

|                                 |                                    |
|---------------------------------|------------------------------------|
| <b>DOTHAN AL</b>                |                                    |
| Latitude = 31.32 N              | WMO No. 722268                     |
| Longitude = 85.45 W             | Elevation = 400 feet               |
| Period of Record = 1973 to 1996 | Average Pressure = 29.60 inches Hg |

### Design Criteria Data

|                                                  | Design Value      | Mean Coincident (Average) Values |                         |                        |                             |
|--------------------------------------------------|-------------------|----------------------------------|-------------------------|------------------------|-----------------------------|
|                                                  |                   | Wet Bulb Temperature (°F)        | Humidity Ratio (gr/lb)  | Wind Speed (mph)       | Prevailing Direction (NSEW) |
| <b>Dry Bulb Temperature (T)</b>                  | <b>(°F)</b>       |                                  |                         |                        |                             |
| Median of Extreme Highs                          | 98                | 77                               | 111                     | 8.3                    | NW                          |
| 0.4% Occurrence                                  | 95                | 77                               | 110                     | 7.7                    | N                           |
| 1.0% Occurrence                                  | 93                | 76                               | 110                     | 7.6                    | N                           |
| 2.0% Occurrence                                  | 91                | 76                               | 111                     | 7.5                    | SW                          |
| Mean Daily Range                                 | 19                | -                                | -                       | -                      | -                           |
| 97.5% Occurrence                                 | 35                | 31                               | 20                      | 8.2                    | NW                          |
| 99.0% Occurrence                                 | 30                | 26                               | 14                      | 8.4                    | NNW                         |
| 99.6% Occurrence                                 | 27                | 24                               | 12                      | 9.1                    | NW                          |
| Median of Extreme Lows                           | 19                | 16                               | 7                       | 10.9                   | NNW                         |
|                                                  | Design Value      | Mean Coincident (Average) Values |                         |                        |                             |
|                                                  |                   | Dry Bulb Temperature (°F)        | Humidity Ratio (gr/lb)  | Wind Speed (mph)       | Prevailing Direction (NSEW) |
| <b>Wet Bulb Temperature (T<sub>wb</sub>)</b>     | <b>(°F)</b>       |                                  |                         |                        |                             |
| Median of Extreme Highs                          | 82                | 92                               | 146                     | 7.7                    | S                           |
| 0.4% Occurrence                                  | 80                | 90                               | 138                     | 7.0                    | S                           |
| 1.0% Occurrence                                  | 79                | 88                               | 134                     | 7.0                    | SW                          |
| 2.0% Occurrence                                  | 78                | 87                               | 130                     | 6.9                    | SW                          |
|                                                  | Design Value      | Mean Coincident (Average) Values |                         |                        |                             |
|                                                  |                   | Dry Bulb Temperature (°F)        | Vapor Pressure (in. Hg) | Wind Speed (mph)       | Prevailing Direction (NSEW) |
| <b>Humidity Ratio (HR)</b>                       | <b>(gr/lb)</b>    |                                  |                         |                        |                             |
| Median of Extreme Highs                          | 157               | 86                               | 1.04                    | 6.5                    | S                           |
| 0.4% Occurrence                                  | 144               | 84                               | 0.94                    | 6.8                    | SW                          |
| 1.0% Occurrence                                  | 138               | 83                               | 0.90                    | 6.4                    | S                           |
| 2.0% Occurrence                                  | 134               | 81                               | 0.88                    | 6.3                    | S                           |
| <b>Air Conditioning/<br/>Humid Area Criteria</b> | <b># of Hours</b> | T ≥ 93°F                         | T ≥ 80°F                | T <sub>wb</sub> ≥ 73°F | T <sub>wb</sub> ≥ 67°F      |
|                                                  |                   | 112                              | 1618                    | 1776                   | 3503                        |

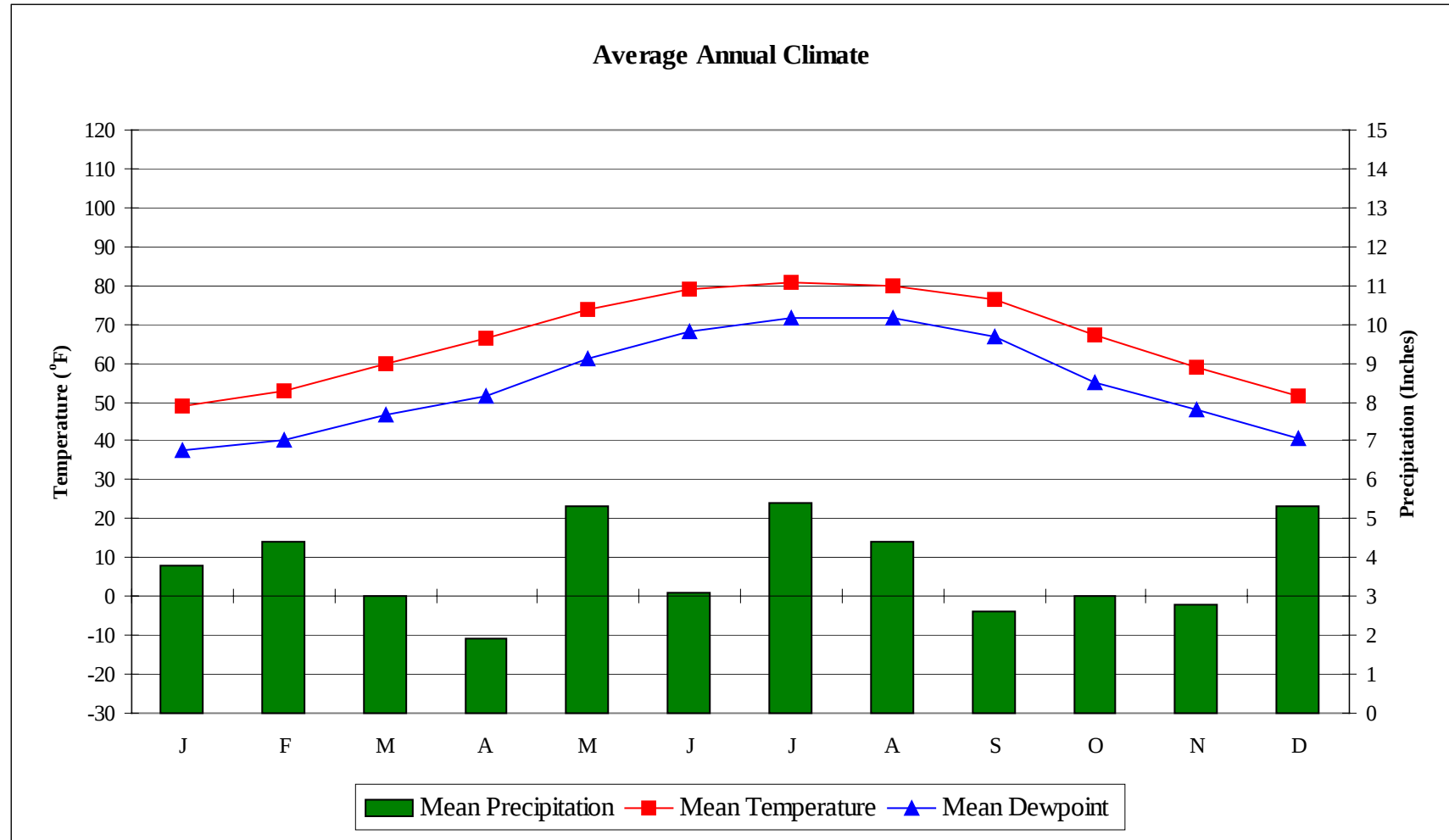
### Other Site Data

| Weather Region                                   | Rain Rate<br>100 Year Recurrence<br>(in./hr) | Basic Wind Speed<br>3 sec gust @ 33 ft<br>50 Year Recurrence (mph) | Ventilation Cooling Load Index<br>(Ton-hr/cfm/yr) Base 75°F-RH 60%<br>Latent + Sensible |
|--------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 10                                               | 4.3                                          | 100                                                                | 6.2 + 1.7                                                                               |
| Ground Water Temperature (°F)<br>50 Foot Depth * | Frost Depth<br>50 Year Recurrence<br>(in.)   | Ground Snow Load<br>50 Year Recurrence<br>(lb/ft²)                 | Average Annual<br>Freeze-Thaw Cycles<br>(#)                                             |
| 68.8                                             | N/A                                          | N/A                                                                | 14                                                                                      |

\*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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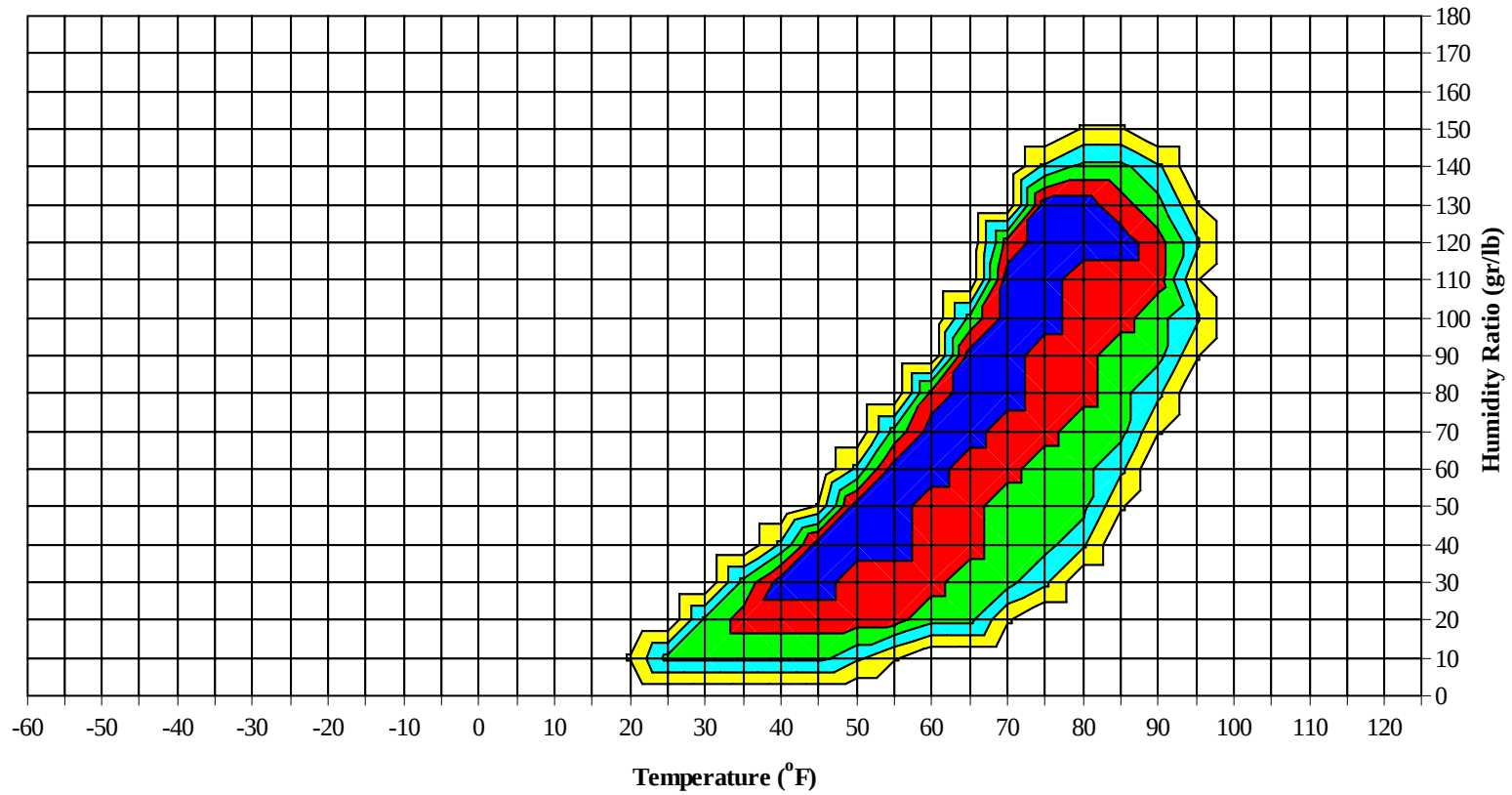


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### Long Term Psychrometric Summary



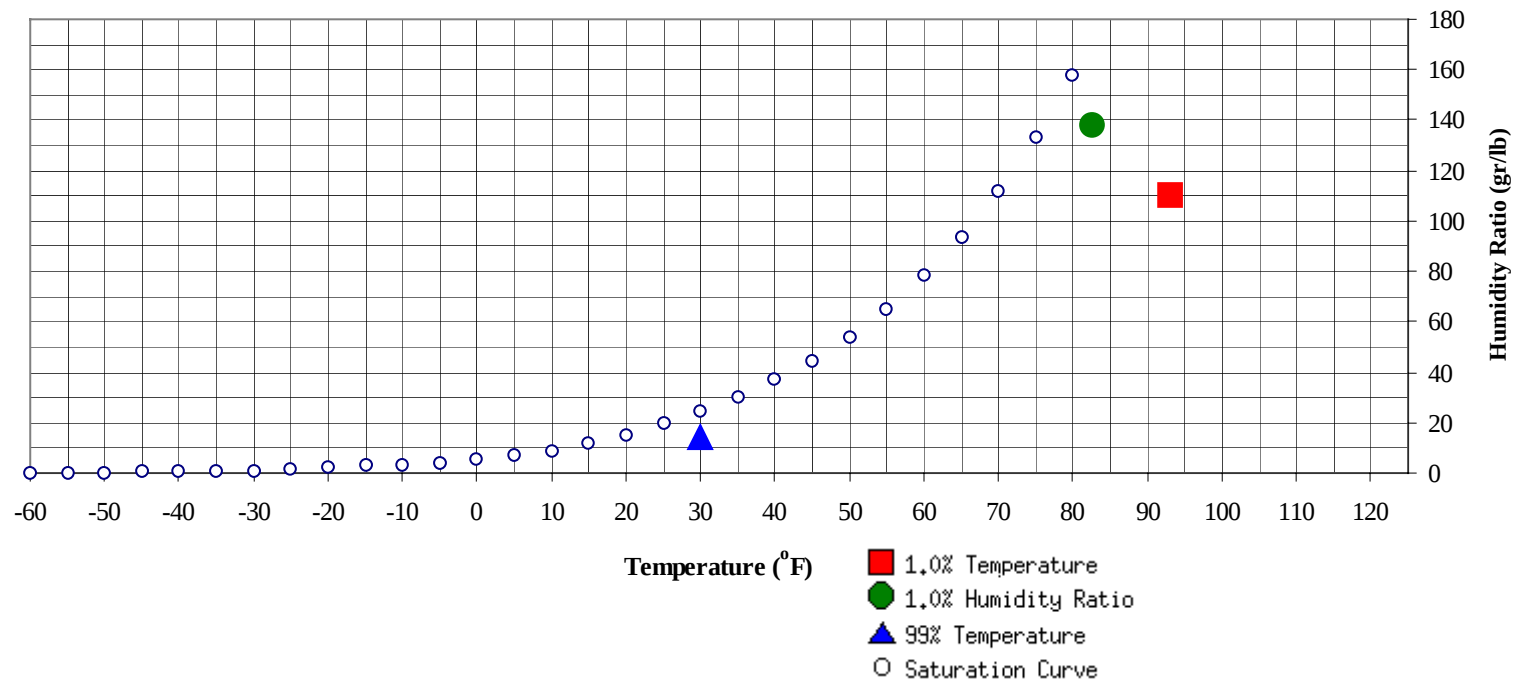
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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## Psychrometric Summary of Peak Design Values



| 99% Dry Bulb | (°F) | MCHR<br>(gr/lb) | Enthalpy<br>(btu/lb) | 1.0% Humidity<br>Ratio | (gr/lb) | MCDB<br>(°F) | MCWB<br>(°F) | MC Dewpt<br>(°F) | Enthalpy<br>(btu/lb) |
|--------------|------|-----------------|----------------------|------------------------|---------|--------------|--------------|------------------|----------------------|
|              | 30   | 14.4            | 9.4                  |                        | 137.9   | 82.6         | 77.8         | 75.9             | 41.4                 |

| 1.0% Dry Bulb | (°F) | MCHR<br>(gr/lb) | MCWB<br>(°F) | Enthalpy<br>(btu/lb) |
|---------------|------|-----------------|--------------|----------------------|
|               | 93   | 109.9           | 76.1         | 39.6                 |

**DOTHAN AL**

**WMO No. 722268**

**Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)**

**Period of Record = 1973 to 1996**

| Temperature<br>Range<br>(°F) | January             |                |                |              |                          | February            |                |                |              |                          | March               |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 95 / 99                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 90 / 94                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 85 / 89                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 1              | 0              | 1            | 69.6                     |
| 80 / 84                      |                     |                |                |              |                          |                     | 1              | 0              | 1            | 65.7                     |                     | 16             | 2              | 18           | 65.4                     |
| 75 / 79                      |                     | 4              | 0              | 4            | 65.8                     | 0                   | 11             | 1              | 12           | 63.9                     | 0                   | 38             | 12             | 49           | 63.3                     |
| 70 / 74                      | 1                   | 14             | 3              | 18           | 63.5                     | 1                   | 24             | 7              | 32           | 61.7                     | 6                   | 46             | 31             | 83           | 62.0                     |
| 65 / 69                      | 8                   | 25             | 14             | 47           | 60.5                     | 9                   | 37             | 25             | 71           | 59.5                     | 23                  | 44             | 47             | 115          | 59.6                     |
| 60 / 64                      | 14                  | 35             | 27             | 76           | 56.3                     | 21                  | 37             | 38             | 96           | 55.8                     | 38                  | 40             | 55             | 132          | 55.9                     |
| 55 / 59                      | 24                  | 39             | 36             | 98           | 52.1                     | 25                  | 33             | 36             | 94           | 50.9                     | 51                  | 27             | 43             | 120          | 51.6                     |
| 50 / 54                      | 31                  | 43             | 45             | 119          | 47.0                     | 35                  | 32             | 36             | 102          | 46.4                     | 47                  | 20             | 30             | 96           | 46.9                     |
| 45 / 49                      | 35                  | 35             | 43             | 112          | 42.1                     | 38                  | 23             | 35             | 96           | 42.0                     | 37                  | 10             | 17             | 63           | 42.3                     |
| 40 / 44                      | 43                  | 28             | 37             | 108          | 37.5                     | 35                  | 16             | 24             | 75           | 37.2                     | 26                  | 5              | 9              | 39           | 37.7                     |
| 35 / 39                      | 40                  | 16             | 26             | 82           | 33.0                     | 30                  | 9              | 14             | 52           | 32.4                     | 13                  | 1              | 2              | 16           | 33.3                     |
| 30 / 34                      | 32                  | 7              | 12             | 51           | 28.5                     | 18                  | 3              | 6              | 27           | 28.2                     | 4                   | 1              | 1              | 6            | 28.3                     |
| 25 / 29                      | 14                  | 3              | 5              | 22           | 23.6                     | 9                   | 1              | 1              | 11           | 23.7                     | 2                   | 0              | 1              | 3            | 24.0                     |
| 20 / 24                      | 4                   | 1              | 1              | 6            | 19.1                     | 2                   | 0              | 0              | 2            | 19.2                     | 1                   | 0              | 0              | 1            | 19.3                     |
| 15 / 19                      | 2                   | 0              | 0              | 2            | 14.6                     | 1                   | 0              | 0              | 1            | 14.4                     | 0                   |                |                | 0            | 16.0                     |
| 10 / 14                      | 0                   | 0              | 0              | 0            | 9.9                      | 0                   |                |                | 0            | 11.0                     |                     |                |                |              |                          |
| 5 / 9                        | 0                   | 0              |                | 0            | 5.1                      |                     |                |                |              |                          |                     |                |                |              |                          |
| 0 / 4                        | 0                   |                |                | 0            | 2.0                      |                     |                |                |              |                          |                     |                |                |              |                          |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

**DOTHAN AL**

**WMO No. 722268**

**Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)**

**Period of Record = 1973 to 1996**

| Temperature<br>Range<br>(°F) | April               |                |                |              |                          | May                 |                |                |              |                          | June                |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     |                |                |              |                          |                     |                |                |              |                          |                     | 1              | 0              | 1            | 76.7                     |
| 95 / 99                      |                     |                |                |              |                          |                     | 0              | 0              | 0            | 72.8                     |                     | 10             | 2              | 12           | 75.8                     |
| 90 / 94                      |                     | 1              | 0              | 1            | 69.2                     |                     | 11             | 1              | 12           | 72.0                     | 0                   | 51             | 10             | 61           | 74.4                     |
| 85 / 89                      |                     | 12             | 2              | 14           | 67.1                     | 0                   | 55             | 12             | 67           | 70.1                     | 1                   | 81             | 27             | 109          | 73.6                     |
| 80 / 84                      |                     | 47             | 12             | 60           | 66.0                     | 2                   | 81             | 33             | 117          | 68.7                     | 20                  | 61             | 50             | 131          | 72.7                     |
| 75 / 79                      | 1                   | 54             | 25             | 81           | 64.1                     | 17                  | 58             | 60             | 135          | 67.8                     | 70                  | 25             | 86             | 181          | 72.0                     |
| 70 / 74                      | 17                  | 52             | 49             | 119          | 62.3                     | 75                  | 31             | 80             | 185          | 66.7                     | 114                 | 11             | 58             | 184          | 69.6                     |
| 65 / 69                      | 48                  | 38             | 64             | 149          | 60.3                     | 88                  | 11             | 46             | 145          | 63.5                     | 28                  | 1              | 6              | 35           | 64.0                     |
| 60 / 64                      | 61                  | 22             | 44             | 127          | 56.2                     | 44                  | 2              | 13             | 59           | 57.9                     | 5                   |                | 0              | 5            | 58.2                     |
| 55 / 59                      | 50                  | 9              | 26             | 85           | 51.7                     | 16                  | 0              | 2              | 18           | 52.9                     | 1                   |                | 0              | 1            | 53.8                     |
| 50 / 54                      | 37                  | 4              | 13             | 55           | 47.0                     | 6                   | 0              | 0              | 6            | 48.7                     |                     |                |                |              |                          |
| 45 / 49                      | 18                  | 1              | 3              | 22           | 42.7                     | 0                   |                | 0              | 0            | 45.9                     |                     |                |                |              |                          |
| 40 / 44                      | 7                   | 0              | 1              | 8            | 38.5                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 35 / 39                      | 1                   | 0              | 0              | 1            | 34.1                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 30 / 34                      | 0                   |                |                | 0            | 30.3                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 25 / 29                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 20 / 24                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 15 / 19                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 10 / 14                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

**DOTHAN AL**

**WMO No. 722268**

**Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)**

**Period of Record = 1973 to 1996**

| Temperature<br>Range<br>(°F) | July                |                |                |              |                          | August              |                |                |              |                          | September           |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     | 1              | 0              | 1            | 80.7                     |                     | 0              |                | 0            | 78.8                     |                     |                |                |              |                          |
| 95 / 99                      | 0                   | 18             | 2              | 20           | 78.1                     |                     | 10             | 1              | 11           | 77.6                     |                     | 4              | 0              | 4            | 74.4                     |
| 90 / 94                      | 0                   | 68             | 13             | 82           | 76.8                     |                     | 65             | 10             | 75           | 76.8                     |                     | 34             | 3              | 37           | 75.0                     |
| 85 / 89                      | 4                   | 79             | 29             | 112          | 76.2                     | 1                   | 90             | 26             | 117          | 76.1                     | 0                   | 72             | 14             | 87           | 74.2                     |
| 80 / 84                      | 28                  | 52             | 59             | 139          | 75.3                     | 19                  | 53             | 55             | 128          | 75.2                     | 5                   | 65             | 37             | 108          | 72.6                     |
| 75 / 79                      | 108                 | 23             | 104            | 236          | 73.7                     | 93                  | 23             | 108            | 224          | 73.8                     | 43                  | 37             | 86             | 165          | 71.8                     |
| 70 / 74                      | 103                 | 7              | 40             | 151          | 71.2                     | 123                 | 6              | 46             | 175          | 71.2                     | 119                 | 18             | 68             | 205          | 69.5                     |
| 65 / 69                      | 4                   | 0              | 0              | 4            | 66.7                     | 9                   | 1              | 1              | 11           | 65.8                     | 43                  | 7              | 20             | 70           | 63.8                     |
| 60 / 64                      |                     |                |                |              |                          | 2                   | 0              | 1              | 3            | 60.9                     | 19                  | 3              | 9              | 31           | 58.8                     |
| 55 / 59                      |                     |                |                |              |                          |                     |                |                |              |                          | 8                   | 0              | 2              | 10           | 54.7                     |
| 50 / 54                      |                     |                |                |              |                          |                     |                |                |              |                          | 3                   |                | 0              | 3            | 50.9                     |
| 45 / 49                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 40 / 44                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 35 / 39                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 30 / 34                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 25 / 29                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 20 / 24                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 15 / 19                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 10 / 14                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

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**DOTHAN AL**

**WMO No. 722268**

**Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)**

**Period of Record = 1973 to 1996**

| Temperature<br>Range<br>(°F) | October             |                |                |              |                          | November            |                |                |              |                          | December            |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 95 / 99                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 90 / 94                      |                     | 3              |                | 3            | 72.0                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 85 / 89                      |                     | 19             | 1              | 20           | 71.3                     |                     | 0              |                | 0            | 73.3                     |                     |                |                |              |                          |
| 80 / 84                      | 0                   | 53             | 8              | 61           | 68.1                     |                     | 13             | 0              | 13           | 67.7                     |                     | 1              |                | 1            | 70.5                     |
| 75 / 79                      | 3                   | 57             | 27             | 87           | 66.5                     | 0                   | 36             | 5              | 41           | 66.3                     | 0                   | 10             | 1              | 11           | 66.9                     |
| 70 / 74                      | 31                  | 54             | 59             | 145          | 64.9                     | 10                  | 48             | 26             | 84           | 64.4                     | 4                   | 23             | 6              | 33           | 64.8                     |
| 65 / 69                      | 54                  | 35             | 55             | 145          | 61.4                     | 27                  | 41             | 43             | 111          | 61.4                     | 10                  | 31             | 21             | 63           | 61.4                     |
| 60 / 64                      | 52                  | 17             | 44             | 114          | 57.2                     | 38                  | 38             | 46             | 122          | 56.9                     | 23                  | 39             | 32             | 94           | 56.9                     |
| 55 / 59                      | 41                  | 7              | 32             | 80           | 52.5                     | 35                  | 31             | 39             | 105          | 51.4                     | 28                  | 42             | 36             | 106          | 51.7                     |
| 50 / 54                      | 35                  | 2              | 15             | 52           | 47.8                     | 38                  | 20             | 36             | 94           | 46.6                     | 32                  | 39             | 46             | 118          | 46.9                     |
| 45 / 49                      | 22                  | 1              | 4              | 27           | 43.6                     | 32                  | 10             | 28             | 70           | 42.0                     | 38                  | 30             | 41             | 108          | 42.3                     |
| 40 / 44                      | 7                   | 0              | 1              | 8            | 39.2                     | 29                  | 4              | 14             | 47           | 38.0                     | 39                  | 19             | 34             | 91           | 37.7                     |
| 35 / 39                      | 1                   | 0              | 0              | 1            | 34.5                     | 21                  | 1              | 4              | 26           | 34.0                     | 34                  | 9              | 21             | 64           | 33.4                     |
| 30 / 34                      | 0                   |                | 0              | 0            | 32.3                     | 6                   | 0              | 1              | 7            | 30.3                     | 26                  | 3              | 8              | 37           | 28.5                     |
| 25 / 29                      |                     |                |                |              |                          | 1                   | 0              | 0              | 1            | 24.5                     | 10                  | 1              | 3              | 14           | 24.1                     |
| 20 / 24                      |                     |                |                |              |                          |                     |                |                |              |                          | 2                   | 1              | 1              | 4            | 18.8                     |
| 15 / 19                      |                     |                |                |              |                          |                     |                |                |              |                          | 1                   | 0              | 0              | 1            | 14.1                     |
| 10 / 14                      |                     |                |                |              |                          |                     |                |                |              |                          | 1                   | 0              | 0              | 1            | 10.2                     |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          | 0                   |                |                | 0            | 8.0                      |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

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**DOTHAN AL**

WMO No. 722268

**Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)**

Period of Record = 1973 to 1996

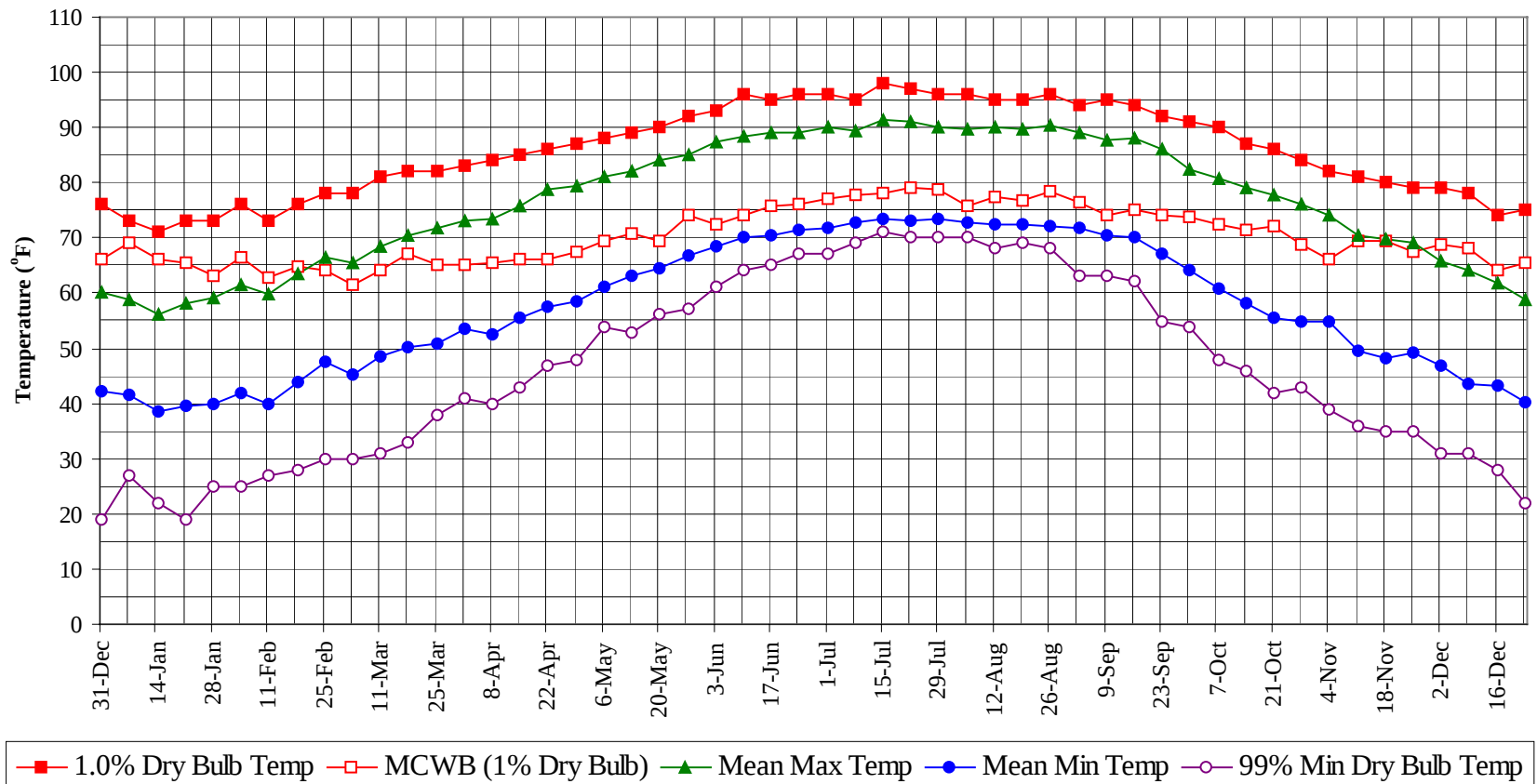
| Annual Totals                |                     |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|
| Temperature<br>Range<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     | 3              | 0              | 3            | 79.0                     |
| 95 / 99                      | 0                   | 41             | 5              | 46           | 77.0                     |
| 90 / 94                      | 0                   | 232            | 36             | 268          | 75.8                     |
| 85 / 89                      | 7                   | 408            | 112            | 527          | 74.1                     |
| 80 / 84                      | 75                  | 441            | 255            | 771          | 71.8                     |
| 75 / 79                      | 337                 | 373            | 510            | 1220         | 70.5                     |
| 70 / 74                      | 607                 | 333            | 471            | 1411         | 67.3                     |
| 65 / 69                      | 354                 | 270            | 342            | 966          | 61.5                     |
| 60 / 64                      | 317                 | 232            | 310            | 859          | 56.7                     |
| 55 / 59                      | 279                 | 188            | 254            | 720          | 51.8                     |
| 50 / 54                      | 264                 | 161            | 224            | 648          | 46.9                     |
| 45 / 49                      | 219                 | 109            | 172            | 499          | 42.2                     |
| 40 / 44                      | 185                 | 71             | 121            | 377          | 37.6                     |
| 35 / 39                      | 140                 | 36             | 68             | 243          | 33.1                     |
| 30 / 34                      | 87                  | 15             | 29             | 131          | 28.5                     |
| 25 / 29                      | 37                  | 5              | 9              | 50           | 23.8                     |
| 20 / 24                      | 9                   | 2              | 3              | 14           | 19.1                     |
| 15 / 19                      | 3                   | 1              | 1              | 5            | 14.4                     |
| 10 / 14                      | 1                   | 0              | 0              | 1            | 10.1                     |
| 5 / 9                        | 0                   | 0              |                | 0            | 5.4                      |
| 0 / 4                        | 0                   |                |                | 0            | 2.0                      |
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**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

DOTHAN AL

WMO No. 722268

### Annual Summary of Temperatures

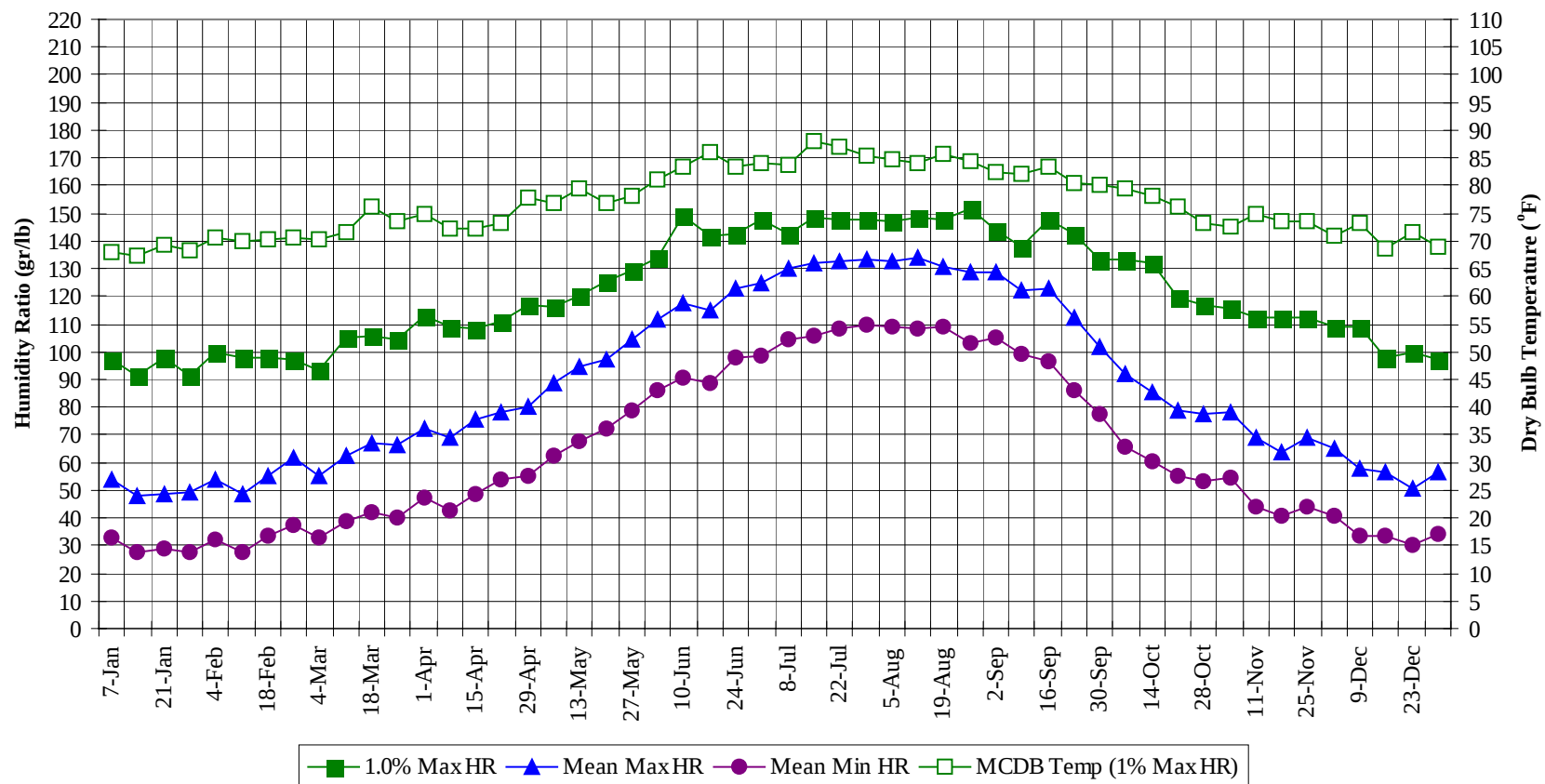


DOTHAN

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WMO No. 722268

### Long Term Humidity and Dry Bulb Temperature Summary

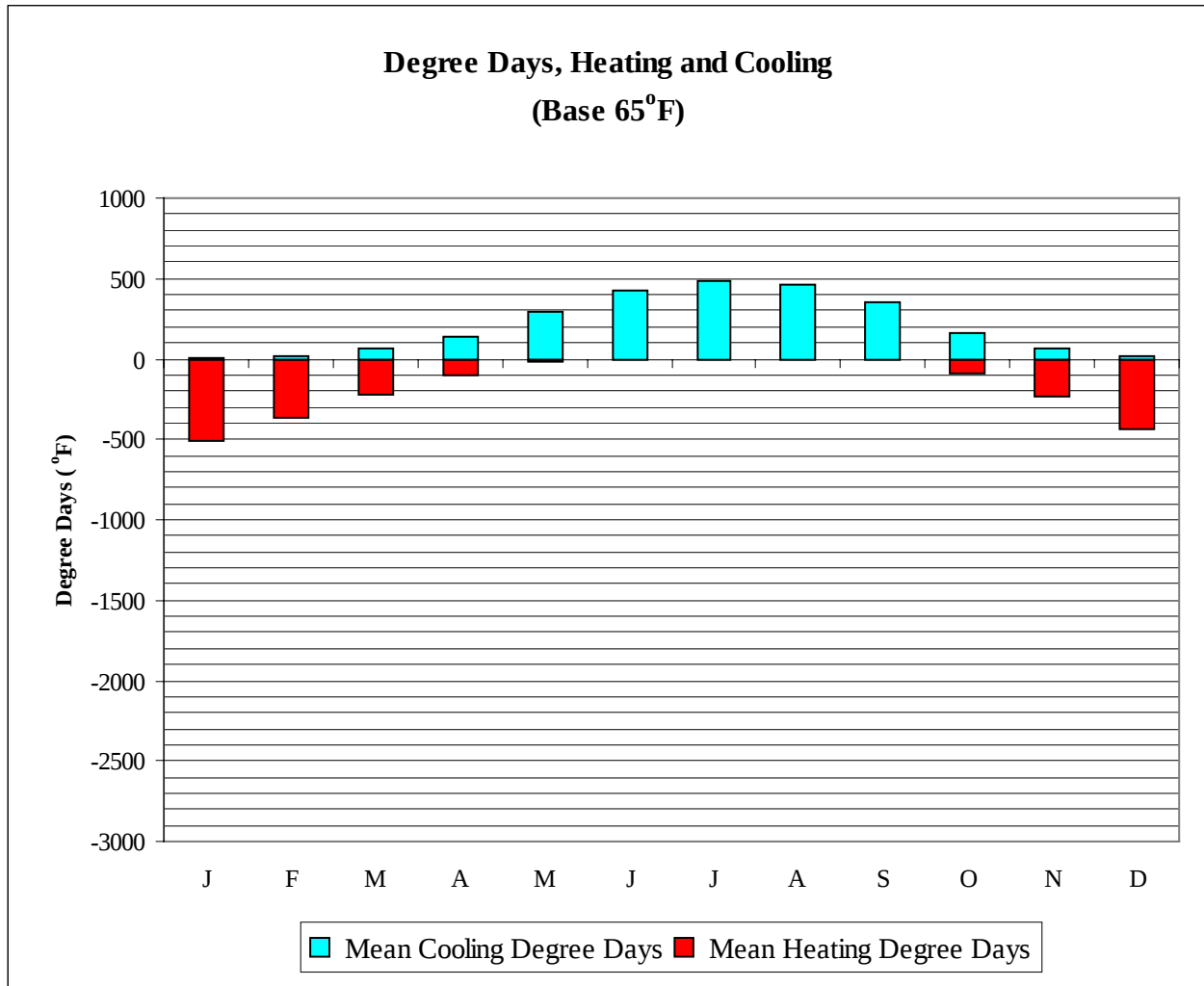


**DOTHAN****AL****WMO No. 722268****Long Term Dry Bulb Temperature and Humidity Summary**

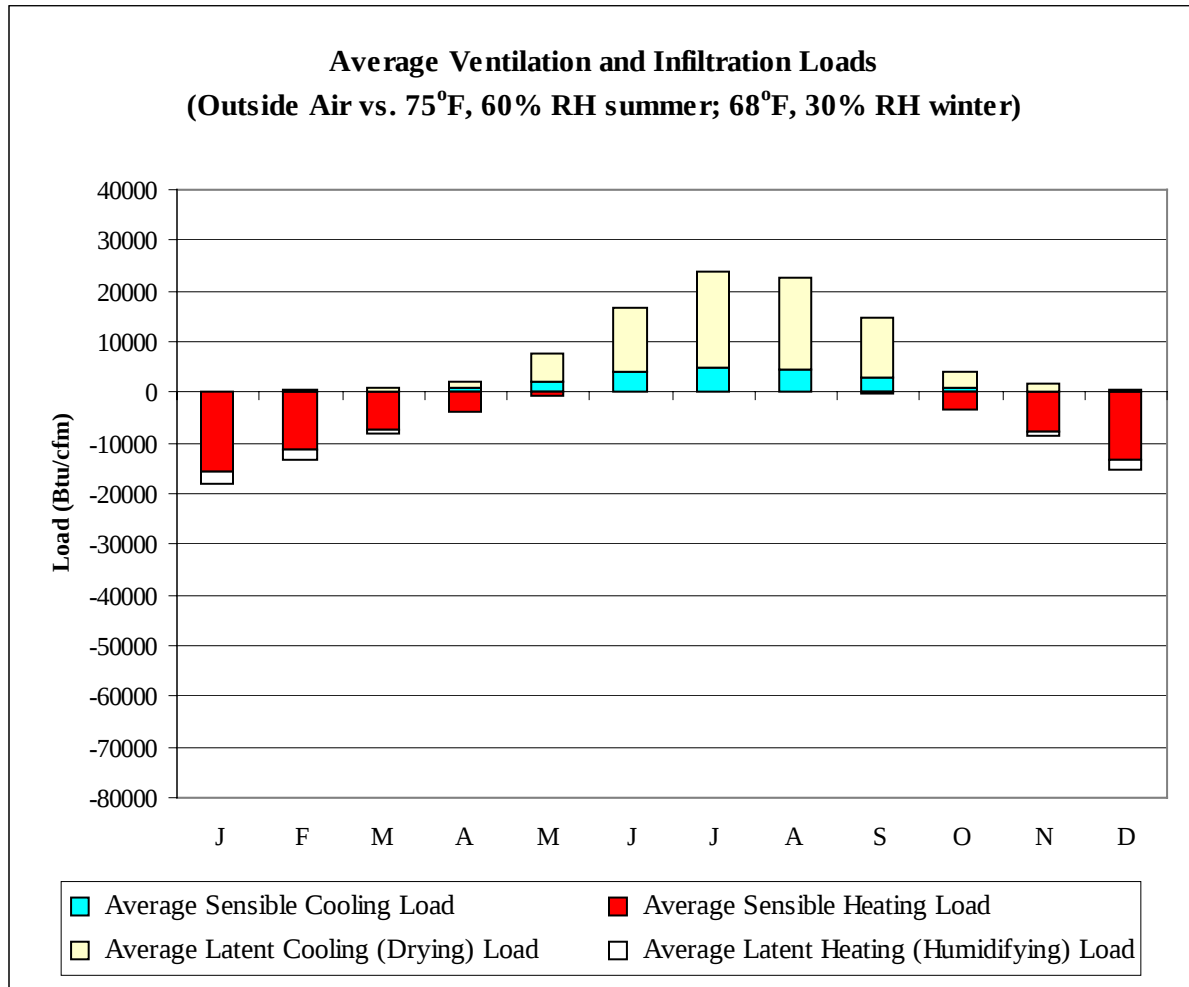
| Week Ending | 1.0% Temp (°F) | MCWB @ 1% Temp (°F) | Mean Max Temp (°F) | Mean Min Temp (°F) | 99% Temp (°F) | 1.0% HR (gr/lb) | MCDB @ 1% HR (°F) | Mean Max HR (gr/lb) | Mean Min HR (gr/lb) |
|-------------|----------------|---------------------|--------------------|--------------------|---------------|-----------------|-------------------|---------------------|---------------------|
| 7-Jan       | 73.0           | 69.2                | 58.9               | 41.6               | 27.0          | 97.3            | 68.0              | 54.1                | 32.6                |
| 14-Jan      | 71.0           | 66.1                | 56.0               | 38.4               | 22.0          | 91.0            | 67.4              | 47.9                | 27.5                |
| 21-Jan      | 73.0           | 65.6                | 58.0               | 39.5               | 19.0          | 98.0            | 69.3              | 48.9                | 28.8                |
| 28-Jan      | 73.0           | 63.0                | 59.3               | 39.7               | 25.0          | 91.0            | 68.2              | 49.2                | 27.4                |
| 4-Feb       | 76.0           | 66.3                | 61.3               | 41.9               | 25.0          | 100.1           | 70.5              | 54.1                | 31.9                |
| 11-Feb      | 73.0           | 62.9                | 59.8               | 39.8               | 27.0          | 98.0            | 69.8              | 48.6                | 27.9                |
| 18-Feb      | 76.0           | 64.9                | 63.4               | 43.9               | 28.0          | 98.0            | 70.3              | 55.0                | 33.7                |
| 25-Feb      | 78.0           | 64.3                | 66.4               | 47.6               | 30.0          | 97.3            | 70.5              | 61.7                | 37.7                |
| 4-Mar       | 78.0           | 61.5                | 65.6               | 45.1               | 30.0          | 93.1            | 70.4              | 55.4                | 33.0                |
| 11-Mar      | 81.0           | 64.1                | 68.4               | 48.5               | 31.0          | 105.0           | 71.5              | 62.6                | 39.0                |
| 18-Mar      | 82.0           | 67.2                | 70.6               | 50.2               | 33.0          | 105.7           | 76.1              | 67.1                | 42.1                |
| 25-Mar      | 82.0           | 65.2                | 71.6               | 50.9               | 38.0          | 104.3           | 73.4              | 66.2                | 39.9                |
| 1-Apr       | 83.0           | 65.1                | 73.1               | 53.6               | 41.0          | 112.7           | 74.9              | 72.1                | 47.0                |
| 8-Apr       | 84.0           | 65.4                | 73.6               | 52.5               | 40.0          | 109.2           | 72.4              | 69.0                | 42.5                |
| 15-Apr      | 85.0           | 66.1                | 75.8               | 55.4               | 43.0          | 108.5           | 72.3              | 75.2                | 48.7                |
| 22-Apr      | 86.0           | 66.2                | 78.6               | 57.6               | 47.0          | 111.3           | 73.3              | 78.4                | 53.8                |
| 29-Apr      | 87.0           | 67.4                | 79.5               | 58.4               | 48.0          | 116.9           | 78.0              | 80.4                | 55.1                |
| 6-May       | 88.0           | 69.6                | 81.2               | 61.1               | 54.0          | 116.2           | 77.0              | 88.7                | 62.2                |
| 13-May      | 89.0           | 70.7                | 82.2               | 63.0               | 53.0          | 120.4           | 79.5              | 94.7                | 67.8                |
| 20-May      | 90.0           | 69.4                | 84.2               | 64.5               | 56.0          | 125.3           | 76.9              | 97.4                | 72.0                |
| 27-May      | 92.0           | 74.1                | 85.2               | 66.7               | 57.0          | 129.5           | 78.0              | 104.1               | 79.0                |
| 3-Jun       | 93.0           | 72.4                | 87.3               | 68.6               | 61.0          | 133.7           | 81.1              | 111.4               | 86.1                |
| 10-Jun      | 96.0           | 74.0                | 88.5               | 70.3               | 64.0          | 149.1           | 83.5              | 117.5               | 90.7                |
| 17-Jun      | 95.0           | 75.8                | 89.1               | 70.3               | 65.0          | 142.1           | 86.2              | 114.6               | 88.8                |
| 24-Jun      | 96.0           | 76.1                | 89.2               | 71.5               | 67.0          | 142.8           | 83.4              | 122.7               | 98.0                |
| 1-Jul       | 96.0           | 77.3                | 90.0               | 71.9               | 67.0          | 147.7           | 84.1              | 124.5               | 98.7                |
| 8-Jul       | 95.0           | 77.8                | 89.5               | 72.7               | 69.0          | 142.8           | 83.6              | 130.2               | 104.7               |
| 15-Jul      | 98.0           | 78.2                | 91.4               | 73.5               | 71.0          | 148.4           | 88.0              | 131.7               | 105.6               |
| 22-Jul      | 97.0           | 78.9                | 90.9               | 73.1               | 70.0          | 147.7           | 87.0              | 132.6               | 108.3               |
| 29-Jul      | 96.0           | 78.8                | 90.1               | 73.3               | 70.0          | 147.7           | 85.3              | 133.4               | 109.4               |
| 5-Aug       | 96.0           | 75.8                | 89.6               | 72.8               | 70.0          | 147.0           | 84.6              | 132.9               | 108.9               |
| 12-Aug      | 95.0           | 77.4                | 90.0               | 72.4               | 68.0          | 148.4           | 83.9              | 133.8               | 108.4               |
| 19-Aug      | 95.0           | 76.8                | 89.7               | 72.3               | 69.0          | 147.7           | 85.8              | 130.9               | 108.7               |
| 26-Aug      | 96.0           | 78.6                | 90.4               | 72.1               | 68.0          | 151.9           | 84.3              | 128.4               | 103.2               |
| 2-Sep       | 94.0           | 76.5                | 89.2               | 71.8               | 63.0          | 143.5           | 82.6              | 128.7               | 105.2               |
| 9-Sep       | 95.0           | 74.2                | 87.7               | 70.3               | 63.0          | 137.9           | 82.1              | 122.3               | 99.3                |
| 16-Sep      | 94.0           | 75.1                | 88.2               | 70.2               | 62.0          | 147.7           | 83.5              | 123.1               | 96.8                |
| 23-Sep      | 92.0           | 74.1                | 86.1               | 67.1               | 55.0          | 142.8           | 80.6              | 112.1               | 86.3                |
| 30-Sep      | 91.0           | 73.7                | 82.4               | 64.2               | 54.0          | 133.0           | 80.2              | 102.0               | 77.3                |
| 7-Oct       | 90.0           | 72.4                | 80.6               | 60.7               | 48.0          | 133.0           | 79.6              | 91.7                | 66.0                |
| 14-Oct      | 87.0           | 71.4                | 79.0               | 58.1               | 46.0          | 132.3           | 78.2              | 85.3                | 60.6                |
| 21-Oct      | 86.0           | 72.1                | 77.8               | 55.5               | 42.0          | 119.7           | 76.0              | 79.0                | 54.8                |
| 28-Oct      | 84.0           | 68.8                | 76.1               | 54.9               | 43.0          | 116.9           | 73.3              | 77.5                | 53.2                |
| 4-Nov       | 82.0           | 66.2                | 74.3               | 54.7               | 39.0          | 115.5           | 72.5              | 78.4                | 54.4                |
| 11-Nov      | 81.0           | 69.5                | 70.3               | 49.6               | 36.0          | 112.0           | 74.8              | 68.7                | 44.1                |
| 18-Nov      | 80.0           | 69.5                | 69.7               | 48.3               | 35.0          | 112.0           | 73.5              | 63.8                | 40.9                |
| 25-Nov      | 79.0           | 67.6                | 69.0               | 49.1               | 35.0          | 112.0           | 73.5              | 68.9                | 44.0                |
| 2-Dec       | 79.0           | 68.8                | 65.9               | 47.0               | 31.0          | 109.2           | 70.9              | 65.1                | 40.6                |
| 9-Dec       | 78.0           | 68.0                | 64.1               | 43.5               | 31.0          | 109.2           | 73.2              | 57.8                | 33.6                |
| 16-Dec      | 74.0           | 64.2                | 61.7               | 43.1               | 28.0          | 98.0            | 68.7              | 56.3                | 33.7                |
| 23-Dec      | 75.0           | 65.3                | 58.9               | 40.1               | 22.0          | 100.1           | 71.7              | 50.8                | 30.5                |
| 31-Dec      | 76.0           | 66.2                | 60.3               | 42.3               | 19.0          | 97.3            | 68.9              | 56.5                | 34.3                |

DOTHAN AL

WMO No. 722268



|     | Mean Cooling<br>Degree Days (°F) | Mean Heating<br>Degree Days (°F) |
|-----|----------------------------------|----------------------------------|
| JAN | 10                               | 509                              |
| FEB | 21                               | 363                              |
| MAR | 68                               | 221                              |
| APR | 139                              | 97                               |
| MAY | 290                              | 15                               |
| JUN | 426                              | 1                                |
| JUL | 484                              | 0                                |
| AUG | 463                              | 0                                |
| SEP | 351                              | 8                                |
| OCT | 159                              | 94                               |
| NOV | 60                               | 236                              |
| DEC | 19                               | 437                              |
| ANN | 2490                             | 1981                             |



|     | Average Sensible Cooling Load | Average Sensible Heating Load | Average Latent Cooling Load | Average Latent Heating Load |
|-----|-------------------------------|-------------------------------|-----------------------------|-----------------------------|
|     | (Btu/cfm)                     | (Btu/cfm)                     | (Btu/cfm)                   | (Btu/cfm)                   |
| JAN | 5                             | -15462                        | 234                         | -2420                       |
| FEB | 24                            | -11331                        | 370                         | -1803                       |
| MAR | 213                           | -7454                         | 851                         | -814                        |
| APR | 738                           | -3662                         | 1491                        | -246                        |
| MAY | 2138                          | -809                          | 5618                        | -3                          |
| JUN | 4085                          | -57                           | 12429                       | 0                           |
| JUL | 4893                          | -1                            | 18794                       | 0                           |
| AUG | 4502                          | -22                           | 18219                       | 0                           |
| SEP | 2937                          | -427                          | 11646                       | 0                           |
| OCT | 873                           | -3510                         | 3307                        | -101                        |
| NOV | 152                           | -7788                         | 1442                        | -792                        |
| DEC | 23                            | -13473                        | 562                         | -1825                       |
| ANN | 20583                         | -63996                        | 74963                       | -8004                       |

## Average Annual Solar Radiation – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

City: COLUMBUS  
 State: GA  
 WBAN No: 93842  
 Lat(N): 32.52  
 Long(W): 84.95  
 Elev(ft): 446

Stn Type: Secondary  
 SHADING GEOMETRY IN DIMENSIONLESS UNITS  
 Window: 1  
 Overhang: 0.978  
 Vert Gap: 0.659

| AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 9 |         | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  | Year |
|-------------------------------------------------------------------------------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| HORIZ                                                                         | Global  | 860  | 1120 | 1450 | 1820 | 1970 | 2010 | 1900 | 1790 | 1550 | 1320 | 970  | 800  | 1460 |
|                                                                               | Std Dev | 59   | 99   | 115  | 114  | 121  | 129  | 151  | 98   | 107  | 110  | 80   | 64   | 37   |
|                                                                               | Minimum | 760  | 960  | 1220 | 1610 | 1730 | 1770 | 1510 | 1590 | 1350 | 1090 | 750  | 670  | 1360 |
|                                                                               | Maximum | 1020 | 1340 | 1620 | 2040 | 2330 | 2210 | 2140 | 1960 | 1740 | 1540 | 1110 | 910  | 1520 |
|                                                                               | Diffuse | 380  | 460  | 590  | 690  | 830  | 900  | 920  | 850  | 710  | 500  | 400  | 350  | 630  |
| Clear Day                                                                     | Global  | 1220 | 1540 | 1950 | 2320 | 2520 | 2570 | 2500 | 2310 | 1990 | 1590 | 1240 | 1100 | 1910 |
| NORTH                                                                         | Global  | 250  | 300  | 380  | 460  | 570  | 630  | 590  | 510  | 420  | 340  | 270  | 230  | 410  |
|                                                                               | Diffuse | 250  | 300  | 380  | 450  | 510  | 540  | 530  | 490  | 420  | 340  | 270  | 230  | 390  |
| Clear Day                                                                     | Global  | 220  | 270  | 350  | 440  | 590  | 680  | 630  | 490  | 400  | 320  | 240  | 210  | 400  |
| EAST                                                                          | Global  | 530  | 680  | 830  | 1000 | 1060 | 1070 | 1020 | 990  | 870  | 790  | 600  | 500  | 830  |
|                                                                               | Diffuse | 290  | 360  | 460  | 550  | 610  | 640  | 640  | 600  | 520  | 420  | 320  | 270  | 470  |
| Clear Day                                                                     | Global  | 850  | 1020 | 1210 | 1330 | 1360 | 1350 | 1320 | 1260 | 1150 | 990  | 830  | 760  | 1120 |
| SOUTH                                                                         | Global  | 1140 | 1190 | 1120 | 940  | 730  | 650  | 670  | 820  | 1020 | 1280 | 1230 | 1150 | 990  |
|                                                                               | Diffuse | 390  | 440  | 510  | 540  | 550  | 550  | 560  | 570  | 560  | 500  | 420  | 370  | 500  |
| Clear Day                                                                     | Global  | 2040 | 1950 | 1640 | 1180 | 830  | 700  | 750  | 1010 | 1400 | 1740 | 1910 | 1960 | 1420 |
| WEST                                                                          | Global  | 560  | 710  | 880  | 1040 | 1060 | 1040 | 980  | 960  | 880  | 800  | 620  | 530  | 840  |
|                                                                               | Diffuse | 300  | 370  | 470  | 560  | 620  | 650  | 640  | 610  | 530  | 420  | 330  | 280  | 480  |
| Clear Day                                                                     | Global  | 850  | 1020 | 1210 | 1330 | 1360 | 1350 | 1320 | 1260 | 1150 | 990  | 830  | 760  | 1120 |

## Average Annual Solar Heat and Illumination – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

| AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9 |          | Jan | Feb | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct | Nov | Dec | Year |
|-----------------------------------------------------------------------------------------------------|----------|-----|-----|------|------|------|------|------|------|------|-----|-----|-----|------|
| HORIZ                                                                                               | Unshaded | 580 | 780 | 1040 | 1320 | 1440 | 1470 | 1380 | 1300 | 1110 | 940 | 670 | 530 | 1050 |
| NORTH                                                                                               | Unshaded | 170 | 210 | 260  | 310  | 370  | 410  | 390  | 340  | 290  | 230 | 180 | 160 | 280  |
|                                                                                                     | Shaded   | 140 | 180 | 230  | 270  | 320  | 340  | 330  | 290  | 250  | 200 | 160 | 130 | 240  |
| EAST                                                                                                | Unshaded | 370 | 470 | 590  | 710  | 750  | 760  | 720  | 700  | 620  | 560 | 420 | 340 | 580  |
|                                                                                                     | Shaded   | 310 | 390 | 480  | 570  | 600  | 600  | 570  | 560  | 500  | 460 | 350 | 290 | 470  |
| SOUTH                                                                                               | Unshaded | 840 | 860 | 750  | 580  | 440  | 400  | 420  | 500  | 660  | 900 | 910 | 860 | 680  |
|                                                                                                     | Shaded   | 790 | 690 | 400  | 320  | 330  | 330  | 330  | 340  | 340  | 620 | 820 | 830 | 510  |
| WEST                                                                                                | Unshaded | 390 | 500 | 620  | 740  | 750  | 740  | 690  | 680  | 630  | 570 | 430 | 370 | 590  |
|                                                                                                     | Shaded   | 330 | 420 | 510  | 600  | 600  | 590  | 550  | 550  | 500  | 470 | 360 | 310 | 480  |

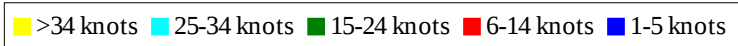
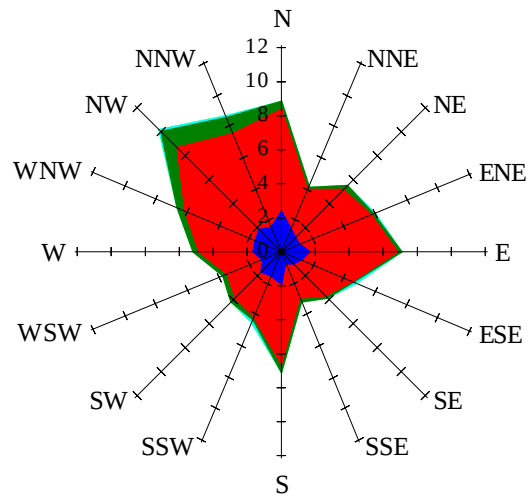
| AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9 |          | March |      |     |     |     | June |      |     |     |     |
|------------------------------------------------------------------------------------------------------------------|----------|-------|------|-----|-----|-----|------|------|-----|-----|-----|
|                                                                                                                  |          | 9am   | 11am | 1pm | 3pm | 5pm | 9am  | 11am | 1pm | 3pm | 5pm |
| HORIZ.                                                                                                           | M.Clear  | 31    | 72   | 91  | 81  | 45  | 30   | 74   | 99  | 101 | 77  |
|                                                                                                                  | M.Cloudy | 18    | 44   | 57  | 53  | 29  | 19   | 49   | 76  | 78  | 55  |
| NORTH                                                                                                            | M.Clear  | 8     | 14   | 16  | 15  | 11  | 22   | 17   | 18  | 18  | 17  |
|                                                                                                                  | M.Cloudy | 7     | 15   | 18  | 17  | 11  | 12   | 17   | 20  | 20  | 17  |
| EAST                                                                                                             | M.Clear  | 72    | 70   | 24  | 15  | 11  | 59   | 78   | 47  | 18  | 17  |
|                                                                                                                  | M.Cloudy | 23    | 35   | 22  | 17  | 11  | 24   | 44   | 38  | 20  | 17  |
| SOUTH                                                                                                            | M.Clear  | 26    | 61   | 76  | 67  | 38  | 10   | 17   | 33  | 34  | 20  |
|                                                                                                                  | M.Cloudy | 12    | 31   | 43  | 40  | 21  | 8    | 17   | 29  | 30  | 19  |
| WEST                                                                                                             | M.Clear  | 8     | 14   | 16  | 59  | 79  | 10   | 17   | 18  | 39  | 72  |
|                                                                                                                  | M.Cloudy | 7     | 15   | 18  | 36  | 35  | 8    | 17   | 20  | 33  | 47  |
| M.Clear                                                                                                          | (% hrs)  | 36    | 37   | 38  | 37  | 38  | 45   | 48   | 40  | 34  | 39  |

|         |          | Sept |      |     |     |     | Dec |      |     |     |     |
|---------|----------|------|------|-----|-----|-----|-----|------|-----|-----|-----|
|         |          | 9am  | 11am | 1pm | 3pm | 5pm | 9am | 11am | 1pm | 3pm | 5pm |
| HORIZ.  | M.Clear  | 15   | 61   | 87  | 88  | 61  | 12  | 47   | 61  | 48  | 15  |
|         | M.Cloudy | 10   | 37   | 62  | 64  | 42  | 7   | 26   | 35  | 29  | 10  |
| NORTH   | M.Clear  | 6    | 14   | 18  | 18  | 15  | 5   | 10   | 12  | 11  | 5   |
|         | M.Cloudy | 5    | 14   | 19  | 19  | 15  | 3   | 10   | 13  | 11  | 5   |
| EAST    | M.Clear  | 40   | 76   | 45  | 18  | 15  | 40  | 53   | 14  | 11  | 5   |
|         | M.Cloudy | 13   | 34   | 33  | 19  | 15  | 10  | 21   | 14  | 11  | 5   |
| SOUTH   | M.Clear  | 9    | 43   | 64  | 65  | 43  | 29  | 78   | 93  | 79  | 35  |
|         | M.Cloudy | 5    | 23   | 42  | 45  | 27  | 8   | 26   | 36  | 32  | 12  |
| WEST    | M.Clear  | 6    | 14   | 18  | 41  | 71  | 5   | 10   | 12  | 51  | 45  |
|         | M.Cloudy | 5    | 14   | 19  | 32  | 40  | 3   | 10   | 13  | 24  | 14  |
| M.Clear | (% hrs)  | 45   | 45   | 40  | 36  | 43  | 37  | 37   | 39  | 38  | 39  |

### Wind Summary - December, January, and February

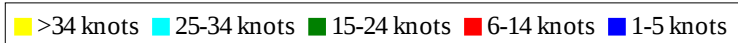
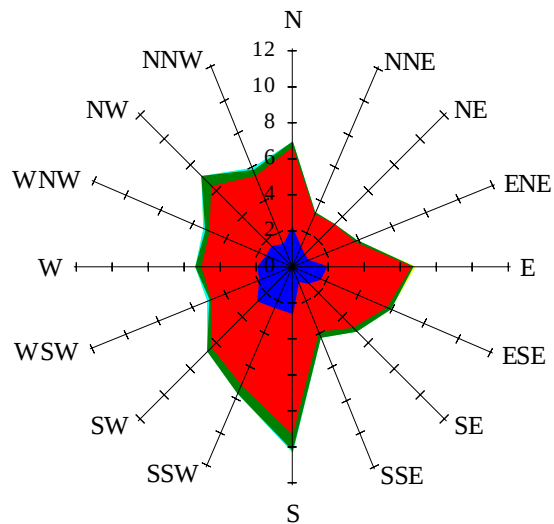
Labels of Percent Frequency on North Axis



Percent Calm = 7.80

### Wind Summary - March, April, and May

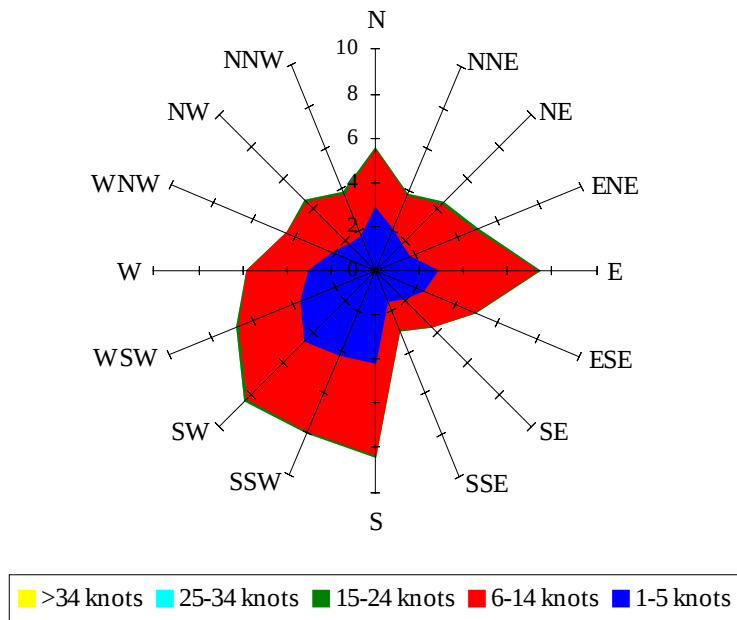
Labels of Percent Frequency on North Axis



Percent Calm = 8.77

### Wind Summary - June, July, and August

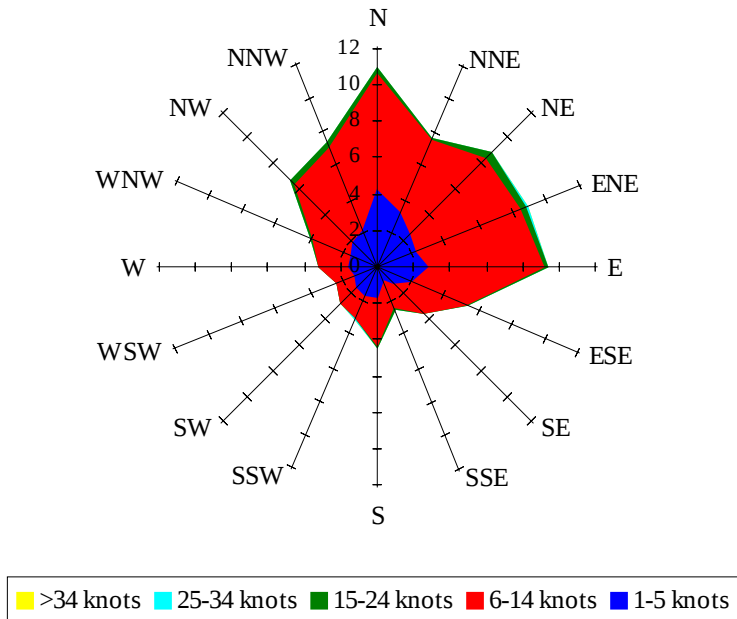
Labels of Percent Frequency on North Axis



Percent Calm = 13.33

### Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 9.73