4	27.6	22.4	25.2	20.9	23.7	25.7	31.0	
Key West 722010	0.4	24.3	26.8	24.4	27.1	25.0	27.7	25.7	28.9	26.6	30.0	27.4	31.1	27.4	31.6	27.5	31.1	27.2	30.7	26.8	30.2	25.9	28.1	24.8	27.0	27.0	30.8
	1	23.9	26.4	24.1	26.6	24.6	27.1	25.3	28.4	26.2	29.4	27.1	30.8	27.0	31.2	27.3	30.8	26.9	30.6	26.4	29.8	25.6	27.6	24.5	26.5	26.7	30.6
2	23.6	25.8	23.7	26.2	24.3	26.8	25.0	28.1	25.8	29.1	26.8	30.5	26.8	30.9	26.9	30.7	26.7	30.4	26.1	29.6	25.2	27.6	24.2	26.2	26.4	30.4	
Miami, Intl Airport 722020	0.4	23.5	26.4	23.4	26.8	24.1	27.7	24.9	28.9	25.8	29.1	26.6	30.7	26.8	30.9	26.8	30.8	26.7	30.1	26.2	29.3	25.2	27.9	24.3	27.1	26.4	30.4
	1	23.2	26.1	23.0	26.3	23.6	27.2	24.4	28.2	25.3	28.8	26.2	30.3	26.4	30.9	26.7	30.6	26.3	30.1	25.8	29.2	24.9	27.8	23.8	26.5	26.1	30.3
2	22.8	25.8	22.7	26.1	23.4	26.7	24.0	28.1	25.0	28.6	25.8	29.9	26.2	30.8	26.4	30.4	26.2	30.1	25.6	29.2	24.6	27.3	23.4	25.8	25.8	29.9	
Tallahassee 722140	0.4	21.5	23.4	21.4	23.3	22.4	25.7	23.6	27.4	25.1	29.6	26.6	32.6	27.2	32.7	26.9	32.2	26.3	30.6	24.9	28.5	22.9	25.3	22.6	24.2	26.4	31.6
	1	20.8	22.6	20.8	22.7	21.9	24.8	23.1	26.9	24.6	29.0	26.2	32.1	26.8	32.0	26.6	31.9	26.0	30.4	24.4	27.8	22.5	24.8	22.0	23.6	25.9	31.2
2	20.1	21.7	20.2	22.1	21.4	24.0	22.6	26.3	24.2	28.8	25.8	31.3	26.4	31.6	26.3	31.7	25.7	30.3	24.0	27.8	22.2	24.4	21.3	22.8	25.6	30.6	
Tampa, Intl Airport 722110	0.4	22.4	25.7	22.4	26.2	23.4	26.7	24.5	27.9	25.7	30.5	26.7	30.9	27.4	31.7	27.3	31.7	26.6	30.9	25.7	29.9	24.3	27.7	23.4	26.3	26.7	31.2
	1	21.8	24.7	21.9	25.3	23.0	26.7	24.0	27.8	25.2	30.0	26.4	31.0	26.9	31.5	26.9	31.5	26.3	31.1	25.4	29.6	23.8	27.2	22.8	25.8	26.2	31.2
2	21.3	24.0	21.5	24.6	22.5	26.4	23.5	27.3	24.7	29.3	26.1	31.2	26.7	31.2	26.6	31.4	26.0	31.0	25.1	29.3	23.4	26.6	22.3	25.0	25.8	30.7	
West Palm Beach 722030	0.4	23.1	26.6	23.4	26.9	23.9	28.2	24.6	28.4	25.7	29.5	26.7	30.8	26.9	31.5	26.9	31.6	26.8	30.8	25.9	29.5	25.0	28.1	23.9	27.2	26.4	31.1
	1	22.8	26.3	22.9	26.8	23.4	27.4	24.0	28.1	25.3	29.1	26.3	30.7	26.6	31.4	26.7	31.3	26.4	30.6	25.7	29.2	24.6	27.6	23.4	26.7	26.1	30.9
2	22.4	25.6	22.5	26.3	23.0	26.8	23.5	27.8	24.9	28.7	25.9	30.5	26.3	31.3	26.4	31.2	26.2	30.6	25.3	29.1	24.2	27.1	22.9	26.2	25.8	30.4	
GEORGIA																											
Athens 723110	0.4	16.9	19.0	17.9	20.2	19.6	23.4	21.2	25.7	23.9	29.1	25.1	32.1	26.2	33.2	25.8	32.3	25.1	30.9	22.9	26.4	20.6	22.2	19.4	20.7	25.3	31.6
	1	16.1	17.9	16.9	19.3	18.8	22.2	20.4	25.3	23.2	28.3	24.7	31.6	25.8	32.5	25.6	32.1	24.6	30.1	22.1	25.2	19.8	22.1	18.5	20.2	24.7	30.8
2	15.1	16.6	16.1	18.3	18.1	21.9	19.9	24.7	22.6	27.8	24.3	31.1	25.4	31.9	25.2	31.4	24.2	29.4	21.4	24.7	19.1	21.1	17.3	18.8	24.3	30.1	
Atlanta 722190	0.4	16.9	18.7	17.8	20.2	18.9	23.8	21.0	25.3	23.3	28.9	24.9	31.7	26.5	33.6	25.8	31.7	24.7	30.1	22.3	25.6	20.1	22.2	18.9	20.9	25.1	31.2
	1	16.2	17.9	17.1	19.2	18.3	22.2	20.1	24.9	22.6	28.2	24.4	30.9	25.8	32.0	25.3	31.4	24.2	29.5	21.6	24.9	19.4	21.9	17.9	19.6	24.4	30.3
2	15.2	16.9	16.2	18.4	17.6	21.8	19.6	23.9	22.1	27.6	24.1	30.3	25.3	31.2	24.9	31.1	23.7	29.3	20.8	24.4	18.8	21.0	16.9	18.7	23.9	29.7	
Augusta 722180	0.4	18.4	20.6	19.3	23.1	20.3	25.9	22.2	27.4	24.4	30.8	25.9	33.1	26.9	33.8	26.7	32.9	25.6	31.9	23.6	27.9	21.7	24.8	20.2	22.9	25.9	32.8
	1	17.6	20.5	18.3	21.8	19.7	24.8	21.3	26.8	23.5	29.3	25.5	32.3	26.4	33.7	26.3	32.8	25.2	31.3	23.0	26.8	21.1	24.2	19.3	21.7	25.4	31.9
2	16.7	18.8	17.4	20.6	19.0	23.5	20.7	26.1	22.9	29.0	25.1	31.8	26.2	33.2	25.8	32.2	24.8	30.8	22.4	26.6	20.4	23.30.					

Table 4B Design Dry-Bulb—Mean Coincident Wet-Bulb Temperature

Location and WMO#		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
		%	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
Pueblo	0.4	19.1	7.4	22.2	9.0	25.0	9.2	28.4	11.6	32.8	13.9	38.1	16.5	38.4	17.4	36.9	17.3	34.4	15.9	30.2	12.4	23.8	9.3	19.8	7.4	36.2	16.8
	1	17.5	6.2	20.4	7.8	23.5	8.6	27.2	10.9	31.8	13.4	36.9	16.1	37.4	17.4	35.9	17.1	33.4	15.4	29.3	12.2	22.2	8.8	17.9	6.6	34.6	16.7
	2	16.1	5.7	18.6	6.7	22.1	8.1	26.1	10.2	30.8	13.2	35.7	15.7	36.6	17.2	35.0	16.9	32.3	15.4	28.1	11.9	20.8	8.1	16.4	5.9	33.1	16.6
CONNECTICUT																											
Bridgeport 725040	0.4	11.5	9.6	11.6	7.1	15.5	9.7	23.8	14.7	26.9	19.4	31.1	21.8	33.1	23.9	31.7	23.4	30.1	23.6	24.3	18.9	19.5	16.1	14.2	11.9	30.2	22.8
	1	9.9	7.9	9.9	6.9	14.3	9.4	21.3	13.8	25.4	17.4	29.5	21.3	31.9	23.0	30.7	23.3	28.7	22.3	22.9	17.9	18.4	15.3	12.7	10.6	28.8	22.1
	2	8.6	6.4	8.4	5.9	12.8	8.2	19.1	12.1	24.1	17.1	28.2	20.7	30.6	22.7	29.8	23.0	27.4	22.0	22.1	17.7	17.3	14.8	11.6	9.6	27.6	21.5
Hartford, Brainard Field 725087	0.4	13.1	10.6	15.2	11.1	21.9	13.2	28.5	17.1	32.3	20.4	33.9	22.7	35.1	24.4	33.9	24.1	32.4	23.7	26.7	18.2	21.8	15.8	15.7	12.7	32.9	23.0
	1	10.6	7.4	12.6	9.2	19.1	12.0	25.6	15.4	30.3	19.6	32.9	21.9	34.1	23.8	32.8	23.4	30.7	22.7	25.1	17.6	19.9	15.3	13.9	10.8	31.2	22.1
	2	8.3	5.3	10.7	7.5	16.7	11.0	23.2	13.9	28.6	18.9	31.6	22.0	33.1	23.6	31.8	22.8	29.0	21.7	23.6	16.8	18.1	14.5	11.7	9.0	29.7	21.2
DELAWARE																											
Wilmington 724089	0.4	15.5	11.2	18.2	11.9	24.1	15.9	28.7	18.0	31.8	21.6	33.8	23.3	35.3	24.7	33.9	23.9	32.8	24.1	27.0	19.5	23.0	17.6	18.4	15.3	32.9	23.8
	1	13.4	10.5	16.2	11.7	22.1	14.8	26.7	17.8	30.3	21.1	32.7	23.2	34.2	24.3	32.9	24.1	31.6	23.5	25.6	18.9	21.2	17.1	16.6	14.1	31.5	23.1
	2	11.7	9.3	14.2	10.4	19.5	13.2	24.4	16.3	29.1	19.9	31.7	22.7	33.3	24.1	32.0	23.7	30.2	22.8	24.3	18.6	19.6	15.4	14.8	12.3	30.1	22.6
FLORIDA																											
Daytona Beach 722056	0.4	27.2	20.5	28.4	20.8	29.8	21.1	31.6	21.6	33.1	22.8	34.4	25.0	34.7	25.4	34.1	25.2	32.5	24.8	30.8	23.8	28.7	22.6	27.5	21.3	33.2	25.0
	1	26.4	20.4	27.4	20.3	29.0	20.7	30.6	21.2	32.1	22.6	33.5	24.9	33.9	25.3	33.3	25.6	31.8	24.9	30.1	23.6	27.9	22.2	26.8	20.9	32.2	24.8
	2	25.6	19.9	26.1	19.9	28.0	20.6	29.7	21.3	31.2	22.3	32.7	24.8	33.2	25.4	32.6	25.4	31.3	24.9	29.5	23.5	27.3	21.9	26.0	20.7	31.3	24.8
Jacksonville, Intl Airport 722060	0.4	26.7	19.8	27.9	20.2	30.1	20.4	32.0	20.9	34.4	22.4	35.8	25.3	36.2	25.9	35.2	25.6	33.9	25.1	31.8	23.8	28.2	22.0	27.1	20.8	34.7	25.2
	1	25.7	19.7	26.8	19.3	29.1	20.4	31.2	20.8	33.2	22.6	35.0	24.9	35.4	25.8	34.6	25.6	33.2	25.0	30.8	23.1	27.5	21.5	26.2	20.2	33.7	25.1
	2	24.6	19.0	25.7	18.8	28.1	20.0	30.4	20.8	32.3	22.2	34.2	24.7	34.7	25.5	34.0	25.6	32.6	24.9	29.9	22.9	26.8	21.1	25.3	19.8	32.7	24.8
Key West 722010	0.4	27.8	23.6	27.9	23.6	28.9	24.0	30.2	24.8	31.2	25.3	32.4	26.2	33.1	26.2	33.1	26.1	32.5	26.1	31.3	25.9	29.5	25.1	28.0	23.8	32.4	26.1
	1	27.2	23.2	27.5	23.4	28.4	23.8	29.7	24.4	30.8	25.2	32.0	26.0	32.7	26.1	32.8	26.1	32.1	26.0	30.8	25.7	29.1	24.8	27.6	23.4	31.9	26.0
	2	26.8	22.8	27.1	23.2	27.9	23.6	29.1	23.9	30.4	25.1	31.7	25.9	32.3	26.0	32.4	26.1	31.8	25.9	30.6	25.5	28.6	24.5	27.1	23.2	31.4	25.8
Miami, Intl Airport 722020	0.4	28.4	22.1	28.9	22.1	30.2	21.8	31.8	22.7	32.3	23.1	33.3	24.9	33.9	25.2	33.6	25.4	32.9	25.4	31.9	24.7	29.8	24.1	28.5	23.0	32.8	25.2
	1	27.8	22.1	28.2	21.8	29.4	22.4	30.8	22.7	31.6	23.2	32.6	25.1	33.2	25.3	33.1	25.4	32.4	25.4	31.3	24.6	29.3	23.7	27.9	22.5	32.2	25.1
	2	27.1	21.8	27.6	21.6	28.8	22.1	30.1	22.4	30.9	23.1	32.0	24.9	32.7	25.3	32.6	25.3	31.9	25.3	30.7	24.5	28.7	23.3	27.3	22.1	31.6	24.9
Tallahassee 722140	0.4	24.8	19.7	26.2	18.1	29.1	19.1	31.7	20.2	34.0	22.3	36.0	24.9	36.1	25.5	35.7	25.2	34.6	24.3	31.8	22.5	28.1	21.0	26.0	20.3	34.8	24.7
	1	23.9	19.2	25.2	18.3	28.1	19.0	30.7	20.4	33.1	22.2	35.1	24.4	35.3	25.3	35.0	25.3	33.9	24.2	31.1	22.3	27.3	20.6	25.1	20.2	33.8	24.5
	2	22.9	18.7	24.1	18.1	27.2	18.3	29.8	19.9	32.3	21.8	34.3	24.0	34.7	25.1	34.3	25.1	33.3	24.3	30.3	21.9	26.5	20.1	24.2	19.6	32.9	24.2
Tampa, Intl Airport 722110	0.4	27.3	20.4	28.0	20.9	29.3	21.4	31.1	21.5	33.4	23.2	34.3	24.7	34.1	25.5	34.3	25.5	33.8	24.8	32.2	24.2	30.0	22.6	28.3	21.9	33.6	25.1
	1	26.7	20.8	27.3	20.2	28.7	21.2	30.4	21.7	32.7	23.2	33.6	24.6	33.6	25.5	33.8	25.5	33.2	24.9	31.5	23.9	29.2	22.3	27.4	20.9	32.9	25.1
	2	25.9	20.3	26.6	20.3	28.1	21.1	29.8	21.4	32.1	22.8	33.1	24.6	33.3	25.4	33.4	25.4	32.8	24.9	30.9	23.6	28.5	22.0	26.7	20.8	32.3	24.9
West Palm Beach 722030	0.4	28.3	22.1	28.9	22.1	30.3	22.3	31.8	22.1	32.3	23.6	33.3	24.9	34.2	25.3	33.7	25.7	32.9	25.3	31.7	24.6	29.7	23.6	28.5	22.5	32.9	25.3
	1	27.5	21.8	28.2	21.8	29.4	22.1	30.7	22.2	31.4	23.2	32.6	25.1	33.4	25.3	33.1	25.7	32.4	25.3	31.2	24.4	29.1	23.3	27.9	22.3	32.2	25.3
	2	26.8	21.5	27.4	21.7	28.6	22.1	29.7	22.2	30.8	23.2	32.1	25.2	32.8	25.4	32.7	25.7	31.9	25.3	30.6	24.3	28.4	23.2	27.3	22.2	31.6	25.2
GEORGIA																											
Athens 723110	0.4	20.7	14.3	23.3	14.5	26.9	16.8	29.9	18.5	32.7	21.6	35.8	23.3	37.0	24.2	35.6	24.2	33.4	23.7	29.6	20.6	25.4	17.8	22.6	17.6	34.6	23.6
	1	19.1	13.7	21.9	14.7	25.8	16.7	29.0	18.2	31.7	21.0	34.7	23.1	36.1	23.9	34.5	23.9	32.6	23.3	28.4	20.1	24.4	17.7	21.1	17.4	33.3	23.7
	2	17.9	13.1	20.6	13.8	24.6	15.9	28.0	17.7	30.8	21.0	33.7	23.1	35.2	23.9	33.7	24.1	31.7	22.9	27.4	19.3	23.2	16.7	19.8	16.4	32.0	23.2
Atlanta 722190	0.4	20.3	14.4	22.9	14.6	26.8	16.7	29.5	18.3	31.6	21.6	34.7	23.2	36.4	24.3	35.1	24.1	33.3	23.4	28.8	20.2	25.1	18.0	21.9	17.4	33.9	23.8
	1	19.1	14.7	21.7	14.0	25.6	16.5	28.5	17.6	30.7	20.7	33.7	22.8	35.3	24.0	34.1	24.0	32.2	23.0	27.8	19.5	23.9	17.3	20.8	16		

Table 4A Design Wet-Bulb—Mean Coincident Dry-Bulb Temperature

Location and WMO#		%	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
			WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b	
Moline/Davenport Intl Airport 725440	0.4	9.8	11.3	10.2	14.2	16.7	21.8	19.8	26.9	23.0	29.2	25.5	31.9	26.9	33.6	26.9	33.3	25.0	31.0	21.1	27.1	16.4	19.6	13.7	15.8	25.7	32.0	
	1	7.3	9.5	8.8	12.6	15.5	19.8	18.8	24.9	22.3	28.3	24.8	31.0	26.4	33.0	26.3	32.5	24.2	29.7	20.1	24.6	15.6	18.4	12.0	13.4	24.7	30.5	
	2	5.3	7.3	7.3	10.1	14.2	17.9	18.0	23.7	21.6	27.6	24.2	30.7	25.9	32.2	25.7	31.7	23.5	28.6	19.2	23.6	14.8	17.1	9.4	11.2	23.9	29.3	
Peoria 725320	0.4	11.1	12.2	11.4	14.0	17.4	21.9	20.4	25.6	23.4	28.1	25.7	31.0	27.3	33.1	26.8	32.3	25.2	30.8	20.8	25.2	16.8	19.4	14.7	16.0	25.8	31.6	
	1	8.9	9.7	10.1	12.7	16.1	20.6	19.3	24.1	22.6	27.4	25.1	30.3	26.6	32.2	26.2	32.1	24.3	29.4	20.0	24.2	16.1	19.1	12.9	13.9	24.9	30.1	
	2	6.8	7.9	8.8	10.9	14.9	17.7	18.3	22.9	21.8	27.0	24.4	29.7	26.0	32.0	25.6	31.2	23.6	28.2	19.2	22.8	15.2	17.6	10.7	11.9	23.9	29.0	
Rockford 725430	0.4	8.2	9.1	8.8	11.8	16.0	20.8	19.3	25.9	22.7	27.9	25.0	31.6	26.5	33.0	26.3	31.9	24.2	29.8	20.4	25.7	15.8	18.6	13.0	14.2	25.1	30.7	
	1	5.9	7.0	7.3	9.4	14.6	18.1	18.3	24.9	21.7	27.4	24.2	30.4	25.9	32.1	25.7	30.9	23.6	28.8	19.6	23.7	15.0	17.0	11.1	12.1	24.1	29.2	
	2	4.0	5.3	5.8	7.6	13.2	16.3	17.2	22.2	21.0	27.1	23.6	29.4	25.4	31.1	25.0	30.2	22.9	27.7	18.6	22.4	14.2	16.1	7.9	9.1	23.1	27.8	
Springfield 724390	0.4	12.8	14.1	13.2	15.3	18.1	22.7	21.1	26.1	24.1	28.9	25.8	31.7	27.7	32.7	27.1	33.0	25.4	31.1	21.3	25.7	17.9	20.8	15.6	17.1	26.1	31.9	
	1	10.7	12.1	11.9	14.7	16.8	20.8	19.9	24.9	23.2	27.7	25.2	31.0	26.9	32.4	26.6	32.2	24.7	30.3	20.4	25.0	17.0	19.7	14.1	15.6	25.2	30.9	
	2	8.8	10.5	10.4	12.9	15.9	19.7	19.1	23.8	22.4	27.4	24.7	30.4	26.4	32.3	26.0	31.7	24.1	29.5	19.7	23.9	16.2	18.8	12.3	13.4	24.4	29.5	
INDIANA																												
Evansville 724320	0.4	15.0	17.2	15.4	18.7	19.0	23.7	21.3	26.6	24.3	29.9	26.4	32.7	27.1	33.6	26.9	32.9	25.6	31.2	21.9	26.1	18.8	21.7	16.5	18.9	26.1	32.3	
	1	13.7	15.7	14.4	16.6	18.0	21.9	20.5	26.0	23.6	29.2	25.8	32.1	26.7	33.6	26.4	32.3	25.1	30.8	21.1	25.2	18.0	20.9	15.3	17.6	25.4	31.4	
	2	12.3	14.1	13.3	15.4	16.9	20.7	19.7	24.5	23.0	28.1	25.2	31.5	26.3	32.8	25.9	31.9	24.4	30.2	20.2	24.7	17.3	19.9	14.3	16.3	24.7	30.4	
Fort Wayne 725330	0.4	11.5	12.7	11.2	13.3	16.7	19.8	19.1	24.3	22.9	27.7	24.8	30.8	26.2	31.9	26.2	31.9	24.6	29.6	20.1	24.5	16.7	19.7	14.9	16.5	24.9	30.2	
	1	9.4	10.4	9.8	12.4	15.6	19.4	18.3	24.1	22.0	27.4	24.2	30.2	25.6	31.5	25.6	31.0	23.8	28.9	19.2	23.3	15.8	18.2	13.5	14.6	24.0	29.1	
	2	7.1	8.4	8.3	10.5	14.4	17.9	17.5	22.7	21.3	26.9	23.6	29.3	25.1	30.7	24.8	29.5	23.2	28.1	18.5	22.7	15.2	17.7	11.7	12.7	23.1	27.7	
Indianapolis 724380	0.4	14.1	15.9	13.4	15.2	17.4	20.8	19.7	24.7	23.3	28.4	25.7	30.8	26.8	32.3	26.7	32.1	25.0	30.4	21.1	24.8	18.0	20.5	15.4	16.8	25.6	31.1	
	1	11.7	12.7	12.0	14.1	16.4	20.0	18.9	23.2	22.6	27.7	25.0	30.1	26.2	32.0	26.1	31.4	24.4	29.5	20.2	23.4	17.3	19.5	14.6	16.1	24.8	29.7	
	2	9.7	10.9	10.6	12.9	15.5	19.3	18.2	22.8	21.9	27.2	24.3	29.6	25.8	31.5	25.6	30.7	23.8	28.8	19.5	22.8	16.4	18.6	13.3	14.8	24.0	28.6	
South Bend 725350	0.4	11.4	12.4	10.8	13.6	16.5	20.7	18.9	24.8	22.9	27.6	24.7	30.3	26.2	32.6	25.9	31.3	24.1	29.2	20.2	24.7	16.8	19.1	14.8	16.2	24.8	30.2	
	1	9.4	10.7	9.2	11.7	15.3	19.7	18.1	23.2	21.8	26.6	24.1	29.9	25.6	31.3	25.4	30.8	23.5	28.0	19.4	23.7	16.0	18.3	13.7	14.9	23.8	28.9	
	2	6.8	8.1	7.7	10.0	14.1	17.8	17.4	22.1	21.1	26.4	23.5	28.9	25.0	30.6	24.7	29.9	23.0	27.1	18.4	22.2	15.1	17.4	11.6	13.0	22.9	27.4	
IOWA																												
Des Moines 725460	0.4	8.4	10.5	10.3	14.3	16.1	21.8	19.6	26.8	22.9	28.4	25.6	31.8	26.8	33.5	26.1	32.9	24.8	30.4	20.8	25.9	16.1	19.1	13.5	15.1	25.3	31.8	
	1	6.2	8.5	8.4	13.4	14.8	19.0	18.6	24.9	22.1	27.4	25.0	31.0	26.2	32.6	25.6	32.2	24.1	30.1	19.8	24.9	15.2	17.4	10.9	12.6	24.6	30.8	
	2	4.7	7.8	7.0	11.2	13.4	18.5	17.7	23.9	21.2	26.9	24.4	30.4	25.7	32.1	25.1	31.7	23.5	28.9	18.8	22.9	14.2	16.5	7.7	10.7	23.7	29.6	
Mason City 725485	0.4	3.7	6.0	7.1	11.3	14.8	19.5	18.6	26.3	22.2	27.8	25.4	31.4	26.7	32.2	26.3	31.6	24.5	29.8	20.4	23.8	14.9	16.8	10.4	11.4	25.2	30.8	
	1	2.7	4.3	5.3	8.2	13.0	16.6	17.6	24.1	21.2	26.6	24.6	30.6	26.1	31.6	25.6	31.1	23.4	28.1	19.1	22.7	13.8	15.7	5.9	7.2	24.1	29.4	
	2	1.9	3.3	3.8	5.8	11.2	14.6	16.3	22.2	20.4	25.9	23.9	29.8	25.4	30.8	24.9	30.5	22.7	27.1	18.0	21.8	12.4	14.7	3.8	5.3	23.1	27.8	
Sioux City 725570	0.4	5.9	10.2	9.2	14.6	15.3	23.3	18.9	27.7	22.5	28.9	25.3	32.0	27.2	33.0	26.3	32.8	24.6	31.0	20.1	25.1	14.5	17.9	9.1	11.8	25.6	31.7	
	1	4.7	8.5	7.7	12.6	13.6	18.9	17.9	25.3	21.7	27.8	24.8	31.4	26.4	32.3	25.8	32.3	23.8	29.9	19.2	24.5	13.3	16.6	6.4	9.8	24.6	30.7	
	2	3.5	6.8	6.3	10.1	12.3	18.2	16.9	23.8	20.9	27.2	24.2	31.1	25.9	31.9	25.2	31.6	23.2	28.3	17.9	22.6	11.9	15.3	4.9	7.8	23.7	29.6	
Waterloo 725480	0.4	5.2	7.6	7.8	11.8	15.4	20.6	18.8	25.8	22.7	27.9	25.2	31.7	26.6	32.8	26.2	31.7	24.6	30.1	20.4	24.8	15.2	17.2	12.1	13.6	25.1	30.7	
	1	3.7	5.4	5.8	9.2	13.7	18.2	17.7	23.9	21.7	27.1	24.5	30.9	26.0	31.9	25.6	31.1	23.7	28.4	19.3	24.4	14.2	16.4	9.1	10.3	24.1	29.6	
	2	2.7	4.4	4.5	6.9	12.1	16.1	16.7	22.1	20.9	26.8	23.9	29.8	25.3	31.0	24.9	30.4	22.9	27.5	18.2	23.0	12.8	15.2	5.9	7.4	23.2	28.2	
KANSAS																												
Dodge City 724510	0.4	9.6	17.8	11.8	21.3	14.9	21.8	18.4	25.7	21.6	29.3	23.8	32.3	24.1	32.8	24.0	32.1	22.4	30.8	19.0	25.4	15.1	19.2	10.4	16.8	23.2	32.4	
	1	8.2	16.1	10.5	18.7	13.8	22.4	17.3	24.1	20.8	27.8	23.2	32.4	23.6	32.9	23.4	32.2	21.8	30.3	18.3	24.6	13.8	17.9	9.1	15.4	22.5	31.9	
	2	7.1	14.2	9.3	17.2	12.9	20.9	16.5	23.7	20.1	27.1	22.7	32.0	23.2	32.7	23.0	32.2	21.3	29.8	17.6	23.7	12.8	17.3	7.9	13.9	21.9	31.0	
Goodland 724650	0.4	7.6	16.9	9.8	20.2	11.8	22.0	15.3	23.9	18.9	25.6	21.4	29.6	22.4	30.2	21.9	29.4	20.2	28.4	15.7	22.6	11.3	19.2	8.6	17.4	21.2	29.7	
	1	6.6	15.1	8.4	17.8	10.7	20.3	14.6	23.4	18.2	24.9	20.9	29.1	21.8	29.8	21.3	29.6	19.6	27.7	14.9	23.3	10.3	18.9	7.4	14.8	20.6	29.0	

Table 4B Design Dry-Bulb—Mean Coincident Wet-Bulb Temperature

Location and WMO#		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
		%	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
Moline/Davenport Intl Airport 725440	0.4	11.9	9.4	15.2	10.2	23.8	15.3	29.3	18.1	32.0	21.0	34.8	23.6	36.1	25.5	35.9	25.3	33.3	23.2	28.7	19.9	21.3	14.7	16.0	13.8	33.9	24.3
	1	9.9	7.1	12.6	7.9	21.6	13.6	27.5	17.8	30.9	20.8	33.8	23.2	35.1	25.0	34.2	25.3	31.7	23.1	27.2	18.9	19.4	14.8	13.6	11.0	32.2	23.4
	2	7.8	5.2	10.5	7.1	19.4	13.0	25.7	16.8	29.7	19.9	32.7	22.8	34.1	24.7	33.1	24.9	30.3	22.4	25.6	18.2	18.0	13.9	11.7	8.9	30.7	22.7
Peoria 725320	0.4	12.5	9.9	15.3	10.1	23.9	15.3	28.4	18.6	31.1	21.2	34.0	23.3	36.1	25.2	35.7	24.9	32.4	23.3	27.9	19.3	21.4	15.6	16.2	14.1	33.3	24.3
	1	10.6	8.4	13.1	9.3	22.1	14.6	26.9	17.7	30.2	20.5	32.9	23.1	34.8	25.2	33.8	24.9	31.3	22.9	26.6	18.6	19.8	15.2	14.4	12.3	31.7	23.4
	2	8.6	6.2	11.3	8.4	19.9	13.7	25.3	17.1	29.1	20.3	32.0	22.7	33.7	24.8	32.6	24.8	30.1	22.8	25.0	17.7	18.1	14.4	12.5	10.7	30.2	22.8
Rockford 725430	0.4	9.4	8.4	12.3	8.4	22.2	14.8	28.6	18.1	31.1	20.5	33.8	22.6	35.1	24.3	34.4	24.4	31.8	22.6	27.8	19.9	20.0	14.8	14.5	12.8	32.6	23.5
	1	7.3	5.6	9.8	6.7	20.1	12.8	26.6	17.1	30.2	20.2	32.6	22.4	33.9	24.6	32.9	24.1	30.6	22.6	26.1	18.3	17.9	14.3	12.2	11.0	31.0	22.6
	2	5.7	3.7	7.9	5.2	17.6	12.4	24.4	16.7	29.1	19.7	31.6	22.3	32.8	24.0	31.7	23.8	29.2	21.9	24.5	17.5	16.4	13.3	9.6	7.4	29.6	21.7
Springfield 724390	0.4	14.8	12.1	16.9	12.6	24.6	16.4	29.0	18.6	32.3	21.7	35.2	23.7	36.6	25.6	35.7	25.3	33.6	23.5	29.6	19.7	22.8	15.9	17.3	14.2	34.1	24.5
	1	12.6	10.4	15.0	10.8	22.9	15.8	27.7	18.4	31.3	21.2	34.0	23.3	35.3	25.6	34.4	25.1	32.3	23.1	28.1	19.1	21.3	15.8	15.9	13.8	32.6	24.0
	2	10.7	8.3	13.3	10.4	21.1	14.7	26.3	17.9	30.2	20.8	33.1	23.1	34.3	25.0	33.3	25.2	31.1	23.0	26.6	18.1	19.7	15.2	13.9	11.5	31.2	23.2
INDIANA																											
Evansville 724320	0.4	17.9	14.2	19.9	13.9	25.8	16.9	29.6	19.2	32.3	22.0	35.5	24.4	36.6	25.6	36.2	25.4	33.7	23.2	29.5	20.0	24.2	16.8	19.3	16.1	34.4	24.7
	1	16.1	13.4	17.9	13.1	24.1	16.3	28.6	18.6	31.4	21.5	34.4	24.1	35.3	25.3	34.9	24.9	32.7	23.3	28.3	19.1	22.9	16.4	17.9	14.9	33.1	24.2
	2	14.5	11.8	16.6	12.2	22.7	16.0	27.3	18.3	30.6	21.3	33.6	23.5	34.5	25.1	33.9	24.7	31.8	23.7	27.1	18.7	21.5	15.8	16.7	14.0	31.9	23.7
Fort Wayne 725330	0.4	13.0	11.3	14.2	10.3	22.6	15.4	28.1	17.5	31.2	20.8	33.5	21.5	35.0	23.7	33.6	24.2	32.0	22.6	27.6	17.9	21.6	15.5	16.5	14.7	32.4	23.2
	1	10.9	9.1	12.0	9.3	20.9	14.8	26.4	17.4	30.1	20.3	32.5	21.9	33.6	23.9	32.4	24.0	30.6	22.5	26.2	18.2	19.7	15.1	14.8	13.1	30.9	22.6
	2	8.6	6.9	10.4	8.1	19.0	13.6	24.2	16.4	29.0	20.0	31.6	22.1	32.6	23.9	31.4	23.6	29.4	21.8	24.5	17.2	18.1	14.6	13.1	11.4	29.6	21.8
Indianapolis 724380	0.4	15.8	13.9	17.0	11.8	24.0	16.1	27.8	18.1	31.1	21.3	33.4	22.8	35.3	24.8	33.9	24.6	32.4	23.0	27.9	18.7	22.5	16.2	17.6	14.6	32.7	24.1
	1	13.3	11.3	15.1	10.7	22.3	14.9	26.5	17.6	30.2	21.1	32.4	22.4	34.1	24.9	32.8	25.1	31.3	23.2	26.6	18.6	21.2	16.0	16.2	14.1	31.3	23.4
	2	11.3	9.2	13.4	10.4	20.7	14.2	24.9	17.2	29.2	20.4	31.6	22.9	33.0	24.8	31.9	24.6	30.2	22.7	25.2	18.1	19.8	15.3	14.9	13.1	30.1	22.7
South Bend 725350	0.4	12.5	11.3	14.3	10.0	22.9	15.0	27.8	17.1	31.2	20.3	33.6	21.8	34.9	24.4	33.8	24.8	31.9	22.4	27.2	18.2	21.3	15.6	16.5	14.8	32.2	23.0
	1	10.7	9.1	12.0	9.5	20.8	13.8	25.9	17.1	30.1	20.3	32.4	21.9	33.6	24.1	32.4	23.8	30.1	22.1	25.8	18.0	19.4	14.8	14.9	13.3	30.8	22.4
	2	8.5	6.3	10.1	7.3	18.8	13.2	23.7	16.1	28.9	19.6	31.4	21.6	32.4	23.7	31.3	23.4	28.9	21.6	24.2	17.4	17.9	14.6	12.9	11.4	29.3	21.6
IOWA																											
Des Moines 725460	0.4	11.6	6.8	16.1	8.3	24.5	14.4	29.3	18.3	30.8	20.5	34.9	23.8	36.9	24.5	36.6	24.3	33.1	23.3	28.4	19.2	20.4	14.4	15.5	12.4	34.1	24.2
	1	9.6	6.3	13.5	7.9	21.8	13.5	27.6	17.3	29.9	20.3	33.3	23.2	35.5	24.7	35.0	24.6	31.5	23.2	26.8	18.4	18.7	13.8	13.2	9.8	32.3	23.4
	2	7.7	4.4	11.3	6.9	19.5	12.3	25.6	16.5	28.9	20.1	32.2	23.0	34.4	24.6	33.6	24.1	30.2	22.2	25.3	17.5	17.3	13.3	10.9	7.3	30.7	22.7
Mason City 725485	0.4	6.6	3.3	11.2	6.2	21.3	13.9	28.8	16.8	31.1	19.6	34.6	23.8	35.1	24.8	34.4	24.7	32.0	23.3	27.8	18.1	18.3	13.6	11.4	10.4	32.8	23.4
	1	4.7	2.3	8.3	4.8	17.7	11.6	26.6	16.7	29.8	18.8	33.2	22.4	33.9	24.4	33.0	24.3	30.3	21.8	25.8	17.1	16.6	12.4	7.8	5.7	31.1	22.6
	2	3.4	1.7	6.1	3.4	15.1	10.8	24.3	15.1	28.4	18.5	31.9	21.9	32.9	23.9	31.8	23.8	28.8	21.2	23.9	16.3	15.1	11.9	5.5	3.6	29.5	21.9
Sioux City 725570	0.4	11.2	5.4	15.4	8.1	24.6	13.5	30.9	17.2	31.9	19.6	35.9	23.9	36.8	24.4	35.7	24.6	33.3	22.1	28.8	18.1	19.6	12.0	12.7	8.1	34.2	23.8
	1	8.9	4.2	12.9	7.4	21.9	13.0	28.7	16.9	30.7	20.0	34.4	23.2	35.4	24.5	34.5	24.2	31.7	22.3	27.1	17.3	17.9	12.0	10.5	6.6	32.4	23.3
	2	7.1	3.4	10.7	6.2	19.3	11.4	26.6	16.1	29.6	19.5	33.2	22.9	34.3	24.6	33.3	24.0	30.3	21.4	25.5	16.4	16.4	10.8	8.3	4.5	30.8	22.4
Waterloo 725480	0.4	7.9	4.6	11.7	7.4	22.6	13.4	28.3	17.1	31.1	20.7	34.0	23.3	35.4	24.4	35.1	25.2	32.1	22.6	27.7	19.0	18.9	13.6	13.7	12.2	32.9	23.6
	1	6.0	3.3	9.3	6.2	19.4	12.4	26.5	16.4	29.9	20.2	32.8	22.8	34.2	24.2	33.0	24.1	30.5	22.8	25.9	18.1	17.1	12.9	10.6	8.8	31.2	22.7
	2	4.7	2.5	7.3	4.1	16.8	11.8	24.2	15.5	28.7	19.3	31.8	22.3	33.2	24.1	31.9	23.9	29.1	21.5	24.2	16.8	15.7	12.3	8.0	5.5	29.7	21.9
KANSAS																											
Dodge City 724510	0.4	18.9	8.7	23.8	10.9	27.9	13.0	31.1	15.5	34.1	17.8	38.5	20.7	40.1	21.3	39.3	20.7	36.5	19.9	32.1	15.7	24.6	12.5	19.1	8.9	37.8	21.2
	1	16.9	7.4	21.1	9.3	26.1	12.6	29.4	14.6	32.7	18.2	37.1	21.1	39.1	21.0	38.2	21.3	35.3	19.6	30.7	15.6	22.7	11.8	17.1	7.9	36.2	20.8
	2	14.8	6.7	18.9	8.5	24.1	11.4	27.9	14.6	31.1	17.8	35.9	20.5	38.3	21.2	37.3	21.2	34.1	19.7	29.1	15.3	20.8	10.7	15.1	7.3	34.4	20.6
Goodland 724650	0.4	18.4	7.1	21.7	9.4	25.9	10.0	29.6	12.8	32.1	15.4	37.6	18.0	38.4	18.8	37.3	18.9	34.8	17.3	30.5	13.2	22.4	9.6	18.7	7.8	36.1	18.8
	1	16.0	6.0	19.1	7.8	23.4	9.7	27.8	12.5	30.5	15.2	36.1	18.5	37.3	19.1	36.3	18.8	33.4	17.3	29.0	13.2	21.0	9.7	16.6	6.7	34.3	18.7
	2																										

Table 4A Design Wet-Bulb—Mean Coincident Dry-Bulb Temperature

Location and WMO#		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
		WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
MAINE																											
Caribou 727120	0.4	6.2	6.6	6.2	7.3	8.1	11.9	14.1	18.1	19.6	27.6	22.7	27.2	24.1	28.8	23.8	29.7	21.4	24.9	17.9	21.3	14.1	14.9	7.8	7.9	22.4	26.9
	1	3.4	4.0	4.7	6.8	6.9	9.4	12.7	15.7	18.3	23.8	21.6	26.3	23.4	28.6	22.6	26.5	20.4	24.1	16.7	20.1	12.5	13.4	5.3	6.3	21.2	25.2
	2	2.0	2.9	3.0	4.3	5.7	8.1	11.1	14.8	17.4	23.0	20.7	25.1	22.8	27.8	21.8	25.3	19.5	22.0	15.3	18.0	10.9	12.0	3.7	4.4	20.1	24.2
Portland 726060	0.4	8.3	9.4	7.9	9.3	11.1	14.4	14.9	19.6	20.3	26.2	22.9	29.1	24.7	31.0	24.6	30.1	23.2	28.7	17.9	21.8	14.5	16.1	11.0	11.9	23.2	28.3
	1	6.4	7.2	6.6	7.7	9.3	12.3	13.4	18.4	19.1	24.6	22.1	28.0	24.1	30.2	23.7	28.6	22.2	26.8	17.1	20.4	13.6	14.9	9.6	10.7	22.1	26.6
	2	4.6	5.8	5.4	6.9	7.9	10.4	12.1	16.7	17.7	22.9	21.3	27.2	23.4	28.8	23.0	27.5	21.2	24.6	16.3	19.3	12.6	13.9	8.1	9.3	21.0	25.1
MARYLAND																											
Glen Burnie/ Baltimore, BWI Airport 724060	0.4	13.6	16.4	15.0	18.2	17.9	24.1	19.6	26.9	23.4	29.4	25.4	31.8	26.6	33.1	26.3	31.6	25.2	30.5	21.7	25.2	19.3	22.7	16.4	18.6	25.4	31.2
	1	12.1	14.5	13.5	17.3	16.4	21.6	18.8	25.3	22.7	28.2	24.8	30.8	26.0	32.3	25.7	31.3	24.6	29.9	21.1	24.1	18.0	20.6	15.0	17.4	24.6	30.2
	2	10.3	12.5	11.8	14.7	15.2	19.9	17.9	23.8	21.8	27.2	24.3	30.2	25.6	31.7	25.2	30.7	24.1	29.5	20.2	23.3	17.2	19.3	13.4	15.5	23.9	29.3
MASSACHUSETTS																											
Boston 725090	0.4	12.3	13.0	11.9	14.3	14.5	17.8	17.4	26.0	21.4	29.4	24.1	31.1	25.2	32.6	25.3	31.2	24.1	30.7	20.1	23.4	17.8	20.4	14.5	15.9	24.1	30.3
	1	10.3	12.2	10.1	12.0	12.9	17.1	16.2	22.5	20.4	26.9	23.2	30.2	24.7	32.1	24.7	30.1	23.3	28.6	19.1	22.3	16.4	18.5	13.2	14.4	23.2	28.4
	2	8.1	10.2	8.2	10.4	11.4	14.3	14.9	19.7	19.4	25.1	22.5	29.3	24.2	30.9	24.0	29.1	22.7	26.9	18.2	21.0	15.3	17.8	11.4	13.3	22.3	26.9
Worcester 725095	0.4	10.4	11.5	10.5	11.8	13.1	17.0	16.6	23.6	20.6	26.5	22.9	28.6	24.4	29.5	24.8	29.1	23.3	28.3	18.5	21.2	16.2	18.6	12.7	14.2	23.2	27.6
	1	8.1	10.3	8.6	10.2	11.6	15.4	15.1	21.2	19.5	25.4	22.0	27.7	23.8	28.9	23.8	27.8	22.4	26.8	17.6	20.6	15.0	16.5	11.4	12.8	22.1	26.6
	2	5.9	7.4	6.7	8.7	10.0	13.3	14.1	18.9	18.4	24.0	21.3	26.7	23.2	28.2	23.1	26.6	21.5	24.9	16.8	20.3	13.8	15.6	9.3	10.9	21.2	25.1
MICHIGAN																											
Alpena 726390	0.4	5.7	6.9	6.1	8.7	12.8	16.2	17.6	26.1	21.1	26.6	23.1	29.9	24.9	30.7	24.4	29.3	22.8	28.4	18.7	23.6	14.5	16.9	10.6	11.7	23.1	28.4
	1	4.0	5.3	4.4	6.3	10.7	14.7	16.5	22.7	20.0	25.2	22.2	28.8	24.2	30.3	23.6	28.8	21.9	26.2	17.6	21.1	13.0	14.7	7.4	8.4	21.9	27.1
	2	2.7	4.1	3.1	5.1	8.6	12.6	14.9	19.7	19.1	24.4	21.4	27.5	23.4	29.0	23.0	27.5	21.0	24.7	16.3	19.6	11.4	13.3	5.0	6.2	20.9	25.6
Detroit, Metro 725370	0.4	10.4	11.7	9.6	11.9	15.7	19.8	18.9	24.2	22.9	28.3	24.6	30.7	25.8	32.7	25.3	31.9	24.1	29.2	19.9	24.8	16.1	18.4	13.9	15.6	24.4	29.9
	1	7.7	9.1	8.1	10.4	14.1	18.0	17.9	23.4	22.1	27.1	23.9	30.0	25.2	31.6	25.0	30.7	23.3	28.4	18.8	23.0	15.1	17.4	12.1	13.6	23.4	28.7
	2	5.8	7.0	6.6	8.3	12.7	16.8	16.9	22.5	21.2	27.2	23.2	29.2	24.5	30.3	24.2	29.3	22.6	27.4	17.8	21.7	14.2	16.7	10.0	11.5	22.5	27.4
Flint 726370	0.4	9.1	10.2	8.4	10.3	15.2	18.6	18.6	24.6	22.8	28.2	23.8	29.5	25.9	31.6	25.6	30.7	23.7	29.0	19.6	23.7	16.0	18.5	13.7	15.2	24.1	29.0
	1	7.2	8.6	7.1	8.8	13.7	17.2	17.7	23.1	21.8	27.1	23.8	29.5	25.1	30.2	24.7	29.6	22.9	27.3	18.7	22.6	15.0	16.9	11.7	12.6	23.1	27.9
	2	4.9	6.7	5.6	7.5	12.0	15.5	16.7	21.9	20.8	25.7	22.7	28.7	24.3	29.4	23.9	28.3	22.2	25.9	17.7	21.4	14.1	16.2	9.3	10.8	22.1	26.7
Grand Rapids 726350	0.4	9.2	10.3	9.1	11.2	15.6	20.1	19.1	25.1	22.3	27.4	24.3	29.8	25.7	31.3	25.6	31.3	23.8	29.0	20.2	24.8	15.8	18.6	13.4	14.8	24.3	29.6
	1	7.1	8.1	7.0	8.9	14.2	18.2	18.1	23.5	21.6	27.2	23.7	29.6	25.1	30.7	24.9	30.4	23.1	27.3	19.0	23.1	14.8	16.7	11.5	12.6	23.3	28.1
	2	4.6	5.8	5.5	7.2	12.4	15.9	17.1	21.4	20.8	26.8	23.1	28.9	24.4	29.9	24.3	29.3	22.4	26.5	18.0	21.7	14.1	16.0	8.7	10.4	22.4	27.0
Hancock 727440	0.4	5.5	6.2	5.5	7.6	12.4	14.7	17.3	22.8	20.3	26.4	23.1	29.1	24.3	30.1	24.4	29.8	22.4	26.5	18.3	21.9	13.9	15.8	8.6	9.5	22.9	27.8
	1	3.4	4.6	4.1	5.5	10.5	12.6	15.9	21.5	19.6	25.9	22.3	27.2	23.7	29.1	23.6	28.4	21.6	24.9	17.3	20.7	12.8	14.8	6.2	7.1	21.8	26.4
	2	1.9	2.8	2.7	4.1	8.5	10.8	14.7	18.4	18.7	24.3	21.6	26.6	23.1	27.9	23.0	27.5	20.8	23.7	16.3	19.4	11.7	13.3	3.8	4.6	20.8	25.0
Lansing 725390	0.4	9.6	10.5	9.3	10.8	15.6	18.9	19.3	24.9	22.9	27.3	24.4	29.8	25.8	31.7	25.3	31.1	24.1	28.7	19.8	24.4	16.1	18.5	13.6	14.9	24.4	29.6
	1	7.5	8.9	7.6	9.6	14.2	17.6	18.1	23.3	21.8	27.0	23.7	29.3	25.2	30.8	24.7	30.3	23.4	27.6	18.9	22.8	15.0	17.7	11.6	12.7	23.4	28.2
	2	5.2	6.7	6.0	7.6	12.7	15.9	17.1	21.6	21.0	26.3	23.1	28.8	24.6	29.7	24.2	29.4	22.8	26.8	18.0	21.7	14.2	16.2	9.1	10.2	22.6	27.0
Muskegon 726360	0.4	7.7	8.6	6.9	9.0	14.5	18.4	17.9	23.1	21.3	25.7	22.9	28.3	24.7	29.3	25.1	29.8	23.2	27.3	19.2	22.8	15.1	16.8	11.7	12.8	23.6	27.8
	1	5.8	6.7	5.6	7.2	12.8	15.8	16.8	21.3	20.3	25.2	22.4	27.6	24.1	28.7	24.5	28.8	22.6	26.3	18.3	21.7	14.3	15.9	10.1	11.0	22.7	26.7
	2	4.0	4.8	4.3	6.0	11.3	14.8	15.7	19.8	19.6	24.7	21.8	26.7	23.6	27.9	23.9	27.9	21.9	25.2	17.5	20.7	13.4	15.1	7.7	8.8	21.8	25.4
Sault Ste. Marie 727340	0.4	2.9	3.4	3.4	4.2	6.9	8.9	15.6	20.6	20.6	26.6	22.0	27.5	24.2	29.1	23.6	28.3	22.4	26.8	17.3	20.4	12.3	12.8	6.6	7.1	22.2	26.8
	1	1.8	2.3	2.3	3.0	5.8	7.7	14.0	18.3	19.3	24.4	21.0	26.7	23.3	28.0	22.8	26.9	21.2	23.9	16.1	19.1	10.9	12.2	4.2	4.7	21.0	24.9
	2	1.0	1.5	1.6	2.3	4.8	6.3	12.3	15.4	18.1	23.3	20.1	25.1	22.4	27.4	21.9	25.8	20.1	22.4	15.0	17.6	9.4	10.7	2.8	3.3	19.8	23.6
Traverse City 726387	0.4	5.2	6.2	5.8	8.2	13.4	17.8	18.2	25.0	21.7	27.9	23.7	30.7	24.9	31.8	24.7	30.1	23.4	28.6	19.8	24.2	14.9	17.0	11.4	13.4	23.4	28.9
	1	3.7	5.3	4.3	6.2	11.8	15.2	17.2	23.4	20.7	27.5	22.8	29.7	24.2	30.8	23.9	29.1	22.6	27.3	18.7	22.7	13.8	16.1	8.4	10.1	22.4	27.7
	2	2.7	4.2	3.1	4.9	10.0	13.7	15.9	21.5	19.7	25.6	21.9	28.5	23.6	29.4	23.3	27.9	21.7	25.4	17.6	21.2	12.6	14.7	5.7	6.6	21.3	26.4
MINNESOTA																											
Duluth 727450	0.4	1.5	3.3	3.2	6.9	7.9	11.8	14.2	19.9	19.1	25.7	22.1	26.9	23.7	29.9	23.1	28.8	21.4	26.1	16.6	20.0	11.1	12.3	3.7	4.4	21.9	27.2
	1	0.5	1.9	1.9	4.2	6.2	9.1	12.6																			

Table 4B Design Dry-Bulb—Mean Coincident Wet-Bulb Temperature

Location and WMO#		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
		%	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
MAINE																											
Caribou 727120	0.4	6.6	6.3	8.4	5.8	13.1	7.6	21.0	13.0	28.9	18.2	30.8	19.7	31.8	22.2	30.6	22.5	27.4	20.1	22.7	17.3	15.2	13.6	8.4	7.4	29.4	20.5
	1	4.4	2.8	6.3	4.9	10.3	5.3	18.5	11.3	26.8	17.0	29.6	19.3	30.7	21.8	29.3	20.9	25.7	19.1	20.5	16.2	13.7	12.1	6.6	5.3	27.6	19.4
	2	3.1	1.8	4.5	2.6	8.7	4.9	16.2	10.1	25.1	15.3	28.4	19.1	29.6	21.4	28.2	20.0	24.4	18.2	18.6	14.6	12.4	10.6	4.6	3.4	26.0	18.8
	0.4	9.5	7.7	10.3	7.2	16.0	9.9	22.6	13.4	29.1	18.8	32.0	21.4	32.9	23.7	32.2	22.6	29.8	22.6	24.1	16.7	17.7	12.9	12.4	9.8	30.2	21.8
Portland 726060	1	7.9	5.9	8.4	5.8	13.4	8.6	19.5	12.4	26.8	17.7	30.1	21.2	31.6	22.9	30.7	22.4	28.1	21.4	22.1	15.9	15.7	12.4	10.9	9.3	28.4	20.8
	2	6.3	3.9	7.1	4.8	11.2	6.9	17.3	10.7	24.4	16.2	28.6	20.2	30.3	21.8	29.5	21.8	26.2	20.2	20.3	15.2	14.4	11.4	9.4	7.9	26.7	19.8
MARYLAND																											
Glen Burnie/ Baltimore, BWI Airport 724060	0.4	16.9	13.5	20.5	12.8	25.7	16.5	30.1	18.3	32.8	21.6	34.6	23.4	36.4	24.5	35.2	24.4	33.9	23.2	28.2	19.4	24.2	18.3	19.8	15.5	34.0	23.7
	1	14.7	10.7	17.9	11.7	23.6	14.8	28.1	17.4	31.3	20.4	33.7	23.2	35.3	24.3	34.1	24.0	32.6	23.3	26.7	19.2	22.3	16.3	17.9	14.0	32.6	23.2
	2	12.9	9.7	16.1	11.4	21.2	14.3	26.1	16.6	29.9	20.3	32.7	22.7	34.3	24.2	33.1	23.7	31.3	22.7	25.3	18.7	20.8	15.6	16.1	12.8	31.1	22.5
MASSACHUSETTS																											
Boston 725090	0.4	14.2	11.7	14.9	12.2	20.7	12.7	27.1	16.8	31.2	20.0	34.0	22.3	35.3	24.3	33.6	23.6	32.1	23.3	26.1	18.3	21.5	16.6	16.6	13.7	32.5	22.6
	1	12.2	9.8	12.8	9.7	17.4	11.9	23.9	15.4	29.1	18.8	32.7	22.1	34.0	23.8	32.6	23.3	30.1	22.3	24.4	17.4	19.9	15.1	14.9	12.9	30.7	21.9
	2	10.4	7.9	10.9	7.7	15.1	10.6	21.5	13.5	27.3	17.8	31.2	21.5	32.7	23.2	31.4	22.6	28.4	21.3	22.9	16.8	18.2	14.6	13.5	11.2	28.9	21.1
Worcester 725095	0.4	12.1	9.9	13.0	8.9	18.9	10.9	26.1	15.0	29.1	18.8	30.7	21.8	31.9	22.8	30.9	23.1	29.2	22.7	24.6	16.6	19.4	14.9	14.6	12.3	29.7	21.6
	2	10.2	7.8	10.9	8.3	16.7	10.4	23.3	14.4	27.5	18.0	29.6	20.9	30.9	22.7	29.6	22.1	27.7	21.9	23.1	15.9	17.7	13.8	13.2	11.1	28.2	20.8
	2	8.1	5.5	8.9	6.3	14.4	9.2	20.9	12.6	26.1	17.3	28.5	20.2	29.9	22.2	28.7	21.7	26.2	20.4	21.6	15.9	16.2	13.2	11.1	9.2	26.7	19.9
MICHIGAN																											
Alpena 726390	0.4	7.4	5.7	8.7	4.9	17.3	12.1	27.6	16.8	29.4	18.6	32.7	21.3	33.9	23.1	31.9	23.1	29.3	21.8	24.5	17.8	17.6	13.1	12.6	10.2	30.8	21.7
	1	5.8	3.8	6.8	4.2	14.9	9.9	23.9	15.5	28.0	18.5	31.2	20.7	32.4	22.9	30.7	22.5	27.8	20.8	22.3	16.1	15.6	12.6	8.8	7.0	28.9	20.4
	2	4.3	2.6	5.3	2.7	12.5	8.3	21.2	13.8	26.3	17.9	29.6	20.4	31.1	22.1	29.4	21.7	26.2	19.8	20.6	15.1	13.9	11.3	6.3	4.7	27.1	19.6
Detroit, Metro 725370	0.4	11.6	10.2	12.9	9.2	22.0	14.5	27.6	17.5	31.2	20.9	33.2	22.3	34.8	23.7	33.3	24.6	31.3	22.6	26.9	17.8	20.2	14.9	15.8	13.7	32.1	22.8
	1	9.4	7.7	10.6	7.7	19.6	13.5	25.7	16.8	28.9	20.5	32.2	22.0	33.4	23.8	32.1	23.7	30.0	22.2	25.1	17.8	18.4	14.5	13.9	11.9	30.6	22.1
	2	7.2	5.6	8.6	6.2	17.1	11.6	23.3	15.9	28.5	19.9	31.2	21.9	32.3	23.3	31.1	22.7	28.7	21.8	23.4	16.4	17.0	13.8	11.6	9.6	29.1	21.3
Flint 726370	0.4	10.6	9.3	10.9	7.4	20.8	12.9	27.1	17.4	30.1	20.9	32.8	21.5	33.9	22.9	32.4	24.2	30.9	22.3	26.1	18.3	19.9	14.8	15.6	13.2	31.3	22.6
	1	8.9	6.7	9.3	6.8	18.9	12.9	25.1	16.7	28.9	20.3	31.4	21.6	32.6	23.6	31.2	23.3	29.1	21.8	24.3	17.4	18.2	14.3	13.4	11.4	29.8	21.8
	2	6.7	5.0	7.6	5.4	16.5	11.6	22.9	15.9	27.7	19.3	30.4	21.4	31.6	23.2	30.2	22.4	27.7	20.9	22.8	16.8	16.7	13.6	10.9	9.1	28.4	20.8
Grand Rapids 726350	0.4	10.3	9.0	11.3	8.1	21.1	14.2	27.1	17.8	30.9	20.5	32.9	21.8	33.6	23.4	33.3	23.2	30.7	22.3	26.2	18.5	19.8	14.3	15.0	12.9	31.8	22.8
	1	8.3	6.7	9.3	7.0	19.1	12.8	25.4	17.1	29.5	20.2	31.8	21.6	32.7	23.2	32.1	23.4	29.2	22.1	24.8	18.0	17.8	13.8	12.9	11.1	30.2	21.8
	2	6.2	4.3	7.4	5.2	16.9	12.6	23.2	15.7	28.2	19.6	30.9	21.4	31.9	23.4	30.8	22.6	27.8	21.0	23.3	17.3	16.3	13.3	10.3	8.7	28.8	20.9
Hancock 727440	0.4	6.3	5.3	7.6	5.1	16.1	10.7	24.8	16.6	29.5	18.9	31.1	21.1	32.7	22.6	31.3	23.2	27.9	21.2	24.6	16.8	17.1	12.8	10.0	8.8	29.7	21.5
	1	4.8	3.2	6.1	3.8	13.4	9.5	22.2	14.8	28.0	17.9	29.7	20.7	31.2	22.2	30.1	22.6	26.4	20.2	22.8	15.9	15.3	12.3	7.5	6.1	28.1	20.4
	2	3.1	1.7	4.4	2.2	11.2	7.6	20.2	13.6	26.6	17.2	28.6	20.2	29.9	21.9	29.0	22.0	25.2	19.1	20.9	15.4	13.7	11.1	4.7	3.4	26.7	19.6
Lansing 725390	0.4	11.2	8.8	11.3	8.6	21.2	13.2	26.9	17.9	30.7	20.7	33.2	21.6	34.1	23.5	33.6	24.1	31.1	22.6	26.4	18.1	20.3	14.9	15.0	13.2	31.9	22.9
	1	9.2	7.5	9.8	7.4	19.3	12.9	25.4	17.4	29.4	21.2	31.9	21.9	33.1	23.5	32.2	23.7	29.4	22.1	24.9	18.0	18.2	14.5	13.0	11.3	30.2	22.0
	2	6.9	5.2	7.7	5.7	17.0	12.1	23.1	16.1	28.0	19.8	30.8	21.7	32.1	23.4	30.9	22.7	28.0	21.4	23.1	16.9	16.6	13.6	10.4	8.7	28.7	21.3
Muskegon 726360	0.4	8.7	7.4	9.4	6.6	19.3	13.0	25.0	17.5	28.8	19.1	30.7	21.1	31.7	23.0	31.4	23.7	28.7	21.8	24.3	18.2	17.8	14.2	12.9	11.4	29.7	21.8
	1	6.7	5.6	7.4	5.0	17.3	11.3	22.9	15.6	27.7	18.3	29.7	20.7	30.6	22.6	30.1	23.1	27.5	21.1	23.1	17.4	16.4	13.6	11.2	10.2	28.4	21.1
	2	5.2	3.8	5.9	4.1	15.3	10.8	21.2	14.1	26.6	18.4	28.8	20.3	29.8	22.2	29.0	22.6	26.6	21.1	21.8	16.5	15.4	13.0	9.1	7.6	27.2	20.4
Sault Ste. Marie 727340	0.4	3.7	2.7	4.6	2.2	10.2	6.1	22.3	14.5	28.2	19.4	29.7	20.7	31.3	22.3	29.8	21.9	27.2	22.0	22.6	16.7	13.6	10.9	7.5	6.4	28.4	20.8
	1	2.4	1.5	3.7	2.0	8.4	4.9	19.6	12.2	26.6	17.9	28.2	19.5	29.9	22.3	28.7	21.2	25.4	20.0	20.1	15.2	12.4	10.4	5.1	3.7	26.6	19.8
	2	1.7	0.8	2.8	1.2	6.8	4.0	17.4	10.8	24.9	16.3	26.8	19.2	28.6	21.3	27.6	21.0	23.9	18.9	18.3	14.4	11.1	9.1	3.4	2.6	24.9	18.7
Traverse City 726387	0.4	7.1	4.4	8.3	5.4	19.2	12.4	27.8	17.7	30.9	20.2	33.8	21.4	34.2	22.9	33.2	22.8	29.9	22.2	25.8	18.6	18.7	13.3	13.2	11.6	31.7	21.9
	1	5.7	3.4	6.9	3.9	16.8	10.6	25.2	16.2	29.3	19.6	32.1	21.4	33.1	22.9	31.5	22.4	28.6	21.4	24.1	17.6	16.6	12.8	10.0	7.8	29.8	20.9
	2	4.4	2.4	5.2	2.6	14.2	9.8	22.4	14.2	27.4	18.1	30.6	20.4	31.9	22.3	30.2	21.6	27.2	20.5	22.4	16.5	15.3	12.4	7.2	5.1	28.1</	

Table 4A Design Wet-Bulb—Mean Coincident Dry-Bulb Temperature

Location and WMO#	%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual													
		WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB												
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
Springfield 724400	0.4	13.6	16.7	14.9	18.9	18.1	23.2	20.8	26.6	23.4	28.4	25.7	31.4	26.4	32.6	25.8	32.2	24.7	31.1	21.6	26.1	18.1	21.2	15.9	18.3	25.3	31.7
	1	12.4	14.4	13.8	17.3	17.3	21.8	20.0	25.6	22.7	27.9	25.1	30.6	25.9	32.2	25.4	32.1	24.2	30.1	20.8	25.3	17.2	20.7	15.0	17.7	24.6	31.1
	2	11.3	13.3	12.7	16.4	16.5	20.9	19.4	24.6	22.1	27.1	24.6	29.9	25.5	31.8	25.0	32.1	23.7	29.5	19.9	23.4	16.4	19.7	13.7	16.2	24.0	30.2
St. Louis, Intl Airport 724340	0.4	14.5	17.8	15.0	18.9	18.6	24.3	21.3	26.9	23.7	29.5	26.0	32.2	27.3	33.9	26.5	33.4	25.8	31.4	21.9	25.7	18.6	21.5	16.7	19.0	26.1	32.3
	1	12.7	14.4	13.7	16.6	17.8	23.0	20.2	26.1	23.1	28.4	25.4	31.5	26.8	33.5	26.1	32.9	25.1	30.8	21.3	25.0	17.9	21.0	15.4	16.9	25.3	31.3
	2	11.1	13.4	12.3	15.7	16.9	21.2	19.5	24.9	22.4	27.9	25.0	30.8	26.3	32.6	25.7	32.4	24.4	29.8	20.6	24.2	17.1	19.6	13.9	15.6	24.6	30.4
MONTANA																											
Billings 726770	0.4	5.8	12.3	7.6	16.3	9.1	19.3	12.7	25.6	15.9	26.8	19.2	30.8	20.2	30.2	19.3	31.1	17.1	29.2	13.1	25.3	9.3	18.2	6.4	13.6	18.6	30.1
	1	4.7	10.6	6.2	13.2	8.2	17.9	11.8	23.7	15.2	25.9	18.4	29.8	19.6	30.3	18.6	31.3	16.3	27.9	12.5	24.7	8.3	16.4	5.3	11.8	17.7	29.1
	2	3.8	9.3	5.4	12.4	7.4	16.5	11.0	21.8	14.6	25.3	17.8	28.9	18.9	30.3	18.0	30.2	15.6	27.1	11.8	22.6	7.3	14.7	4.4	10.1	16.9	28.2
Cut Bank 727796	0.4	6.3	11.3	6.6	12.3	7.4	15.4	10.9	22.1	14.2	23.8	16.4	26.7	19.1	26.6	17.6	29.9	15.4	26.8	12.1	24.2	8.4	15.6	6.3	10.9	16.8	27.3
	1	5.1	9.9	5.3	10.7	6.6	13.4	9.9	20.6	13.4	22.7	15.9	26.6	18.2	25.8	17.2	28.7	14.6	25.8	11.3	22.8	7.3	14.3	5.1	9.8	15.8	26.3
	2	4.1	8.4	4.3	9.3	5.6	11.5	9.0	18.6	12.6	21.8	15.3	25.9	17.3	26.0	16.6	28.5	13.8	25.9	10.7	21.2	6.3	12.1	4.2	8.6	14.9	25.2
Glasgow 727680	0.4	3.9	6.9	6.3	11.5	9.4	17.4	13.4	24.6	17.4	28.5	20.5	31.6	22.4	28.9	20.3	30.2	17.4	29.0	13.7	24.7	8.9	15.0	5.3	9.4	19.8	29.4
	1	3.0	5.9	5.0	9.6	8.2	15.4	12.3	22.6	16.4	26.9	19.6	29.8	21.4	28.8	19.6	30.1	16.7	26.5	12.8	23.2	7.8	14.1	3.9	7.8	18.6	28.6
	2	2.2	4.7	3.9	7.4	7.0	13.6	11.4	21.3	15.6	25.2	18.9	28.9	20.5	28.7	18.9	29.9	16.0	26.3	11.9	21.4	6.6	11.9	2.8	5.8	17.7	27.5
Great Falls, Intl Airport 727750	0.4	6.4	12.4	7.4	14.8	8.9	18.3	12.4	24.2	15.7	25.9	18.4	29.5	19.6	29.3	18.4	30.3	16.1	29.2	12.8	24.9	8.8	16.1	6.9	12.9	17.7	28.8
	1	5.4	10.7	6.3	13.1	7.9	16.6	11.5	22.5	14.8	24.9	17.6	28.7	18.7	29.1	17.7	29.1	15.3	27.7	12.2	23.7	8.0	15.3	5.9	11.6	16.8	27.9
	2	4.6	9.8	5.4	11.6	7.1	14.7	10.6	20.7	13.9	24.3	16.9	27.8	18.0	28.8	17.2	28.7	14.7	26.9	11.4	22.8	7.3	14.2	5.0	10.4	15.9	26.9
Helena 727720	0.4	5.2	10.0	6.8	13.1	8.5	18.3	12.1	22.5	15.0	25.4	18.2	27.3	18.6	28.4	17.9	28.1	16.3	27.1	12.3	22.3	8.3	15.3	5.8	11.3	17.2	27.9
	1	4.4	8.9	5.7	11.1	7.6	16.1	11.1	20.9	14.3	25.1	17.2	27.7	17.9	28.4	17.3	28.0	15.6	26.2	11.7	21.4	7.3	13.9	4.7	9.6	16.3	27.4
	2	3.6	7.7	4.8	10.1	6.7	14.2	10.2	19.9	13.6	23.9	16.5	27.1	17.4	28.1	16.8	27.9	14.8	25.6	10.9	20.4	6.4	12.2	3.9	8.3	15.6	26.6
Kalispell 727790	0.4	4.9	6.7	5.6	8.8	8.6	14.8	12.9	22.1	16.3	26.3	18.6	28.3	19.8	29.8	19.2	29.2	16.6	26.5	12.9	20.9	8.9	11.7	5.6	7.2	18.1	28.3
	1	3.8	5.5	4.7	7.7	7.4	13.1	11.8	20.3	15.2	24.2	17.9	27.6	19.0	29.6	18.3	28.6	15.8	25.6	12.1	19.7	7.6	10.3	4.4	6.7	17.2	27.3
	2	3.0	4.8	3.9	6.4	6.4	11.4	10.8	18.2	14.4	22.9	17.3	26.7	18.4	28.8	17.8	28.4	15.2	24.7	11.3	17.9	6.6	8.9	3.6	5.2	16.3	25.9
Lewistown 726776	0.4	5.9	10.7	7.0	13.3	8.3	17.3	11.6	23.2	15.3	25.3	18.6	27.2	20.1	27.9	18.9	29.9	16.8	27.0	13.5	22.6	8.9	17.9	6.3	12.6	18.0	27.4
	1	4.8	9.7	5.8	11.2	7.3	14.8	10.8	20.7	14.4	24.6	17.7	26.7	19.2	27.6	18.2	28.9	15.6	25.7	12.4	22.9	7.8	14.9	5.2	10.8	16.9	26.6
	2	3.8	8.2	4.7	9.6	6.4	13.5	10.0	19.4	13.6	22.7	17.1	25.7	18.4	27.5	17.4	28.2	14.7	24.9	11.5	21.4	6.8	13.5	4.3	8.9	16.1	25.7
Miles City 742300	0.4	5.3	9.5	7.6	14.1	10.7	19.1	14.3	25.4	18.3	28.6	21.5	32.1	22.6	32.4	21.2	32.2	18.4	29.1	14.1	25.4	9.8	17.3	5.8	10.7	20.7	31.6
	1	4.3	8.4	6.3	11.9	9.6	17.5	13.2	23.9	17.3	27.8	20.7	31.6	21.8	32.5	20.5	31.2	17.7	29.2	13.4	24.1	8.6	15.1	4.7	9.3	19.6	30.2
	2	3.3	6.5	5.4	10.6	8.6	15.9	12.4	22.2	16.5	26.8	19.9	30.3	21.2	31.9	19.8	31.1	17.0	27.9	12.7	22.8	7.5	13.4	3.6	7.6	18.7	29.1
Missoula 727730	0.4	4.9	6.9	6.0	10.4	9.1	16.1	13.2	22.1	16.7	26.8	18.9	29.4	19.5	30.6	19.2	29.6	16.6	29.2	12.9	21.9	8.7	12.4	5.4	8.1	18.1	28.6
	1	3.8	5.7	5.2	8.6	8.3	14.7	12.2	21.0	15.7	24.8	18.2	28.4	18.8	30.3	18.3	28.3	16.0	27.2	12.3	21.0	7.6	10.9	4.3	6.4	17.2	27.9
	2	3.1	4.8	4.4	7.3	7.3	12.9	11.3	19.9	14.8	23.9	17.6	27.7	18.2	28.8	17.7	28.7	15.3	25.4	11.4	19.2	6.7	9.8	3.4	5.2	16.4	27.0
NEBRASKA																											
Grand Island 725520	0.4	7.2	14.3	9.9	17.3	14.7	22.9	18.6	26.2	21.8	28.7	24.6	31.5	25.6	32.8	25.2	31.8	23.2	29.1	18.9	25.4	13.9	17.2	8.6	15.1	24.2	31.7
	1	6.0	11.9	8.5	15.5	13.5	20.2	17.6	25.6	20.8	27.3	23.8	32.2	24.9	32.6	24.6	31.6	22.6	29.7	17.9	23.1	12.5	16.6	7.2	12.4	23.4	31.0
	2	4.7	9.6	7.4	13.6	12.2	18.9	16.6	24.0	20.1	26.7	23.2	31.2	24.4	32.1	24.0	31.2	21.9	29.3	16.9	22.7	11.4	15.4	5.9	11.5	22.6	29.9
Norfolk 725560	0.4	7.1	12.4	9.3	15.8	14.6	21.0	19.1	29.3	21.7	29.1	24.9	32.1	25.7	33.3	25.6	33.1	23.5	30.7	17.9	24.4	14.2	17.1	7.9	13.9	24.7	32.1
	1	5.9	12.1	8.2	14.1	13.4	19.7	17.9	26.9	20.9	27.5	24.4	32.1	25.2	32.8	25.1	32.6	22.9	30.4	16.7	22.7	12.8	15.6	6.4	11.0	23.9	31.2
	2	4.5	9.3	6.9	11.9	12.3	17.7	16.8	23.9	20.2	26.4	23.8	31.6	24.7	32.2	24.6	32.0	22.3	29.4	15.9	22.3	11.4	14.9	5.2	9.6	23.0	30.0
North Platte 725620	0.4	6.4	14.3	8.9	17.9	12.2	23.2	16.4	25.9	19.9	26.7	23.4	32.1	24.2	31.1	23.6	31.5	21.5	29.2	16.6	23.7	11.7	19.1</				

Table 4B Design Dry-Bulb—Mean Coincident Wet-Bulb Temperature

Location and WMO#		%	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
			DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b	
Springfield 724400	0.4	18.4	11.9	21.5	13.1	25.8	16.3	29.0	19.2	30.2	21.4	34.4	23.5	37.5	23.1	37.0	23.3	33.9	22.8	30.2	18.4	23.8	16.8	19.7	13.8	34.8	23.5	
	1	16.3	11.0	19.6	11.7	24.4	15.7	27.4	18.6	29.4	21.3	33.2	23.3	36.0	23.6	36.0	23.4	32.4	22.4	28.5	18.7	22.5	15.4	18.4	13.7	33.3	23.5	
	2	14.7	9.6	17.9	11.3	22.9	14.9	26.3	18.0	28.7	20.8	32.2	23.4	34.9	23.9	35.0	23.3	31.4	22.7	27.1	18.6	21.2	15.3	16.9	13.1	31.8	23.1	
	0.4	18.8	12.8	21.7	12.9	27.2	16.1	30.4	18.6	31.9	21.6	34.9	24.0	37.9	25.3	37.6	24.9	34.5	24.1	29.9	19.6	24.4	16.1	19.9	15.6	35.1	24.6	
St. Louis, Intl Airport 724340	1	16.1	10.7	19.3	12.2	25.3	15.9	29.0	18.4	31.1	21.1	34.0	23.9	36.5	25.1	36.0	24.7	33.4	23.8	28.4	19.6	22.9	15.7	18.1	13.4	33.6	24.1	
	2	14.1	10.1	17.2	10.8	23.5	15.3	27.7	17.9	30.1	20.8	33.3	23.6	35.4	24.8	34.9	24.4	32.2	23.2	26.9	18.7	21.4	15.4	16.4	13.1	32.2	23.6	
MONTANA																												
Billings 726770	0.4	13.2	5.3	16.4	7.1	20.6	8.3	26.8	11.9	30.4	14.9	35.2	17.1	36.4	17.6	36.3	17.4	32.6	15.6	27.4	12.6	18.9	8.8	14.4	6.2	34.1	16.9	
	1	11.4	4.4	14.4	5.8	18.7	7.9	24.7	11.4	28.7	14.3	33.6	16.9	35.3	17.3	34.9	17.0	31.2	15.1	25.3	11.9	17.1	7.9	12.5	5.0	32.3	16.6	
	2	9.9	3.3	12.9	5.1	16.9	7.2	22.9	10.6	27.3	13.6	32.2	16.7	34.1	17.1	33.9	16.9	29.7	14.8	23.6	11.2	15.4	6.9	11.0	3.9	30.4	16.2	
Cut Bank 727796	0.4	12.5	5.1	13.4	5.9	16.5	6.9	23.6	10.3	26.8	12.9	30.4	15.5	32.1	16.0	34.0	16.2	30.6	14.2	25.5	11.5	16.6	7.8	12.1	5.7	30.7	15.3	
	1	10.7	4.4	11.4	4.7	14.4	6.2	21.3	9.4	25.1	12.5	29.1	15.0	30.9	15.5	32.6	15.8	28.9	14.1	23.6	10.9	14.8	7.1	10.6	4.6	28.8	14.8	
Glasgow 727680	2	8.8	3.7	10.0	4.2	12.4	5.1	19.3	8.6	23.6	12.1	27.9	14.6	29.9	15.8	31.4	15.5	27.2	13.2	21.9	10.4	12.8	5.8	8.9	3.7	26.8	14.2	
	0.4	7.7	3.6	12.2	6.0	18.3	8.6	26.7	12.8	31.4	16.5	35.7	18.7	36.3	18.6	36.9	18.2	32.4	15.9	26.6	12.5	16.4	8.4	10.0	4.8	34.2	17.6	
Great Falls, Intl Airport 727750	1	6.3	2.7	9.7	4.6	16.4	7.7	24.7	11.7	29.4	15.4	33.8	18.1	35.1	18.2	35.6	17.6	30.7	15.6	24.4	12.3	14.4	7.3	8.2	3.7	32.2	17.2	
	2	5.1	2.1	7.8	3.6	14.2	6.7	22.7	11.0	27.8	14.8	32.1	17.5	33.9	17.8	34.2	17.3	29.1	15.1	22.4	11.7	12.4	6.2	6.3	2.6	30.2	16.7	
Helena 727720	0.4	13.3	5.2	15.8	6.7	19.2	8.4	25.9	11.8	29.1	14.1	33.4	16.1	35.2	16.4	35.9	16.2	32.1	14.7	26.8	12.2	18.1	7.9	13.9	6.1	33.2	16.0	
	1	11.7	5.1	14.1	5.9	17.3	7.3	23.9	10.9	27.9	13.8	32.1	16.1	34.2	16.2	34.6	16.0	30.7	14.2	25.0	11.6	16.3	7.4	12.7	5.2	31.3	15.5	
KalisPELL 727790	2	10.4	3.9	12.7	5.1	15.6	6.5	22.1	10.2	26.4	13.3	30.5	16.1	33.1	16.3	33.5	15.8	29.3	14.0	23.4	11.2	14.8	6.8	11.2	4.7	29.4	15.1	
	0.4	11.4	4.8	13.7	6.0	19.3	8.2	24.8	11.1	28.9	13.9	33.2	15.5	35.1	15.8	34.8	15.8	31.2	15.0	24.9	11.3	16.1	7.4	12.3	5.4	32.4	15.6	
Lewistown 726776	1	9.4	4.2	12.1	5.4	16.9	7.1	22.9	10.6	27.5	13.2	31.8	15.7	33.8	16.1	33.4	15.7	29.7	14.3	23.1	11.1	14.6	7.1	10.4	4.4	30.7	15.2	
	2	8.1	3.3	10.7	4.4	15.1	6.4	21.2	9.7	26.0	13.1	30.2	15.3	32.7	15.7	32.2	15.4	28.0	13.8	21.4	10.4	12.9	6.1	8.8	3.6	28.8	14.8	
Miles City 742300	0.4	7.0	4.3	9.6	4.9	16.1	8.1	23.9	12.4	28.7	14.8	31.2	17.4	33.6	17.6	34.2	17.3	29.7	15.2	22.5	12.2	12.4	7.8	8.3	5.1	31.7	16.7	
	1	6.0	3.7	8.2	4.2	13.9	6.8	21.8	11.2	26.7	14.2	30.0	16.7	32.7	17.1	33.1	16.8	28.1	14.9	20.9	11.4	11.0	7.1	6.8	4.0	29.8	16.2	
Missoula 727730	2	5.1	2.7	6.9	3.6	12.2	5.8	19.7	10.2	25.0	13.8	28.7	16.2	31.7	16.9	31.9	16.4	26.6	14.5	19.1	10.7	9.7	6.2	5.7	3.4	27.9	15.7	
	0.4	12.1	5.5	14.0	6.4	18.1	8.0	24.1	10.9	27.4	13.9	30.6	16.2	33.9	16.8	34.8	16.9	31.3	14.4	26.4	12.7	18.3	8.1	13.4	5.6	31.9	15.9	
North Platte 725620	1	10.3	4.1	11.7	5.3	16.1	6.8	22.3	10.1	26.1	13.2	29.1	16.2	32.7	16.7	33.7	16.3	29.8	14.0	24.7	11.8	16.3	7.3	11.6	4.7	29.7	15.6	
	2	8.9	3.4	10.3	4.4	14.1	6.0	20.6	9.6	24.6	13.2	27.7	15.9	31.4	16.3	32.4	15.9	28.3	13.8	23.0	10.8	14.5	6.4	10.1	3.7	27.8	15.2	
Omaha, Eppley Airfield 725500	0.4	10.6	4.6	15.1	6.7	20.7	9.8	28.1	13.2	32.1	16.4	37.5	18.9	38.4	19.2	37.9	18.3	34.4	16.7	27.5	13.3	18.2	9.3	12.0	5.0	35.9	18.6	
	1	8.6	4.0	12.8	6.1	18.5	9.1	25.8	12.6	30.6	16.0	35.2	18.8	37.2	19.6	36.8	18.4	32.7	16.4	25.4	13.1	16.1	8.0	9.7	4.3	34.1	18.2	
Scottsbluff 725660	2	6.9	3.2	10.9	5.2	16.6	8.2	24.1	11.8	29.1	15.7	33.8	18.3	36.0	19.1	35.8	18.2	30.9	15.9	23.7	12.3	14.3	7.1	8.1	3.4	32.1	17.7	
	0.4	7.3	4.4	11.3	5.4	17.6	8.7	25.0	12.6	29.2	15.5	33.1	17.2	35.2	17.2	35.4	17.0	30.9	15.6	23.9	12.3	13.6	7.6	8.8	5.2	33.0	16.7	
NEBRASKA	1	6.1	3.6	9.3	4.6	15.7	7.4	23.0	11.6	27.5	14.7	31.9	17.3	34.1	16.9	34.1	16.5	29.4	15.1	22.2	11.6	11.8	6.8	7.1	4.0	31.2	16.2	
	2	5.2	2.9	7.9	4.0	14.1	7.0	21.1	10.8	25.9	14.1	30.4	16.7	33.2	16.9	33.1	16.4	27.8	14.7	20.3	10.9	10.3	6.5	5.5	3.0	29.2	15.7	
NEBRASKA																												
Grand Island 725520	0.4	14.9	6.8	18.9	8.9	26.1	13.6	31.0	16.9	32.8	19.1	37.3	22.3	38.7	22.5	37.3	22.4	34.6	20.6	29.9	16.0	21.2	11.7	16.2	7.6	35.9	22.3	
	1	12.4	5.4	16.6	8.2	23.2	12.1	28.8	16.0	31.8	18.3	35.9	21.9	37.5	22.6	35.9	22.2	33.1	20.9	28.1	16.2	19.3	10.9	13.7	6.7	33.9	21.9	
	2	10.1	4.3	14.1	7.1	20.8	11.1	26.7	15.4	29.5	18.5	34.6	21.9	36.3	22.8	34.8	22.4	31.7	20.6	26.6	15.2	17.7	10.2	11.5	5.7	32.1	21.3	
Norfolk 725560	0.4	14.5	6.4	17.6	8.8	24.8	13.7	32.3	17.3	31.4	18.9	36.5	22.7	37.5	23.9	36.4	23.4	34.4	21.6	28.6	15.9	20.0	12.1	14.0	8.8	35.0	23.4	
	1	12.1	5.6	14.9	7.6	21.8	11.9	30.2	17.3	30.2	19.3	35.3	23.1	36.3	23.6	35.2	23.9	33.2	21.1	26.8	15.3	18.1	10.7	11.8	6.1	33.3	22.3	
North Platte 725620	2	9.6	4.1	12.7	6.6	19.3	10.9	28.0	15.8	28.7	18.8	33.9	22.6	35.1	23.7	34.2	23.1	31.9	20.7	25.1	14.5	16.4	9.5	9.7	4.9	31.7	21.9	
	0.4	15.2	6.1	19.4	8.1	24.5	10.9	30.1	14.0	31.4	16.9	36.2	21.4	37.7	20.8	36.8	20.2	34.3	19.3	29.8	14.6	21.9	10.3	16.6	7.3	3		

Table 4A Design Wet-Bulb—Mean Coincident Dry-Bulb Temperature

		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
Location and WMO# %		WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
NEW MEXICO																											
Albuquerque 723650	0.4	7.3	12.8	8.4	17.6	10.1	21.0	12.2	25.1	15.1	25.9	17.9	28.3	19.1	29.4	19.3	28.9	18.1	27.3	14.8	21.4	10.8	16.2	7.3	12.7	18.5	28.6
	1	6.3	12.3	7.7	15.9	9.2	19.9	11.5	24.1	14.4	25.7	17.4	28.2	18.8	29.4	19.0	28.5	17.6	26.4	14.1	20.4	9.9	15.6	6.3	11.9	18.0	28.0
	2	5.5	11.3	6.9	14.8	8.6	19.5	10.9	23.2	13.8	25.3	16.9	28.0	18.5	29.3	18.6	28.2	17.2	25.5	13.4	20.6	9.1	15.6	5.7	11.1	17.5	27.3
Tucumcari 723676	0.4	9.7	18.7	11.2	20.5	12.7	23.7	15.5	25.4	18.4	26.4	20.7	31.4	21.8	30.6	21.6	30.7	20.4	28.2	17.1	25.2	13.1	20.7	10.2	17.2	20.8	30.6
	1	8.8	18.3	10.2	20.7	11.5	22.6	14.7	23.4	17.7	26.6	20.2	30.2	21.3	30.7	21.2	30.4	19.9	28.2	16.3	23.7	12.3	19.5	9.4	17.4	20.2	29.7
	2	7.9	16.4	9.4	19.2	10.7	22.6	13.9	22.6	17.1	25.9	19.7	29.7	20.9	30.9	20.7	30.0	19.5	27.8	15.7	23.2	11.4	20.1	8.6	17.1	19.7	28.8
NEW YORK																											
Albany 725180	0.4	9.2	10.8	8.9	10.8	13.1	17.5	17.5	25.5	21.4	28.7	23.6	30.0	24.9	30.9	24.7	30.9	23.4	29.5	19.1	22.3	16.5	18.7	12.3	13.4	23.6	29.3
	1	5.9	8.2	7.2	9.8	11.0	15.4	16.0	22.2	20.5	27.7	22.9	28.8	24.3	30.6	23.9	29.7	22.6	27.9	18.2	22.3	14.9	17.3	9.7	11.7	22.6	27.8
	2	3.9	5.7	5.7	7.4	9.6	13.1	14.7	20.0	19.4	26.8	22.2	28.2	23.8	29.8	23.3	28.2	21.8	26.2	17.3	20.8	13.6	15.9	7.3	8.7	21.8	26.3
Binghamton 725150	0.4	9.5	10.6	9.7	10.9	14.2	19.6	16.8	24.4	20.9	26.4	22.7	27.7	23.9	28.9	23.5	28.5	22.8	26.9	17.9	21.2	15.4	17.6	12.3	13.8	22.6	27.3
	1	7.4	8.3	8.4	10.1	12.5	16.8	16.1	22.3	20.1	25.3	21.8	26.8	23.3	28.2	22.9	27.9	22.0	26.0	17.2	20.2	14.4	16.7	10.8	12.2	21.7	26.0
	2	5.2	6.6	6.7	8.3	11.1	14.7	15.1	20.6	19.3	24.2	21.2	26.3	22.7	27.6	22.3	26.6	21.4	24.9	16.5	19.6	13.2	14.9	8.7	9.8	20.8	24.8
Buffalo 725280	0.4	10.2	12.2	10.3	12.4	14.3	19.4	17.6	24.3	21.3	26.6	23.3	28.6	24.2	29.3	24.2	28.6	23.4	27.4	18.8	22.9	15.7	18.6	13.6	15.2	23.2	27.6
	1	7.5	9.8	8.7	10.6	12.7	17.3	16.6	23.3	20.6	26.1	22.4	27.9	23.8	28.8	23.5	27.6	22.7	26.8	18.0	21.7	14.8	17.1	12.1	13.9	22.3	26.6
	2	5.9	7.7	7.1	9.3	11.6	15.4	15.5	20.9	19.7	24.5	21.8	26.9	23.4	27.8	22.9	27.1	22.0	25.5	17.3	20.6	13.7	16.2	10.2	12.1	21.6	25.5
Massena 726223	0.4	7.2	8.9	8.2	10.0	12.6	17.3	17.6	22.8	21.8	28.2	24.1	29.3	25.3	31.2	24.9	29.5	23.7	28.2	18.8	23.6	15.3	18.7	11.1	12.2	23.7	28.9
	1	5.2	7.1	6.5	8.2	10.8	15.7	16.2	21.6	20.9	27.1	23.4	28.6	24.6	30.1	24.0	29.1	22.9	26.8	18.0	21.8	13.9	16.0	8.9	10.3	22.7	27.4
	2	3.8	5.3	5.1	6.8	9.2	12.5	14.8	19.8	19.9	25.2	22.6	27.7	23.9	29.4	23.3	27.8	21.9	25.0	17.0	20.5	12.6	14.8	6.6	7.7	21.7	25.9
New York, John F Kennedy Airport 744860	0.4	11.8	13.4	12.4	14.0	15.1	20.3	18.1	25.3	22.4	28.6	24.3	31.9	25.6	31.8	25.7	31.2	24.6	30.0	20.9	23.7	17.8	20.6	14.2	15.6	24.6	29.9
	1	10.3	12.2	10.9	13.3	13.4	17.1	17.0	22.7	21.6	27.4	23.6	30.4	25.1	30.8	25.1	30.2	24.1	29.1	20.2	22.7	16.6	18.5	13.0	14.3	23.8	28.8
	2	8.8	10.7	9.5	11.8	11.9	15.3	15.8	21.3	20.6	26.2	22.9	29.2	24.6	30.2	24.6	29.3	23.5	27.7	19.4	22.1	15.7	17.7	11.7	13.0	23.1	27.6
Rochester 725290	0.4	9.7	11.7	10.3	12.4	15.0	20.5	18.4	24.7	22.1	27.8	24.5	29.9	25.5	31.3	25.2	30.6	24.0	28.9	19.3	23.9	16.3	18.9	13.9	16.3	24.1	29.2
	1	7.2	9.4	8.7	10.7	13.4	17.5	17.4	23.7	21.4	27.2	23.7	29.1	24.9	30.3	24.3	28.9	23.3	27.9	18.5	22.3	15.1	17.6	11.7	13.8	23.1	27.7
	2	5.8	8.2	6.9	8.8	12.0	16.6	16.4	22.2	20.6	26.3	22.9	28.2	24.3	29.7	23.6	27.8	22.6	26.6	17.7	21.7	14.1	16.8	9.8	11.9	22.1	26.7
Syracuse 725190	0.4	9.7	12.5	10.2	12.6	14.9	21.0	18.4	25.4	22.2	28.0	23.8	29.9	25.3	31.0	25.1	30.2	23.9	29.5	19.0	23.8	16.3	19.5	13.4	15.2	23.8	29.2
	1	7.1	9.1	8.3	10.9	13.1	18.1	17.3	23.8	21.3	27.4	23.2	29.3	24.6	30.1	24.3	28.6	23.2	27.8	18.3	22.5	15.3	18.1	11.7	13.7	22.9	28.0
	2	5.4	7.7	6.7	8.7	11.5	16.1	16.0	21.5	20.3	25.6	22.6	28.3	24.0	29.6	23.6	28.0	22.4	26.6	17.5	21.1	13.9	16.6	9.2	11.7	22.0	26.6
NORTH CAROLINA																											
Asheville 723150	0.4	14.3	16.8	15.1	17.7	16.7	22.2	19.0	24.2	21.8	25.7	23.7	29.5	24.7	30.2	24.2	29.6	23.0	27.9	20.2	23.7	18.0	19.7	16.8	18.1	23.6	28.8
	1	13.2	14.9	13.9	16.3	16.1	19.7	18.0	22.9	20.9	25.2	23.1	28.4	24.3	29.6	23.8	29.3	22.6	27.4	19.6	22.2	17.3	19.3	15.7	16.7	22.9	27.8
	2	12.2	13.6	12.9	15.4	15.4	18.7	17.3	21.9	20.4	24.9	22.6	27.8	23.8	29.1	23.4	28.5	22.2	26.7	18.9	21.7	16.4	18.7	14.6	16.2	22.3	26.8
Cape Hatteras 723040	0.4	19.0	20.3	18.7	20.8	19.7	22.0	20.8	24.4	24.3	26.9	26.2	29.3	27.4	30.9	27.3	30.4	26.1	28.8	24.5	27.0	21.9	24.0	20.4	22.2	26.6	29.7
	1	18.3	19.4	17.8	19.6	19.0	20.9	20.2	23.2	23.6	26.3	25.8	28.8	27.1	30.5	26.9	29.9	25.7	28.7	23.8	26.0	21.4	23.1	19.7	21.3	26.1	28.8
	2	17.4	18.6	17.1	18.6	18.4	20.3	19.7	22.5	23.1	25.7	25.4	28.3	26.8	30.1	26.6	29.6	25.3	28.4	23.2	25.1	20.8	22.4	19.0	20.3	25.6	28.4
Charlotte 723140	0.4	16.4	18.2	17.2	20.4	18.6	23.6	20.6	26.9	23.6	29.3	25.1	31.1	25.6	32.1	25.4	31.8	24.6	30.3	22.3	26.5	20.1	22.7	19.0	20.6	24.9	31.2
	1	15.5	17.7	16.3	18.9	17.9	22.3	19.8	25.2	22.8	28.2	24.5	30.8	25.2	31.7	25.1	31.4	24.1	29.9	21.6	24.8	19.5	22.1	17.8	19.1	24.3	30.6
	2	14.4	16.3	15.3	17.4	17.1	20.9	19.1	24.6	22.2	27.9	24.1	30.4	24.9	31.5	24.8	31.0	23.7	29.4	20.9	24.3	18.7	20.8	16.6	18.2	23.8	29.8
Greensboro 723170	0.4	16.1	18.4	16.7	20.0	18.6	23.2	20.2	25.0	23.5	28.7	25.3	30.7	26.1	32.3	25.7	31.2	24.3	29.9	21.7	25.3	19.9	22.3	18.3	19.9	25.1	30.8
	1	14.8	16.9	15.6	17.9	17.8	21.8	19.6	24.1	22.6	27.7	24.6	30.4	25.6	31.6	25.2	30.9	23.8	29.2	21.0	24.7	19.1	21.0	17.1	18.3	24.4	30.1
	2	13.5	15.3	14.7	16.6	16.9	20.8	18.9	23.4	21.2	27.1	24.1	30.3	25.2	31.1	24.9	30.7	23.4	28.6	20.3	23.7	18.2	20.8	16.0	17.2	23.8	29.4
Raleigh/Durham 723060	0.4	17.3	19.0	17.8	21.1	19.1	24.6	20.7	25.6	23.8	29.2	25.7	31.1	26.6	32.5	26.2	31.7	24.9	30.2	22.6	25						

Table 4B Design Dry-Bulb—Mean Coincident Wet-Bulb Temperature

Location and WMO#		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
		%	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
NEW MEXICO																											
Albuquerque 723650	0.4	15.8	6.3	20.1	7.0	24.2	8.8	28.4	10.9	32.4	12.8	37.6	15.6	37.5	15.9	35.1	16.5	33.3	15.1	28.8	11.9	21.4	8.6	16.1	5.9	35.3	15.7
	1	14.4	5.1	18.7	6.8	23.0	8.4	27.2	10.3	31.2	12.3	36.4	14.8	36.4	16.4	34.4	16.5	32.2	15.5	27.5	11.6	20.2	8.4	14.6	5.4	33.9	15.6
Tucumcari 723676	2	13.1	4.7	17.3	6.2	21.8	7.9	26.2	9.8	30.2	12.1	35.4	14.6	35.6	16.3	33.6	16.5	31.1	15.3	26.4	11.7	18.9	7.8	13.2	4.6	32.5	15.5
	0.4	21.1	8.3	24.7	10.1	27.5	11.3	30.7	13.1	34.6	15.2	39.1	17.3	38.2	18.8	36.8	18.3	34.5	17.7	31.3	14.4	25.8	11.6	21.2	8.9	36.4	17.9
	1	19.6	8.2	22.8	9.4	25.8	10.4	29.8	12.7	33.5	14.8	37.7	17.0	37.2	18.9	35.9	18.7	33.5	17.2	30.2	13.9	24.1	10.8	19.8	8.4	35.1	18.1
	2	18.1	7.4	21.1	8.4	24.5	9.8	28.6	12.1	32.5	14.6	36.6	16.7	36.4	18.8	35.2	18.5	32.4	17.2	28.9	13.7	22.6	10.3	18.4	7.8	33.7	17.9
NEW YORK																											
Albany 725180	0.4	11.3	9.1	12.1	8.3	19.6	11.9	27.4	16.0	31.8	19.2	33.3	22.2	34.4	23.4	33.2	23.3	30.9	22.8	26.1	16.7	20.2	15.4	14.1	11.7	32.0	21.8
	1	8.6	5.6	10.0	6.9	16.7	10.4	24.4	14.7	30.1	19.1	32.0	21.6	33.2	22.8	31.9	22.3	29.4	21.4	24.2	16.8	18.2	13.8	11.8	9.1	30.2	21.1
Binghamton 725150	2	6.4	3.5	7.9	5.1	14.1	8.6	22.3	12.9	28.3	18.4	30.6	20.8	32.2	22.1	30.8	21.9	27.9	20.6	22.3	15.8	16.3	12.4	9.4	6.7	28.7	20.3
	0.4	11.0	8.5	12.4	8.6	20.7	13.8	26.4	16.2	28.6	18.6	30.1	21.1	31.6	21.7	30.5	21.8	28.7	21.2	23.8	16.5	18.5	14.4	14.1	11.9	29.4	21.2
	1	8.9	7.4	10.4	8.2	18.1	11.9	24.2	14.9	27.4	18.6	29.0	20.7	30.6	21.9	29.4	21.6	27.5	21.2	22.3	15.7	17.2	12.8	12.3	10.1	27.9	20.4
	2	6.9	4.7	8.7	6.1	15.8	10.7	22.1	13.7	26.2	17.9	27.9	20.1	29.7	21.6	28.4	20.9	26.2	20.3	21.1	15.3	15.8	12.5	10.5	8.1	26.5	19.6
Buffalo 725280	0.4	12.2	9.8	13.1	8.8	21.2	13.2	26.0	16.9	28.9	19.6	31.1	20.9	32.2	21.8	31.2	22.9	29.6	22.5	24.9	17.7	19.7	14.2	15.7	12.9	30.0	21.2
	1	10.1	7.4	11.4	8.2	18.8	12.5	24.2	15.8	27.8	18.9	30.1	20.7	31.1	21.6	30.1	21.7	28.4	21.4	23.7	16.6	18.3	13.2	14.2	11.9	28.7	20.7
	2	8.1	5.2	9.7	7.2	16.2	10.7	22.3	14.3	26.7	18.2	29.1	20.3	30.1	21.4	29.2	21.2	27.1	20.4	22.4	15.9	17.1	12.7	12.3	10.1	27.4	20.0
	0.4	9.9	7.2	10.6	7.7	18.1	11.5	25.6	16.4	30.4	20.4	31.5	22.8	32.9	23.8	31.8	23.7	29.2	22.8	24.5	17.4	19.1	14.3	13.1	10.7	30.7	22.4
Massena 726223	1	7.2	5.1	8.6	5.9	15.5	10.7	23.2	15.2	28.7	19.7	30.4	22.3	32.0	23.3	30.6	22.7	27.8	22.1	23.2	17.2	17.1	13.4	10.6	8.9	29.1	21.4
	2	5.6	3.4	7.1	5.1	13.3	8.6	21.1	13.1	27.0	18.6	29.3	21.4	31.1	22.6	29.6	22.1	26.5	20.8	21.7	15.7	15.1	12.3	8.2	6.3	27.6	20.5
New York, John F Kennedy Airport 744860	0.4	14.3	10.6	16.1	10.6	21.4	14.3	26.8	16.5	31.3	21.2	33.7	22.8	35.2	24.1	33.4	24.6	32.3	23.5	26.2	19.1	22.0	16.3	16.2	12.4	32.5	23.1
	1	12.4	9.8	14.2	10.3	19.1	12.6	24.5	16.2	29.6	20.0	32.4	22.4	34.0	23.7	32.2	23.4	31.0	23.1	24.8	18.2	19.9	15.1	14.9	12.4	30.9	22.4
	2	11.0	8.5	12.4	9.2	16.9	11.0	22.6	14.7	28.1	19.4	31.3	21.7	32.9	23.4	31.3	23.2	29.5	21.9	23.4	17.8	18.4	15.0	13.6	11.4	29.5	21.7
	0.4	12.2	8.7	13.1	9.5	22.4	13.9	27.3	17.6	30.6	20.6	32.2	22.3	34.0	23.7	32.5	23.4	30.9	22.7	26.1	18.1	20.2	14.8	16.1	13.6	31.4	22.6
Rochester 725290	1	10.1	7.2	11.2	8.3	19.1	12.6	25.4	16.4	29.1	20.1	31.2	22.1	32.8	23.3	31.4	22.8	29.6	22.6	24.7	17.3	18.6	13.9	14.1	11.0	29.9	21.7
	2	8.2	5.4	9.4	6.6	16.7	11.3	23.3	15.4	27.9	19.0	30.3	21.7	31.8	23.1	30.2	22.1	28.1	21.7	23.2	16.6	17.3	13.4	12.0	9.4	28.4	20.8
Syracuse 725190	0.4	12.8	9.9	14.0	9.2	22.3	13.9	27.4	17.1	30.4	20.8	32.2	22.6	33.3	23.7	32.5	23.4	30.7	22.7	26.0	17.2	20.7	14.6	15.7	12.2	31.2	22.4
	1	9.8	6.3	11.4	8.0	19.4	11.9	25.2	16.4	29.2	19.6	31.1	21.8	32.4	23.3	31.3	22.7	29.3	22.6	24.2	17.3	18.9	14.4	14.0	11.3	29.7	21.5
2	7.7	5.2	9.4	6.3	16.8	11.0	23.2	14.9	27.7	18.9	30.0	21.2	31.4	22.9	30.1	22.1	27.9	21.7	22.7	16.3	17.2	13.4	12.0	8.7	28.3	20.9	
NORTH CAROLINA																											
Asheville 723150	0.4	18.1	11.7	20.9	12.3	24.6	14.9	28.2	16.4	29.2	19.6	31.9	22.0	33.2	22.9	32.2	22.9	30.2	21.8	26.4	17.8	22.9	14.9	19.9	14.7	31.0	22.2
	1	16.4	11.2	18.9	11.3	23.3	13.6	26.9	15.9	28.1	19.1	30.8	21.6	32.3	22.7	31.2	22.5	29.1	21.4	25.3	17.4	21.7	14.4	18.3	14.4	29.6	21.7
	2	15.1	10.5	17.3	11.2	21.9	13.2	25.8	15.4	27.2	18.7	29.8	21.2	31.3	22.4	30.3	22.3	28.3	21.1	24.2	16.7	20.4	14.3	16.9	13.2	28.4	21.3
	0.4	20.8	18.1	21.4	17.7	23.2	18.3	25.8	19.7	28.7	23.1	30.8	25.1	32.4	26.6	31.9	26.1	30.7	25.1	28.3	22.9	25.1	21.0	22.4	19.7	30.8	25.6
Cape Hatteras 723040	1	19.9	17.5	20.2	17.1	22.2	18.0	24.7	19.2	27.7	22.1	29.9	24.8	31.6	26.2	31.3	25.7	30.1	24.8	27.2	22.4	24.2	20.2	21.6	19.2	30.1	25.2
	2	19.1	17.1	19.1	16.3	21.3	17.3	23.8	18.7	26.8	21.9	29.3	24.4	31.0	25.9	30.7	25.6	29.5	24.4	26.3	22.1	23.3	19.8	20.8	18.4	29.3	24.8
Charlotte 723140	0.4	20.1	13.9	22.9	15.1	26.9	16.1	30.2	17.9	32.3	20.9	34.6	23.1	36.6	23.5	35.4	23.4	33.2	22.8	29.0	19.9	25.4	17.8	21.6	17.7	34.2	23.4
	1	18.5	13.4	21.1	13.6	25.4	15.8	29.2	17.7	31.3	21.1	33.6	23.0	35.6	23.6	34.4	23.6	32.4	22.8	28.0	19.2	24.1	17.2	20.4	16.8	32.8	23.2
	2	17.3	13.2	19.6	13.1	23.9	15.2	28.1	17.2	30.2	20.7	32.7	22.7	34.7	23.5	33.6	23.6	31.6	22.7	26.9	19.2	22.8	16.7	19.0	15.0	31.6	22.8
	0.4	19.3	13.9	22.1	13.6	26.8	16.8	29.9	17.6	31.6	20.9	34.2	23.7	35.6	24.4	34.8	24.1	32.8	22.7	28.4	19.9	24.6	17.6	21.1	17.2	33.4	23.8
Greensboro 723170	1	17.9	13.6	20.0	13.2	24.9	16.1	28.8	17.1	30.6	20.8	33.2	23.6	34.8	23.9	33.7	24.1	31.8	22.6	27.3	19.1	23.2	16.4	19.8	16.2	32.2	23.3
	2	16.4	12.2	18.6	12.4	23.3	14.8	27.6	16.9	29.7	20.4	32.3	22.9	33.8	24.1	32.8	24.0	30.8	22.3	26.2	18.3	22.1	15.7	18.2	14.7	30.9	22.8
Raleigh/Durham 723060	0.4	20.8	15.6	23.3	14.9	27.4	17.4	30.7	17.8	32.1	21.6	34.5	24.1	35.9	24.3	34.9	24.7	33.1	23.6	29.1	20.3	25.7	17.9	22.4	17.6	33.8	24.4
	1	19.4	14.9	21.5	14.7	25.9	16.6	29.4	18.0	31.1	21.2	33.4	23.8														

Table 4A Design Wet-Bulb—Mean Coincident Dry-Bulb Temperature

		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
Location and WMO# %		WB MDB		WB MDB		WB MDB		WB MDB		WB MDB		WB MDB		WB MDB		WB MDB		WB MDB		WB MDB		WB MDB		WB MDB		WB MDB	
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
OKLAHOMA																											
Oklahoma City, Will Rogers Airport 723530	0.4	14.9	16.7	15.7	20.3	18.8	23.2	21.3	27.3	24.1	30.6	25.8	32.8	25.6	33.3	25.3	33.7	24.8	32.1	22.7	28.1	19.1	22.1	16.5	18.5	24.9	32.8
	1	13.1	15.6	14.7	18.9	17.9	22.9	20.8	26.2	23.4	29.5	25.2	32.5	25.2	33.3	25.0	33.1	24.3	31.6	21.9	26.2	18.1	21.3	15.6	17.8	24.4	32.4
	2	11.4	14.7	13.7	18.8	17.2	22.1	20.1	25.1	22.8	28.4	24.8	31.9	24.9	33.2	24.6	32.9	23.9	31.0	20.9	25.5	17.2	20.8	14.4	16.7	23.9	31.8
	0.4	15.0	17.4	16.2	20.1	19.7	24.4	22.2	27.6	24.8	30.8	26.9	33.7	27.2	34.9	26.6	34.3	25.9	33.2	23.1	28.2	19.8	22.2	17.5	19.9	26.2	33.5
723560	1	14.1	16.8	15.4	19.4	18.7	23.7	21.4	26.9	24.1	29.9	26.4	32.5	26.8	34.4	26.2	34.2	25.4	32.4	22.4	27.3	18.9	22.2	16.3	18.7	25.6	33.1
	2	12.5	14.7	14.4	19.3	17.8	22.1	20.8	26.2	23.6	28.9	25.9	31.9	26.3	33.9	25.8	34.0	24.9	32.0	21.6	26.2	18.1	22.1	15.1	17.5	25.1	32.4
OREGON																											
Astoria 727910	0.4	11.8	12.8	13.1	14.8	12.6	15.3	14.0	18.4	17.3	23.7	18.6	24.3	19.3	25.6	20.4	26.8	19.2	26.1	16.9	22.4	13.9	15.5	13.0	14.2	18.3	23.7
	1	11.3	12.2	12.3	14.3	11.8	14.0	13.1	16.6	16.3	21.5	17.4	22.2	18.4	23.8	19.2	24.4	18.4	24.5	15.9	19.9	13.3	14.5	12.1	13.3	17.2	21.5
	2	10.8	11.8	11.4	13.4	11.2	13.2	12.4	15.4	15.3	19.4	16.6	20.7	17.7	22.3	18.2	22.8	17.7	22.7	15.3	18.2	12.8	14.1	11.6	12.6	16.4	19.9
Eugene 726930	0.4	13.1	14.7	13.6	15.6	14.4	18.0	16.8	22.9	20.4	27.3	21.1	31.2	21.6	32.3	21.4	33.8	19.9	29.4	17.2	24.6	14.9	16.4	13.4	14.4	20.3	30.6
	1	12.3	13.4	12.9	14.6	13.5	17.1	15.7	21.6	19.1	26.3	20.2	29.2	20.8	31.9	20.7	32.4	19.1	28.7	16.5	23.0	14.1	15.8	12.4	13.6	19.3	29.1
	2	11.6	12.9	12.1	13.8	12.7	16.0	14.8	20.2	18.1	25.1	19.4	28.2	20.1	31.1	20.1	30.8	18.6	27.8	15.8	21.6	13.3	14.9	11.6	12.7	18.4	27.4
Medford 725970	0.4	10.8	13.3	12.6	17.2	14.1	21.5	16.7	26.7	19.6	31.3	20.8	34.5	21.6	36.0	21.2	36.6	19.7	33.1	16.9	28.9	13.2	17.0	11.4	14.1	20.3	34.5
	1	9.9	12.8	11.6	16.7	13.0	19.3	15.6	24.8	18.4	29.0	20.2	33.3	20.9	35.1	20.7	35.7	19.1	32.6	16.3	27.6	12.3	15.3	10.5	12.2	19.5	32.9
	2	9.3	11.9	10.8	15.0	12.2	17.6	14.6	23.1	17.4	28.0	19.5	32.2	20.4	34.8	20.1	34.2	18.4	31.3	15.6	26.1	11.7	14.6	9.4	11.6	18.6	31.3
North Bend 726917	0.4	13.9	15.5	14.4	16.9	13.5	16.1	14.1	17.8	16.1	20.9	16.8	20.5	17.1	20.4	17.9	20.7	17.7	22.1	16.7	21.6	15.3	16.9	14.2	15.6	16.8	20.3
	1	13.2	14.9	13.6	15.9	12.8	15.1	13.3	17.0	15.2	18.2	16.1	19.8	16.6	20.0	17.3	20.1	17.0	21.1	15.9	19.8	14.7	16.6	13.5	15.0	16.2	19.6
	2	12.5	14.0	12.8	14.7	12.2	14.6	12.7	15.7	14.5	17.2	15.5	18.8	16.2	19.4	16.8	19.7	16.4	20.2	15.4	18.7	14.1	15.8	12.9	14.4	15.6	18.8
Pendleton 726880	0.4	10.8	14.6	11.5	15.3	12.3	18.0	15.1	23.3	18.6	29.3	19.4	32.3	20.8	33.4	19.4	34.4	17.8	31.0	15.2	25.4	12.1	16.6	10.8	14.4	18.8	33.3
	1	9.4	12.9	10.4	14.1	11.4	17.0	14.1	22.8	17.5	27.6	18.7	31.1	19.8	34.8	18.9	34.0	17.2	29.9	14.4	23.6	11.1	15.4	9.7	13.1	17.9	32.0
	2	8.5	11.9	9.5	13.2	10.7	15.7	13.3	21.6	16.4	26.8	18.0	31.1	19.1	34.4	18.4	33.5	16.6	28.9	13.7	22.6	10.2	13.9	8.8	12.4	17.1	30.4
Portland 726980	0.4	12.3	13.9	13.2	15.1	13.5	18.3	16.3	22.4	19.6	29.1	20.7	31.0	21.6	32.9	21.8	33.5	20.2	29.7	17.3	24.8	14.3	16.6	12.7	14.1	20.4	30.8
	1	11.3	12.9	12.3	14.7	12.8	17.4	15.2	21.1	18.3	26.3	19.8	29.7	20.9	31.8	21.1	32.2	19.5	28.8	16.4	22.3	13.4	15.3	11.8	13.4	19.5	28.8
	2	10.7	12.3	11.4	13.9	12.0	16.1	14.4	19.9	17.3	24.9	19.1	28.3	20.3	31.1	20.4	30.6	18.8	26.9	15.8	20.8	12.6	14.6	10.9	12.5	18.6	26.9
Redmond 726835	0.4	8.8	12.9	9.8	14.9	10.6	18.4	13.2	22.8	16.4	28.3	18.1	30.3	18.6	31.2	18.5	31.3	16.6	30.1	14.2	26.7	10.9	16.3	9.2	12.7	17.4	31.2
	1	7.6	11.4	8.8	13.4	9.5	17.5	12.3	22.8	15.4	26.8	17.4	30.4	18.0	31.7	17.9	31.6	15.9	29.3	13.4	24.9	10.0	15.9	8.0	11.9	16.6	30.0
	2	6.7	10.3	8.1	12.7	8.7	15.6	11.4	20.8	14.4	24.9	16.6	29.2	17.4	31.4	17.4	31.3	15.4	28.2	12.7	23.3	9.1	13.9	7.0	11.1	15.7	28.3
Salem 726940	0.4	12.5	14.1	13.5	15.6	13.8	17.4	16.3	21.8	19.5	28.8	21.1	31.2	21.7	33.3	21.4	33.9	19.7	29.7	17.3	24.5	14.4	16.2	12.9	14.3	20.2	31.4
	1	11.8	13.3	12.7	14.6	13.0	16.8	15.1	21.3	18.4	27.2	20.1	30.1	20.9	32.6	20.7	33.1	19.1	29.1	16.4	23.2	13.6	15.4	11.9	13.3	19.3	29.4
	2	11.1	12.6	11.9	13.9	12.3	16.0	14.3	20.1	17.5	25.4	19.3	28.7	20.2	31.6	20.1	31.6	18.5	27.9	15.6	21.4	12.8	14.6	11.3	12.8	18.3	27.4
PENNSYLVANIA																											
Allentown 725170	0.4	12.2	13.8	12.4	13.9	16.6	21.6	18.6	26.5	22.2	28.3	24.1	30.7	25.4	32.1	25.2	30.3	24.2	29.8	20.2	23.0	18.1	20.6	14.7	16.5	24.2	29.9
	1	9.5	11.4	10.7	13.1	15.0	18.8	17.6	24.1	21.5	27.7	23.4	29.7	24.9	31.7	24.6	29.8	23.6	29.0	19.6	22.6	17.0	19.1	12.4	13.6	23.4	28.8
	2	7.0	8.7	8.6	11.1	13.3	17.1	16.7	23.0	20.7	26.8	22.9	28.8	24.3	30.7	24.0	29.1	23.0	27.8	18.8	22.2	15.8	17.9	10.1	11.6	22.7	27.6
Bradford 725266	0.4	9.3	10.2	9.3	10.4	14.2	18.1	16.4	22.7	20.4	24.6	21.8	26.7	23.3	27.8	23.2	27.4	22.2	26.2	17.8	21.3	15.2	16.8	12.3	13.2	22.0	26.3
	1	7.0	7.7	7.8	9.3	12.9	16.2	15.5	21.3	19.4	24.2	21.3	26.1	22.7	27.6	22.3	26.6	21.3	25.1	16.9	19.9	14.3	16.4	10.8	11.7	21.1	25.1
	2	5.1	6.4	6.4	7.9	11.5	15.2	14.6	20.3	18.6	23.7	20.8	25.4	22.2	26.7	21.7	25.6	20.6	23.6	16.3	18.9	13.2	14.7	9.3	10.1	20.2	23.6
Erie 725260	0.4	11.3	13.1	11.2	13.2	15.5	21.2	18.1	23.4	22.3	26.6	23.4	28.7	25.1	29.9	24.5	29.1	23.5	27.8	19.0	23.5	16.2	19.1	14.2	16.9	23.5	27.7
	1	9.4	11.4	9.8	11.9	14.0	18.2	17.1	22.3	21.1	25.9	22.8	27.8	24.3	28.3	23.8	28.0	22.8	27.2	18.1	22.1	15.3	17.9	12.9	14.8	22.7	26.7
	2	7.1	9.2	8.3	10.4	12.7	16.6	16.2	20.9	20.1	24.8	22.2	26.8	23.7	27.8	23.3	27.2	22.1	25.8	17.4	21.1	14.3	16.7	11.2	13.4	21.8	25.6
Harrisburg 725115	0.4	12.0	14.2	12.1	14.3	16.9	22.2	19.3	27.1	23.6	29.1	24.9	30.6	26.4	32.1	26.2	31.3	25.1	30.1	20.8	24.1	18.6	21.0	14.9	16.8	25.1	30.7
	1	9.4	11.4																								

Table 4B Design Dry-Bulb—Mean Coincident Wet-Bulb Temperature

Location and WMO#		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
		%	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
OKLAHOMA																											
Oklahoma City, Will Rogers Airport 723530	0.4	19.8	11.1	24.6	13.3	27.7	15.6	30.6	19.1	32.5	21.4	36.1	23.8	39.9	22.8	38.9	23.1	36.3	23.1	32.1	18.7	25.2	16.1	20.6	13.9	37.3	23.2
	1	17.9	10.4	22.7	12.7	26.2	15.6	29.2	18.8	31.4	21.7	35.0	23.4	38.8	22.9	38.0	23.1	35.2	22.7	30.4	19.6	23.9	15.4	19.1	12.8	35.7	23.1
	2	16.6	10.6	20.9	11.8	24.7	15.1	28.0	17.8	30.4	21.3	34.1	23.5	37.8	23.2	37.2	23.1	34.1	22.5	29.1	19.2	22.6	15.6	17.9	12.9	34.2	22.9
	0.4	20.2	12.1	24.2	13.6	28.0	16.4	31.0	19.3	32.1	23.5	36.0	24.6	40.1	24.4	39.4	24.3	36.5	23.8	32.5	19.7	26.1	16.3	21.2	15.0	37.6	24.5
Tulsa 723560	1	18.3	12.0	22.3	12.8	26.4	16.4	29.7	19.2	31.3	22.6	35.0	24.6	38.8	24.6	38.5	24.2	35.1	23.5	30.8	20.8	24.7	16.6	19.8	14.4	35.9	24.3
	2	16.8	11.2	20.6	12.3	24.9	16.0	28.5	18.6	30.5	21.7	34.2	24.4	37.8	24.8	37.7	24.3	34.1	23.8	29.5	20.2	23.3	16.6	18.4	14.1	34.4	24.1
OREGON																											
Astoria 727910	0.4	14.3	10.4	17.0	10.8	17.9	10.9	20.4	12.7	24.2	17.2	25.0	18.1	26.6	19.3	27.6	19.7	28.1	18.2	23.4	16.2	16.8	12.4	14.7	12.6	24.7	17.6
	1	13.2	10.2	15.3	10.8	16.2	10.4	18.4	12.3	21.9	16.2	22.7	17.1	24.3	18.0	25.3	18.6	26.4	17.7	21.5	15.1	15.6	12.4	13.6	11.7	22.2	16.8
	2	12.4	10.2	14.2	10.8	14.7	10.1	16.6	11.8	19.9	15.1	20.9	16.3	22.7	17.5	23.2	18.1	24.2	16.9	19.8	14.4	14.7	12.2	12.8	11.2	20.5	16.0
Eugene 726930	0.4	15.1	12.7	17.1	12.2	19.9	12.8	23.9	16.3	28.8	19.6	32.8	20.2	35.6	20.4	35.9	20.3	33.3	18.4	27.6	16.1	17.8	13.9	15.0	12.7	32.9	19.3
	1	13.9	11.8	15.8	11.8	18.5	12.5	22.2	15.4	27.2	18.4	30.8	19.3	34.1	19.8	34.3	19.4	31.7	17.8	25.3	15.4	16.4	13.5	14.0	12.2	30.6	18.6
Medford 725970	2	13.0	11.3	14.6	11.5	17.3	12.0	20.7	14.3	25.6	17.6	29.3	18.8	32.8	19.4	32.8	19.4	30.0	17.7	23.3	15.0	15.4	12.8	12.9	11.4	28.6	17.9
	0.4	15.8	8.9	20.0	11.4	23.0	13.0	28.2	15.6	33.4	18.5	36.9	19.8	39.0	19.8	39.7	20.2	36.8	18.6	31.5	16.3	19.1	11.8	15.1	10.4	36.8	19.3
	1	14.4	8.7	18.0	10.3	21.4	12.3	26.4	14.7	31.4	17.8	35.3	19.3	38.0	19.9	38.1	19.6	35.3	17.8	29.3	15.5	17.4	11.2	13.6	9.2	34.9	18.8
North Bend 726917	2	12.9	8.4	16.4	9.9	19.7	11.3	24.8	14.2	29.6	16.8	33.9	18.7	36.8	19.5	36.8	19.2	33.8	17.3	27.3	15.1	16.1	10.4	12.3	8.7	32.9	18.1
	0.4	16.6	13.1	18.6	13.2	18.0	11.8	20.0	13.6	21.7	15.8	21.6	16.2	21.8	16.2	22.4	16.4	25.7	15.7	23.8	15.8	18.6	13.8	16.7	13.4	21.8	15.8
	1	15.5	12.1	17.1	12.3	16.5	11.7	17.8	12.7	19.2	14.4	20.2	15.4	21.1	16.0	21.4	16.3	22.9	16.0	21.3	15.1	17.4	13.5	15.6	12.8	20.6	15.6
Pendleton 726880	2	14.6	12.1	15.8	12.3	15.4	11.4	16.4	12.3	17.9	13.8	19.3	14.9	20.4	15.6	20.9	16.1	21.6	15.7	19.8	14.5	16.6	13.4	14.8	12.4	19.6	15.0
	0.4	15.2	9.8	16.9	10.3	19.8	11.4	25.9	14.1	31.8	17.2	35.8	18.1	38.9	19.7	38.3	18.5	33.3	16.9	27.1	14.3	18.2	10.4	15.7	9.7	35.9	18.0
Portland 726980	1	14.1	8.9	15.3	9.7	18.4	10.7	23.9	13.8	30.1	16.8	34.6	17.8	37.6	18.8	36.8	18.2	32.1	16.4	25.3	13.8	16.7	10.2	14.1	8.8	33.9	17.3
	2	12.8	8.1	14.1	8.9	16.9	9.8	22.2	12.7	28.3	15.8	33.2	17.2	36.3	18.2	35.6	17.9	30.7	16.0	23.8	13.2	15.2	9.5	12.8	8.4	32.0	16.6
	0.4	14.4	11.7	17.1	11.6	20.3	12.2	24.7	15.4	30.3	18.1	32.9	20.0	35.8	20.3	36.3	20.8	32.9	18.2	26.7	16.1	17.4	12.6	14.7	12.6	32.4	19.5
Redmond 726835	1	13.4	10.8	15.7	10.7	19.0	12.0	22.9	14.6	28.6	17.7	30.9	19.0	33.6	20.3	34.1	20.2	31.4	18.1	24.6	15.2	16.2	12.6	13.5	11.6	30.1	18.8
	2	12.6	10.2	14.7	10.7	17.7	11.1	21.3	13.6	26.7	16.9	29.4	18.6	31.9	19.9	32.3	19.4	29.7	17.7	22.8	14.8	15.3	11.9	12.6	10.9	28.1	18.0
	0.4	14.4	8.2	16.6	8.5	20.7	9.5	26.1	12.3	30.2	15.2	33.6	16.8	36.1	17.4	36.3	17.2	32.8	15.7	28.2	13.2	18.8	9.6	14.3	7.6	33.7	16.5
Salem 726940	1	12.5	6.9	15.3	7.7	18.7	8.6	24.1	11.7	28.5	14.3	32.3	16.6	34.9	16.9	34.9	16.8	31.3	15.1	26.7	13.1	16.8	8.9	12.8	7.3	31.8	15.8
	2	11.0	6.1	13.8	7.1	17.1	7.9	22.0	10.7	26.7	13.8	30.9	15.8	33.9	16.6	33.6	16.4	29.9	14.6	24.7	12.0	14.9	8.3	11.6	6.3	29.9	15.1
	0.4	14.8	11.4	17.6	11.4	19.9	12.2	24.2	15.5	29.8	18.9	33.9	19.9	36.0	20.4	36.6	20.3	33.7	18.3	27.6	15.6	17.3	13.2	14.9	12.8	33.2	19.6
Allentown 725170	1	13.8	11.6	15.8	11.4	18.7	12.0	22.4	14.4	28.1	17.8	31.7	19.3	34.4	20.1	34.7	19.7	31.9	17.8	25.2	14.9	16.0	13.1	13.7	11.7	30.8	18.6
	2	12.8	10.9	14.8	11.2	17.3	11.4	20.8	13.7	26.4	17.1	30.0	18.7	32.9	19.8	32.9	19.2	30.2	17.4	23.3	14.9	15.1	12.4	12.8	11.0	28.6	17.9
	PENNSYLVANIA																										
Bradford 725266	0.4	13.9	11.2	16.3	11.0	23.4	14.8	28.9	17.2	31.4	20.9	33.4	22.7	34.9	23.9	33.5	23.3	32.3	22.8	26.2	18.6	21.9	16.9	16.6	14.3	32.4	22.6
	1	11.6	9.1	13.6	9.9	21.0	13.6	26.4	16.7	30.0	19.7	32.3	22.1	33.8	23.3	32.3	22.7	30.9	22.5	24.7	18.1	20.1	15.7	14.3	11.9	30.9	22.1
	2	9.3	6.7	11.6	8.7	18.7	12.6	24.1	15.3	28.7	19.1	31.2	21.7	32.8	23.3	31.4	22.7	29.6	21.5	23.4	17.7	18.5	14.9	12.0	9.8	29.6	21.4
Erie 725260	0.4	10.5	9.3	11.8	7.9	20.0	13.1	25.6	15.0	27.8	18.3	28.9	20.2	30.7	21.6	29.6	21.2	27.2	21.4	23.6	16.1	18.4	13.7	13.5	11.8	28.2	20.4
	1	8.6	6.4	10.0	7.1	17.7	11.7	23.8	14.3	26.8	17.8	27.9	19.8	29.5	21.4	28.3	20.9	26.2	20.6	22.2	15.3	16.9	13.0	12.1	10.3	26.9	19.8
	2	6.8	4.7	8.6	5.8	15.7	10.9	21.9	13.8	25.6	16.9	27.2	19.7	28.6	21.0	27.3	20.5	25.1	19.6	21.0	14.6	15.6	12.3	10.5	8.7	25.6	18.8
Harrisburg 725115	0.4	13.7	10.9	14.3	10.7	22.6	13.9	25.4	16.6	28.5	19.9	30.8	21.4	31.6	22.8	30.9	23.3	29.8	22.3	25.7	17.6	20.8	15.0	17.3	13.9	29.6	22.0
	1	11.8	9.5	12.6	9.2	20.1	13.0	24.0	16.1	27.4	19.4	29.8	21.2	30.3	22.8	29.9	22.7	28.3	22.3	23.9	17.2	19.1	14.0	15.2	12.4	28.2	21.3
	2	9.8	6.9	10.8	7.9	18.1	11.8	22.6	15.4	26.3	19.1	28.8	20.8	29.5	22.3	28.8	21.9	27.1	21.1	22.5	16.1	17.6	13.4	13.5	10.8	26.9	20.8
Philadelphia, Intl Airport 724080	0.4	15.3	11.3	16.8	10.4	24.2	15.3	29.3	17.8	31.7	22.3	34.2	22.8	36.2	23.6	34.4	23.8	32.9	23.5	26.8	19.6	22.3	16.4	17.3	14.2	33.3	23.5
	1	12.1	9.0	14.2	9.6	21.9	13.2	27.5	17.6	30.4	20.2	32.9	22.6	34.8													

Table 4A Design Wet-Bulb—Mean Coincident Dry-Bulb Temperature

		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual		
Location and WMO# %		WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	WB	MDB	
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b	
Sioux Falls 726510	0.4 1 2	4.4 3.2 2.2	8.2 6.6 4.8	7.4 12.9 4.7	12.9 10.1 8.3	14.2 18.3 10.9	20.4 18.3 16.4	17.8 16.9 15.8	25.5 27.4 22.7	21.4 20.6 19.9	28.1 27.4 26.4	24.7 31.6 30.2	25.8 32.9 31.8	32.9 24.9 24.8	32.4 31.6 31.8	25.5 24.9 24.3	32.6 30.5 30.7	23.7 22.8 21.9	30.5 29.6 28.0	19.1 17.8 16.7	24.4 22.4 21.4	13.3 11.9 10.5	15.9 14.8 13.9	7.1 4.7 3.6	11.4 8.2 6.3	24.6 23.6 22.6	31.4 30.5 29.1	
TENNESSEE																												
Bristol 723183	0.4 1 2	13.9 12.9 11.9	16.7 15.4 14.3	15.0 13.9 12.9	17.5 16.7 15.6	17.0 16.2 15.4	22.6 21.2 19.8	19.4 18.6 17.8	24.3 23.9 23.3	22.3 21.6 21.0	27.2 26.6 26.7	24.0 23.4 22.9	30.1 29.3 28.7	24.8 24.4 24.0	30.6 30.0 29.7	24.6 24.2 23.8	30.4 30.5 29.5	23.3 22.8 22.3	28.9 28.7 28.1	20.4 19.6 18.9	24.7 23.1 22.5	17.9 17.1 16.3	21.4 20.4 19.6	15.9 14.9 13.9	19.3 17.7 16.6	23.9 23.3 22.6	29.6 28.6 27.8	
Chattanooga 723240	0.4 1 2	15.9 15.0 13.9	17.8 16.8 15.7	16.8 15.8 15.0	19.2 18.2 17.4	19.0 18.1 17.3	24.1 22.7 21.1	20.7 20.1 19.4	26.7 25.4 24.6	23.8 23.2 22.7	29.0 28.6 28.1	25.4 25.0 24.6	31.4 31.3 30.5	26.7 26.0 25.6	34.0 32.7 32.1	26.3 25.7 25.3	32.6 31.9 31.4	24.9 24.5 24.1	30.6 29.9 29.4	23.4 21.6 20.9	30.6 28.8 24.2	22.4 18.8 20.9	26.3 21.7 24.8	19.7 18.8 18.1	22.2 17.1 20.3	25.4 24.8 24.3	31.7 30.9 30.0	
Knoxville 723260	0.4 1 2	15.4 14.5 13.5	18.3 17.2 15.3	16.2 15.3 14.4	19.0 18.1 17.4	18.7 17.8 16.9	22.8 22.1 20.8	20.7 19.9 19.2	25.4 24.9 24.3	23.5 22.9 22.3	28.3 27.6 27.1	25.2 24.6 24.2	30.6 30.2 29.7	26.1 25.6 25.2	32.6 31.7 31.3	25.5 25.1 24.7	31.5 31.2 30.7	24.4 24.0 23.6	30.1 29.6 28.9	21.8 20.9 20.2	26.3 24.6 23.7	19.2 18.4 17.6	22.3 21.2 20.3	22.3 21.6 18.1	20.6 18.7 18.1	24.9 23.8 23.0	31.0 30.2 29.2	
Memphis 723340	0.4 1 2	17.7 16.8 15.8	19.7 18.7 18.3	18.4 17.3 16.3	21.2 20.1 19.3	20.6 19.9 19.1	24.2 23.2 21.9	22.4 21.8 21.3	27.1 26.4 25.5	24.9 24.4 23.9	30.2 29.8 29.2	26.8 26.3 25.8	32.6 32.3 31.9	27.7 27.3 26.9	34.3 34.2 33.7	27.4 26.9 26.6	33.4 33.1 32.5	26.3 25.8 25.3	32.1 31.6 30.7	23.8 22.9 22.1	27.8 26.6 26.2	20.8 20.1 19.5	23.3 22.9 22.1	23.3 22.9 22.1	23.6 23.2 21.4	21.4 20.6 19.4	26.7 26.2 25.6	31.1 32.5 31.6
Nashville 723270	0.4 1 2	16.8 15.6 14.5	18.9 17.3 16.1	17.2 16.3 15.4	19.7 18.9 17.6	19.4 18.6 17.8	24.1 22.5 21.6	21.4 20.6 19.9	25.4 25.6 24.3	24.1 23.4 22.9	28.9 28.2 28.7	25.7 25.2 24.8	32.1 31.5 30.9	26.4 26.1 25.7	32.7 32.4 32.2	26.1 25.7 25.4	32.2 31.9 31.6	25.1 24.6 24.2	30.9 30.1 29.7	22.5 21.7 21.0	26.2 25.8 24.9	19.9 19.1 18.4	23.2 21.7 20.7	19.1 19.1 18.4	21.6 19.1 20.6	25.6 25.0 24.4	31.9 31.1 30.2	
TEXAS																												
Abilene 722660	0.4 1 2	15.9 14.7 13.5	19.6 18.3 17.7	16.2 15.4 14.6	21.9 20.9 20.1	19.4 18.5 17.8	25.8 24.3 23.1	21.8 21.1 20.4	28.6 27.7 26.3	23.7 23.1 22.5	30.9 30.4 29.5	25.1 24.5 24.1	33.9 33.0 31.9	24.5 24.0 23.6	32.6 32.3 32.2	24.1 23.8 23.4	32.6 32.2 32.1	23.9 23.4 23.1	31.3 30.8 30.2	22.4 21.8 21.3	28.1 27.2 26.8	19.4 18.7 18.0	23.0 22.7 22.1	16.8 16.1 15.3	20.2 19.7 18.6	23.9 23.4 22.9	31.9 31.6 31.1	
Amarillo 723630	0.4 1 2	10.2 9.1 7.9	18.4 16.5 16.2	11.6 10.4 9.5	21.3 19.3 18.2	14.4 13.3 12.3	20.8 21.5 21.2	16.9 16.2 15.5	24.8 23.4 22.7	19.8 19.3 18.7	26.6 26.5 25.8	21.9 21.4 21.1	30.7 30.2 29.9	22.4 21.9 21.6	31.3 30.8 30.6	22.4 21.9 21.4	30.8 30.0 30.6	21.2 20.7 20.2	28.2 28.4 28.1	18.3 17.6 16.9	25.8 24.2 23.7	14.7 13.4 12.6	19.3 18.6 17.6	11.4 10.1 9.0	16.6 16.3 16.1	21.6 20.9 20.5	30.2 29.8 29.4	
Austin 722540	0.4 1 2	20.1 19.3 18.5	22.0 21.5 20.8	19.9 19.2 18.6	22.3 22.2 21.9	21.9 21.3 20.8	26.2 24.9 23.9	23.7 23.1 22.7	29.4 28.2 27.2	25.7 25.2 24.6	31.1 30.6 29.7	26.1 25.7 25.4	31.9 31.2 31.9	25.8 25.2 25.1	32.5 32.1 31.6	25.7 25.3 25.1	32.2 31.9 31.7	25.7 25.3 25.1	30.9 30.3 30.1	24.8 24.4 24.0	29.2 28.0 28.2	22.6 22.0 21.6	25.6 24.8 24.3	20.7 20.1 19.6	22.9 22.2 21.5	25.6 25.1 24.7	31.7 31.1 30.4	
Beaumont/ Port Arthur 722410	0.4 1 2	21.3 20.7 20.2	23.1 22.4 21.4	21.4 20.8 20.3	23.2 22.4 21.8	22.6 22.1 21.7	25.4 24.7 24.0	24.7 24.2 23.8	27.4 26.8 26.4	27.4 25.7 25.3	27.4 29.3 28.9	27.2 27.4 26.9	31.2 31.7 31.2	27.4 27.7 27.4	32.0 32.4 32.0	27.1 27.7 27.6	32.1 32.4 32.0	27.3 27.1 27.1	31.5 31.4 31.4	25.2 25.7 25.7	28.4 29.1 29.1	25.2 23.7 23.7	28.4 26.1 26.1	23.2 23.7 23.7	25.3 25.1 25.1	21.7 21.3 21.3	26.6 26.6 26.6	31.2 31.2 31.4
Brownsville 722500	0.4 1 2	22.4 21.7 21.3	26.1 25.6 25.4	22.8 21.7 21.2	27.3 26.2 26.2	23.8 21.4 21.2	29.3 28.4 28.6	25.4 25.0 26.2	30.5 30.1 30.1	26.7 26.9 26.2	31.7 31.6 31.4	27.2 27.6 26.9	31.2 32.6 31.6	26.8 26.3 26.3	31.8 32.7 31.6	26.8 26.3 26.3	31.5 32.1 31.6	26.9 26.3 26.3	31.4 31.6 31.6	26.3 26.3 26.3	31.2 31.2 31.2	26.8 26.3 26.3	26.8 26.3 26.3	26.8 26.3 26.3	26.8 26.3 26.3	26.8 26.3 26.3	26.8 26.3 26.3	31.4 31.1 31.1
Corpus Christi 722510	0.4 1 2	22.4 21.9 21.3	25.6 24.3 23.4	23.3 21.7 21.2	26.2 24.6 23.6	24.1 23.3 22.8	28.4 27.3 26.1	25.5 25.1 24.6	30.1 29.2 28.4	26.9 26.5 26.2	31.3 30.6 30.1	26.9 27.3 26.9	31.3 32.0 31.4	27.6 26.9 26.4	32.6 32.7 32.4	27.2 26.9 26.9	33.3 32.7 32.4	25.7 25.6 25.6	32.5 32.6 32.5	33.3 33.0 33.0	25.3 25.0 25.0	30.8 30.8 30.8	23.0 23.0 23.0	27.2 27.2 27.2	20.2 20.2 20.2	23.4 23.4 23.4	24.7 24.7 24.7	31.9 31.9 31.9
El Paso 722700	0.4 1 2	10.9 10.1 9.3	16.1 16.2 15.7	12.1 11.3 10.6	19.7 20.2 19.3	13.0 12.4 11.8	24.5 24.7 24.3	16.1 15.1 14.3	28.9 26.3 25.9	18.1 17.4 16.8	30.0 28.7 28.2	20.7 20.2 19.8	30.3 30.6 30.3	21.8 21.4 21.1	29.4 29.6 29.1	21.8 21.4 21.1	30.1 29.4 29.4	21.8 21.4 21.1	30.1 29.4 29.4	21.8 21.4 21.1	28.1 27.8 27.6	14.5 13.6 12.8	25.5 24.9 19.1	20.9 19.8 19.1	11.8 10.8 10.1	17.6 15.9 15.8	21.1 20.6 20.1	29.2 29.1 29.1
Fort Worth, Meacham Field 722596	0.4 1 2	18.0 17.3 16.4	20.4 19.7 18.8	18.4 17.7 16.9	22.2 21.4 20.8	21.0 20.3 19.8	25.5 24.8 23.7	23.2 22.6 22.1	27.4 30.3 29.7	25.3 24.6 24.1	31.3 30.3 29.7	26.3 25.9 25.5	33.8 33.2 32.9	26.3 25.8 25.6	33.1 32.7 32.6	25.8 25.6 25.6	33.9 33.2 33.2	25.7 25.6 25.6	31.9 31.2 31.2	24.0 23.5 23.0	29.3 27.8 27.2	21.3 20.8 20.2	24.3 24.1 23.4	19.4 18.7 18.0	21.9 21.3 20.4	25.7 25.2 24.7	32.8 32.3 31.9	
Houston, Intercontinental AP 722430	0.4 1 2	21.3 20.8 20.3	23.7 23.2 22.6	21.6 20.9 20.3	23.8 23.0 22.4	22.6 22.1 21.7	25.5 25.0 24.4	24.6 24.0 23.5	28.4 28.3 27.3	25.7 25.4 25.1	30.5 30.2 29.9	26.9 26.7 26.3	32.6 32.4 32.1	26.9 26.7 26.3	32.8 32.4 32.1	26.9 26.7 26.3	32.8 32.4 32.1	26.9 26.7 26.3	32.6 32.4 32.1	26.9 26.7 26.3	32.6 32.4 32.1	26.8 26.5 26.2	31.9 31.6 31.2	25.7 25.2 25.2	29.9 29.2 29.1	23.9 23.4 22.9	26.8 26.6 26.2	32.0 31.6 31.1
Lubbock, Intl Airport 722670	0.4 1 2	12.1 11.0 9.7	16.7 17.3 17.7	13.2 12.3 11.3	21.5 20.8 18.8	15.8 14.9 14.1	20.5 20.6 20.4	18.2 17.6 17.1	25.1 24.2 23.4	21.1 20.5 19.9	28.7 27.6 26.8	23.2 22.6 22.2	31.2 30.7 30.8	23.4 22.9 22.5	31.1 30.8 30.6	23.0 22.7 22.3	31.5 31.2 31.1	22.5 22.3 22.3	29.4 29.1 28.7	19.8 19.1 18.4	25.1 24.6 24.1	16.3 15.3 14.5	20.2 19.4 18.0	13.4 12.0 10.9	17.2 16.5 16.7	22.5 21.9 21.4	30.6 30.1 29.7	
Lufkin 722446	0.4 1 2	20.6 19.9 19.3	23.4 22.4 21.6	20.6 19.9 19.2	22.1 21.9 21.2	22.2 21.7 21.1	25.9 25.2 24.2	24.3 23.6 2																				

Table 4B Design Dry-Bulb—Mean Coincident Wet-Bulb Temperature

Location and WMO#	%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual													
		DB MWB	DB MWB	DB MWB	DB MWB	DB MWB	DB MWB	DB MWB	DB MWB	DB MWB	DB MWB	DB MWB	DB MWB	DB MWB	DB MWB												
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
Sioux Falls 726510	0.4	9.2	4.0	13.4	7.0	22.9	12.9	29.6	16.1	31.1	19.6	35.3	22.4	37.4	23.6	35.9	22.8	33.1	21.7	27.5	16.3	18.2	10.7	11.3	7.4	34.4	22.8
	1	6.8	3.1	10.7	5.5	20.1	11.3	27.3	15.8	29.7	19.2	33.9	22.2	36.1	23.5	34.7	22.8	31.6	21.0	25.6	15.9	16.6	10.1	8.6	4.6	32.4	22.2
	2	5.0	1.9	8.7	4.5	17.3	10.2	24.7	14.9	28.2	18.6	32.6	21.7	34.9	23.3	33.6	22.9	30.1	20.7	23.8	15.1	14.9	9.5	6.4	3.3	30.7	21.4
TENNESSEE																											
Bristol 723183	0.4	18.0	12.7	20.3	14.2	24.8	14.9	28.0	17.4	30.1	20.6	32.4	22.2	33.7	22.4	33.5	22.8	31.4	21.7	27.3	17.7	23.8	16.4	20.7	15.5	31.7	22.3
	1	16.3	11.5	18.7	12.1	23.3	14.8	26.9	16.7	29.1	19.9	31.4	21.8	32.7	22.7	32.2	23.1	30.6	21.3	26.3	17.8	22.3	15.4	18.6	14.2	30.4	22.0
	2	14.9	11.1	17.1	11.2	22.1	14.0	25.9	16.2	28.2	19.7	30.7	21.4	31.8	22.7	31.1	22.7	29.8	21.4	25.4	17.3	20.9	14.7	17.1	13.1	29.3	21.6
Chattanooga 723240	0.4	19.1	14.5	22.4	14.7	26.8	17.2	30.1	18.6	32.4	21.9	34.8	23.3	37.1	24.9	35.9	24.6	33.9	23.5	29.2	20.2	24.7	17.0	21.3	17.4	34.5	23.9
	1	17.7	13.5	20.8	14.1	25.4	16.2	29.0	17.9	31.3	21.8	33.9	23.1	35.9	24.6	34.9	24.2	32.8	23.1	28.0	19.4	23.3	16.8	19.8	15.9	33.1	23.7
	2	16.5	12.5	19.2	12.9	24.0	15.5	28.1	17.5	30.3	21.2	33.1	23.3	34.9	24.3	34.0	24.1	31.8	22.7	27.1	19.1	22.1	16.3	18.5	15.6	31.9	23.3
Knoxville 723260	0.4	19.1	14.7	21.7	15.7	25.6	16.3	28.9	18.0	31.2	20.8	33.5	22.2	35.4	24.1	34.7	23.8	32.8	22.6	28.0	20.2	24.4	17.5	21.5	16.7	33.3	23.4
	1	17.7	13.5	20.1	13.3	24.3	16.0	27.9	17.9	30.2	20.9	32.5	22.7	34.6	24.1	33.6	23.6	31.8	22.5	27.1	19.4	22.9	16.7	19.9	16.2	31.9	23.2
	2	16.1	12.3	18.7	12.8	23.1	15.4	26.9	17.7	29.4	20.7	31.8	22.6	33.7	24.1	32.8	23.8	30.9	22.4	26.2	18.8	21.7	16.3	18.1	14.6	30.7	22.8
Memphis 723340	0.4	20.8	16.3	23.6	16.2	27.0	17.7	30.1	19.7	32.8	23.0	35.7	24.5	37.8	26.2	36.6	25.4	35.4	24.3	30.6	21.3	26.1	18.0	22.3	18.5	35.4	25.3
	1	19.6	15.7	22.0	15.4	25.9	17.4	29.0	19.3	31.9	22.5	34.8	24.6	36.7	26.0	35.6	25.5	33.8	24.5	29.6	20.7	24.8	18.4	21.1	17.7	34.2	25.1
	2	18.4	14.9	20.7	14.8	24.7	17.2	28.1	19.3	31.2	22.4	34.1	24.4	35.7	25.8	34.8	25.4	32.9	24.3	28.7	20.1	23.6	17.8	19.8	16.7	33.2	24.7
Nashville 723270	0.4	19.6	14.9	22.2	13.8	26.8	17.2	29.7	18.6	31.9	22.2	35.2	23.5	36.6	24.6	36.3	24.3	34.2	22.9	29.3	20.1	25.3	17.8	21.2	16.9	34.6	24.2
	1	18.3	14.7	20.8	14.4	25.4	16.7	28.7	18.6	31.1	21.9	34.1	23.6	35.7	24.5	35.2	24.2	33.1	23.3	28.5	19.8	23.8	17.2	20.0	15.8	33.2	23.8
	2	17.1	13.4	19.6	13.5	24.0	16.2	27.8	18.3	30.2	21.4	33.3	23.1	34.7	24.6	34.2	24.1	32.2	23.0	27.6	19.3	22.6	16.1	18.9	15.4	32.0	23.4
TEXAS																											
Abilene 722660	0.4	24.3	12.9	27.2	13.3	30.7	15.8	33.4	17.1	36.1	19.7	37.9	21.4	38.9	21.4	38.2	21.6	36.4	20.9	32.9	17.8	27.8	15.8	23.7	12.8	37.2	21.4
	1	22.6	11.8	25.4	12.6	29.1	15.7	32.2	17.5	34.8	19.5	36.7	21.8	38.0	21.4	37.4	21.8	35.3	21.1	31.7	18.8	26.3	16.1	22.4	13.4	36.0	21.5
	2	21.1	11.4	23.7	12.2	27.6	15.2	30.8	17.2	33.6	19.7	35.7	21.9	37.3	21.4	36.8	21.6	34.4	21.1	30.6	19.2	25.1	15.7	21.1	13.2	34.8	21.4
Amarillo 723630	0.4	21.2	9.1	24.6	10.3	27.8	11.4	31.4	13.7	34.5	15.4	38.0	18.2	37.3	19.3	36.4	19.6	34.6	18.1	31.4	15.2	25.2	11.6	21.2	9.3	35.7	19.2
	1	19.2	8.1	22.4	9.3	26.4	11.3	29.8	13.7	33.4	14.9	36.5	18.6	36.4	19.3	35.6	19.7	33.5	18.1	30.1	14.7	23.8	11.4	19.6	8.8	34.3	19.0
	2	17.4	7.1	20.4	8.6	24.7	10.8	28.6	12.4	32.2	15.3	35.3	18.6	35.7	19.6	34.7	19.6	32.6	18.1	28.9	14.7	22.5	10.9	18.0	7.8	33.1	18.8
Austin 722540	0.4	25.4	15.7	28.2	15.9	30.6	17.4	32.2	19.4	33.9	23.1	36.6	24.2	37.9	22.9	38.4	23.3	36.6	23.2	33.2	22.4	28.9	20.1	25.7	18.1	36.8	23.4
	1	24.1	16.4	26.3	16.8	28.9	18.4	30.9	20.2	33.0	22.9	35.6	24.0	37.3	23.2	37.7	23.3	35.7	23.1	32.3	21.8	27.7	19.6	24.4	17.6	35.8	23.4
	2	22.9	16.1	24.8	16.1	27.5	17.8	29.9	20.5	32.2	23.1	34.7	23.8	36.7	23.4	37.0	23.3	34.8	23.3	31.4	21.7	26.8	19.4	23.4	17.7	34.7	23.4
Beaumont/ Port Arthur 722410	0.4	23.9	20.2	25.2	18.3	27.1	19.9	30.0	20.7	32.2	24.1	34.6	25.9	35.6	26.3	36.1	26.1	34.6	25.2	31.8	24.3	28.3	21.8	25.4	21.8	34.4	26.0
	1	23.1	19.3	24.1	18.8	26.2	19.8	29.0	21.8	31.5	24.1	33.9	25.7	34.9	26.4	35.1	26.1	33.9	25.6	31.1	24.2	27.4	22.4	24.6	21.3	33.6	25.9
	2	22.3	19.1	23.2	18.8	25.4	19.5	28.1	21.8	30.8	24.1	33.3	25.7	34.4	26.2	34.4	26.2	33.2	25.7	30.2	23.6	26.7	21.9	23.8	21.1	32.7	25.8
Brownsville 722500	0.4	27.8	21.4	29.9	19.3	31.6	21.3	32.9	24.1	33.6	25.3	35.3	25.9	35.9	25.2	35.8	25.1	35.1	25.2	33.2	25.3	30.7	23.3	28.8	21.7	35.1	25.3
	1	26.9	21.2	27.9	20.7	30.3	21.8	31.9	23.7	33.0	25.2	34.7	25.7	35.4	25.1	35.4	25.2	34.6	25.2	32.6	25.1	29.9	23.3	27.9	21.9	34.3	25.2
	2	26.1	20.7	26.9	20.4	29.1	21.6	31.1	23.5	32.5	25.2	34.1	25.6	34.9	25.2	35.0	25.2	34.0	25.2	31.9	24.7	29.3	23.1	27.2	21.6	33.6	25.2
Corpus Christi 722510	0.4	27.1	20.4	28.9	19.1	31.1	20.1	32.2	21.7	33.0	25.5	34.7	26.1	35.7	25.7	36.0	25.3	35.1	25.7	33.1	24.8	30.1	23.1	28.2	20.7	34.9	25.5
	1	25.9	20.5	27.2	18.8	29.4	19.4	31.1	22.6	32.3	25.3	34.1	25.9	35.3	25.6	35.4	25.4	34.4	25.4	32.2	25.1	29.2	23.1	27.1	21.3	34.2	25.4
	2	24.8	20.2	26.0	19.5	28.2	20.1	30.1	23.1	31.6	25.1	33.6	25.8	34.8	25.5	35.0	25.4	33.8	25.6	31.6	24.7	28.6	22.7	26.2	20.9	33.4	25.4
El Paso 722700	0.4	21.5	9.0	25.0	10.6	28.2	11.4	32.4	14.1	35.8	15.9	40.9	17.9	39.6	18.8	37.6	18.6	35.8	17.7	32.1	15.3	25.8	12.3	21.3	9.4	38.1	17.9
	1	20.0	8.5	23.6	9.9	27.1	11.5	31.2	13.4	34.9	15.2	39.7	17.7	38.6	18.7	36.8	18.7	35.1	17.9	31.1	15.2	24.7	11.7	20.4	8.9	36.6	17.8
	2	18.8	8.0	22.4	9.4	26.1	11.1	30.2	12.9	34.1	14.9	38.8	17.7	37.7	18.6	36.1	18.7	34.2	17.7	30.0	15.2	23.7	11.2	19.2	8.4	35.3	17.7
Fort Worth, Meacham Field 722596	0.4	23.7	14.3	26.3	15.2	29.2	18.2	31.7	20.2	33.8	23.8	37.8	24.6	39.8	23.3	39.2	23.4	36.8	23.6	33.7	20.3	28.2	18.2	24.3	17.0	37.8	23.6
	1	22.1	14.2	24.8																							

Table 4A Design Wet-Bulb—Mean Coincident Dry-Bulb Temperature

Location and WMO#		%	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
			WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B	WB	MD B
1a	1b		2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
VERMONT																												
Burlington 726170	0.4		7.4	8.8	9.1	10.6	13.3	17.2	17.3	24.0	21.3	28.4	23.4	29.4	24.6	30.9	24.4	30.2	23.7	27.6	18.2	22.2	15.4	18.2	12.0	13.3	23.3	28.6
	1		5.4	7.1	6.3	7.9	11.3	15.2	16.0	21.9	20.2	25.7	22.7	28.2	23.9	29.9	23.6	28.7	22.7	26.6	17.3	20.9	14.2	17.1	9.4	10.9	22.2	26.9
	2		3.4	5.1	4.8	6.7	9.6	13.3	14.6	19.3	19.2	24.9	21.9	27.5	23.4	29.1	22.8	27.2	21.7	24.9	16.5	19.7	12.7	15.1	6.9	8.7	21.3	25.8
VIRGINIA																												
Lynchburg 724100	0.4		14.7	17.2	15.9	19.3	18.2	23.3	19.4	24.2	23.7	29.0	24.8	30.7	25.7	32.3	25.3	32.3	24.3	30.8	21.6	25.7	19.2	21.1	17.3	19.5	24.7	31.2
	1		13.4	17.5	14.6	17.4	17.3	23.4	18.7	24.9	22.8	27.6	24.3	30.6	25.3	31.8	24.9	31.7	23.9	30.7	20.9	25.2	18.4	21.1	16.3	18.6	24.2	30.3
	2		12.0	15.0	13.3	16.4	16.3	21.2	18.1	24.6	22.1	26.8	23.9	29.9	24.9	31.4	24.5	30.9	23.5	29.6	20.1	24.0	17.7	20.3	15.0	17.2	23.6	29.3
Norfolk 723080	0.4		17.5	20.1	18.5	21.3	19.5	24.4	20.6	26.8	24.1	30.1	25.8	32.7	26.8	33.1	26.5	32.1	25.5	30.7	22.8	26.4	20.7	24.0	19.2	21.8	25.8	31.8
	1		16.5	18.9	17.4	20.6	18.7	23.8	19.9	25.8	23.2	28.3	25.2	31.9	26.4	32.8	26.2	31.9	25.0	30.7	22.2	26.2	20.1	22.8	18.1	20.2	25.2	30.8
	2		15.3	17.9	16.1	18.6	17.8	21.9	19.2	24.9	22.4	27.6	24.8	30.9	26.0	32.3	25.7	31.2	24.6	29.8	21.6	24.8	19.3	22.1	17.2	19.4	24.7	29.7
Richmond 724010	0.4		16.7	18.7	17.1	20.4	19.3	24.7	20.5	26.9	24.3	29.4	26.0	32.8	27.1	33.7	26.7	32.9	25.5	31.6	22.4	26.2	20.6	22.7	18.6	20.7	26.0	32.1
	1		15.3	17.8	16.0	19.4	18.4	23.4	19.9	26.2	23.6	29.1	25.4	32.2	26.7	32.9	26.2	32.3	24.9	30.9	21.8	25.4	19.7	21.7	17.3	19.2	25.3	31.1
	2		13.8	15.9	14.8	17.6	17.4	21.7	19.3	25.5	22.9	28.2	25.0	31.4	26.2	32.3	25.8	31.8	24.5	29.8	21.2	24.8	18.9	21.3	16.1	18.1	24.7	30.0
Roanoke 724110	0.4		13.5	16.9	14.9	18.4	17.4	23.8	18.8	26.2	22.6	28.6	24.0	30.9	25.1	32.1	24.7	31.2	23.8	30.7	20.7	24.9	18.6	21.1	16.0	18.2	24.0	30.8
	1		12.2	16.4	13.6	17.1	16.3	21.6	18.2	25.2	21.8	27.8	23.5	30.2	24.6	31.4	24.3	31.0	23.3	29.7	19.9	23.6	17.6	20.4	15.0	17.8	23.4	29.8
	2		11.1	14.1	12.3	16.1	15.4	20.3	17.6	23.7	21.1	26.3	23.0	29.6	24.1	31.0	23.9	30.6	22.8	28.8	19.3	23.3	16.6	19.2	13.7	16.1	22.8	28.7
Sterling 724030	0.4		13.9	17.7	15.1	17.3	17.8	23.5	19.6	25.9	23.7	29.7	25.3	31.2	26.4	33.2	25.9	32.2	25.5	29.6	21.5	25.2	19.3	22.5	16.8	19.0	25.2	31.2
	1		11.8	14.3	13.9	16.4	16.6	21.8	18.9	25.8	22.9	28.4	24.8	30.8	25.8	32.4	25.4	31.4	24.7	29.9	20.8	24.4	18.3	21.1	15.4	17.8	24.5	30.3
	2		10.3	12.3	12.2	14.9	15.6	20.1	18.1	24.5	22.0	27.2	24.2	30.1	25.3	31.8	25.0	30.7	24.0	29.4	20.1	22.9	17.2	19.8	13.8	15.8	23.8	29.2
WASHINGTON																												
Olympia 727920	0.4		11.9	12.6	12.4	14.4	12.8	15.4	15.2	21.4	18.1	26.7	20.1	30.0	21.1	31.6	21.3	31.9	19.3	28.9	16.4	22.3	13.2	14.8	11.8	13.0	19.8	29.5
	1		11.0	11.7	11.7	13.1	12.1	15.0	14.2	19.8	17.3	26.1	19.3	28.4	20.4	30.2	20.6	31.2	18.5	26.3	15.7	20.2	12.5	13.8	10.9	11.8	18.8	27.3
	2		10.3	11.1	11.1	12.5	11.3	14.2	13.3	18.7	16.4	24.1	18.6	27.0	19.8	29.6	19.9	29.4	17.9	25.2	15.0	18.1	11.8	12.9	10.3	11.1	17.8	25.4
Quillayute 727970	0.4		11.3	12.3	12.1	14.4	11.5	14.0	13.1	17.9	16.4	24.3	17.6	25.6	18.7	27.9	19.4	28.8	18.4	26.1	15.8	20.2	13.2	14.1	11.7	12.2	17.7	24.4
	1		10.5	11.1	11.3	13.0	10.8	12.8	12.4	16.8	15.3	22.4	16.7	23.7	17.9	25.5	18.4	25.9	17.6	24.2	15.1	18.0	12.7	13.3	11.2	11.7	16.6	21.9
	2		10.1	10.6	10.4	11.8	10.3	12.1	11.7	15.8	14.4	19.2	15.7	21.6	17.1	23.4	17.7	23.7	16.8	22.6	14.6	16.8	12.2	12.9	10.7	11.2	15.7	19.7
Seattle, Intl Airport 727930	0.4		11.1	12.3	12.0	14.5	12.1	14.9	14.7	20.3	17.6	26.9	19.1	28.9	20.1	30.4	20.6	30.8	18.9	27.0	16.0	21.6	13.1	14.7	11.6	12.8	19.1	28.3
	1		10.3	11.7	11.3	13.4	11.3	14.6	13.7	20.2	16.7	25.2	18.4	27.7	19.4	29.5	19.9	29.4	18.2	25.9	15.3	19.7	12.4	13.9	10.7	11.9	18.1	26.3
	2		9.8	11.2	10.7	12.8	10.7	13.9	12.8	18.4	15.8	23.2	17.7	26.3	18.9	28.4	19.2	28.2	17.5	24.6	14.7	18.3	11.7	13.1	10.1	11.2	17.2	24.5
Spokane, Fairchild AFB 727855	0.4		7.0	8.8	8.6	10.7	10.4	15.7	14.2	22.8	16.8	28.2	18.6	29.9	19.4	31.7	19.1	31.4	16.9	28.9	14.3	23.4	10.1	12.8	7.8	9.3	18.1	30.1
	1		5.8	7.3	7.7	9.9	9.5	13.6	12.8	20.7	15.6	25.9	17.8	28.7	18.7	31.1	18.5	30.9	16.3	27.9	13.3	21.7	9.1	10.9	6.5	7.7	17.2	28.8
	2		5.0	6.5	6.8	9.2	8.7	12.6	11.7	18.1	14.8	24.3	17.2	27.7	18.1	30.3	17.9	30.2	15.6	26.8	12.5	19.6	8.3	9.9	5.6	6.8	16.3	27.5
Yakima 727810	0.4		8.3	11.8	9.9	15.2	11.8	18.4	15.1	23.8	17.9	29.6	19.5	33.2	21.5	33.3	20.9	33.0	18.9	30.0	15.8	25.4	11.4	15.8	9.0	12.2	19.7	32.4
	1		7.4	10.9	9.1	13.7	11.0	17.1	13.9	21.9	16.9	28.4	18.8	31.7	20.6	32.6	20.2	32.6	18.1	29.4	14.8	23.9	10.6	14.1	7.7	10.5	18.7	31.4
	2		6.4	9.6	8.3	12.6	10.1	15.6	12.9	21.1	16.0	26.7	18.2	30.3	19.7	32.7	19.7	32.3	17.4	28.6	13.9	22.1	9.8	13.2	6.6	9.0	17.8	29.9
WEST VIRGINIA																												
Charleston 724140	0.4		14.1	17.7	14.6	18.8	17.2	23.5	19.0	25.2	23.2	28.4	24.6	30.3	25.8	32.1	25.3	30.8	24.3	29.5	20.8	24.7	17.9	22.6	15.8	19.7	24.6	30.1
	1		13.1	16.8	13.7	17.2	16.3	22.0	18.3	25.6	22.4	27.2	24.1	29.9	25.2	31.2	24.8	30.4	23.7	28.8	20.1	24.3	17.1	21.7	14.9	18.4	23.8	29.2
	2		12.1	15.1	12.7	16.4	15.4	20.7	17.7	25.0	21.6	26.7	23.6	29.2	24.7	30.3	24.3	29.7	23.2	28.1	19.3	23.5	16.3	20.3	14.1	17.5	23.2	28.0
Elkins 724170	0.4		12.4	15.0	13.2	16.4	15.8	21.1	17.9	23.8	20.9	25.6	23.0	27.4	24.1	28.9	23.8	28.6	22.8	27.7	19.4	22.9	16.8	20.7	14.9	18.1	22.9	27.7
	1		11.5	13.8	12.3	15.2	14.7	19.5	17.0	23.3	20.4	25.1	22.4	27.2	23.7	28.5	23.2	27.8	22.3	26.7	18.6	22.1	15.7	19.6	13.8	17.1	22.2	26.7
	2		10.3	13.0	11.3	14.2	13.8	18.6	16.3	22.3	19.8	24.2	21.9	26.8	23.1	27.9	22.7	27.4	21.8	26.0	17.8	21.6	14.9	17.7	12.7	15.4	21.4	25.8
Huntington 724250	0.4		14.4	18.2	14.7	17.7	17.4	23.2	19.7	26.1	23.6	28.7	25.2	30.6	26.2	32.0	26.0	31.8	24.1	30.0	20.8	24.7	18.2	22.2	16.0	19.7	25.0	30.3
	1		13.4	16.5	13.8	17.2	16.6	22.1	18.8	25.3	22.8	27.7	24.6	29.9	25.6	31.4	25.3	30.7	23.7	29.4	20.1	24.2	17.3	20.9	15.2	18.5	24.3	29.6
	2		12.3	14.7	12.8	15.9	15.6	20.7	18.1	24.8	22.1	27.3	24.1	29.5	25.2	30.7	24.8	30.2	23.3	28.6	19.4	23.4	16.5	20.1	14.2	16.9	23.6	28.4
WISCONSIN																												
Eau Claire																												

Table 4B Design Dry-Bulb—Mean Coincident Wet-Bulb Temperature

Location and WMO#		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Annual	
		%	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB	MWB	DB
1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12c	13a	13b	14a	14b
VERMONT																											
Burlington 726170	0.4	9.4	7.3	11.3	8.3	18.9	13.6	26.0	16.1	30.4	19.7	32.0	21.4	33.4	23.1	31.8	22.6	28.9	22.6	23.7	17.5	18.8	15.2	13.4	11.5	30.8	21.6
	1	7.2	5.4	8.4	5.2	16.1	10.4	23.0	14.0	28.6	18.4	30.7	21.0	32.3	22.8	30.6	21.9	27.6	21.9	22.3	16.5	17.2	13.9	11.7	9.0	29.1	20.7
	2	5.4	3.1	6.9	4.7	13.6	9.2	21.0	13.4	26.9	17.7	29.6	20.8	31.1	22.4	29.6	21.4	26.2	20.6	20.9	15.6	15.8	12.4	9.2	6.8	27.5	20.0
VIRGINIA																											
Lynchburg 724100	0.4	19.8	13.7	22.3	13.6	26.8	17.0	30.9	17.6	31.2	21.0	33.7	23.6	35.9	23.6	35.1	23.4	33.7	23.2	28.2	20.0	24.8	16.0	21.3	16.6	33.7	23.6
	1	17.3	11.9	19.8	12.2	24.9	15.9	29.3	16.7	30.3	20.8	32.8	23.1	34.9	23.7	34.1	23.4	32.3	23.1	27.2	18.9	23.4	15.5	19.5	15.2	32.3	23.1
	2	15.5	11.1	18.2	11.4	23.0	14.7	27.9	16.4	29.3	20.3	31.9	22.7	34.1	23.7	33.2	23.3	31.3	22.4	26.2	18.4	21.9	14.9	17.5	14.1	31.1	22.6
Norfolk 723080	0.4	21.4	16.5	23.6	16.7	27.2	18.4	30.3	18.6	32.3	22.1	34.8	24.6	35.9	25.3	35.4	25.1	34.0	24.4	29.2	21.2	26.0	19.3	22.6	17.7	34.0	24.8
	1	19.6	15.5	21.6	15.3	25.6	16.8	28.9	18.3	31.1	21.4	33.6	24.2	35.1	25.1	34.2	25.1	32.6	24.1	27.9	20.9	24.7	18.3	21.3	17.2	32.6	24.2
	2	18.1	14.8	19.9	15.0	23.8	16.2	27.6	17.9	30.1	20.9	32.8	23.9	34.2	25.1	33.2	24.8	31.3	23.6	26.5	20.4	23.4	17.8	20.1	16.7	31.2	23.7
Richmond 724010	0.4	20.1	15.0	22.8	13.7	27.7	18.0	31.7	18.6	33.1	22.3	35.3	25.0	36.4	25.4	35.7	25.1	34.4	24.0	29.5	20.5	26.1	18.1	21.9	17.1	34.5	24.6
	1	18.2	13.8	20.9	14.1	25.9	16.9	30.1	18.3	31.9	21.4	34.2	24.3	35.6	25.1	34.6	25.2	33.2	24.1	28.1	20.2	24.5	17.6	20.7	16.3	33.1	24.1
	2	16.8	12.4	19.1	13.5	24.0	15.3	28.6	17.9	30.8	21.0	33.3	23.7	34.8	24.9	33.7	24.8	31.9	23.3	26.8	19.4	23.1	16.7	18.9	14.6	31.8	23.5
Roanoke 724110	0.4	18.8	12.4	21.6	13.1	26.4	15.8	30.0	17.1	31.4	20.5	33.6	22.4	35.9	23.1	34.9	22.8	32.9	22.7	28.0	18.6	24.2	15.6	20.1	14.6	33.2	22.7
	1	16.7	10.9	19.5	11.8	24.6	14.7	28.4	16.3	30.3	20.0	32.7	22.3	34.7	22.8	33.5	22.8	31.8	22.4	26.8	17.8	22.6	15.4	18.5	13.7	31.8	22.2
	2	15.0	9.8	17.7	10.9	22.8	13.7	27.0	15.9	29.1	19.3	31.8	21.8	33.6	23.0	32.4	22.7	30.6	21.8	25.8	17.5	21.2	14.5	16.9	12.6	30.4	21.6
Sterling 724030	0.4	17.2	12.2	20.3	12.4	25.8	16.1	29.7	17.6	31.8	21.8	34.2	23.6	36.1	24.3	34.9	24.2	33.8	24.0	28.2	19.2	24.2	17.5	20.4	16.4	33.7	23.9
	1	15.2	11.1	17.9	11.7	23.8	15.3	28.1	17.6	30.7	21.1	33.2	23.1	34.9	24.3	33.8	23.9	32.4	23.3	26.9	19.1	22.6	16.3	18.2	14.7	32.2	23.2
	2	12.9	9.3	16.1	12.2	21.7	14.6	26.4	17.1	29.6	20.4	32.2	23.1	34.0	24.2	32.9	23.6	31.3	22.9	25.5	18.7	21.1	15.6	16.4	13.4	30.9	22.6
WASHINGTON																											
Olympia 727920	0.4	12.9	11.7	16.3	10.3	19.0	11.1	23.8	13.9	28.9	17.2	31.5	18.8	33.4	20.0	33.8	20.3	30.4	18.3	23.6	15.3	15.5	12.4	13.2	11.5	30.6	19.3
	1	12.1	10.6	14.7	10.3	17.4	10.3	21.8	13.3	26.9	16.8	29.6	18.7	31.8	19.8	32.2	19.9	28.4	17.5	21.7	14.9	14.3	11.8	11.9	10.6	28.3	18.2
	2	11.3	9.9	13.3	10.2	16.1	9.9	20.0	12.8	25.1	15.8	28.1	18.0	30.2	19.4	30.6	19.4	27.1	17.3	19.9	14.2	13.4	11.3	11.2	10.1	26.3	17.5
Quillayute 727970	0.4	13.3	10.1	16.6	10.3	16.9	10.1	21.1	12.3	26.4	15.6	27.9	16.5	29.2	17.4	29.6	19.2	28.3	17.3	22.6	15.3	15.2	10.9	12.6	11.1	26.4	16.8
	1	11.9	9.6	14.6	9.8	15.3	9.6	19.0	11.2	23.8	14.4	24.8	16.4	27.0	17.1	27.2	17.7	26.6	16.7	20.3	13.4	14.0	11.8	11.9	10.9	23.3	15.9
	2	11.0	9.3	13.0	9.6	13.9	9.2	17.1	11.0	21.0	13.7	22.2	15.7	24.7	17.0	24.9	17.0	24.4	15.9	18.5	13.5	13.2	11.7	11.3	10.4	20.8	15.0
Seattle, Intl Airport 727930	0.4	13.4	9.7	17.2	10.3	18.2	10.4	23.3	12.6	28.1	16.9	30.4	18.4	32.2	19.2	32.6	19.8	29.3	17.5	23.1	15.3	16.3	10.7	13.2	11.3	29.4	18.3
	1	12.4	9.6	15.4	9.8	16.9	10.1	21.3	13.1	26.1	15.9	28.7	17.9	30.4	19.0	30.8	19.2	27.7	17.2	21.3	14.7	14.9	11.2	12.3	10.3	27.4	17.6
	2	11.6	9.2	14.0	9.4	15.6	9.6	19.6	11.8	24.2	15.6	27.2	17.1	29.1	18.5	29.2	18.6	26.2	16.8	19.7	13.9	14.0	11.1	11.4	9.6	25.4	16.8
Spokane, Fairchild AFB 727855	0.4	9.1	6.9	11.9	7.9	16.9	9.7	24.3	13.4	29.8	15.6	33.1	16.9	35.7	17.8	35.8	17.1	31.6	16.1	24.6	13.3	13.2	8.8	9.6	7.2	33.4	16.8
	1	7.8	5.6	10.7	7.0	15.3	8.7	21.8	11.9	28.1	14.9	31.8	16.7	34.6	17.2	34.6	17.1	29.8	15.4	22.8	12.7	11.7	8.6	8.2	5.9	31.5	16.3
	2	6.6	4.8	9.6	6.2	13.9	7.8	20.0	11.1	26.3	13.8	30.4	16.3	33.6	16.8	33.4	16.8	28.6	15.0	21.2	11.8	10.6	7.7	7.2	5.3	29.6	15.7
Yakima 727810	0.4	13.2	7.6	15.9	9.3	20.1	10.6	25.8	14.1	32.2	17.2	35.3	18.5	37.6	19.5	37.7	19.4	32.6	17.8	26.6	15.1	16.7	10.7	13.2	8.3	35.1	18.6
	1	11.3	7.0	14.7	8.5	18.6	9.9	24.4	12.9	30.4	16.0	33.9	17.6	36.5	19.3	36.2	19.2	31.3	17.2	24.9	14.2	15.4	9.8	11.2	7.1	33.2	17.9
	2	10.1	6.2	13.3	7.7	17.2	9.3	22.8	12.2	28.8	15.6	32.6	17.3	35.4	18.6	35.0	18.6	30.1	16.7	23.1	13.6	14.2	9.0	9.5	6.1	31.2	17.2
WEST VIRGINIA																											
Charleston 724140	0.4	19.2	13.1	21.2	12.8	26.5	15.1	30.2	17.4	31.3	20.3	33.0	22.2	34.5	23.8	34.3	22.9	32.3	22.2	27.7	18.8	24.8	16.5	21.2	14.8	32.5	22.8
	1	17.2	11.7	19.4	12.3	25.1	14.6	28.8	17.1	30.3	19.6	32.2	22.0	33.4	23.3	33.1	22.8	31.1	22.6	26.8	18.7	23.3	15.4	19.3	13.8	31.2	22.5
	2	15.7	11.2	17.8	11.5	23.7	13.9	27.8	16.4	29.6	19.8	31.4	22.2	32.6	23.7	32.0	22.8	30.1	22.1	25.7	17.9	22.0	14.7	18.0	13.3	30.0	21.8
Elkins 724170	0.4	16.3	10.5	18.4	12.2	24.2	13.8	27.3	15.3	28.5	19.0	29.9	20.9	31.6	21.7	31.2	21.3	29.2	21.1	25.5	17.1	22.4	14.7	19.1	13.9	29.6	21.4
	1	14.8	10.2	16.7	11.4	22.4	12.6	26.2	15.5	27.6	18.5	29.1	20.6	30.6	21.9	30.2	21.4	28.4	21.4	24.5	16.8	21.0	13.8	17.4	13.0	28.4	20.9
	2	13.3	9.9	15.4	9.9	21.1	12.6	25.1	14.9	26.8	18.1	28.4	20.5	29.7	22.0	29.2	21.4	27.5	20.9	23.6	16.1	19.7	13.3	15.8	12.0	27.3	20.3
Huntington 724250	0.4	18.8	14.0	20.9	12.9	26.8	15.7	30.1	17.4	31.1	21.3	33.1	22.6	34.9	24.4	34.4	23.8	32.5	22.6	27.8	19.3	24.7	17.1	20.9	15.4	32.7	23.5
	1	17.1	12.0	19.4	12.0	25.1	14.6	28.8	17.3	30.2	20.6	32.3	22.5	33.7	23.9	33.3	23.8	31.2	22.7	26.8	18.4	23.1	15.8	19.3	14.2	31.4	23.0
	2	15.5	11.2	17.7	11.4	23.6	14.3	27.7	16.8	29.4	20.0	31.6</															