

|                                 |                                    |
|---------------------------------|------------------------------------|
| <b>ILOPANGO INTL, ES</b>        | Station ID = ICAO_MSSS             |
| Latitude = 13.70 N              | Elevation = 2021 Feet              |
| Longitude = 89.12 W             | Average Pressure = 28.32 inches Hg |
| Period of Record = 1988 To 2017 |                                    |

### Design Criteria Data

|                          | Mean Coincident (Average) Values |                           |                        |                  |                             |
|--------------------------|----------------------------------|---------------------------|------------------------|------------------|-----------------------------|
| Dry Bulb Temperature (T) | Design Value (°F)                | Wet Bulb Temperature (°F) | Humidity Ratio (gr/lb) | Wind Speed (mph) | Prevailing Direction (NSEW) |
| Median of Extreme Highs  | 97                               | 76                        | 101                    | 6.3              | N                           |
| 0.4% Occurrence          | 93                               | 75                        | 104                    | 7.1              | N                           |
| 1.0% Occurrence          | 91                               | 75                        | 114                    | 6.7              | N                           |
| 2.0% Occurrence          | 91                               | 75                        | 114                    | 6.7              | N                           |
| Mean Daily Range         | 18                               | -                         | -                      | -                | N                           |
| 97.5% Occurrence         | 66                               | 64                        | 88                     | 5.9              | N                           |
| 99.0% Occurrence         | 64                               | 61                        | 80                     | 6.9              | N                           |
| 99.6% Occurrence         | 63                               | 61                        | 80                     | 7                | N                           |
| Median of Extreme Lows   | 59                               | 56                        | 66                     | 9.2              | N                           |

|                                         | Design Value (°F) | Dry Bulb Temperature (°F) | Humidity Ratio (gr/lb) | Wind Speed (mph) | Prevailing Direction (NSEW) |
|-----------------------------------------|-------------------|---------------------------|------------------------|------------------|-----------------------------|
| Wet Bulb Temperature (T <sub>wb</sub> ) |                   |                           |                        |                  |                             |
| Median of Extreme Highs                 | 83                | 90                        | 156                    | 4.8              | S                           |
| 0.4% Occurrence                         | 81                | 88                        | 148                    | 4.7              | S                           |
| 1.0% Occurrence                         | 80                | 87                        | 144                    | 4.6              | S                           |
| 2.0% Occurrence                         | 79                | 85                        | 141                    | 4.8              | S                           |

|                         | Design Value (gr/lb) | Dry Bulb Temperature (°F) | Vapor Pressure (in. Hg) | Wind Speed (mph) | Prevailing Direction (NSEW) |
|-------------------------|----------------------|---------------------------|-------------------------|------------------|-----------------------------|
| Humidity Ratio (HR)     |                      |                           |                         |                  |                             |
| Median of Extreme Highs | 172                  | 86                        | 1.06                    | 7                | S                           |
| 0.4% Occurrence         | 152                  | 85                        | 0.94                    | 6.2              | S                           |
| 1.0% Occurrence         | 151                  | 84                        | 0.95                    | 5.2              | S                           |
| 2.0% Occurrence         | 143                  | 83                        | 0.88                    | 6                | S                           |

| Air Conditioning/<br>Humid Area Criteria | Threshold  | T ≥ 93 °F | T ≥ 80 °F | Twb ≥ 73 °F | Twb ≥ 67 °F |
|------------------------------------------|------------|-----------|-----------|-------------|-------------|
|                                          | # of Hours | 44        | 2197      | 2869        | 5221        |

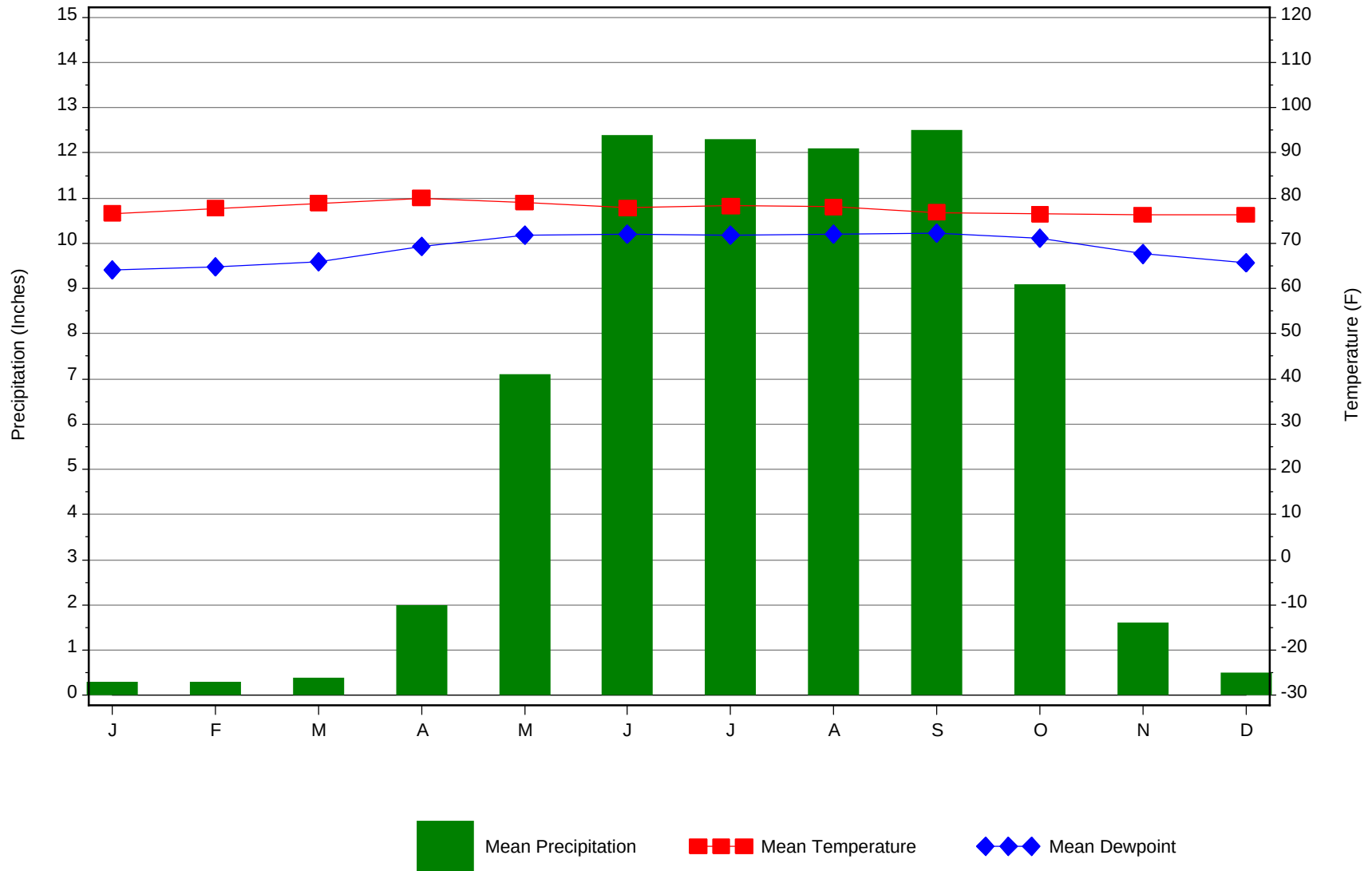
### Other Site Data

| 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                                                 | N/A                                          | N/A                                                                | 11.9 + 3.1                                                                              |
| 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>(#)                                             |
| 80.2                                               | N/A                                          | N/A                                                                | 0                                                                                       |

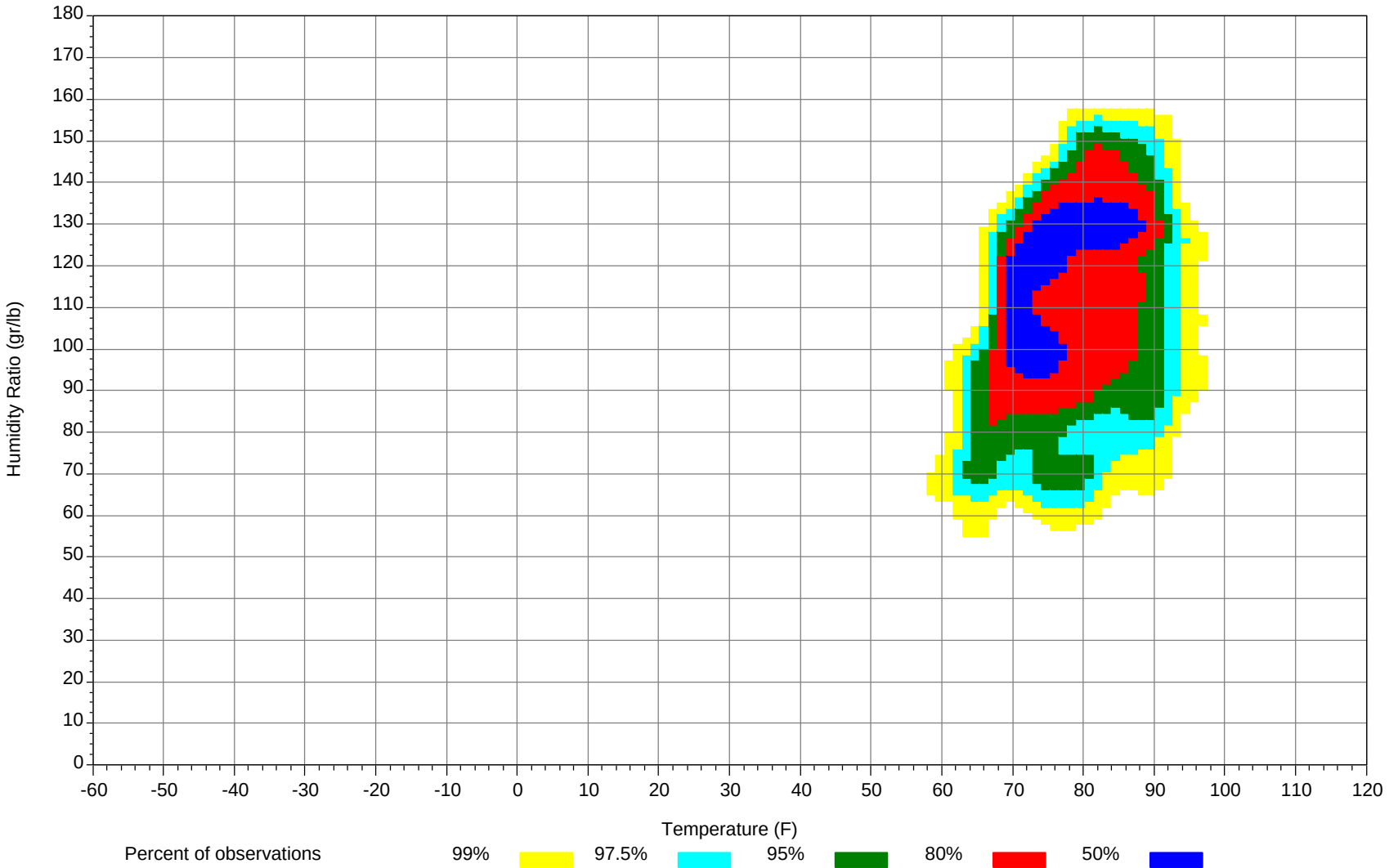
\*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.



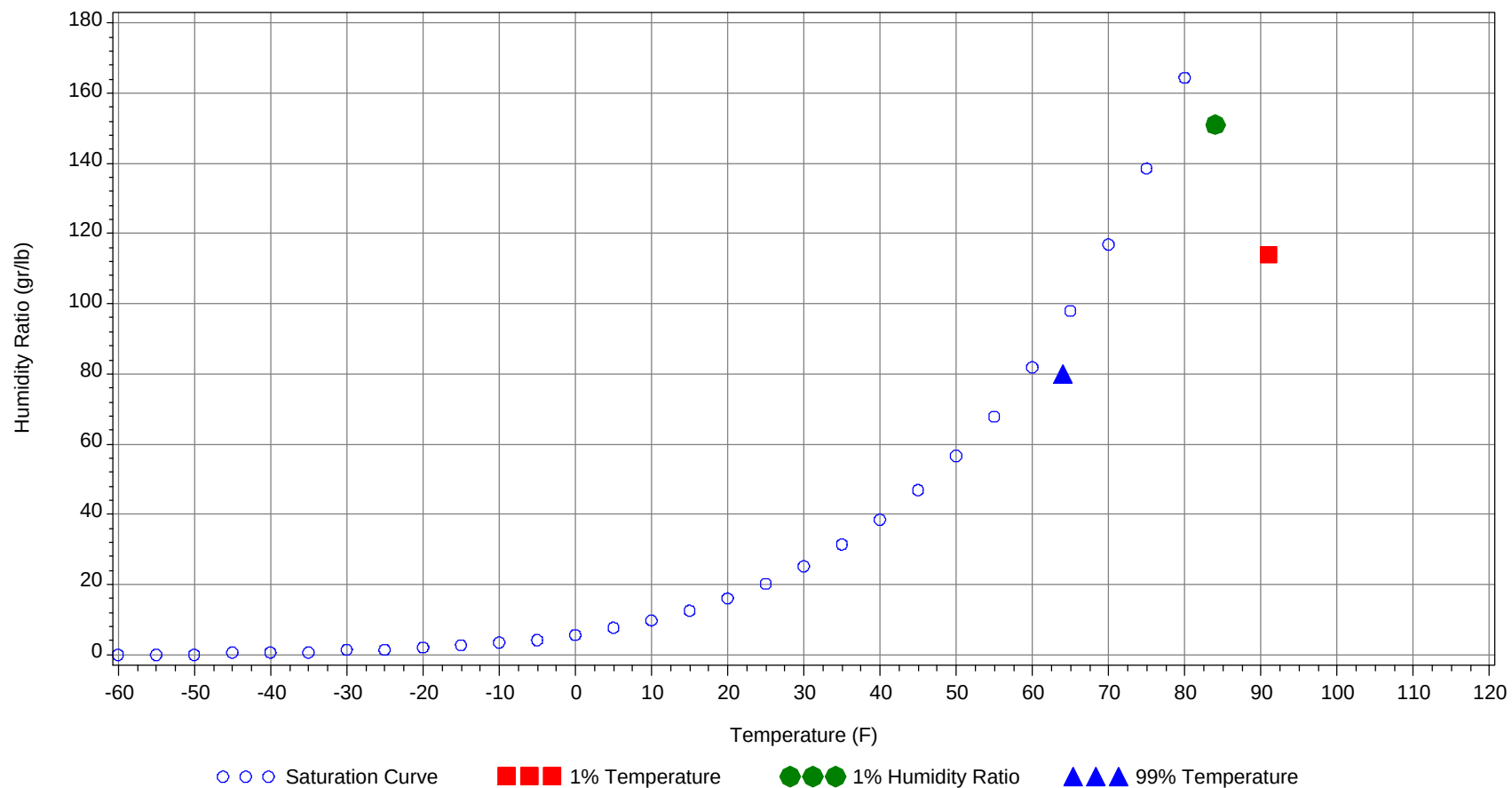
# Average Annual Climate



# Long Term Psychrometric Summary



## Psychrometric Summary of Peak Design Values



|                     | (° F) /<br>(gr/lb) | MCDB<br>(° F) | MCWB<br>(° F) | MCDP<br>(° F) | MCHR<br>(gr/lb) | Enthalpy<br>(btu/lb) |
|---------------------|--------------------|---------------|---------------|---------------|-----------------|----------------------|
| 1.0% Dry Bulb       | 91.0               |               | 75            |               | 114.0           | 39.3                 |
| 99.0% Dry Bulb      | 64.0               |               |               |               | 80.0            | 28.0                 |
| 1.0% Humidity Ratio | 151.0              | 84.0          | 79.3          | 77.5          |                 | 44.0                 |

### ***Dry-Bulb Temperature Hours For An Average Year***

|                        | January      |              |              |           |              | February     |              |              |           |              | March        |              |              |           |              |
|------------------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|-----------|--------------|
| Temperature Range (°F) | 01 To 08 LST | 09 To 16 LST | 17 to 00 LST | Total Obs | M C W B (°F) | 01 To 08 LST | 09 To 16 LST | 17 to 00 LST | Total Obs | M C W B (°F) | 01 To 08 LST | 09 To 16 LST | 17 to 00 LST | Total Obs | M C W B (°F) |
| 95/ 99                 |              | 0            |              | 0         | 79           |              | 2            |              | 2         | 72.2         |              | 4            | 0            | 4         | 73.2         |
| 90/ 94                 |              | 34           | 1            | 35        | 73.2         | 0            | 46           | 2            | 48        | 73.1         |              | 61           | 2            | 63        | 73.4         |
| 85/ 89                 | 0            | 73           | 7            | 80        | 72.4         | 0            | 69           | 8            | 77        | 72.1         | 1            | 81           | 9            | 91        | 72.9         |
| 80/ 84                 | 9            | 79           | 35           | 123       | 70.7         | 9            | 63           | 38           | 110       | 70.8         | 21           | 66           | 49           | 136       | 71.7         |
| 75/ 79                 | 54           | 39           | 68           | 161       | 68.5         | 44           | 32           | 75           | 151       | 69           | 67           | 31           | 103          | 201       | 70.3         |
| 70/ 74                 | 74           | 21           | 100          | 195       | 66.9         | 79           | 11           | 86           | 176       | 67.2         | 98           | 5            | 76           | 179       | 67.6         |
| 65/ 69                 | 65           | 3            | 27           | 95        | 63.9         | 62           | 1            | 12           | 75        | 63.8         | 47           | 0            | 8            | 55        | 63.8         |
| 60/ 64                 | 44           | 0            | 9            | 53        | 60.1         | 28           | 0            | 2            | 30        | 60.5         | 15           |              | 1            | 16        | 60           |
| 55/ 59                 | 3            |              | 0            | 3         | 55.7         | 1            |              | 0            | 1         | 54           | 1            |              | 0            | 1         | 53.6         |

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.

### ***Dry-Bulb Temperature Hours For An Average Year***

|                              | April                 |                       |                       |              |                          | May                   |                       |                       |              |                          | June                  |                       |                       |              |                          |
|------------------------------|-----------------------|-----------------------|-----------------------|--------------|--------------------------|-----------------------|-----------------------|-----------------------|--------------|--------------------------|-----------------------|-----------------------|-----------------------|--------------|--------------------------|
| Temperature<br>Range<br>(°F) | 01<br>To<br>08<br>LST | 09<br>To<br>16<br>LST | 17<br>to<br>00<br>LST | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | 01<br>To<br>08<br>LST | 09<br>To<br>16<br>LST | 17<br>to<br>00<br>LST | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | 01<br>To<br>08<br>LST | 09<br>To<br>16<br>LST | 17<br>to<br>00<br>LST | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
| 95/ 99                       |                       | 4                     | 0                     | 4            | 74.9                     | 0                     | 3                     |                       | 3            | 76.2                     |                       | 1                     |                       | 1            | 78.3                     |
| 90/ 94                       | 0                     | 65                    | 2                     | 67           | 75.1                     | 0                     | 32                    | 2                     | 34           | 76.6                     | 0                     | 16                    | 1                     | 17           | 78.3                     |
| 85/ 89                       | 2                     | 80                    | 10                    | 92           | 74.7                     | 1                     | 71                    | 9                     | 81           | 76.4                     | 1                     | 56                    | 6                     | 63           | 77                       |
| 80/ 84                       | 25                    | 67                    | 59                    | 151          | 73.8                     | 23                    | 92                    | 51                    | 166          | 75.5                     | 8                     | 99                    | 35                    | 142          | 75.7                     |
| 75/ 79                       | 102                   | 22                    | 118                   | 242          | 72.1                     | 118                   | 42                    | 123                   | 283          | 73.7                     | 110                   | 55                    | 103                   | 268          | 73.9                     |
| 70/ 74                       | 88                    | 2                     | 48                    | 138          | 69.2                     | 93                    | 8                     | 62                    | 163          | 70.6                     | 104                   | 12                    | 91                    | 207          | 70.8                     |
| 65/ 69                       | 21                    | 0                     | 2                     | 23           | 65.2                     | 11                    | 0                     | 2                     | 13           | 67.3                     | 17                    |                       | 5                     | 22           | 67.6                     |
| 60/ 64                       | 2                     |                       |                       | 2            | 60.3                     | 0                     | 0                     | 0                     | 0            | 63.5                     |                       |                       |                       |              |                          |
| 55/ 59                       |                       |                       |                       |              |                          |                       |                       |                       |              |                          |                       |                       |                       |              |                          |

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.

### ***Dry-Bulb Temperature Hours For An Average Year***

|                        | July         |              |              |           |              | August       |              |              |           |              | September    |              |              |           |              |
|------------------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|-----------|--------------|
| Temperature Range (°F) | 01 To 08 LST | 09 To 16 LST | 17 to 00 LST | Total Obs | M C W B (°F) | 01 To 08 LST | 09 To 16 LST | 17 to 00 LST | Total Obs | M C W B (°F) | 01 To 08 LST | 09 To 16 LST | 17 to 00 LST | Total Obs | M C W B (°F) |
| 95/ 99                 |              |              |              |           |              |              | 0            |              | 0         | 77.5         |              |              |              |           |              |
| 90/ 94                 | 0            | 28           | 2            | 30        | 78           | 0            | 21           | 1            | 22        | 78.4         | 0            | 7            | 0            | 7         | 79.1         |
| 85/ 89                 | 1            | 74           | 14           | 89        | 76.7         | 0            | 70           | 10           | 80        | 77.1         | 0            | 49           | 2            | 51        | 77.6         |
| 80/ 84                 | 12           | 89           | 46           | 147       | 75.6         | 9            | 96           | 42           | 147       | 75.9         | 3            | 101          | 22           | 126       | 76           |
| 75/ 79                 | 105          | 46           | 93           | 244       | 73.6         | 102          | 51           | 95           | 248       | 73.9         | 93           | 66           | 93           | 252       | 74.1         |
| 70/ 74                 | 104          | 10           | 83           | 197       | 70.5         | 112          | 10           | 91           | 213       | 70.7         | 121          | 16           | 118          | 255       | 71           |
| 65/ 69                 | 27           | 0            | 10           | 37        | 67.3         | 24           |              | 9            | 33        | 67.3         | 23           | 0            | 6            | 29        | 67.6         |
| 60/ 64                 |              |              | 0            | 0         | 63.5         | 0            |              | 0            | 0         | 63.7         | 0            |              |              | 0         | 64           |
| 55/ 59                 |              |              |              |           |              |              |              |              |           |              |              |              |              |           |              |

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.

### ***Dry-Bulb Temperature Hours For An Average Year***

|                        | October      |              |              |           |              | November     |              |              |           |              | December     |              |              |           |              |
|------------------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|--------------|-----------|--------------|
| Temperature Range (°F) | 01 To 08 LST | 09 To 16 LST | 17 to 00 LST | Total Obs | M C W B (°F) | 01 To 08 LST | 09 To 16 LST | 17 to 00 LST | Total Obs | M C W B (°F) | 01 To 08 LST | 09 To 16 LST | 17 to 00 LST | Total Obs | M C W B (°F) |
| 95/ 99                 |              |              |              |           |              |              |              |              |           |              |              |              |              |           |              |
| 90/ 94                 | 0            | 8            | 0            | 8         | 77.7         |              | 11           | 0            | 11        | 75.2         | 0            | 19           | 0            | 19        | 74           |
| 85/ 89                 | 0            | 48           | 2            | 50        | 77.1         | 0            | 57           | 2            | 59        | 75.3         | 0            | 73           | 4            | 77        | 73.5         |
| 80/ 84                 | 5            | 106          | 21           | 132       | 75.2         | 5            | 103          | 23           | 131       | 73.2         | 8            | 91           | 31           | 130       | 71.8         |
| 75/ 79                 | 88           | 69           | 85           | 242       | 73.6         | 65           | 53           | 75           | 193       | 71.1         | 56           | 45           | 73           | 174       | 69.8         |
| 70/ 74                 | 123          | 18           | 130          | 271       | 70.4         | 98           | 14           | 109          | 221       | 68.7         | 86           | 18           | 105          | 209       | 67.8         |
| 65/ 69                 | 29           | 0            | 10           | 39        | 66.1         | 53           | 1            | 26           | 80        | 64.7         | 65           | 2            | 27           | 94        | 64.3         |
| 60/ 64                 | 3            |              | 0            | 3         | 61.6         | 17           | 0            | 5            | 22        | 60.6         | 31           | 0            | 8            | 39        | 60.6         |
| 55/ 59                 | 0            |              |              | 0         | 58           | 1            |              | 0            | 1         | 54.8         | 2            |              | 0            | 2         | 56           |

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.

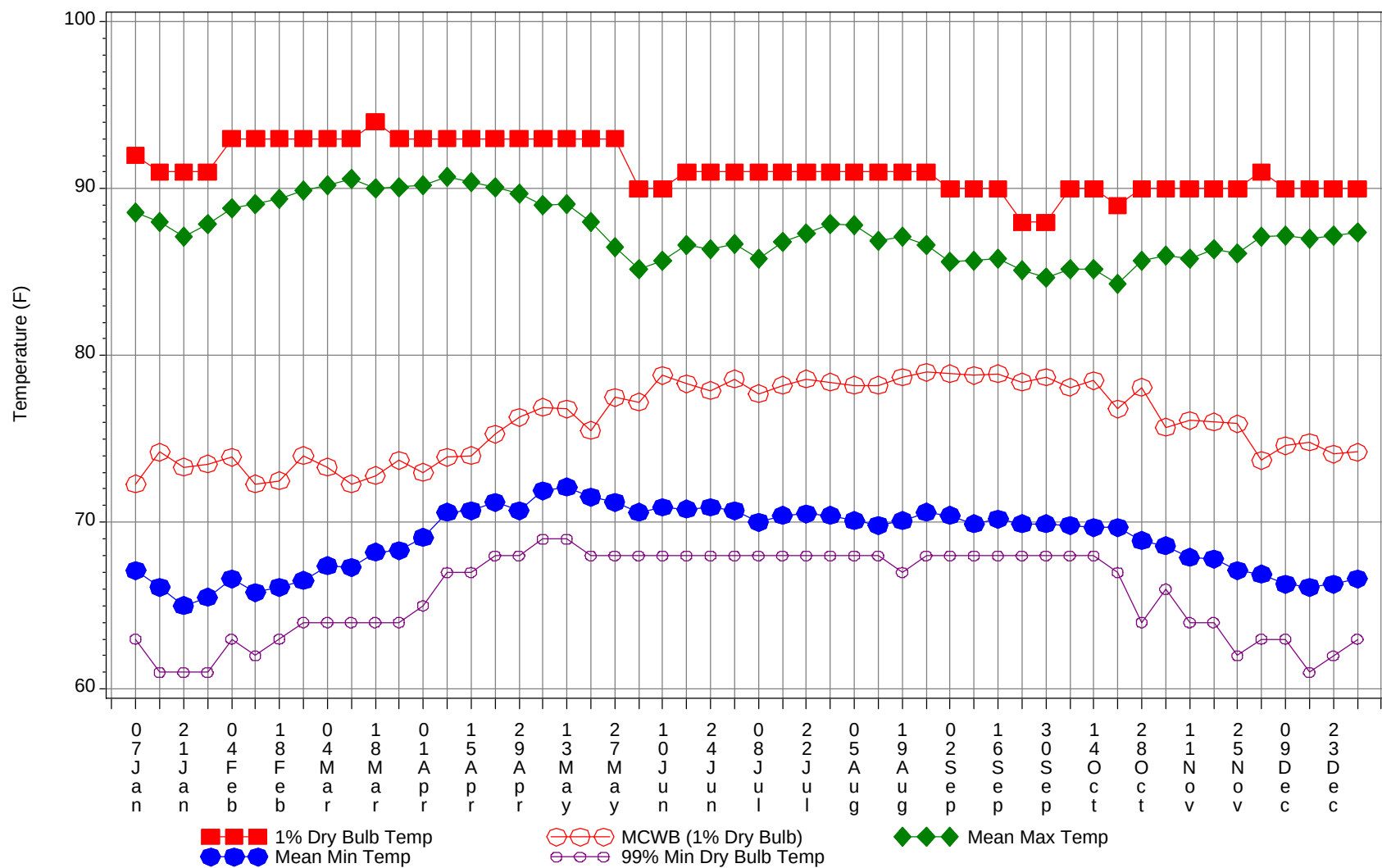


## ***Dry-Bulb Temperature Hours For An Average Year***

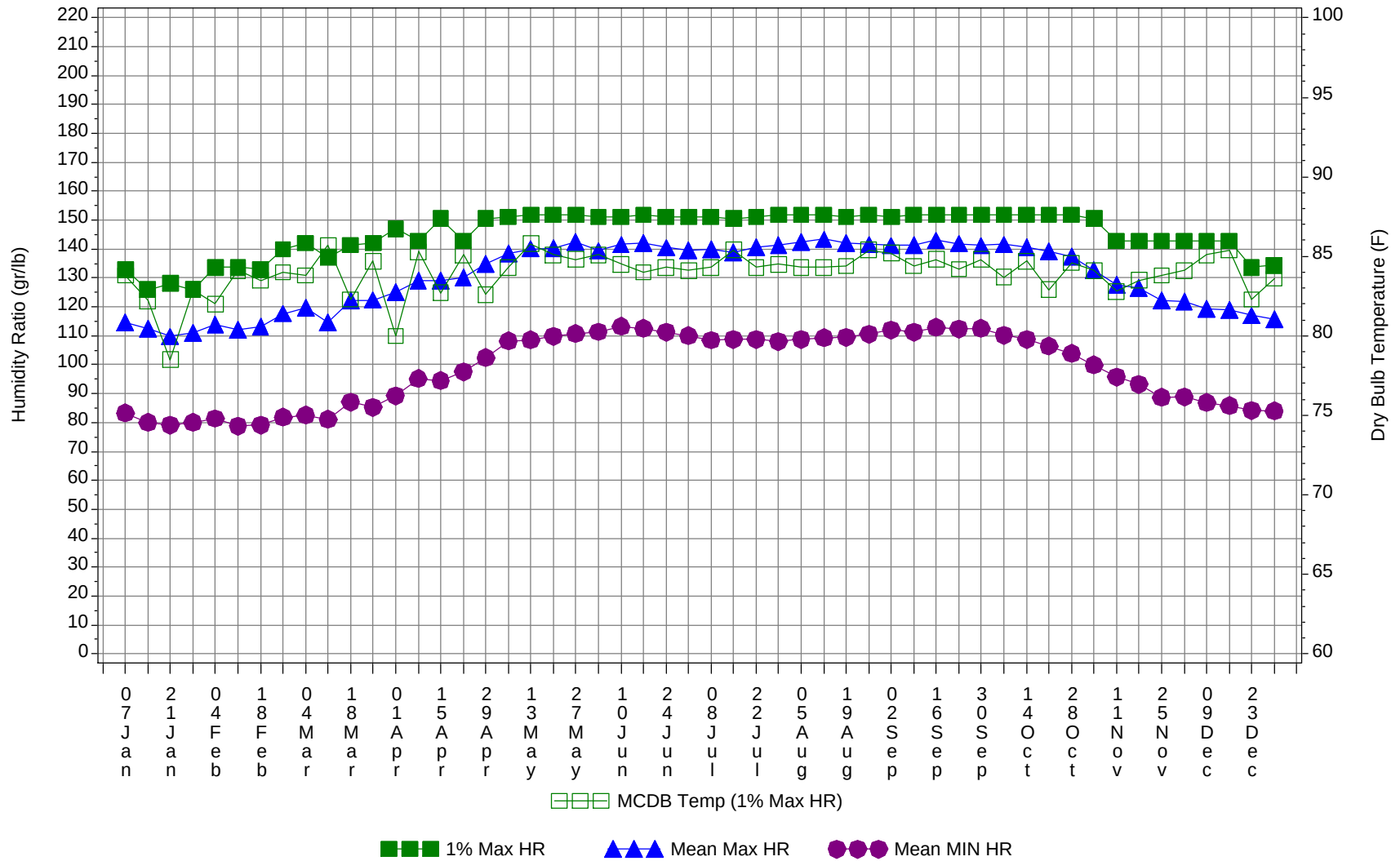
|                               | Annual                |                       |                       |              |                           |
|-------------------------------|-----------------------|-----------------------|-----------------------|--------------|---------------------------|
| Temperature<br>Range<br>(° F) | 01<br>To<br>08<br>LST | 09<br>To<br>16<br>LST | 17<br>to<br>00<br>LST | Total<br>Obs | M<br>C<br>W<br>B<br>(° F) |
| 95/ 99                        | 0                     | 14                    | 0                     | 14           | 74.6                      |
| 90/ 94                        | 1                     | 347                   | 13                    | 361          | 75.1                      |
| 85/ 89                        | 7                     | 801                   | 81                    | 889          | 75                        |
| 80/ 84                        | 136                   | 1052                  | 448                   | 1636         | 74                        |
| 75/ 79                        | 1004                  | 553                   | 1100                  | 2657         | 72.3                      |
| 70/ 74                        | 1183                  | 145                   | 1104                  | 2432         | 69.4                      |
| 65/ 69                        | 443                   | 7                     | 146                   | 596          | 65.1                      |
| 60/ 64                        | 139                   | 1                     | 27                    | 167          | 60.4                      |
| 55/ 59                        | 7                     |                       | 1                     | 8            | 55.3                      |

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



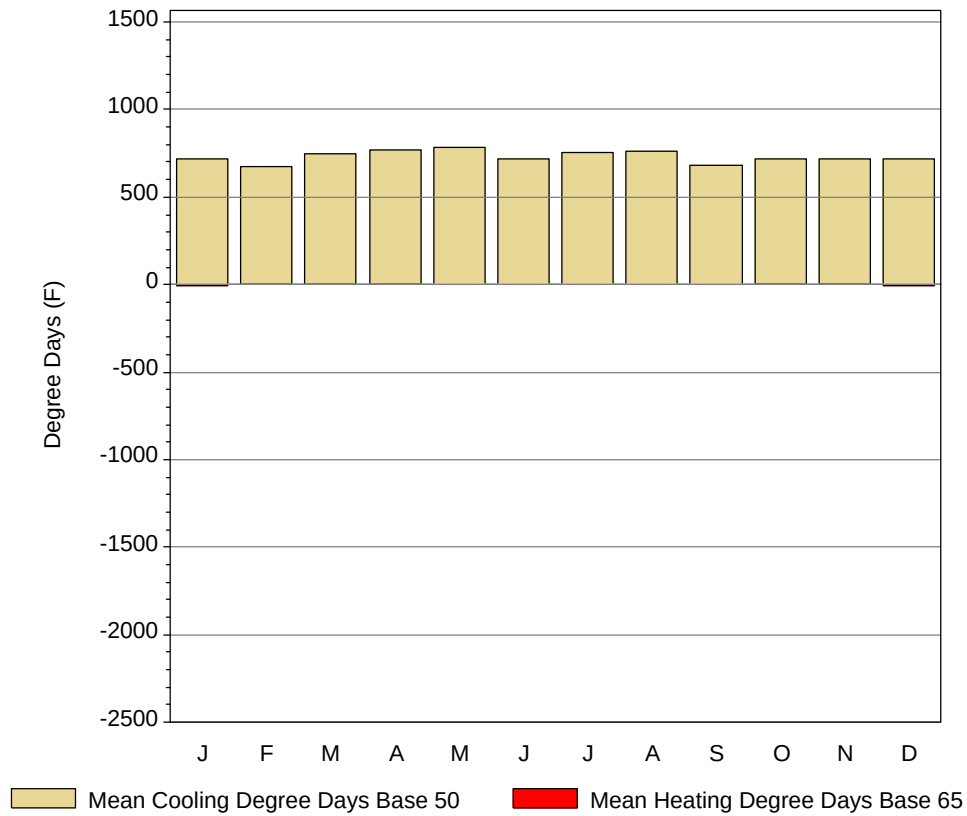
# Long Term Humidity and Dry Bulb Temperature Summary



**Long Term Humidity and Dry Bulb Temperature Summary**

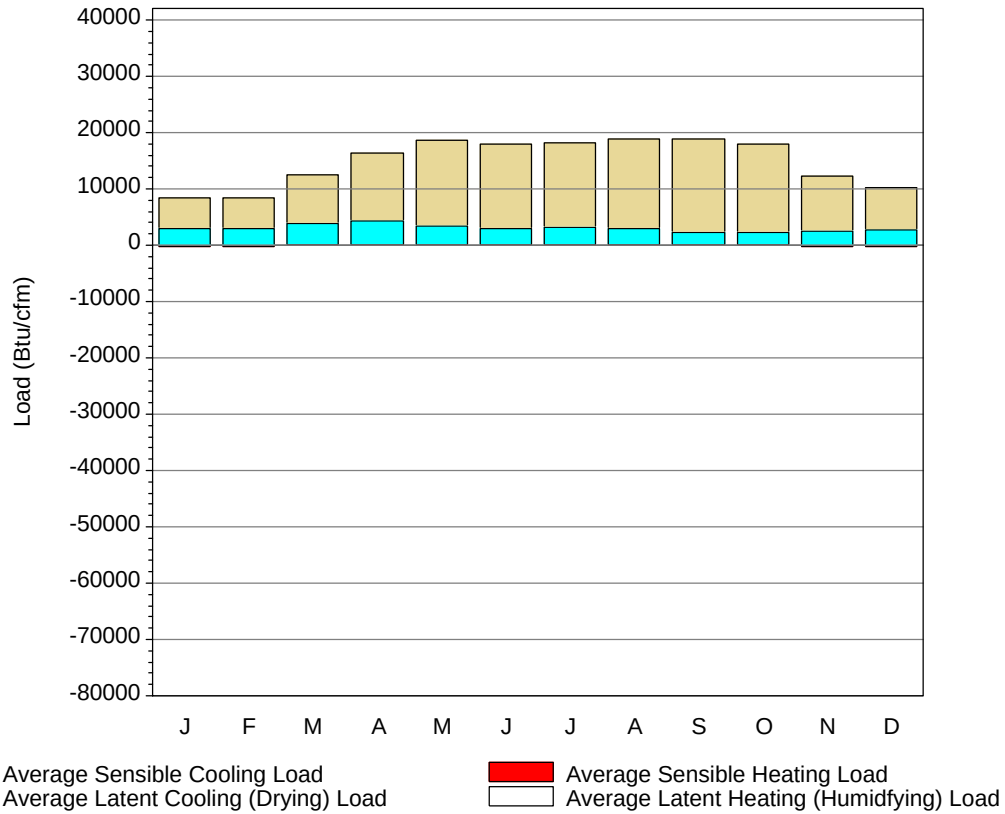
| Week Ending | 1.0% Temp (° F) | MCWB@ 1% Temp (° F) | Mean Max Temp (° F) | Mean Min Temp (° F) | 99% Temp (° F) | 1.0% HR (gr/lb) | MCDB@ 1% HR (° F) | Mean Max HR (gr/lb) | Mean Min HR (gr/lb) |
|-------------|-----------------|---------------------|---------------------|---------------------|----------------|-----------------|-------------------|---------------------|---------------------|
| 7-Jan       | 92              | 72.3                | 88.6                | 67.1                | 63             | 133             | 83.8              | 114.6               | 83.3                |
| 14-Jan      | 91              | 74.2                | 88                  | 66.1                | 61             | 126             | 82.2              | 112.6               | 80.1                |
| 21-Jan      | 91              | 73.3                | 87.1                | 65                  | 61             | 128.1           | 78.5              | 109.8               | 79.1                |
| 28-Jan      | 91              | 73.5                | 87.9                | 65.5                | 61             | 126             | 82.9              | 110.9               | 80                  |
| 4-Feb       | 93              | 73.9                | 88.8                | 66.6                | 63             | 133.7           | 82                | 114                 | 81.4                |
| 11-Feb      | 93              | 72.3                | 89.1                | 65.8                | 62             | 133.7           | 84.1              | 112.1               | 78.7                |
| 18-Feb      | 93              | 72.5                | 89.4                | 66.1                | 63             | 133             | 83.5              | 113.3               | 79.2                |
| 25-Feb      | 93              | 74                  | 89.9                | 66.5                | 64             | 140             | 84                | 117.7               | 81.8                |
| 4-Mar       | 93              | 73.3                | 90.2                | 67.4                | 64             | 142.1           | 83.8              | 119.6               | 82.6                |
| 11-Mar      | 93              | 72.3                | 90.6                | 67.3                | 64             | 137.2           | 85.7              | 114.7               | 81.2                |
| 18-Mar      | 94              | 72.8                | 90                  | 68.2                | 64             | 141.4           | 82.3              | 122.2               | 87.1                |
| 25-Mar      | 93              | 73.7                | 90.1                | 68.3                | 64             | 142.1           | 84.7              | 122.4               | 85.3                |
| 1-Apr       | 93              | 73                  | 90.2                | 69.1                | 65             | 147             | 80                | 125.2               | 89.2                |
| 8-Apr       | 93              | 73.9                | 90.7                | 70.6                | 67             | 142.8           | 85.3              | 129.1               | 95.2                |
| 15-Apr      | 93              | 74                  | 90.4                | 70.7                | 67             | 150.5           | 82.7              | 129.2               | 94.5                |
| 22-Apr      | 93              | 75.3                | 90.1                | 71.2                | 68             | 142.8           | 85.1              | 130.3               | 97.6                |
| 29-Apr      | 93              | 76.3                | 89.7                | 70.7                | 68             | 150.5           | 82.6              | 134.9               | 102.4               |
| 6-May       | 93              | 76.9                | 89                  | 71.9                | 69             | 151.2           | 84.3              | 138.6               | 108.3               |
| 13-May      | 93              | 76.8                | 89.1                | 72.1                | 69             | 151.9           | 85.8              | 140.1               | 108.6               |
| 20-May      | 93              | 75.5                | 88                  | 71.5                | 68             | 151.9           | 85.1              | 140.4               | 109.8               |
| 27-May      | 93              | 77.5                | 86.5                | 71.2                | 68             | 151.9           | 84.8              | 142.5               | 110.8               |
| 4-Jun       | 90              | 77.2                | 85.2                | 70.6                | 68             | 151.2           | 85.1              | 139.4               | 111.4               |
| 10-Jun      | 90              | 78.8                | 85.7                | 70.9                | 68             | 151.2           | 84.5              | 141.6               | 113.3               |
| 17-Jun      | 91              | 78.3                | 86.6                | 70.8                | 68             | 151.9           | 84                | 142                 | 112.6               |
| 24-Jun      | 91              | 77.9                | 86.4                | 70.9                | 68             | 151.2           | 84.3              | 140.5               | 111.3               |
| 1-Jul       | 91              | 78.6                | 86.7                | 70.7                | 68             | 151.2           | 84.1              | 139.5               | 110                 |
| 8-Jul       | 91              | 77.7                | 85.8                | 70                  | 68             | 151.2           | 84.3              | 139.8               | 108.5               |
| 15-Jul      | 91              | 78.2                | 86.8                | 70.4                | 68             | 150.5           | 85.4              | 138.9               | 108.7               |
| 22-Jul      | 91              | 78.6                | 87.3                | 70.5                | 68             | 151.2           | 84.3              | 140.8               | 108.7               |
| 29-Jul      | 91              | 78.4                | 87.9                | 70.4                | 68             | 151.9           | 84.5              | 141.3               | 108                 |
| 5-Aug       | 91              | 78.2                | 87.8                | 70.1                | 68             | 151.9           | 84.3              | 142.5               | 108.8               |
| 12-Aug      | 91              | 78.2                | 86.9                | 69.8                | 68             | 151.9           | 84.3              | 143.4               | 109.3               |
| 19-Aug      | 91              | 78.7                | 87.1                | 70.1                | 67             | 151.2           | 84.4              | 142                 | 109.5               |
| 26-Aug      | 91              | 79                  | 86.6                | 70.6                | 68             | 151.9           | 85.4              | 141.6               | 110.5               |
| 2-Sep       | 90              | 78.9                | 85.6                | 70.4                | 68             | 151.2           | 85.2              | 141.2               | 112.1               |
| 9-Sep       | 90              | 78.8                | 85.7                | 69.9                | 68             | 151.9           | 84.4              | 141.5               | 111.3               |
| 16-Sep      | 90              | 78.9                | 85.8                | 70.2                | 68             | 151.9           | 84.8              | 143                 | 112.9               |
| 23-Sep      | 88              | 78.4                | 85.1                | 69.9                | 68             | 151.9           | 84.2              | 141.9               | 112.4               |
| 30-Sep      | 88              | 78.7                | 84.7                | 69.9                | 68             | 151.9           | 84.8              | 141.2               | 112.6               |
| 7-Oct       | 90              | 78.1                | 85.2                | 69.8                | 68             | 151.9           | 83.7              | 141.6               | 110.2               |
| 14-Oct      | 90              | 78.5                | 85.2                | 69.7                | 68             | 151.9           | 84.7              | 140.6               | 108.7               |
| 21-Oct      | 89              | 76.8                | 84.3                | 69.7                | 67             | 151.9           | 82.9              | 139.1               | 106.5               |
| 28-Oct      | 90              | 78.1                | 85.7                | 68.9                | 64             | 151.9           | 84.6              | 137.5               | 103.9               |
| 4-Nov       | 90              | 75.7                | 86                  | 68.6                | 66             | 150.5           | 84.1              | 132.8               | 99.9                |
| 11-Nov      | 90              | 76.1                | 85.8                | 67.9                | 64             | 142.8           | 82.8              | 127.6               | 95.7                |
| 18-Nov      | 90              | 76                  | 86.4                | 67.8                | 64             | 142.8           | 83.5              | 126.7               | 93.3                |
| 25-Nov      | 90              | 75.9                | 86.1                | 67.1                | 62             | 142.8           | 83.8              | 122.3               | 88.7                |
| 2-Dec       | 91              | 73.7                | 87.1                | 66.9                | 63             | 142.8           | 84.1              | 121.9               | 88.9                |
| 9-Dec       | 90              | 74.6                | 87.2                | 66.3                | 63             | 142.8           | 85.1              | 119.3               | 86.9                |
| 16-Dec      | 90              | 74.8                | 87                  | 66.1                | 61             | 142.8           | 85.4              | 119.1               | 85.9                |
| 23-Dec      | 90              | 74.1                | 87.2                | 66.3                | 62             | 133.7           | 82.3              | 117                 | 84.2                |
| 31-Dec      | 90              | 74.2                | 87.4                | 66.6                | 63             | 134.4           | 83.6              | 115.7               | 84                  |

## Degree Days, Heating and Cooling (Base 65 F) & Cooling (Base 50F)



| Month | Mean Cooling Degree Days (°F) Base 50 | Mean Cooling Degree Days (°F) Base 65 | Mean Heating Degree Days (°F) Base 65 |
|-------|---------------------------------------|---------------------------------------|---------------------------------------|
| JAN   | 719.7                                 | 322                                   | 2.9                                   |
| FEB   | 673.6                                 | 313.3                                 | 1.3                                   |
| MAR   | 745.3                                 | 360.9                                 | 0.7                                   |
| APR   | 769.3                                 | 389.4                                 | 0.1                                   |
| MAY   | 785.6                                 | 384.6                                 | 0                                     |
| JUN   | 720.1                                 | 337.6                                 | 0                                     |
| JUL   | 758.4                                 | 360.4                                 | 0                                     |
| AUG   | 761.3                                 | 357.4                                 | 0                                     |
| SEP   | 683.4                                 | 304.4                                 | 0                                     |
| OCT   | 718.6                                 | 315.2                                 | 0.1                                   |
| NOV   | 716.5                                 | 315.7                                 | 1.2                                   |
| DEC   | 720.5                                 | 317                                   | 2.1                                   |
| ANN   | 8772.3                                | 4077.9                                | 8.4                                   |

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



| Month | Average Sensible Cooling Load (Btu/cfm) | Average Sensible Heating Load (Btu/cfm) | Average Latent Cooling Load (Btu/cfm) | Average Latent Heating Load (Btu/cfm) |
|-------|-----------------------------------------|-----------------------------------------|---------------------------------------|---------------------------------------|
| JAN   | 2963                                    | -252                                    | 5566                                  | 0                                     |
| FEB   | 2934                                    | -136                                    | 5551                                  | 0                                     |
| MAR   | 3969                                    | -84                                     | 8653                                  | 0                                     |
| APR   | 4321                                    | -14                                     | 11981                                 | 0                                     |
| MAY   | 3544                                    | -3                                      | 15170                                 | 0                                     |
| JUN   | 2884                                    | -3                                      | 15202                                 | 0                                     |
| JUL   | 3314                                    | -6                                      | 14855                                 | 0                                     |
| AUG   | 3027                                    | -9                                      | 15748                                 | 0                                     |
| SEP   | 2258                                    | -5                                      | 16549                                 | 0                                     |
| OCT   | 2230                                    | -24                                     | 15748                                 | 0                                     |
| NOV   | 2472                                    | -129                                    | 9917                                  | 0                                     |
| DEC   | 2717                                    | -204                                    | 7566                                  | 0                                     |
| ANN   | 36633                                   | -869                                    | 142506                                | 0                                     |

| Station Information |     | Shading Geometry in Dimensionless Units |     |
|---------------------|-----|-----------------------------------------|-----|
| City, State, WBAN   | N/A | N/A                                     | N/A |
| Lat, Lon, Elev      | N/A | N/A                                     | N/A |
| Press Stn Type      | N/A | N/A                                     | N/A |

| AVERAGE INCIDENT SOLAR RADIATION<br>(Btu/sq.ft./day), Percentage Uncertainty = 9 |          |     |     |     |     |     |     |     |     |     |     |     |     |      |
|----------------------------------------------------------------------------------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|                                                                                  |          | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
| HORIZ.                                                                           | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                  | Std.Dev. |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                  | Minimum  |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                  | Maximum  |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                  | Diffuse  |     |     |     |     |     |     |     |     |     |     |     |     |      |
| Clear Day                                                                        | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |
| NORTH                                                                            | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                  | Diffuse  |     |     |     |     |     |     |     |     |     |     |     |     |      |
| Clear Day                                                                        | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |
| EAST                                                                             | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                  | Diffuse  |     |     |     |     |     |     |     |     |     |     |     |     |      |
| Clear Day                                                                        | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |
| SOUTH                                                                            | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                  | Diffuse  |     |     |     |     |     |     |     |     |     |     |     |     |      |
| Clear Day                                                                        | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |
| WEST                                                                             | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                  | Diffuse  |     |     |     |     |     |     |     |     |     |     |     |     |      |
| Clear Day                                                                        | Global   |     |     |     |     |     |     |     |     |     |     |     |     |      |

**Average Annual Solar Radiation - Nearest Available Site Source: National Renewable Energy Laboratory, Golden CO, 1995**

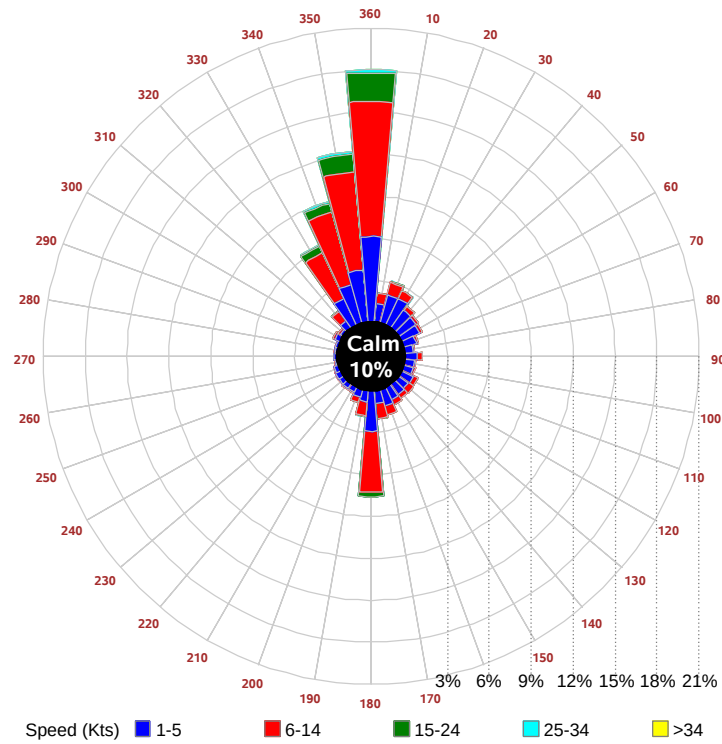
| AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9 |          |     |     |     |     |     |     |     |     |     |     |     |     |      |
|-----------------------------------------------------------------------------------------------------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|                                                                                                     |          | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
| HORIZ.                                                                                              | Unshaded |     |     |     |     |     |     |     |     |     |     |     |     |      |
| NORTH                                                                                               | Unshaded |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                                     | Shaded   |     |     |     |     |     |     |     |     |     |     |     |     |      |
| EAST                                                                                                | Unshaded |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                                     | Shaded   |     |     |     |     |     |     |     |     |     |     |     |     |      |
| SOUTH                                                                                               | Unshaded |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                                     | Shaded   |     |     |     |     |     |     |     |     |     |     |     |     |      |
| WEST                                                                                                | Unshaded |     |     |     |     |     |     |     |     |     |     |     |     |      |
|                                                                                                     | Shaded   |     |     |     |     |     |     |     |     |     |     |     |     |      |

| 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  |       |      |     |     |     |  |      |      |     |     |     |
|                                                                                                                  | M.Cloudy |       |      |     |     |     |  |      |      |     |     |     |
| NORTH                                                                                                            | M.Clear  |       |      |     |     |     |  |      |      |     |     |     |
|                                                                                                                  | M.Cloudy |       |      |     |     |     |  |      |      |     |     |     |
| EAST                                                                                                             | M.Clear  |       |      |     |     |     |  |      |      |     |     |     |
|                                                                                                                  | M.Cloudy |       |      |     |     |     |  |      |      |     |     |     |
| SOUTH                                                                                                            | M.Clear  |       |      |     |     |     |  |      |      |     |     |     |
|                                                                                                                  | M.Cloudy |       |      |     |     |     |  |      |      |     |     |     |
| WEST                                                                                                             | M.Clear  |       |      |     |     |     |  |      |      |     |     |     |
|                                                                                                                  | M.Cloudy |       |      |     |     |     |  |      |      |     |     |     |
| M.Clear                                                                                                          | (% hrs)  |       |      |     |     |     |  |      |      |     |     |     |

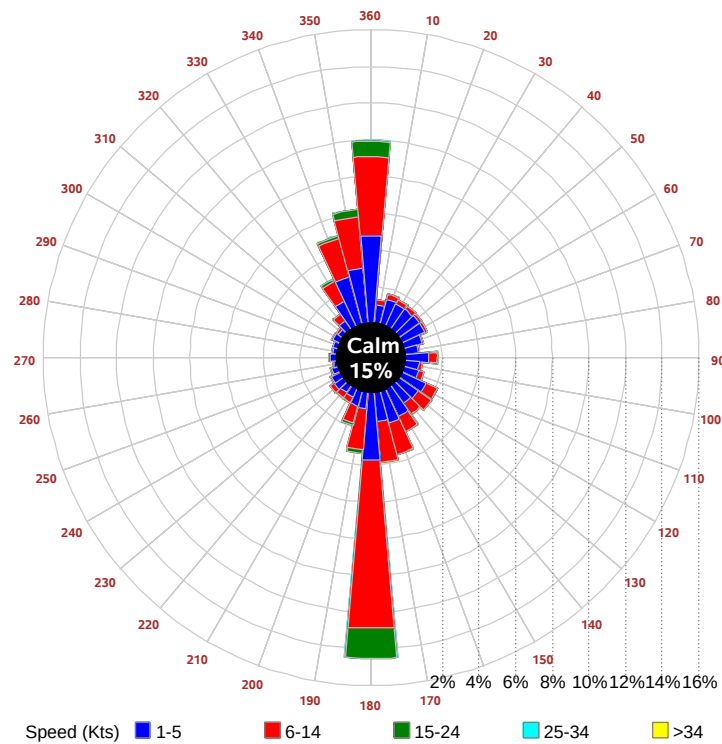
|         |          | Sept |      |     |     |     |  | Dec |      |     |     |     |
|---------|----------|------|------|-----|-----|-----|--|-----|------|-----|-----|-----|
|         |          | 9am  | 11am | 1pm | 3pm | 5pm |  | 9am | 11am | 1pm | 3pm | 5pm |
| HORIZ.  | M.Clear  |      |      |     |     |     |  |     |      |     |     |     |
|         | M.Cloudy |      |      |     |     |     |  |     |      |     |     |     |
| NORTH   | M.Clear  |      |      |     |     |     |  |     |      |     |     |     |
|         | M.Cloudy |      |      |     |     |     |  |     |      |     |     |     |
| EAST    | M.Clear  |      |      |     |     |     |  |     |      |     |     |     |
|         | M.Cloudy |      |      |     |     |     |  |     |      |     |     |     |
| SOUTH   | M.Clear  |      |      |     |     |     |  |     |      |     |     |     |
|         | M.Cloudy |      |      |     |     |     |  |     |      |     |     |     |
| WEST    | M.Clear  |      |      |     |     |     |  |     |      |     |     |     |
|         | M.Cloudy |      |      |     |     |     |  |     |      |     |     |     |
| M.Clear | (% hrs)  |      |      |     |     |     |  |     |      |     |     |     |



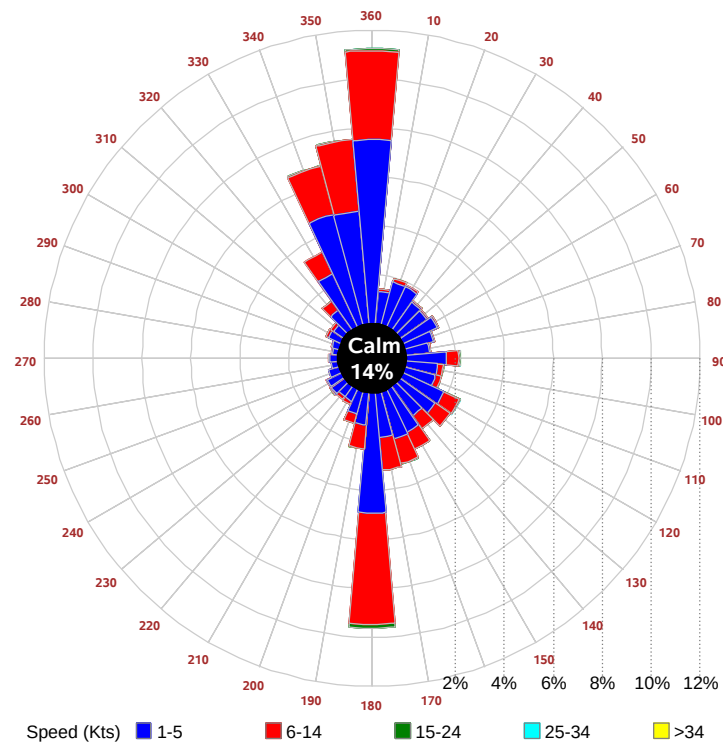
## Wind Summary - December, January, and February



## Wind Summary - March, April, and May



## Wind Summary - June, July, and August



## Wind Summary - September, October, and November

