

**EAU CLAIRE WI**

Latitude = 44.87 N

Longitude = 91.48 W

Period of Record = 1973 to 1992

WMO No. 726435

Elevation = 906 feet

Average Pressure = 28.99 inches Hg

**Design Criteria Data**

|                                                  | <b>Design Value</b> | 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                          | 96                  | 75                               | 99                      | 14.0                   | S                           |
| 0.4% Occurrence                                  | 90                  | 73                               | 100                     | 12.3                   | S                           |
| 1.0% Occurrence                                  | 87                  | 71                               | 93                      | 11.6                   | S                           |
| 2.0% Occurrence                                  | 84                  | 69                               | 88                      | 11.0                   | S                           |
| Mean Daily Range                                 | 19                  | -                                | -                       | -                      | -                           |
| 97.5% Occurrence                                 | -5                  | -6                               | 3                       | 7.2                    | WSW                         |
| 99.0% Occurrence                                 | -12                 | -12                              | 2                       | 6.2                    | WSW                         |
| 99.6% Occurrence                                 | -17                 | -17                              | 2                       | 7.0                    | WSW                         |
| Median of Extreme Lows                           | -23                 | -23                              | 1                       | 6.6                    | WSW                         |
|                                                  | <b>Design Value</b> | 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                          | 80                  | 91                               | 140                     | 10.3                   | S                           |
| 0.4% Occurrence                                  | 76                  | 86                               | 121                     | 10.8                   | S                           |
| 1.0% Occurrence                                  | 74                  | 83                               | 114                     | 10.1                   | S                           |
| 2.0% Occurrence                                  | 72                  | 81                               | 107                     | 9.5                    | S                           |
|                                                  | <b>Design Value</b> | 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                          | 146                 | 88                               | 0.94                    | 8.0                    | SSW                         |
| 0.4% Occurrence                                  | 127                 | 82                               | 0.82                    | 8.2                    | S                           |
| 1.0% Occurrence                                  | 119                 | 80                               | 0.77                    | 8.9                    | S                           |
| 2.0% Occurrence                                  | 111                 | 78                               | 0.72                    | 8.7                    | 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      |
|                                                  |                     | 20                               | 430                     | 163                    | 720                         |

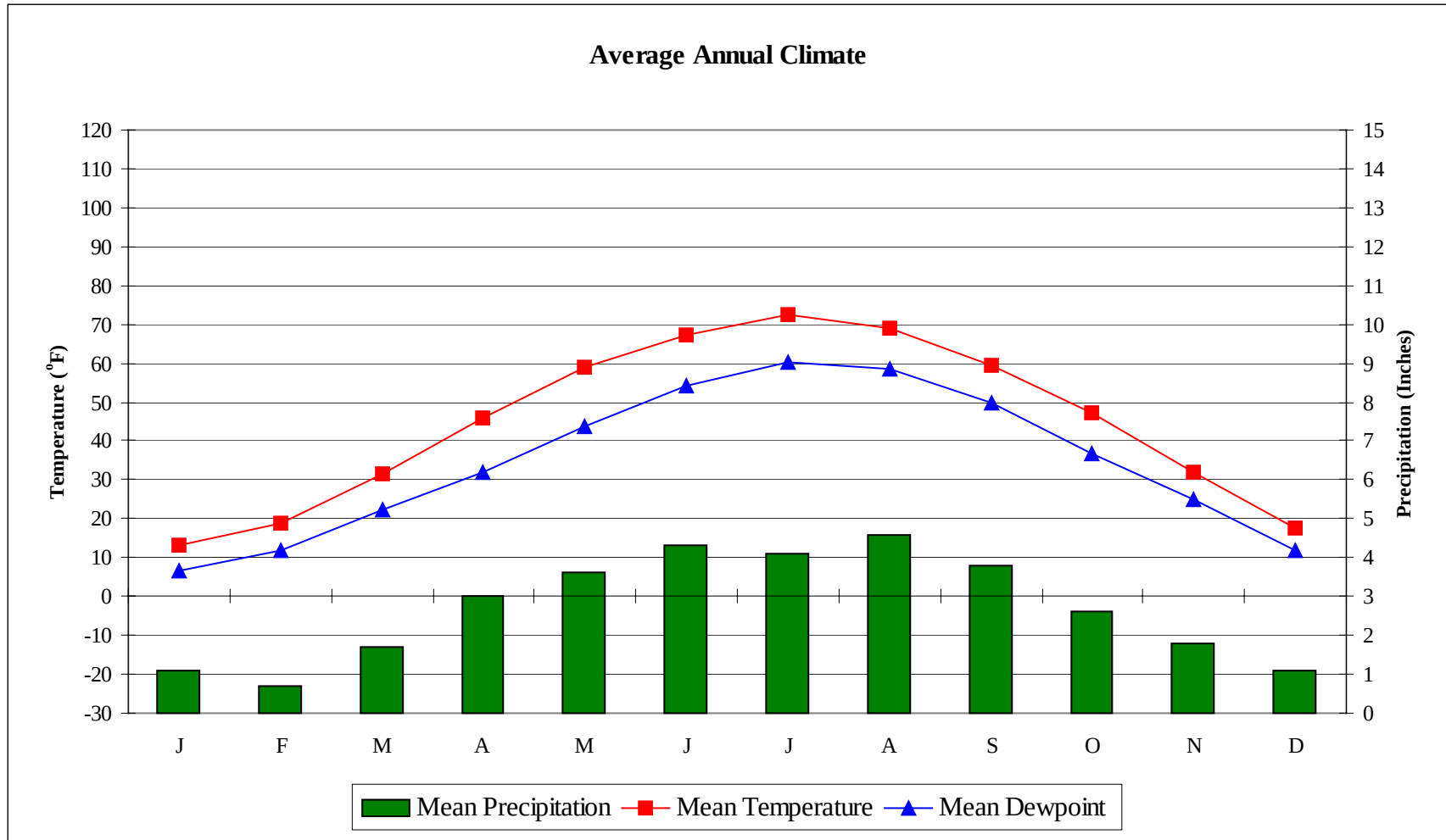
**Other Site Data**

| 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 |
|-----------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 5                                                   | 3.0                                          | 90                                                                 | 0.9 + 0.4                                                                               |
| Ground Water<br>Temperature (°F)<br>50 Foot Depth * | Frost Depth<br>50 Year Recurrence<br>(in.)   | Ground Snow Load<br>50 Year Recurrence<br>(lb/ft <sup>2</sup> )    | Average Annual<br>Freeze-Thaw Cycles<br>(#)                                             |
| 47.0                                                | N/A                                          | N/A                                                                | 63                                                                                      |

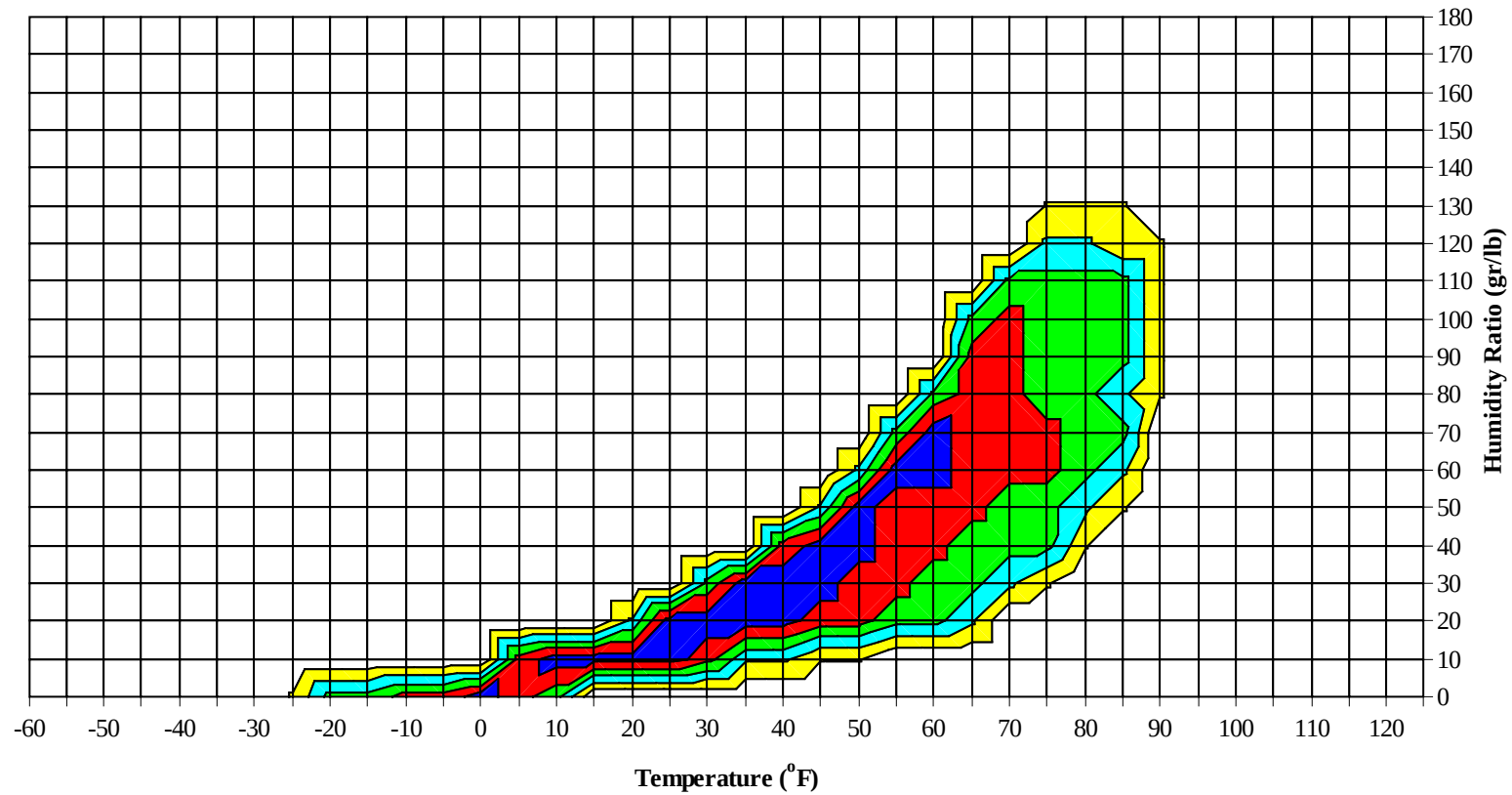
\*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

EAU CLAIRE WI

WMO No. 726435



## Long Term Psychrometric Summary

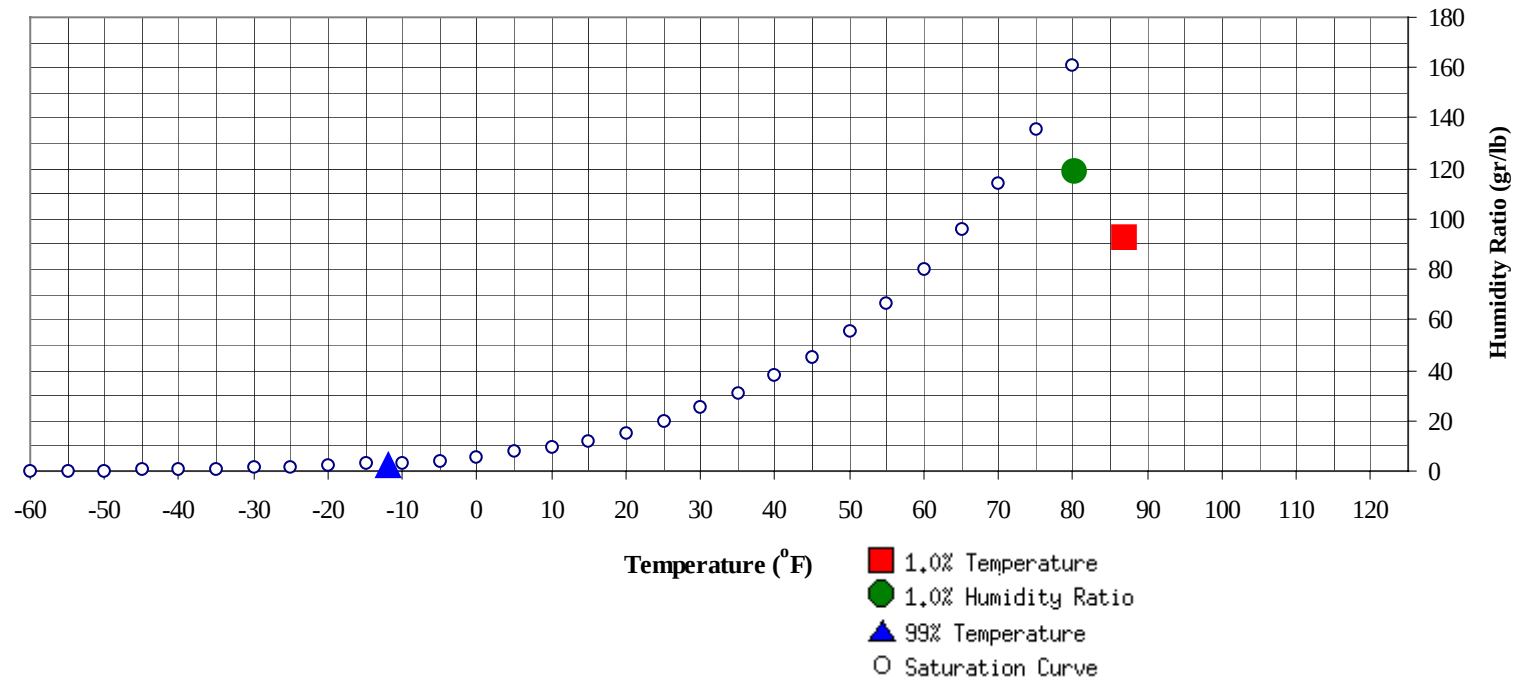


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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) |
|--------------|------|-----------------|----------------------|------------------------|---------|--------------|--------------|------------------|----------------------|
|              | -12  | 2               | -2.6                 |                        | 119     | 80.2         | 73.6         | 71.1             | 37.9                 |

| 1.0% Dry Bulb | (°F) | MCHR<br>(gr/lb) | MCWB<br>(°F) | Enthalpy<br>(btu/lb) |
|---------------|------|-----------------|--------------|----------------------|
|               | 87   | 92.7            | 71.1         | 35.4                 |

EAU CLAIRE WI

WMO No. 726435

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

Period of Record = 1973 to 1992

| 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                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 80 / 84                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 0              | 0              | 0            | 61.7                     |
| 75 / 79                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 0              | 0              | 0            | 59.3                     |
| 70 / 74                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 1              | 0              | 1            | 60.1                     |
| 65 / 69                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 2              | 1              | 3            | 55.8                     |
| 60 / 64                      |                     |                |                |              |                          |                     |                |                |              |                          | 0                   | 5              | 3              | 8            | 51.8                     |
| 55 / 59                      |                     |                |                |              |                          |                     | 1              | 0              | 1            | 47.6                     | 1                   | 6              | 4              | 11           | 48.2                     |
| 50 / 54                      |                     | 0              |                | 0            | 43.1                     | 0                   | 2              | 1              | 3            | 45.2                     | 2                   | 14             | 8              | 24           | 44.1                     |
| 45 / 49                      | 0                   | 1              | 0              | 1            | 40.5                     | 0                   | 4              | 1              | 5            | 40.6                     | 9                   | 22             | 17             | 48           | 41.2                     |
| 40 / 44                      | 1                   | 4              | 2              | 7            | 37.0                     | 1                   | 12             | 6              | 19           | 37.1                     | 12                  | 35             | 26             | 73           | 37.3                     |
| 35 / 39                      | 4                   | 12             | 9              | 25           | 33.7                     | 8                   | 29             | 24             | 61           | 33.9                     | 32                  | 49             | 48             | 130          | 33.8                     |
| 30 / 34                      | 20                  | 30             | 27             | 78           | 30.1                     | 32                  | 35             | 39             | 105          | 30.2                     | 53                  | 39             | 51             | 143          | 29.8                     |
| 25 / 29                      | 27                  | 31             | 30             | 89           | 25.4                     | 28                  | 25             | 27             | 80           | 25.2                     | 39                  | 29             | 34             | 102          | 24.8                     |
| 20 / 24                      | 30                  | 32             | 32             | 95           | 20.6                     | 24                  | 28             | 26             | 78           | 20.3                     | 33                  | 21             | 23             | 77           | 20.2                     |
| 15 / 19                      | 27                  | 27             | 27             | 81           | 15.8                     | 25                  | 26             | 24             | 75           | 15.6                     | 22                  | 11             | 14             | 47           | 15.5                     |
| 10 / 14                      | 26                  | 27             | 26             | 79           | 10.9                     | 24                  | 21             | 22             | 67           | 10.8                     | 17                  | 6              | 10             | 33           | 10.8                     |
| 5 / 9                        | 21                  | 24             | 24             | 69           | 6.1                      | 21                  | 16             | 19             | 56           | 6.0                      | 9                   | 4              | 6              | 19           | 6.0                      |
| 0 / 4                        | 23                  | 19             | 21             | 63           | 1.1                      | 16                  | 12             | 17             | 45           | 1.1                      | 8                   | 2              | 4              | 14           | 1.2                      |
| -5 / -1                      | 13                  | 13             | 14             | 40           | -3.3                     | 13                  | 6              | 9              | 28           | -3.1                     | 6                   | 0              | 0              | 6            | -3.1                     |
| -10 / -6                     | 20                  | 12             | 17             | 49           | -7.4                     | 15                  | 5              | 6              | 26           | -7.1                     | 3                   | 0              | 0              | 3            | -7.1                     |
| -15 / -11                    | 17                  | 7              | 10             | 34           | -12.1                    | 10                  | 2              | 3              | 15           | -11.9                    | 0                   |                |                | 0            | -10.0                    |
| -20 / -16                    | 11                  | 4              | 5              | 20           | -16.7                    | 5                   | 1              | 2              | 8            | -16.5                    |                     |                |                |              |                          |
| -25 / -21                    | 7                   | 2              | 2              | 11           | -21.9                    | 2                   | 0              | 0              | 2            | -21.4                    |                     |                |                |              |                          |
| -30 / -26                    | 2                   | 0              | 0              | 2            | -26.1                    | 0                   |                |                | 0            | -26.9                    |                     |                |                |              |                          |
| -35 / -31                    | 0                   | 0              |                | 0            | -31.3                    |                     |                |                |              |                          |                     |                |                |              |                          |
| -40 / -36                    | 0                   |                |                | 0            | -36.0                    |                     |                |                |              |                          |                     |                |                |              |                          |

**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.

EAU CLAIRE WI

WMO No. 726435

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

Period of Record = 1973 to 1992

| 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                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 95 / 99                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 1              | 0              | 1            | 72.3                     |
| 90 / 94                      |                     |                |                |              |                          |                     | 1              | 0              | 1            | 68.6                     |                     | 5              | 2              | 7            | 72.4                     |
| 85 / 89                      |                     | 1              | 0              | 1            | 63.3                     |                     | 9              | 2              | 11           | 66.9                     | 0                   | 19             | 7              | 26           | 69.9                     |
| 80 / 84                      |                     | 3              | 1              | 4            | 63.0                     |                     | 17             | 8              | 25           | 64.5                     | 1                   | 33             | 20             | 54           | 67.3                     |
| 75 / 79                      |                     | 7              | 3              | 10           | 59.8                     | 0                   | 25             | 14             | 39           | 61.9                     | 7                   | 48             | 31             | 86           | 64.8                     |
| 70 / 74                      | 1                   | 12             | 8              | 21           | 57.4                     | 5                   | 35             | 25             | 65           | 59.2                     | 18                  | 52             | 47             | 117          | 62.5                     |
| 65 / 69                      | 4                   | 17             | 10             | 31           | 54.7                     | 17                  | 41             | 37             | 95           | 56.8                     | 46                  | 42             | 50             | 137          | 60.3                     |
| 60 / 64                      | 7                   | 24             | 18             | 49           | 51.6                     | 32                  | 38             | 41             | 110          | 54.1                     | 57                  | 26             | 43             | 126          | 57.0                     |
| 55 / 59                      | 10                  | 31             | 23             | 64           | 47.4                     | 42                  | 36             | 43             | 121          | 50.6                     | 55                  | 11             | 26             | 92           | 53.3                     |
| 50 / 54                      | 15                  | 35             | 32             | 82           | 44.3                     | 47                  | 25             | 36             | 108          | 46.7                     | 36                  | 3              | 11             | 50           | 49.4                     |
| 45 / 49                      | 33                  | 36             | 41             | 110          | 41.3                     | 44                  | 16             | 23             | 83           | 42.9                     | 14                  | 1              | 3              | 18           | 45.1                     |
| 40 / 44                      | 41                  | 33             | 37             | 111          | 37.6                     | 35                  | 6              | 13             | 54           | 38.9                     | 5                   |                | 0              | 5            | 40.8                     |
| 35 / 39                      | 48                  | 21             | 33             | 102          | 33.6                     | 19                  | 1              | 4              | 24           | 34.4                     | 1                   |                |                | 1            | 36.5                     |
| 30 / 34                      | 38                  | 14             | 21             | 73           | 29.7                     | 7                   | 0              | 1              | 8            | 30.2                     |                     |                |                |              |                          |
| 25 / 29                      | 26                  | 4              | 9              | 39           | 24.9                     | 1                   | 0              | 0              | 1            | 25.9                     |                     |                |                |              |                          |
| 20 / 24                      | 12                  | 1              | 3              | 16           | 20.5                     | 0                   |                |                | 0            | 22.2                     |                     |                |                |              |                          |
| 15 / 19                      | 3                   | 1              | 1              | 5            | 15.9                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 10 / 14                      | 2                   | 0              | 0              | 2            | 10.8                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 5 / 9                        | 0                   |                |                | 0            | 7.3                      |                     |                |                |              |                          |                     |                |                |              |                          |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -5 / -1                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -10 / -6                     |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -15 / -11                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -20 / -16                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -25 / -21                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -30 / -26                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -35 / -31                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -40 / -36                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

**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.

EAU CLAIRE WI

WMO No. 726435

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

Period of Record = 1973 to 1992

| 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                    |                     | 0              | 0              | 0            | 76.6                     |                     | 1              | 0              | 1            | 75.5                     |                     |                |                |              |                          |
| 95 / 99                      |                     | 4              | 1              | 5            | 74.8                     |                     | 1              | 0              | 1            | 75.3                     |                     | 0              |                | 0            | 74.0                     |
| 90 / 94                      |                     | 14             | 6              | 20           | 74.5                     |                     | 7              | 2              | 9            | 74.6                     |                     | 1              | 0              | 1            | 74.0                     |
| 85 / 89                      | 0                   | 36             | 17             | 53           | 71.5                     | 0                   | 21             | 8              | 29           | 72.4                     |                     | 6              | 1              | 7            | 72.0                     |
| 80 / 84                      | 5                   | 54             | 35             | 94           | 69.4                     | 2                   | 39             | 21             | 62           | 69.5                     | 0                   | 14             | 4              | 18           | 68.9                     |
| 75 / 79                      | 18                  | 61             | 50             | 129          | 67.3                     | 8                   | 56             | 39             | 103          | 67.1                     | 2                   | 21             | 13             | 36           | 66.6                     |
| 70 / 74                      | 44                  | 46             | 57             | 147          | 65.2                     | 32                  | 55             | 53             | 140          | 65.0                     | 10                  | 33             | 22             | 65           | 63.4                     |
| 65 / 69                      | 70                  | 25             | 46             | 141          | 62.6                     | 58                  | 43             | 57             | 158          | 62.3                     | 19                  | 47             | 34             | 100          | 60.0                     |
| 60 / 64                      | 60                  | 8              | 26             | 94           | 58.6                     | 66                  | 19             | 43             | 128          | 58.6                     | 32                  | 46             | 43             | 121          | 56.6                     |
| 55 / 59                      | 37                  | 1              | 8              | 46           | 54.8                     | 48                  | 5              | 19             | 72           | 54.4                     | 45                  | 39             | 50             | 134          | 52.7                     |
| 50 / 54                      | 13                  | 0              | 2              | 15           | 50.4                     | 24                  | 0              | 6              | 30           | 50.0                     | 50                  | 21             | 35             | 106          | 48.7                     |
| 45 / 49                      | 1                   |                |                | 1            | 46.2                     | 8                   |                | 1              | 9            | 45.8                     | 35                  | 9              | 23             | 67           | 44.5                     |
| 40 / 44                      | 0                   |                |                | 0            | 44.0                     | 2                   |                | 0              | 2            | 41.4                     | 27                  | 3              | 12             | 42           | 40.0                     |
| 35 / 39                      |                     |                |                |              |                          |                     |                |                |              |                          | 13                  | 0              | 4              | 17           | 35.7                     |
| 30 / 34                      |                     |                |                |              |                          |                     |                |                |              |                          | 5                   |                | 0              | 5            | 31.4                     |
| 25 / 29                      |                     |                |                |              |                          |                     |                |                |              |                          | 0                   |                |                | 0            | 27.4                     |
| 20 / 24                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 15 / 19                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 10 / 14                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -5 / -1                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -10 / -6                     |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -15 / -11                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -20 / -16                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -25 / -21                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -30 / -26                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -35 / -31                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -40 / -36                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

**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.

EAU CLAIRE WI

WMO No. 726435

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

Period of Record = 1973 to 1992

| 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                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 85 / 89                      |                     | 0              |                | 0            | 66.5                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 80 / 84                      |                     | 1              | 0              | 1            | 64.2                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 75 / 79                      |                     | 5              | 1              | 6            | 62.7                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 70 / 74                      | 0                   | 10             | 4              | 14           | 60.1                     |                     | 0              |                | 0            | 57.3                     |                     |                |                |              |                          |
| 65 / 69                      | 2                   | 16             | 8              | 26           | 57.2                     |                     | 2              | 0              | 2            | 56.2                     |                     |                |                |              |                          |
| 60 / 64                      | 8                   | 31             | 18             | 57           | 54.2                     | 0                   | 4              | 1              | 5            | 53.3                     |                     | 0              | 0              | 0            | 58.6                     |
| 55 / 59                      | 16                  | 36             | 27             | 79           | 50.1                     | 4                   | 9              | 5              | 18           | 51.5                     |                     | 0              | 0              | 0            | 54.3                     |
| 50 / 54                      | 25                  | 45             | 42             | 112          | 46.3                     | 5                   | 14             | 9              | 28           | 46.7                     | 0                   | 0              | 0              | 0            | 48.8                     |
| 45 / 49                      | 43                  | 47             | 46             | 136          | 42.6                     | 8                   | 20             | 16             | 44           | 42.0                     | 1                   | 1              | 1              | 3            | 42.6                     |
| 40 / 44                      | 45                  | 32             | 44             | 121          | 38.5                     | 18                  | 30             | 22             | 70           | 38.2                     | 2                   | 4              | 2              | 8            | 38.2                     |
| 35 / 39                      | 45                  | 17             | 34             | 96           | 34.2                     | 34                  | 45             | 38             | 116          | 34.0                     | 5                   | 20             | 10             | 35           | 34.1                     |
| 30 / 34                      | 39                  | 6              | 17             | 62           | 30.4                     | 51                  | 48             | 59             | 157          | 29.9                     | 29                  | 44             | 39             | 112          | 30.3                     |
| 25 / 29                      | 18                  | 1              | 7              | 26           | 25.8                     | 44                  | 31             | 40             | 115          | 25.1                     | 38                  | 40             | 44             | 122          | 25.4                     |
| 20 / 24                      | 6                   | 0              | 1              | 7            | 21.3                     | 32                  | 14             | 20             | 66           | 20.7                     | 42                  | 37             | 35             | 114          | 20.7                     |
| 15 / 19                      | 1                   |                | 0              | 1            | 16.3                     | 21                  | 11             | 13             | 45           | 15.8                     | 30                  | 27             | 28             | 85           | 15.7                     |
| 10 / 14                      | 0                   |                |                | 0            | 12.8                     | 11                  | 6              | 8              | 25           | 11.1                     | 23                  | 21             | 27             | 71           | 10.9                     |
| 5 / 9                        |                     |                |                |              |                          | 6                   | 3              | 5              | 14           | 6.5                      | 19                  | 19             | 21             | 59           | 6.1                      |
| 0 / 4                        |                     |                |                |              |                          | 3                   | 1              | 3              | 7            | 1.5                      | 19                  | 14             | 15             | 48           | 1.2                      |
| -5 / -1                      |                     |                |                |              |                          | 2                   | 1              | 1              | 4            | -3.0                     | 12                  | 9              | 10             | 31           | -3.1                     |
| -10 / -6                     |                     |                |                |              |                          | 2                   | 0              | 0              | 2            | -7.1                     | 11                  | 7              | 7              | 25           | -7.2                     |
| -15 / -11                    |                     |                |                |              |                          | 0                   |                |                | 0            | -10.0                    | 9                   | 4              | 5              | 18           | -12.3                    |
| -20 / -16                    |                     |                |                |              |                          |                     |                |                |              |                          | 5                   | 2              | 3              | 10           | -16.9                    |
| -25 / -21                    |                     |                |                |              |                          |                     |                |                |              |                          | 3                   | 1              | 1              | 5            | -21.5                    |
| -30 / -26                    |                     |                |                |              |                          |                     |                |                |              |                          | 1                   | 0              | 0              | 1            | -26.0                    |
| -35 / -31                    |                     |                |                |              |                          |                     |                |                |              |                          | 0                   |                |                | 0            | -31.0                    |
| -40 / -36                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

**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.



EAU CLAIRE WI

WMO No. 726435

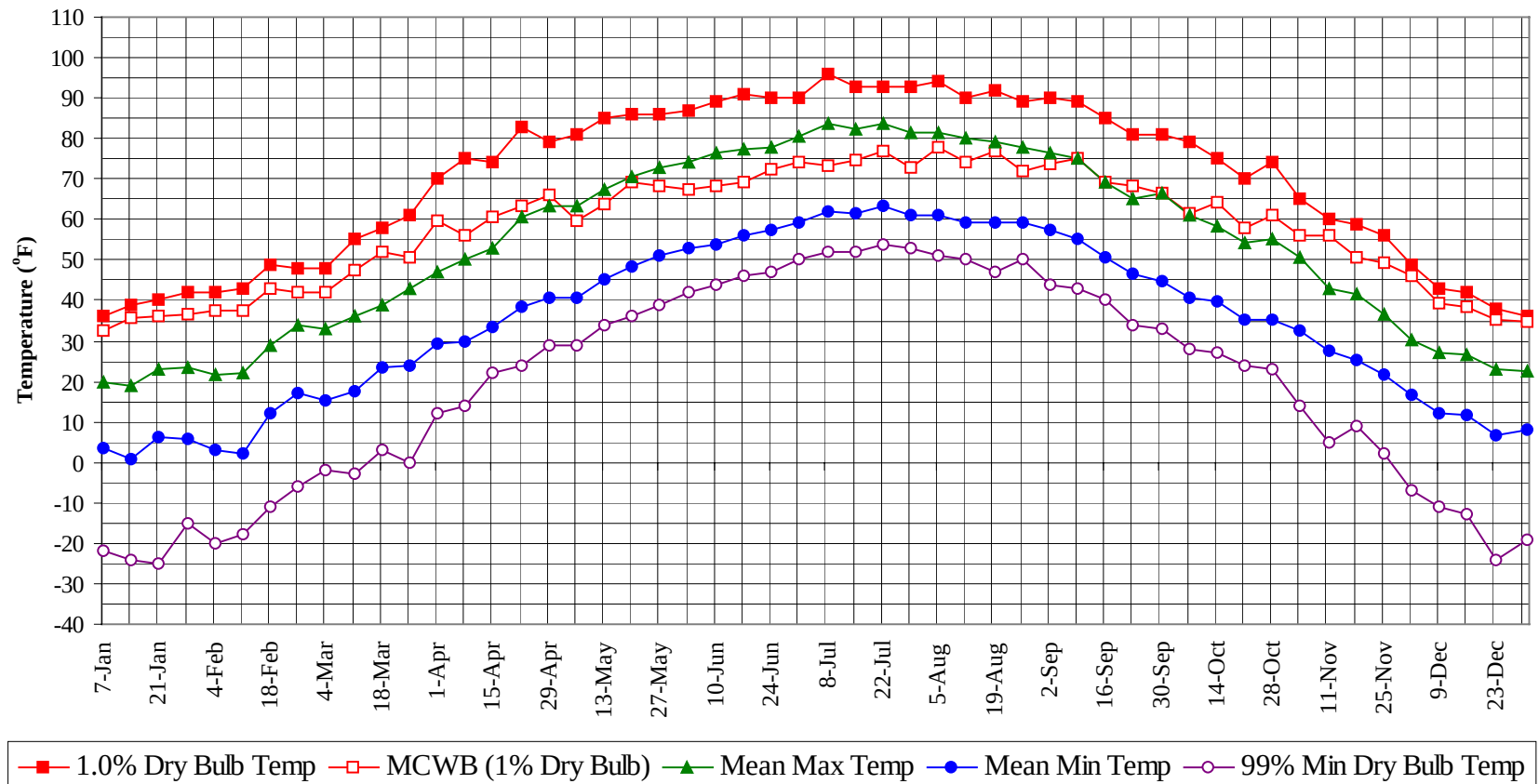
**Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)**

Period of Record = 1973 to 1992

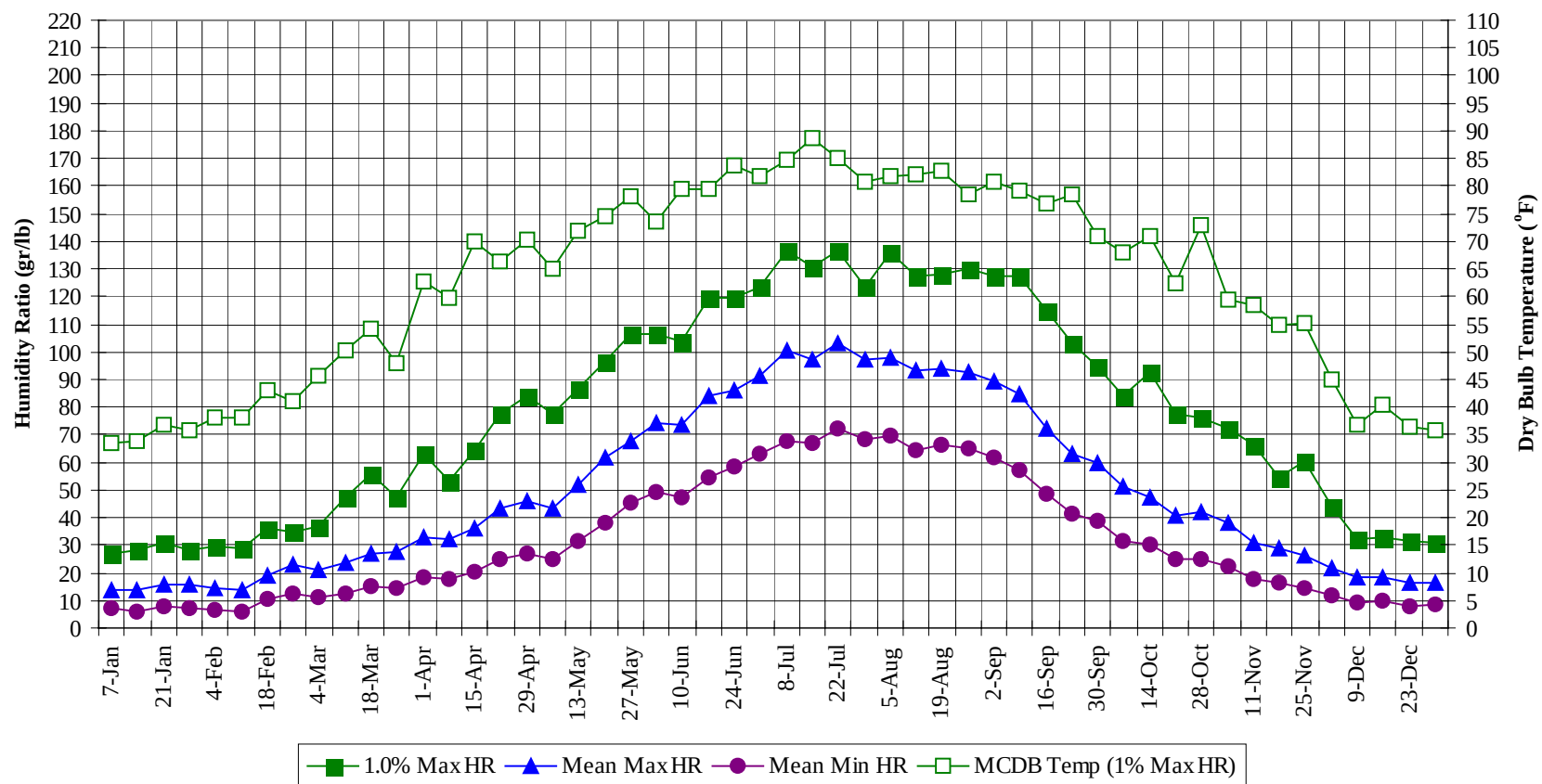
| Annual Totals                |                     |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|
| Temperature<br>Range<br>(°F) | Hour<br>Group (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                    |                     | 1              | 0              | 1            | 76.0                     |
| 95 / 99                      |                     | 6              | 2              | 8            | 74.6                     |
| 90 / 94                      |                     | 28             | 10             | 38           | 74.0                     |
| 85 / 89                      | 1                   | 92             | 35             | 128          | 70.9                     |
| 80 / 84                      | 8                   | 162            | 89             | 259          | 68.3                     |
| 75 / 79                      | 35                  | 224            | 151            | 410          | 65.9                     |
| 70 / 74                      | 111                 | 244            | 216            | 571          | 63.3                     |
| 65 / 69                      | 215                 | 233            | 243            | 691          | 60.3                     |
| 60 / 64                      | 261                 | 202            | 236            | 699          | 56.3                     |
| 55 / 59                      | 256                 | 175            | 206            | 637          | 51.7                     |
| 50 / 54                      | 217                 | 160            | 182            | 559          | 47.0                     |
| 45 / 49                      | 197                 | 158            | 172            | 527          | 42.5                     |
| 40 / 44                      | 188                 | 160            | 165            | 513          | 38.2                     |
| 35 / 39                      | 209                 | 194            | 205            | 608          | 34.0                     |
| 30 / 34                      | 272                 | 216            | 254            | 742          | 30.0                     |
| 25 / 29                      | 222                 | 160            | 191            | 573          | 25.2                     |
| 20 / 24                      | 178                 | 135            | 139            | 452          | 20.5                     |
| 15 / 19                      | 128                 | 103            | 107            | 338          | 15.7                     |
| 10 / 14                      | 103                 | 81             | 92             | 276          | 10.9                     |
| 5 / 9                        | 76                  | 65             | 74             | 215          | 6.1                      |
| 0 / 4                        | 69                  | 48             | 60             | 177          | 1.2                      |
| -5 / -1                      | 46                  | 29             | 34             | 109          | -3.2                     |
| -10 / -6                     | 51                  | 23             | 31             | 105          | -7.2                     |
| -15 / -11                    | 36                  | 13             | 18             | 67           | -12.1                    |
| -20 / -16                    | 20                  | 7              | 9              | 36           | -16.7                    |
| -25 / -21                    | 12                  | 3              | 3              | 18           | -21.7                    |
| -30 / -26                    | 4                   | 0              | 1              | 5            | -26.1                    |
| -35 / -31                    | 0                   | 0              |                | 0            | -31.3                    |
| -40 / -36                    | 0                   |                |                | 0            | -36.0                    |

**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.

## Annual Summary of Temperatures



## Long Term Humidity and Dry Bulb Temperature Summary

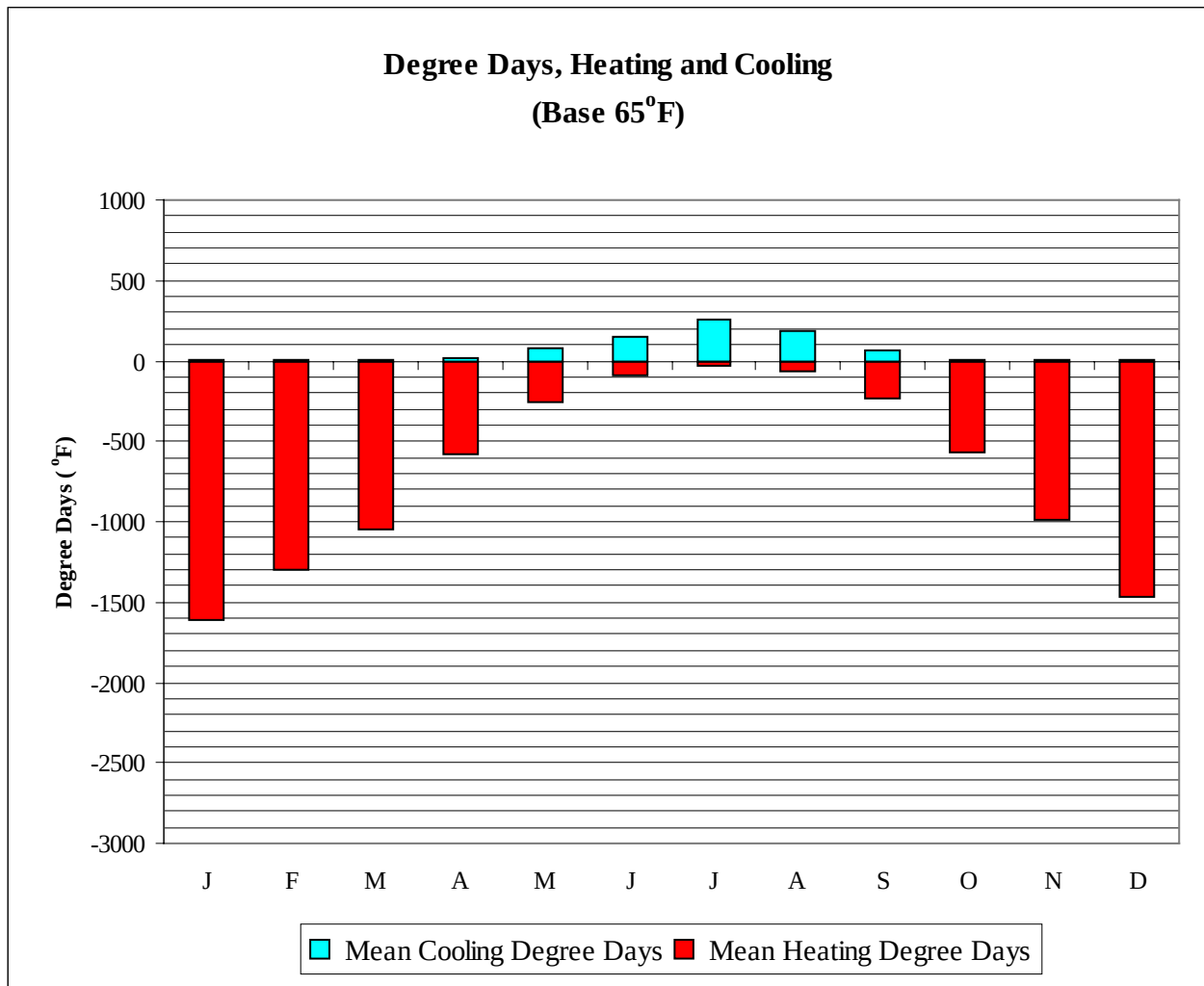


EAU CLAIRE WI

WMO No. 726435

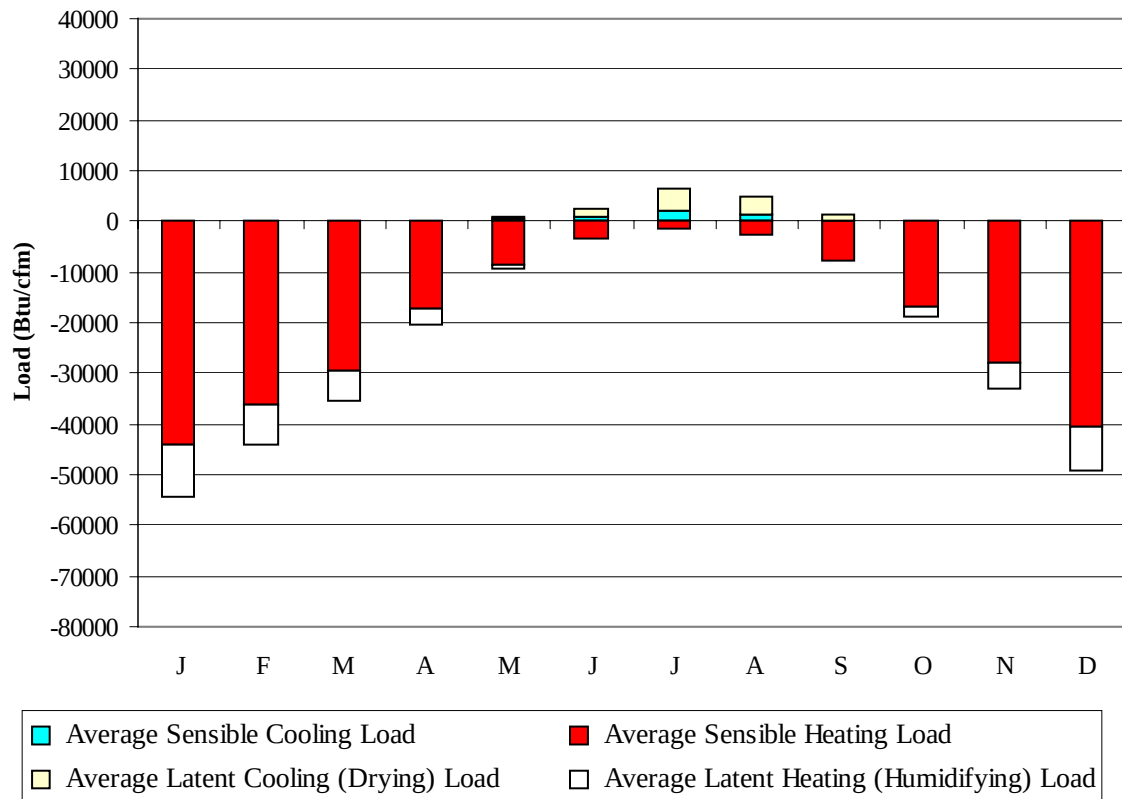
## Long Term Dry Bulb Temperature and Humidity Summary

| 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       | 36.0           | 32.5                | 19.8               | 3.6                | -22.0         | 26.6            | 33.4              | 14.0                | 7.1                 |
| 14-Jan      | 39.0           | 35.9                | 19.0               | 0.8                | -24.0         | 28.0            | 33.8              | 13.7                | 6.0                 |
| 21-Jan      | 40.0           | 36.1                | 23.1               | 6.1                | -25.0         | 30.8            | 36.9              | 16.0                | 8.0                 |
| 28-Jan      | 42.0           | 36.6                | 23.5               | 5.9                | -15.0         | 28.0            | 35.9              | 15.6                | 7.1                 |
| 4-Feb       | 42.0           | 37.3                | 21.7               | 3.2                | -20.0         | 29.4            | 38.1              | 14.6                | 6.7                 |
| 11-Feb      | 43.0           | 37.6                | 22.1               | 2.3                | -18.0         | 28.7            | 38.2              | 13.6                | 6.0                 |
| 18-Feb      | 49.0           | 43.1                | 28.7               | 12.1               | -11.0         | 36.4            | 43.1              | 19.0                | 10.2                |
| 25-Feb      | 48.0           | 42.2                | 33.8               | 16.9               | -6.0          | 35.0            | 41.0              | 23.2                | 12.5                |
| 4-Mar       | 48.0           | 41.8                | 32.8               | 15.5               | -2.0          | 37.1            | 45.7              | 21.2                | 11.0                |
| 11-Mar      | 55.0           | 47.4                | 36.0               | 17.6               | -3.0          | 47.6            | 50.1              | 23.7                | 12.7                |
| 18-Mar      | 58.0           | 52.2                | 38.9               | 23.5               | 3.0           | 56.0            | 54.3              | 26.7                | 15.3                |
| 25-Mar      | 61.0           | 50.6                | 42.8               | 23.8               | 0.0           | 47.6            | 48.0              | 27.3                | 14.4                |
| 1-Apr       | 70.0           | 59.7                | 47.2               | 29.1               | 12.0          | 63.0            | 62.8              | 33.1                | 18.4                |
| 8-Apr       | 75.0           | 56.1                | 50.1               | 29.8               | 14.0          | 53.2            | 59.8              | 32.5                | 17.8                |
| 15-Apr      | 74.0           | 60.5                | 53.0               | 33.4               | 22.0          | 64.4            | 70.0              | 36.3                | 20.5                |
| 22-Apr      | 83.0           | 63.3                | 60.8               | 38.5               | 24.0          | 77.7            | 66.2              | 43.6                | 25.0                |
| 29-Apr      | 79.0           | 66.1                | 63.1               | 40.5               | 29.0          | 84.0            | 70.4              | 45.9                | 26.9                |
| 6-May       | 81.0           | 59.7                | 63.3               | 40.4               | 29.0          | 77.7            | 65.1              | 43.3                | 25.1                |
| 13-May      | 85.0           | 63.9                | 67.5               | 45.2               | 34.0          | 86.8            | 71.8              | 51.8                | 31.6                |
| 20-May      | 86.0           | 69.1                | 70.6               | 48.3               | 36.0          | 96.6            | 74.4              | 61.5                | 38.2                |
| 27-May      | 86.0           | 68.2                | 72.8               | 51.2               | 39.0          | 106.4           | 78.2              | 67.3                | 45.0                |
| 3-Jun       | 87.0           | 67.2                | 74.3               | 52.9               | 42.0          | 106.4           | 73.7              | 74.4                | 49.3                |
| 10-Jun      | 89.0           | 68.3                | 76.6               | 53.9               | 44.0          | 103.6           | 79.5              | 73.8                | 47.5                |
| 17-Jun      | 91.0           | 69.3                | 77.2               | 56.3               | 46.0          | 119.7           | 79.3              | 84.3                | 54.5                |
| 24-Jun      | 90.0           | 72.6                | 77.8               | 57.5               | 47.0          | 119.7           | 83.7              | 85.9                | 58.3                |
| 1-Jul       | 90.0           | 74.1                | 80.5               | 59.3               | 50.0          | 123.2           | 81.8              | 91.6                | 62.8                |
| 8-Jul       | 96.0           | 73.5                | 83.7               | 62.0               | 52.0          | 136.5           | 84.7              | 100.3               | 67.6                |
| 15-Jul      | 93.0           | 74.8                | 82.2               | 61.6               | 52.0          | 130.9           | 88.8              | 97.4                | 67.1                |
| 22-Jul      | 93.0           | 76.9                | 83.5               | 63.2               | 54.0          | 136.5           | 85.0              | 102.9               | 72.6                |
| 29-Jul      | 93.0           | 72.9                | 81.6               | 61.2               | 53.0          | 123.2           | 80.8              | 97.0                | 68.2                |
| 5-Aug       | 94.0           | 77.8                | 81.6               | 61.2               | 51.0          | 135.8           | 81.8              | 97.9                | 69.3                |
| 12-Aug      | 90.0           | 74.1                | 80.3               | 59.2               | 50.0          | 127.4           | 82.0              | 93.4                | 64.5                |
| 19-Aug      | 92.0           | 76.7                | 79.3               | 59.0               | 47.0          | 128.1           | 82.7              | 93.6                | 66.5                |
| 26-Aug      | 89.0           | 71.9                | 77.7               | 59.4               | 50.0          | 130.2           | 78.5              | 92.5                | 65.2                |
| 2-Sep       | 90.0           | 73.9                | 76.5               | 57.3               | 44.0          | 127.4           | 80.7              | 89.4                | 61.8                |
| 9-Sep       | 89.0           | 74.9                | 75.2               | 55.0               | 43.0          | 127.4           | 79.2              | 84.7                | 57.2                |
| 16-Sep      | 85.0           | 69.2                | 69.2               | 50.5               | 40.0          | 114.8           | 76.8              | 72.0                | 48.7                |
| 23-Sep      | 81.0           | 68.4                | 65.0               | 46.5               | 34.0          | 102.9           | 78.4              | 62.9                | 41.4                |
| 30-Sep      | 81.0           | 66.5                | 66.3               | 44.9               | 33.0          | 94.5            | 71.0              | 60.0                | 38.9                |
| 7-Oct       | 79.0           | 61.4                | 61.1               | 40.6               | 28.0          | 84.0            | 67.9              | 50.9                | 31.3                |
| 14-Oct      | 75.0           | 64.1                | 58.3               | 39.7               | 27.0          | 92.4            | 71.0              | 47.4                | 30.3                |
| 21-Oct      | 70.0           | 58.0                | 54.2               | 35.4               | 24.0          | 77.7            | 62.4              | 41.0                | 24.8                |
| 28-Oct      | 74.0           | 61.0                | 55.2               | 35.2               | 23.0          | 76.3            | 72.9              | 41.8                | 25.0                |
| 4-Nov       | 65.0           | 56.0                | 50.6               | 32.3               | 14.0          | 72.1            | 59.3              | 38.2                | 22.6                |
| 11-Nov      | 60.0           | 56.2                | 42.9               | 27.4               | 5.0           | 66.5            | 58.5              | 30.7                | 17.8                |
| 18-Nov      | 59.0           | 50.4                | 41.4               | 25.2               | 9.0           | 54.6            | 54.8              | 29.1                | 16.6                |
| 25-Nov      | 56.0           | 49.4                | 36.8               | 21.5               | 2.0           | 60.2            | 55.1              | 26.2                | 14.4                |
| 2-Dec       | 49.0           | 46.0                | 30.3               | 16.4               | -7.0          | 44.1            | 45.0              | 21.4                | 12.0                |
| 9-Dec       | 43.0           | 39.3                | 27.3               | 11.9               | -11.0         | 32.2            | 36.9              | 18.6                | 9.5                 |
| 16-Dec      | 42.0           | 38.3                | 26.5               | 11.5               | -13.0         | 32.9            | 40.3              | 18.4                | 9.8                 |
| 23-Dec      | 38.0           | 35.3                | 22.8               | 6.9                | -24.0         | 31.5            | 36.5              | 16.1                | 8.1                 |
| 31-Dec      | 36.0           | 34.8                | 22.7               | 7.8                | -19.0         | 30.8            | 35.8              | 16.2                | 8.5                 |



|     | Mean Cooling<br>Degree Days (°F) | Mean Heating<br>Degree Days (°F) |
|-----|----------------------------------|----------------------------------|
| JAN | 0                                | 1613                             |
| FEB | 0                                | 1304                             |
| MAR | 1                                | 1044                             |
| APR | 17                               | 585                              |
| MAY | 72                               | 263                              |
| JUN | 154                              | 90                               |
| JUL | 259                              | 33                               |
| AUG | 185                              | 61                               |
| SEP | 64                               | 230                              |
| OCT | 9                                | 566                              |
| NOV | 0                                | 988                              |
| DEC | 0                                | 1465                             |
| ANN | 761                              | 8242                             |

**Average Ventilation and Infiltration Loads**  
**(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)**



|     | Average Sensible<br>Cooling Load | Average Sensible<br>Heating Load | Average Latent<br>Cooling Load | Average Latent<br>Heating Load |
|-----|----------------------------------|----------------------------------|--------------------------------|--------------------------------|
|     | (Btu/cfm)                        | (Btu/cfm)                        | (Btu/cfm)                      | (Btu/cfm)                      |
| JAN | 0                                | -44218                           | 0                              | -10156                         |
| FEB | 0                                | -36005                           | 0                              | -8120                          |
| MAR | 4                                | -29474                           | 0                              | -6083                          |
| APR | 63                               | -17328                           | 7                              | -3123                          |
| MAY | 391                              | -8593                            | 377                            | -799                           |
| JUN | 991                              | -3468                            | 1667                           | -17                            |
| JUL | 2048                             | -1532                            | 4475                           | 0                              |
| AUG | 1191                             | -2558                            | 3587                           | -1                             |
| SEP | 316                              | -7710                            | 1085                           | -154                           |
| OCT | 20                               | -16960                           | 40                             | -1817                          |
| NOV | 0                                | -27935                           | 0                              | -5260                          |
| DEC | 0                                | -40366                           | 0                              | -8939                          |
| ANN | 5024                             | -236147                          | 11238                          | -44469                         |

## Average Annual Solar Radiation – Nearest Available Site

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

City: EAU CLAIRE  
 State: WI  
 WBAN No: 14991  
 Lat(N): 44.87  
 Long(W): 91.48  
 Elev(ft): 896

Stn Type: Secondary  
 SHADING GEOMETRY IN DIMENSIONLESS UNITS  
 Window: 1  
 Overhang: 0.674  
 Vert Gap: 0.331

| 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  | 550  | 850  | 1170 | 1470 | 1770 | 1930 | 1920 | 1650 | 1240 | 850  | 510  | 430  | 1200 |
|                                                                               | Std Dev | 40   | 57   | 97   | 98   | 148  | 146  | 107  | 107  | 119  | 69   | 41   | 37   | 39   |
|                                                                               | Minimum | 430  | 690  | 940  | 1320 | 1510 | 1610 | 1710 | 1500 | 990  | 700  | 420  | 360  | 1110 |
|                                                                               | Maximum | 630  | 940  | 1420 | 1650 | 2030 | 2260 | 2090 | 1900 | 1470 | 990  | 600  | 530  | 1280 |
|                                                                               | Diffuse | 300  | 430  | 590  | 690  | 790  | 860  | 820  | 710  | 570  | 410  | 310  | 260  | 560  |
| Clear Day                                                                     | Global  | 720  | 1080 | 1600 | 2130 | 2500 | 2650 | 2550 | 2210 | 1720 | 1180 | 760  | 610  | 1650 |
| NORTH                                                                         | Global  | 180  | 260  | 350  | 430  | 550  | 630  | 600  | 470  | 350  | 260  | 180  | 150  | 370  |
|                                                                               | Diffuse | 180  | 260  | 350  | 420  | 490  | 540  | 520  | 450  | 350  | 260  | 180  | 150  | 350  |
| Clear Day                                                                     | Global  | 160  | 220  | 300  | 410  | 570  | 690  | 630  | 460  | 320  | 230  | 160  | 130  | 360  |
| EAST                                                                          | Global  | 390  | 570  | 740  | 890  | 1050 | 1110 | 1110 | 990  | 770  | 570  | 340  | 300  | 740  |
|                                                                               | Diffuse | 230  | 330  | 440  | 510  | 590  | 640  | 620  | 550  | 430  | 320  | 220  | 190  | 420  |
| Clear Day                                                                     | Global  | 610  | 830  | 1120 | 1360 | 1500 | 1550 | 1510 | 1380 | 1160 | 880  | 620  | 520  | 1090 |
| SOUTH                                                                         | Global  | 1000 | 1200 | 1160 | 1020 | 920  | 880  | 920  | 1010 | 1060 | 1040 | 780  | 790  | 980  |
|                                                                               | Diffuse | 360  | 450  | 520  | 540  | 580  | 600  | 600  | 560  | 490  | 400  | 310  | 300  | 480  |
| Clear Day                                                                     | Global  | 1850 | 2000 | 1930 | 1570 | 1250 | 1100 | 1150 | 1410 | 1730 | 1890 | 1800 | 1730 | 1610 |
| WEST                                                                          | Global  | 400  | 580  | 750  | 890  | 1030 | 1110 | 1130 | 1010 | 790  | 570  | 360  | 310  | 740  |
|                                                                               | Diffuse | 230  | 330  | 440  | 520  | 600  | 650  | 640  | 560  | 440  | 320  | 220  | 190  | 430  |
| Clear Day                                                                     | Global  | 610  | 830  | 1120 | 1360 | 1500 | 1550 | 1510 | 1380 | 1160 | 880  | 620  | 520  | 1090 |

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

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

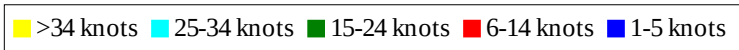
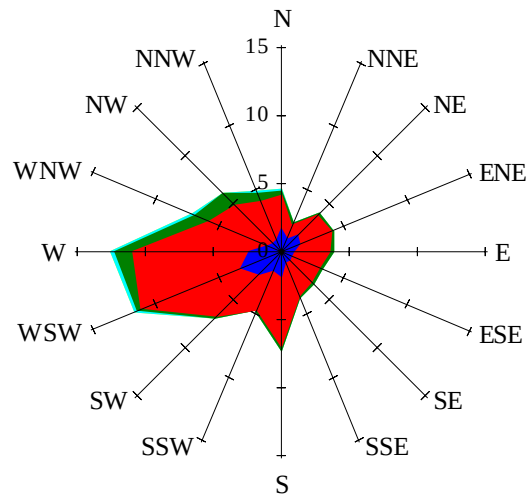
| AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9 |          | Jan | Feb | Mar | Apr  | May  | Jun  | Jul  | Aug  | Sep | Oct | Nov | Dec | Year |
|-----------------------------------------------------------------------------------------------------|----------|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|------|
| HORIZ                                                                                               | Unshaded | 340 | 560 | 820 | 1050 | 1280 | 1390 | 1390 | 1180 | 870 | 580 | 330 | 260 | 840  |
| NORTH                                                                                               | Unshaded | 120 | 180 | 240 | 290  | 360  | 410  | 390  | 320  | 250 | 180 | 120 | 100 | 250  |
|                                                                                                     | Shaded   | 100 | 150 | 200 | 250  | 310  | 350  | 340  | 270  | 210 | 150 | 100 | 85  | 210  |
| EAST                                                                                                | Unshaded | 270 | 400 | 520 | 640  | 750  | 790  | 790  | 710  | 550 | 400 | 240 | 200 | 520  |
|                                                                                                     | Shaded   | 230 | 340 | 440 | 520  | 600  | 630  | 630  | 570  | 450 | 340 | 200 | 170 | 430  |
| SOUTH                                                                                               | Unshaded | 760 | 890 | 820 | 680  | 590  | 550  | 580  | 660  | 730 | 750 | 580 | 600 | 680  |
|                                                                                                     | Shaded   | 730 | 810 | 620 | 400  | 340  | 350  | 350  | 360  | 490 | 640 | 550 | 580 | 520  |
| WEST                                                                                                | Unshaded | 270 | 410 | 530 | 630  | 740  | 790  | 810  | 720  | 560 | 400 | 250 | 210 | 530  |
|                                                                                                     | Shaded   | 240 | 350 | 440 | 520  | 600  | 640  | 660  | 590  | 460 | 340 | 210 | 180 | 430  |

| 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  | 34    | 65   | 75  | 59  | 25  | 48   | 81   | 98  | 92  | 68  |
|                                                                                                                  | M.Cloudy | 22    | 44   | 50  | 39  | 17  | 30   | 54   | 67  | 66  | 48  |
| NORTH                                                                                                            | M.Clear  | 9     | 13   | 14  | 12  | 7   | 15   | 16   | 17  | 16  | 15  |
|                                                                                                                  | M.Cloudy | 9     | 15   | 17  | 14  | 7   | 13   | 17   | 19  | 19  | 15  |
| EAST                                                                                                             | M.Clear  | 72    | 56   | 14  | 12  | 7   | 79   | 72   | 32  | 16  | 15  |
|                                                                                                                  | M.Cloudy | 27    | 31   | 17  | 14  | 7   | 36   | 43   | 26  | 19  | 15  |
| SOUTH                                                                                                            | M.Clear  | 41    | 78   | 89  | 70  | 29  | 12   | 38   | 55  | 50  | 26  |
|                                                                                                                  | M.Cloudy | 18    | 39   | 45  | 34  | 13  | 11   | 27   | 38  | 37  | 21  |
| WEST                                                                                                             | M.Clear  | 9     | 13   | 21  | 65  | 64  | 12   | 16   | 17  | 50  | 78  |
|                                                                                                                  | M.Cloudy | 9     | 15   | 20  | 33  | 24  | 11   | 17   | 19  | 37  | 47  |
| M.Clear                                                                                                          | (% hrs)  | 28    | 28   | 29  | 29  | 29  | 37   | 34   | 27  | 24  | 28  |
|                                                                                                                  |          | Sept  |      |     |     |     | Dec  |      |     |     |     |
|                                                                                                                  |          | 9am   | 11am | 1pm | 3pm | 5pm | 9am  | 11am | 1pm | 3pm | 5pm |
| HORIZ.                                                                                                           | M.Clear  | 25    | 60   | 78  | 71  | 44  | 8    | 31   | 37  | 21  | 0   |
|                                                                                                                  | M.Cloudy | 15    | 37   | 48  | 47  | 28  | 6    | 20   | 24  | 14  | 0   |
| NORTH                                                                                                            | M.Clear  | 8     | 13   | 15  | 14  | 11  | 4    | 8    | 9   | 7   | 0   |
|                                                                                                                  | M.Cloudy | 6     | 13   | 16  | 16  | 11  | 3    | 8    | 10  | 6   | 0   |
| EAST                                                                                                             | M.Clear  | 63    | 68   | 28  | 14  | 11  | 28   | 36   | 9   | 7   | 0   |
|                                                                                                                  | M.Cloudy | 19    | 32   | 21  | 16  | 11  | 7    | 15   | 10  | 6   | 0   |
| SOUTH                                                                                                            | M.Clear  | 21    | 59   | 80  | 72  | 41  | 26   | 75   | 84  | 57  | 0   |
|                                                                                                                  | M.Cloudy | 10    | 29   | 41  | 41  | 21  | 7    | 25   | 30  | 17  | 0   |
| WEST                                                                                                             | M.Clear  | 8     | 13   | 15  | 50  | 72  | 4    | 8    | 18  | 42  | 0   |
|                                                                                                                  | M.Cloudy | 6     | 13   | 16  | 31  | 32  | 3    | 8    | 12  | 14  | 0   |
| M.Clear                                                                                                          | (% hrs)  | 35    | 33   | 30  | 28  | 32  | 25   | 24   | 26  | 27  | 29  |



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

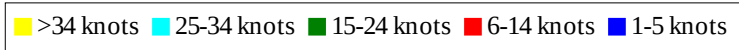
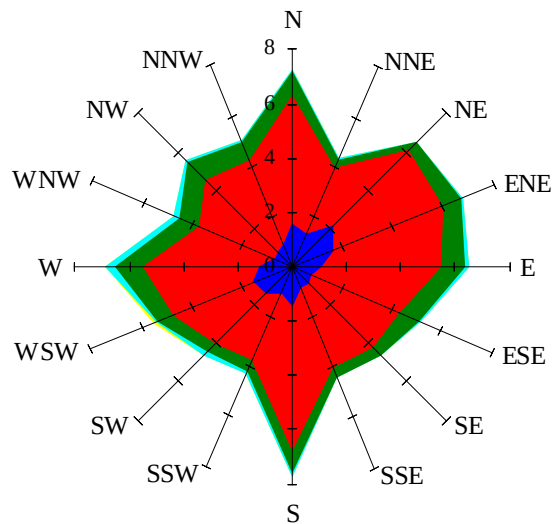
Labels of Percent Frequency on North Axis



Percent Calm = 11.42

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

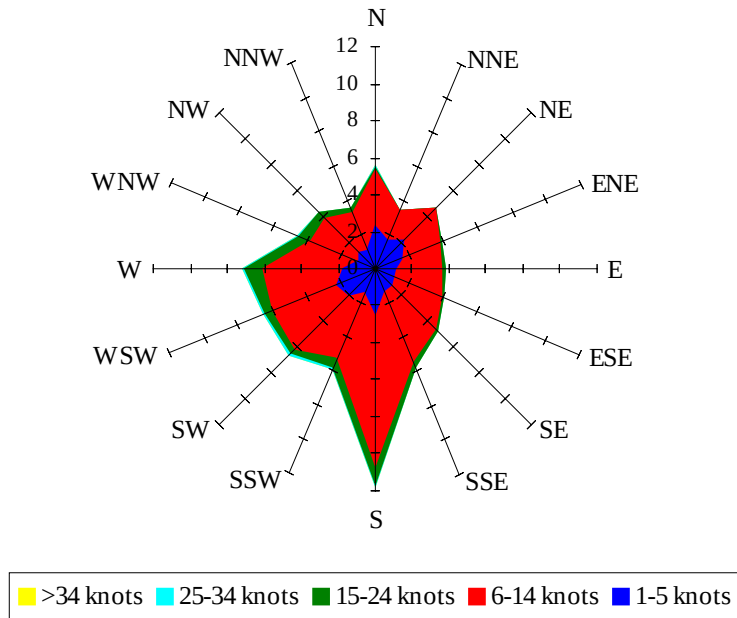
Labels of Percent Frequency on North Axis



Percent Calm = 10.91

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

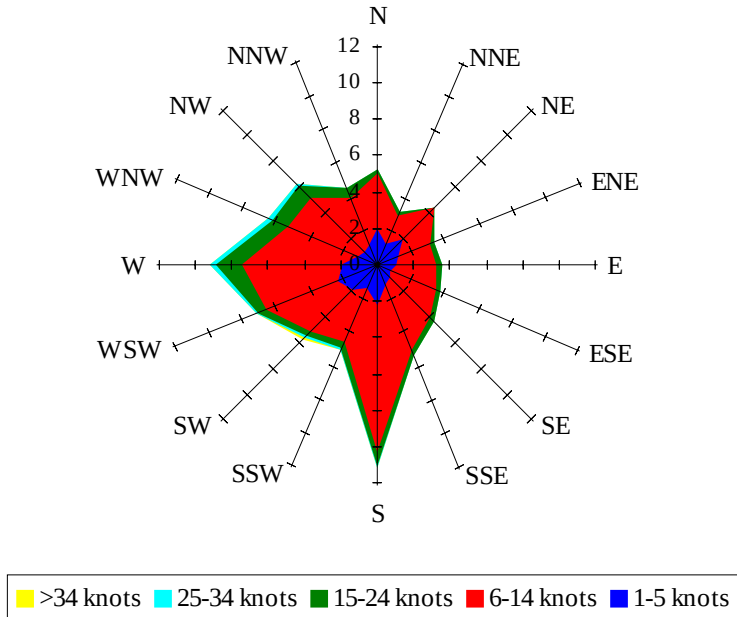
Labels of Percent Frequency on North Axis



Percent Calm = 14.16

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

Labels of Percent Frequency on North Axis



Percent Calm = 12.58