



# 2021 Solar Radiation Summary

Latitude 25° 34' North, Longitude 80° 28' West, Elevation 2 (m)

Miami, Florida

| Solar Radiation Summary |  |        |        |            |        |        |  |        |        |            |        |        |
|-------------------------|--|--------|--------|------------|--------|--------|--|--------|--------|------------|--------|--------|
| Year                    | Total Solar Radiation (MJ/m <sup>2</sup> ) |        |        |            |        |        | Ultraviolet Solar Radiation (MJ/m <sup>2</sup> ) |        |        |            |        |        |
| 2021                    | Direct                                     |        |        | Underglass |        |        | Direct   |        |        | Underglass |        |        |
| Month                   | 5°   | 26°    | 45°    | 5°         | 26°    | 45°    | 5°   | 26°    | 45°    | 5°         | 26°    | 45°    |
| January                 | 429.7                                      | 587.8  | 589.7  | 362.7      | 473.6  | 527.7  | 22.19  | 28.62  | 27.72  | 13.61      | 18.25  | 19.41  |
| February                | 430.9                                      | 540.6  | 522.6  | 356.1      | 431.5  | 460.5  | 23.02  | 29.18  | 27.43  | 14.02      | 18.14  | 16.39  |
| March                   | 607.3                                      | 704.0  | 649.3  | 473.1      | 547.1  | 536.4  | 30.38  | 38.83  | 36.02  | 18.65      | 24.45  | 22.16  |
| April                   | 635.5                                      | 657.5  | 560.3  | 539.1      | 530.6  | 472.9  | 34.79  | 39.40  | 32.98  | 21.62      | 24.75  | 17.38  |
| May                     | 671.9                                      | 644.4  | 517.3  | 549.6      | 513.6  | 428.8  | 34.73  | 39.95  | 32.62  | 25.49      | 22.59  | 15.91  |
| June                    | 528.7                                      | 500.4  | 399.7  | 424.7      | 398.4  | 335.8  | 29.48  | 29.59  | 22.10  | 18.45      | 18.45  | 14.49  |
| July                    | 582.5                                      | 548.1  | 436.6  | 463.9      | 438.5  | 366.3  | 31.23  | 28.33  | 19.73  | 18.97      | 18.18  | 13.77  |
| August                  | 588.6                                      | 593.4  | 498.7  | 481.6      | 478.7  | 427.3  | 30.29  | 30.11  | 22.74  | 19.37      | 19.65  | 15.59  |
| September               | 496.0                                      | 541.7  | 488.7  | 418.6      | 439.4  | 426.7  | 24.88  | 26.38  | 22.17  | 16.37      | 17.24  | 14.75  |
| October                 | 469.6                                      | 562.2  | 538.1  | 393.3      | 451.5  | 469.5  | 23.20  | 24.53  | 22.55  | 15.07      | 16.27  | 14.99  |
| November                | 394.2                                      | 488.8  | 532.9  | 317.1      | 408.6  | 440.0  | 17.65  | 19.59  | 19.49  | 11.70      | 12.98  | 12.82  |
| December                | 415.6                                      | 522.4  | 633.0  | 333.1      | 451.9  | 513.4  | 17.71  | 19.19  | 20.76  | 11.41      | 12.50  | 13.43  |
| Totals                  | 6250.7                                     | 6891.3 | 6366.9 | 5112.9     | 5563.4 | 5405.4 | 319.55   | 353.70 | 306.33 | 204.74     | 223.44 | 191.07 |

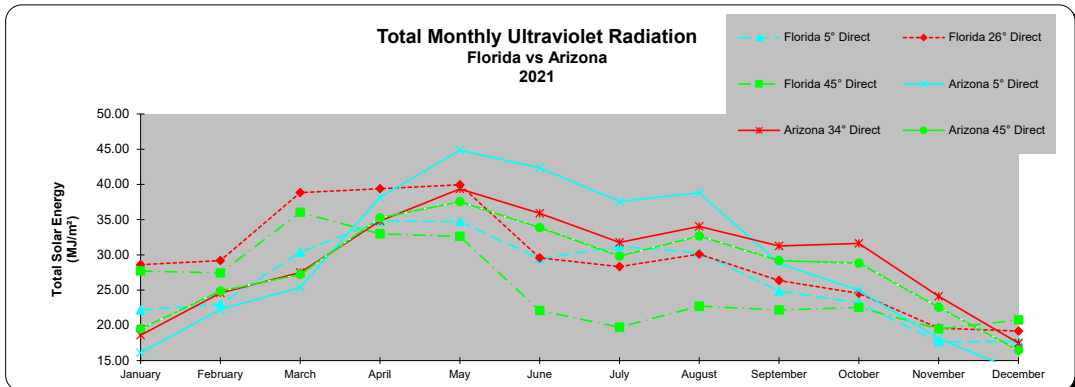
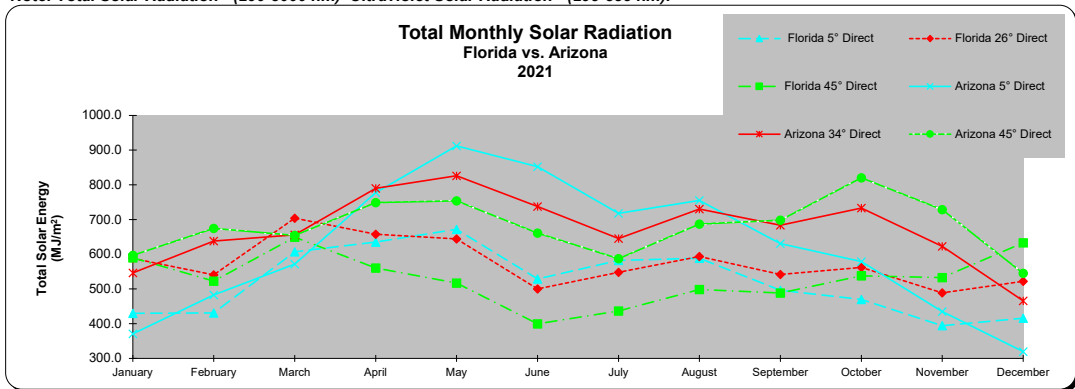
Note: Total Solar Radiation - (290-3000 nm) Ultraviolet Solar Radiation - (295-385 nm).

Latitude 33° 54' North, Longitude 112° 08' West, Elevation 610 (m)

Phoenix, Arizona

| Solar Radiation Summary |  |        |        |            |        |        |  |        |        |            |        |        |                               |         |
|-------------------------|--|--------|--------|------------|--------|--------|--|--------|--------|------------|--------|--------|-------------------------------|---------|
| Year                    | Total Solar Radiation (MJ/m <sup>2</sup> ) |        |        |            |        |        | Ultraviolet Solar Radiation (MJ/m <sup>2</sup> ) |        |        |            |        |        | EMMAQUA™ (MJ/m <sup>2</sup> ) |         |
| 2021                    | Direct                                     |        |        | Underglass |        |        | Direct   |        |        | Underglass |        |        | Total                         | UV      |
| Month                   | 5°   | 34°    | 45°    | 5°         | 34°    | 45°    | 5°   | 34°    | 45°    | 5°         | 34°    | 45°    |                               |         |
| January                 | 370.8                                      | 546.5  | 597.2  | 294.9      | 476.7  | 537.8  | 16.10  | 18.61  | 19.50  | 10.93      | 14.31  | 14.20  | 1698                          | 36.47   |
| February                | 482.9                                      | 637.8  | 674.7  | 397.7      | 558.3  | 609.3  | 22.27  | 24.58  | 24.86  | 15.41      | 18.33  | 17.89  | 3092                          | 90.81   |
| March                   | 571.9                                      | 656.2  | 654.1  | 480.9      | 553.8  | 571.4  | 25.41  | 27.51  | 27.23  | 18.65      | 20.24  | 19.74  | 2461                          | 69.71   |
| April                   | 777.6                                      | 789.9  | 749.1  | 664.0      | 665.8  | 647.5  | 38.18  | 34.82  | 35.26  | 26.54      | 26.14  | 24.04  | 4244                          | 157.57  |
| May                     | 912.3                                      | 826.3  | 753.9  | 780.1      | 706.2  | 661.8  | 44.88  | 39.37  | 37.55  | 30.82      | 28.33  | 24.80  | 4245                          | 131.59  |
| June                    | 852.5                                      | 737.6  | 661.0  | 729.3      | 629.0  | 578.1  | 42.33  | 35.89  | 33.88  | 28.68      | 25.68  | 21.88  | 3893                          | 127.87  |
| July                    | 717.7                                      | 645.5  | 587.2  | 610.1      | 549.6  | 515.9  | 37.59  | 31.76  | 29.83  | 25.15      | 23.13  | 19.56  | 1574                          | 58.34   |
| August                  | 755.3                                      | 730.5  | 687.2  | 636.3      | 624.8  | 607.1  | 38.81  | 34.03  | 32.70  | 26.20      | 25.55  | 21.56  | 3190                          | 117.54  |
| September               | 630.7                                      | 683.8  | 698.1  | 526.0      | 570.0  | 591.0  | 28.80  | 31.26  | 29.19  | 19.91      | 21.00  | 19.45  | 3193                          | 107.47  |
| October                 | 579.0                                      | 733.3  | 820.4  | 472.2      | 636.1  | 686.7  | 24.99  | 31.62  | 28.85  | 17.53      | 19.71  | 19.69  | 3173                          | 95.68   |
| November                | 435.1                                      | 623.0  | 728.4  | 342.9      | 544.1  | 612.5  | 18.12  | 24.11  | 22.58  | 12.53      | 15.05  | 15.47  | 2362                          | 62.61   |
| December                | 319.7                                      | 465.9  | 545.1  | 248.4      | 401.8  | 453.3  | 13.49  | 17.49  | 16.44  | 9.32       | 10.94  | 11.27  | 1705                          | 39.23   |
| Totals                  | 7405.5                                     | 8076.3 | 8156.6 | 6182.9     | 6916.1 | 7072.3 | 350.96   | 351.04 | 337.87 | 241.66     | 248.42 | 229.52 | 34829                         | 1094.89 |

Note: Total Solar Radiation - (290-3000 nm) Ultraviolet Solar Radiation - (295-385 nm).



Latitude 25° 34' North, Longitude 80° 28' West, Elevation 2 (m)

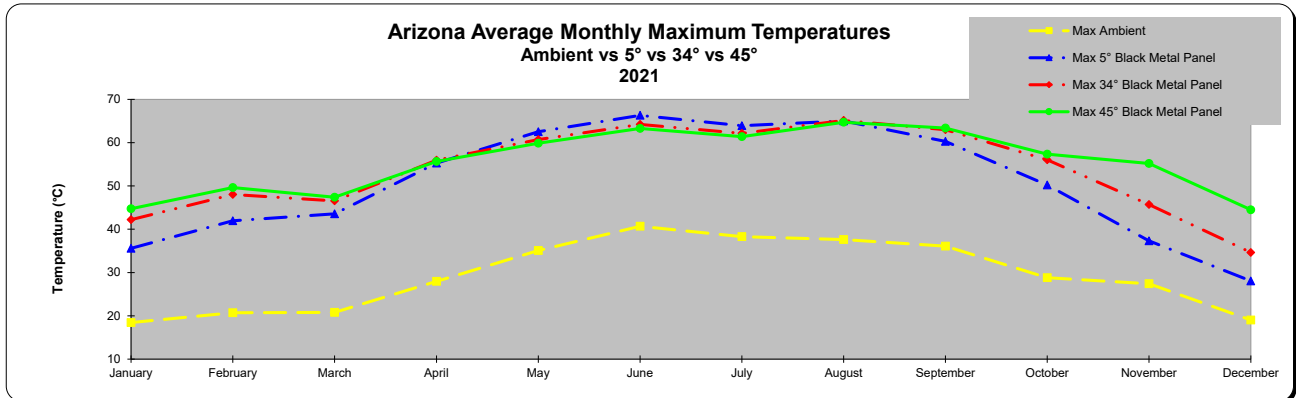
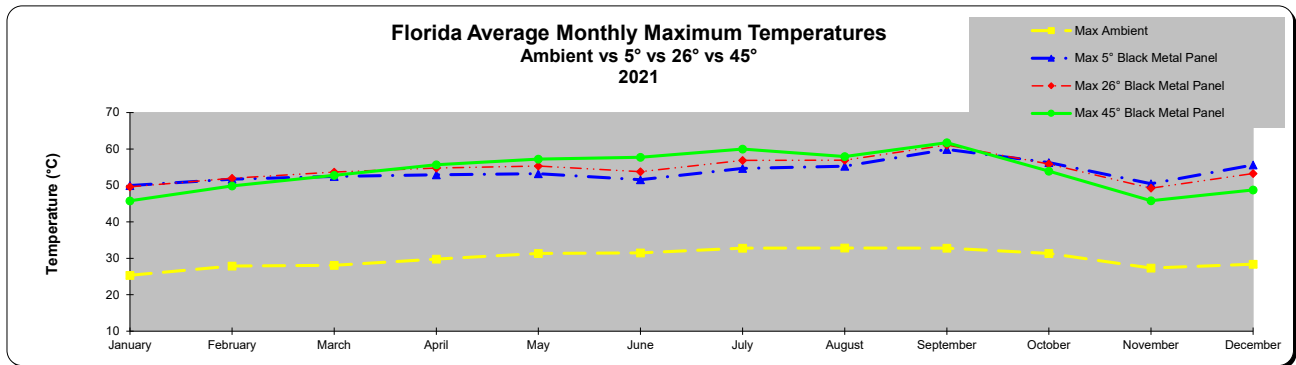
| AWSG           | Temperature Summary |           |           |   |           |           |           |           |           |           |           | Climate Summary |                   |           |           |             |            |                |               |
|----------------|---------------------|-----------|-----------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------|-------------------|-----------|-----------|-------------|------------|----------------|---------------|
| Year           | Ambient Temperature |           |           | Black Metal Panel Temperature (ASTM G179) (° C) |           |           |           |           |           |           |           |                 | Relative Humidity |           |           | Wind Speed  |            | Wind Direction | Rainfall      |
| 2021           | (° C)               |           |           | 5 °   |           |           | 26 °      |           |           | 45 °      |           |                 | (%)               |           |           | (Km / hr)   |            | 360°/0°=N      | (mm)          |
| Month          | Max                 | Min       | Avg.      | Max   | Min       | Avg.      | Max       | Min       | Avg.      | Max       | Min       | Avg.            | Max               | Min       | Avg.      | Max         | Avg.       | Avg            |               |
| January        | 25                  | 12        | 18        | 50  | 11        | 23        | 50        | 11        | 22        | 46        | 11        | 21              | 97                | 49        | 79        | 16.6        | 0.1        | 169°           | 5.6           |
| February       | 28                  | 17        | 22        | 52  | 16        | 26        | 52        | 16        | 26        | 50        | 16        | 25              | 96                | 56        | 82        | 20.1        | 0.5        | 147°           | 82.8          |
| March          | 28                  | 17        | 22        | 52  | 15        | 26        | 54        | 15        | 27        | 53        | 16        | 27              | 94                | 49        | 75        | 20.1        | 0.5        | 6°             | 64.0          |
| April          | 30                  | 18        | 24        | 53  | 16        | 28        | 55        | 16        | 28        | 56        | 18        | 30              | 95                | 47        | 73        | 20.1        | 0.5        | 6°             | 62.9          |
| May            | 31                  | 22        | 26        | 53  | 20        | 30        | 55        | 20        | 30        | 57        | 20        | 34              | 89                | 46        | 70        | 5.7         | 2.1        | 118°           | 37.6          |
| June           | 31                  | 23        | 27        | 52  | 22        | 30        | 54        | 22        | 30        | 58        | 23        | 34              | 96                | 59        | 82        | 19.2        | 0.2        | 118°           | 289.8         |
| July           | 33                  | 23        | 27        | 55  | 22        | 31        | 57        | 22        | 31        | 60        | 16        | 34              | 98                | 55        | 82        | 5.3         | 0.0        | 131°           | 243.1         |
| August         | 33                  | 24        | 28        | 55  | 23        | 32        | 57        | 23        | 32        | 58        | 20        | 34              | 95                | 55        | 79        | 5.2         | 0.1        | 119°           | 172.5         |
| September      | 33                  | 22        | 26        | 60  | 7         | 30        | 61        | 21        | 30        | 62        | 18        | 31              | 99                | 54        | 85        | 5.1         | 0.0        | 143°           | 356.4         |
| October        | 31                  | 21        | 26        | 56  | 20        | 29        | 56        | 20        | 29        | 54        | 20        | 29              | 96                | 52        | 79        | 5.0         | 0.0        | 133°           | 70.6          |
| November       | 27                  | 17        | 22        | 50  | 15        | 25        | 49        | 15        | 25        | 46        | 15        | 24              | 94                | 52        | 78        | 4.4         | 3.0        | 173°           | 104.1         |
| December       | 28                  | 17        | 22        | 56  | 15        | 26        | 53        | 15        | 25        | 49        | 15        | 24              | 96                | 52        | 81        | 4.5         | 2.7        | 122°           | 32.5          |
| <b>Average</b> | <b>30</b>           | <b>20</b> | <b>24</b> | <b>54</b>                                       | <b>17</b> | <b>28</b> | <b>54</b> | <b>18</b> | <b>28</b> | <b>54</b> | <b>17</b> | <b>29</b>       | <b>96</b>         | <b>52</b> | <b>79</b> | <b>10.9</b> | <b>0.8</b> | <b>115°</b>    |               |
| <b>Total</b>   |                     |           |           |   |           |           |           |           |           |           |           |                 |                   |           |           |             |            |                | <b>1521.9</b> |

NOTE: All values are expressed as an average over each month period.

Latitude 33° 54' North, Longitude 112° 08' West, Elevation 610 (m)

| AWSG           | Temperature Summary |           |           |   |           |           |           |           |           |           |           | Climate Summary |                   |           |           |            |            |                |              |
|----------------|---------------------|-----------|-----------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------|-------------------|-----------|-----------|------------|------------|----------------|--------------|
| Year           | Ambient Temperature |           |           | Black Metal Panel Temperature (ASTM G179) (° C) |           |           |           |           |           |           |           |                 | Relative Humidity |           |           | Wind Speed |            | Wind Direction | Rainfall     |
| 2021           | (° C)               |           |           | 5 °   |           |           | 34 °      |           |           | 45 °      |           |                 | (%)               |           |           | (Km / hr)  |            | 360°/0°=N      | (mm)         |
| Month          | Max                 | Min       | Avg.      | Max   | Min       | Avg.      | Max       | Min       | Avg.      | Max       | Min       | Avg.            | Max               | Min       | Avg.      | Max        | Avg.       | Avg            |              |
| January        | 18                  | 7         | 12        | 36  | 4         | 14        | 42        | 4         | 14        | 45        | 5         | 16              | 51                | 24        | 37        | 9.7        | 2.3        | 60°            | 68.1         |
| February       | 21                  | 8         | 14        | 42  | 5         | 17        | 48        | 6         | 18        | 50        | 6         | 19              | 41                | 16        | 27        | 9.6        | 2.3        | 100°           | 0.0          |
| March          | 21                  | 9         | 15        | 44  | 7         | 18        | 47        | 7         | 19        | 47        | 8         | 19              | 73                | 31        | 52        | 8.4        | 1.9        | 86°            | 86.6         |
| April          | 28                  | 13        | 21        | 55  | 11        | 26        | 56        | 11        | 26        | 56        | 11        | 26              | 49                | 16        | 31        | 9.1        | 1.9        | 112°           | 0.3          |
| May            | 35                  | 20        | 28        | 63  | 17        | 33        | 61        | 17        | 33        | 60        | 17        | 33              | 29                | 9         | 17        | 9.0        | 1.9        | 151°           | 2.3          |
| June           | 41                  | 25        | 34        | 66  | 22        | 39        | 64        | 23        | 38        | 63        | 23        | 38              | 24                | 9         | 15        | 9.4        | 2.1        | 158°           | 1.5          |
| July           | 38                  | 26        | 32        | 64  | 24        | 37        | 62        | 24        | 37        | 61        | 25        | 37              | 65                | 28        | 44        | 10.0       | 1.8        | 181°           | 101.9        |
| August         | 38                  | 26        | 32        | 65  | 24        | 37        | 65        | 24        | 37        | 65        | 24        | 37              | 59                | 26        | 41        | 8.9        | 1.7        | 113°           | 32.0         |
| September      | 36                  | 24        | 30        | 60  | 21        | 34        | 63        | 22        | 35        | 63        | 22        | 35              | 54                | 22        | 37        | 8.2        | 1.7        | 76°            | 30.2         |
| October        | 29                  | 16        | 22        | 50  | 13        | 25        | 56        | 14        | 27        | 57        | 14        | 27              | 45                | 18        | 30        | 9.6        | 2.4        | 190°           | 10.2         |
| November       | 27                  | 15        | 20        | 37  | 13        | 21        | 46        | 13        | 22        | 55        | 13        | 25              | 31                | 14        | 22        | 9.8        | 2.7        | 279°           | 0.0          |
| December       | 19                  | 9         | 13        | 28  | 7         | 14        | 35        | 6         | 15        | 45        | 7         | 17              | 62                | 30        | 46        | 8.4        | 2.0        | 204°           | 56.4         |
| <b>Average</b> | <b>29</b>           | <b>16</b> | <b>23</b> | <b>51</b>                                       | <b>14</b> | <b>26</b> | <b>54</b> | <b>14</b> | <b>27</b> | <b>56</b> | <b>15</b> | <b>27</b>       | <b>49</b>         | <b>20</b> | <b>33</b> | <b>9.2</b> | <b>2.1</b> | <b>143°</b>    |              |
| <b>Total</b>   |                     |           |           |   |           |           |           |           |           |           |           |                 |                   |           |           |            |            |                | <b>389.4</b> |

NOTE: All values are expressed as an average over each month period.

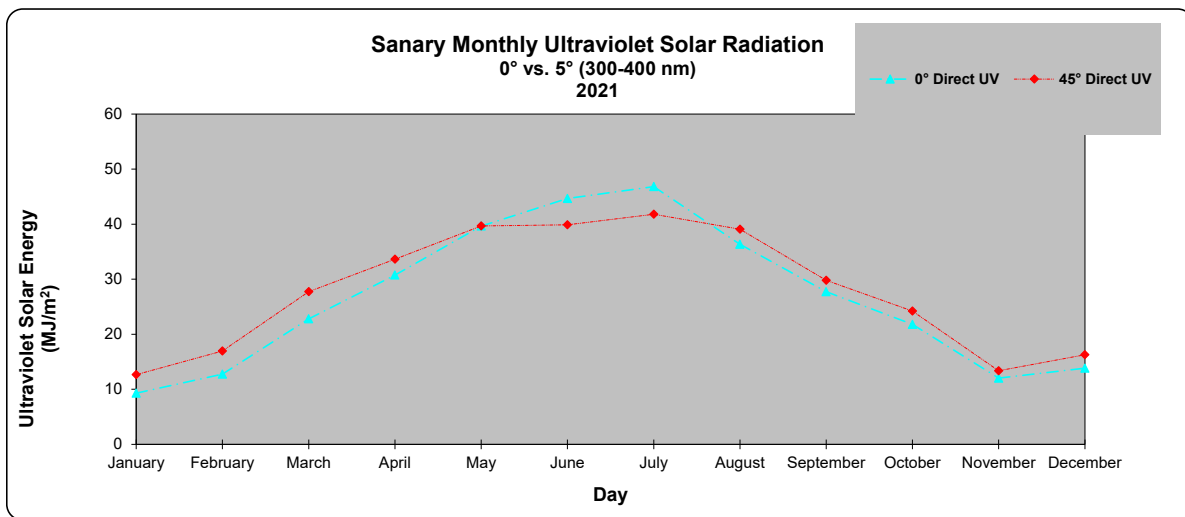
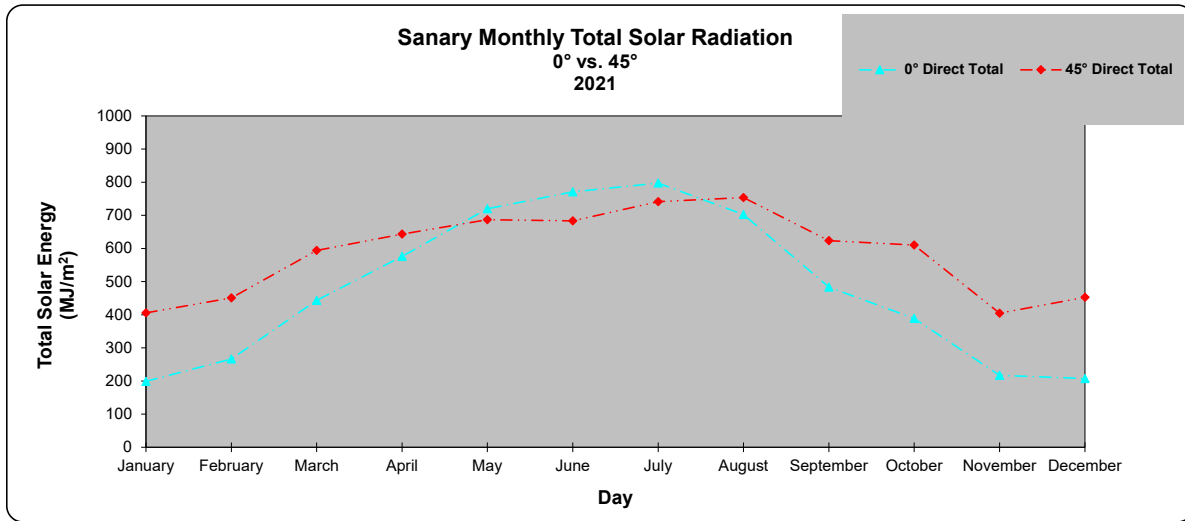


## 2021 Solar Radiation Summary Sanary sur Mer, France

Latitude 43° 08' North, Longitude 05° 49' East, Elevation 110 (m)

| Solar Radiation Summary |  |               |  |               |               |               |
|-------------------------|--|---------------|--|---------------|---------------|---------------|
| Year                    | Total Solar Radiation (MJ/m <sup>2</sup> ) |               | Ultraviolet Solar Radiation (MJ/m <sup>2</sup> ) |               |               |               |
|                         | Direct                                     |               | 295-385 nm                                       |               | 300-400 nm    |               |
| Month                   | 0°   | 45°           | 0°   | 45°           | 0°            | 45°           |
| January                 | 198.9                                      | 405.8         | 7.31   | 10.02         | 9.30          | 12.66         |
| February                | 266.6                                      | 450.5         | 9.92   | 13.23         | 12.76         | 16.95         |
| March                   | 443.1                                      | 593.8         | 17.74  | 21.76         | 22.79         | 27.74         |
| April                   | 576.2                                      | 643.3         | 23.76  | 26.23         | 30.75         | 33.65         |
| May                     | 720.0                                      | 686.8         | 30.69  | 30.78         | 39.65         | 39.68         |
| June                    | 770.6                                      | 683.5         | 34.00  | 30.36         | 44.68         | 39.89         |
| July                    | 797.3                                      | 741.3         | 35.63  | 31.81         | 46.82         | 41.80         |
| August                  | 702.6                                      | 753.6         | 27.66  | 29.74         | 36.35         | 39.08         |
| September               | 483.4                                      | 623.8         | 21.10  | 22.69         | 27.73         | 29.82         |
| October                 | 388.9                                      | 610.1         | 16.59  | 18.43         | 21.80         | 24.22         |
| November                | 217.3                                      | 404.6         | 9.16   | 10.18         | 12.04         | 13.38         |
| December                | 207.4                                      | 452.8         | 10.53  | 12.39         | 13.84         | 16.28         |
| <b>Totals</b>           | <b>5564.9</b>                              | <b>6597.2</b> | <b>259.38</b>                                    | <b>273.88</b> | <b>278.83</b> | <b>290.21</b> |

Note: Total Solar Radiation - (295-3000 nm) Ultraviolet Solar Radiation - (295-385 nm) or (300-400 nm).

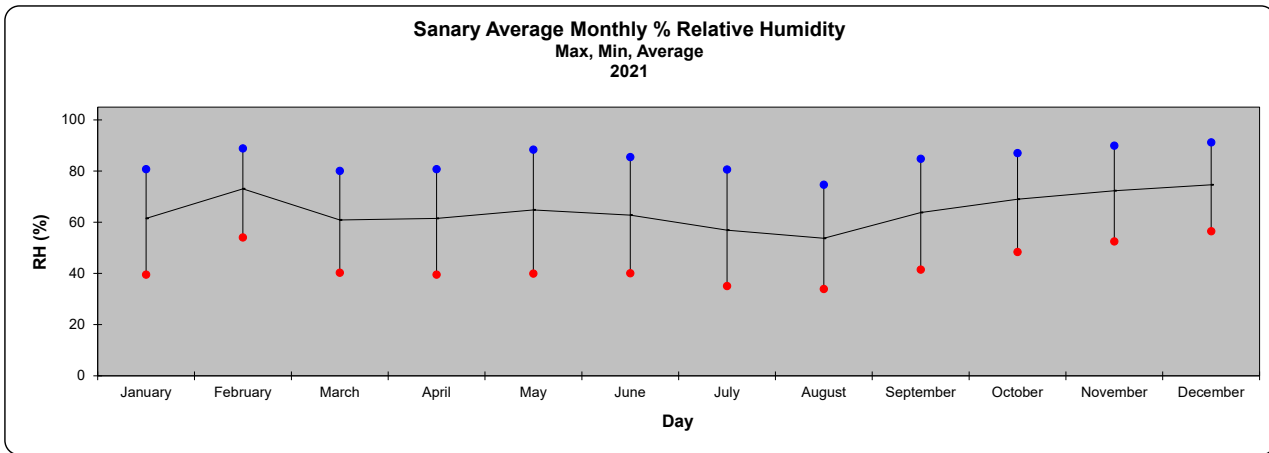
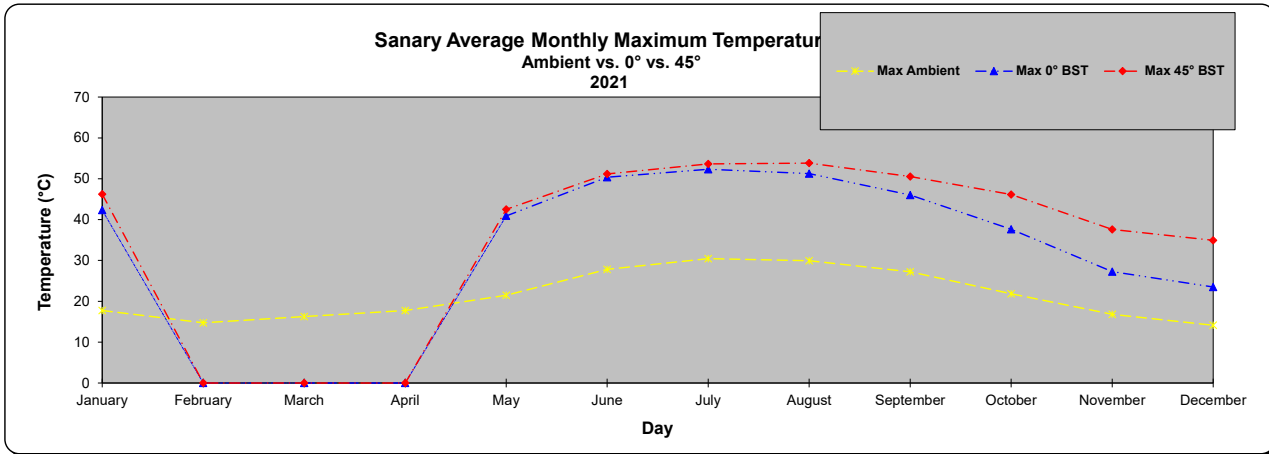


Latitude 43° 08' North, Longitude 05° 49' East, Elevation 110 (m)

**Sanary sur Mer, France**

| AWSG<br>Year | Temperature Summary |     |      |                                     |     |     |     |     |     |                                  |     |     |     |     |     |  |     |     | Climate Summary   |     |     |            |     |                |           |      |      |       |
|--------------|---------------------|-----|------|-------------------------------------|-----|-----|-----|-----|-----|----------------------------------|-----|-----|-----|-----|-----|--|-----|-----|-------------------|-----|-----|------------|-----|----------------|-----------|------|------|-------|
|              | Ambient Temperature |     |      | Black Standard Temperature (°C) BST |     |     |     |     |     | Black Panel Temperature (°C) BPT |     |     |     |     |     | Black Metal Panel Temperature (ASTM G179) (°C) |     |     | Relative Humidity |     |     | Wind Speed |     | Wind Direction | Rainfall  |      |      |       |
|              | °C                  |     |      | 0°                                  |     |     | 45° |     |     | 0°                               |     |     | 45° |     |     | 0°   |     |     | 45°               |     |     | %          |     | (Km / hr)      | 360°/0°=N | (mm) |      |       |
|              | Max                 | Min | Avg. | Max                                 | Min | AVG | Max | Min | AVG | Max                              | Min | AVG | Max | Min | AVG | Max  | Min | AVG | Max               | Min | AVG | Max        | Min | Avg.           | Max       | Avg. | Avg  |       |
| 2021         | 18                  | 8   | 13   | 42                                  | 10  | 18  | 46  | 10  | 17  | 41                               | 10  | 17  | 43  | 9   | 16  | 48   | 10  | 17  | 50                | 10  | 18  | 81         | 40  | 61             | 6.2       | 1.1  | 148° | 96.0  |
| January      | 15                  | 8   | 11   | *                                   | *   | *   | *   | *   | *   | *                                | *   | *   | *   | *   | *   | *  | *   | *   | *                 | *   | *   | 89         | 54  | 73             | 6.8       | 1.4  | 156° | 18.5  |
| February     | 16                  | 7   | 11   | *                                   | *   | *   | *   | *   | *   | *                                | *   | *   | *   | *   | *   | *  | *   | *   | *                 | *   | *   | 80         | 40  | 61             | 5.8       | 1.1  | 169° | 0.0   |
| March        | 18                  | 8   | 13   | *                                   | *   | *   | *   | *   | *   | *                                | *   | *   | *   | *   | *   | *  | *   | *   | *                 | *   | *   | 81         | 40  | 61             | 6.2       | 1.1  | 148° | 96.0  |
| April        | 21                  | 12  | 16   | 41                                  | 9   | 21  | 43  | 9   | 21  | *                                | *   | *   | 38  | 9   | 19  | 43   | *   | *   | 44                | 10  | 21  | 88         | 40  | 65             | 6.8       | 1.2  | 223° | 61.7  |
| May          | 28                  | 17  | 23   | 50                                  | 15  | 29  | 51  | 15  | 28  | 46                               | 15  | 27  | 46  | 14  | 26  | 52   | *   | *   | 52                | 15  | 28  | 85         | 40  | 63             | 5.9       | 1.1  | 175° | 4.6   |
| June         | 30                  | 19  | 24   | 52                                  | 17  | 30  | 54  | 17  | 30  | 48                               | 16  | 28  | 48  | 16  | 28  | 54   | 17  | 30  | 55                | 17  | 30  | 81         | 35  | 57             | 6.1       | 1.1  | 223° | 0.3   |
| July         | 30                  | 19  | 24   | 51                                  | 16  | 29  | 54  | 16  | 29  | 46                               | 16  | 27  | 48  | 15  | 27  | 53   | 16  | 29  | 55                | 17  | 29  | 75         | 34  | 54             | 6.2       | 1.0  | 229° | 6.1   |
| August       | 27                  | 18  | 22   | 46                                  | 15  | 26  | 51  | 15  | 27  | 42                               | 15  | 24  | 47  | 15  | 25  | 47   | 15  | 25  | 52                | 16  | 27  | 85         | 42  | 64             | 6.1       | 1.1  | 158° | 35.1  |
| September    | 22                  | 13  | 17   | 38                                  | 11  | 19  | 46  | 10  | 21  | 36                               | 11  | 19  | 43  | 10  | 20  | 39   | 11  | 19  | 48                | 11  | 21  | 87         | 48  | 69             | 5.8       | 1.2  | 138° | 119.9 |
| October      | 17                  | 9   | 12   | 27                                  | 7   | 13  | 38  | 6   | 15  | 31                               | 7   | 13  | 35  | 6   | 14  | 29   | 7   | 13  | 41                | 7   | 15  | 90         | 53  | 72             | 5.9       | 1.0  | 145° | 147.6 |
| November     | 14                  | 6   | 10   | 24                                  | 4   | 10  | 35  | 4   | 12  | 21                               | 4   | 10  | 32  | 3   | 11  | 24   | 3   | 10  | 36                | 4   | 13  | 91         | 56  | 75             | 5.8       | 0.9  | 175° | 56.1  |
| December     | 22                  | 13  | 17   | 44                                  | 13  | 23  | 48  | 12  | 23  | 41                               | 13  | 22  | 43  | 12  | 22  | 45   | 13  | 22  | 50                | 13  | 24  | 84         | 42  | 64             | 6.2       | 1.1  | 174° |       |
| Average      | 22                  | 13  | 17   | 44                                  | 13  | 23  | 48  | 12  | 23  | 41                               | 13  | 22  | 43  | 12  | 22  | 45   | 13  | 22  | 50                | 13  | 24  | 84         | 42  | 64             | 6.2       | 1.1  | 174° | 641.8 |
| Total        |                     |     |      |                                     |     |     |     |     |     |                                  |     |     |     |     |     |  |     |     |                   |     |     |            |     |                |           |      |      |       |

NOTE: All values are expressed as an average over each month period. \* No data available



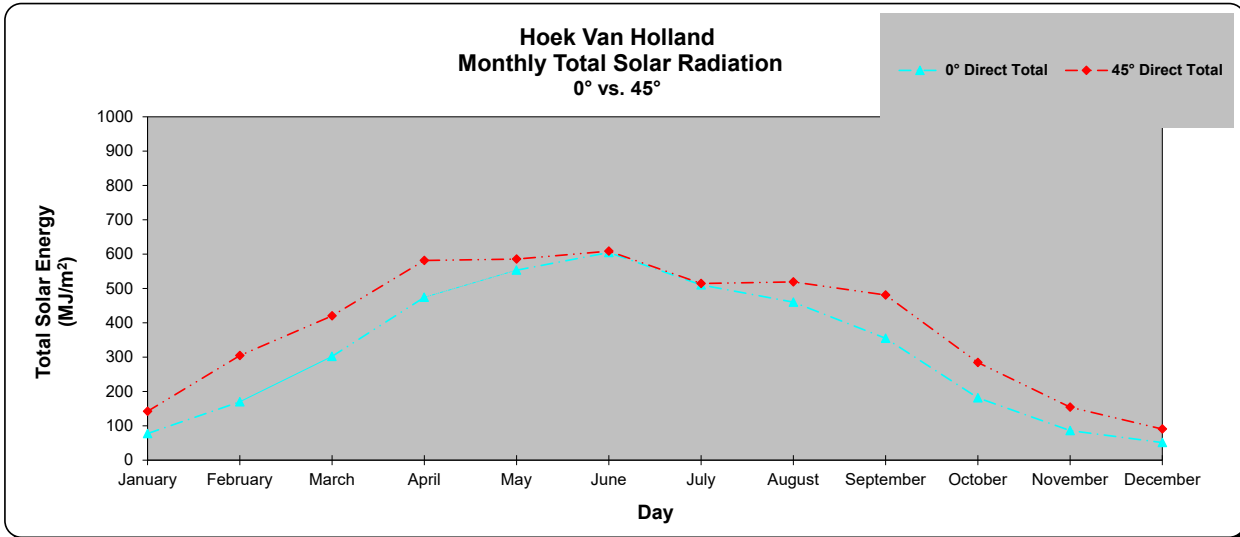


North Sea Corrosion Test Centre  
**2021 Solar Radiation Summary**  
**Hoek van Holland, The Netherlands**

Latitude 51° 57' North, Longitude 04° 10' East Elevation 6 (m)

| AWSG          | Solar Radiation Summary       |               |
|---------------|-------------------------------|---------------|
| Year          | Total Solar Radiation (MJ/m2) |               |
| 2021          | Direct                        |               |
| Month         | 0°                            | 45°           |
| January       | 77.3                          | 142.1         |
| February      | 170.1                         | 304.6         |
| March         | 302.2                         | 420.4         |
| April         | 474.3                         | 581.4         |
| May           | 553.5                         | 585.7         |
| June          | 604.8                         | 608.8         |
| July          | 510.7                         | 514.3         |
| August        | 460.4                         | 519.1         |
| September     | 354.7                         | 481.2         |
| October       | 181.5                         | 284.3         |
| November      | 86.3                          | 154.6         |
| December      | 51.3                          | 90.6          |
| <b>Totals</b> | <b>3827.0</b>                 | <b>4687.1</b> |

Note: Total Solar Radiation - (295-3000 nm)



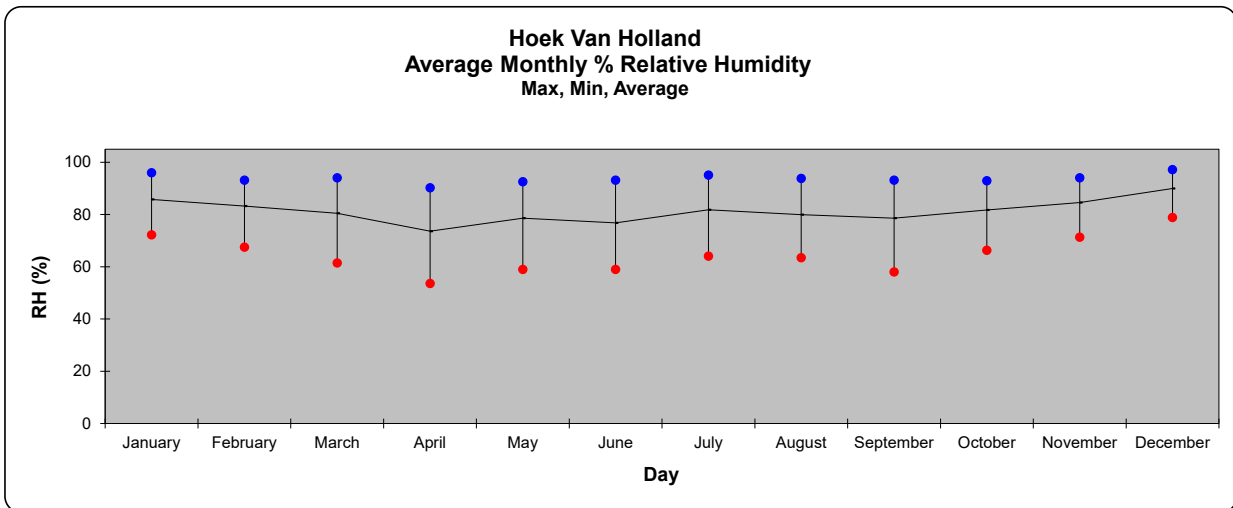
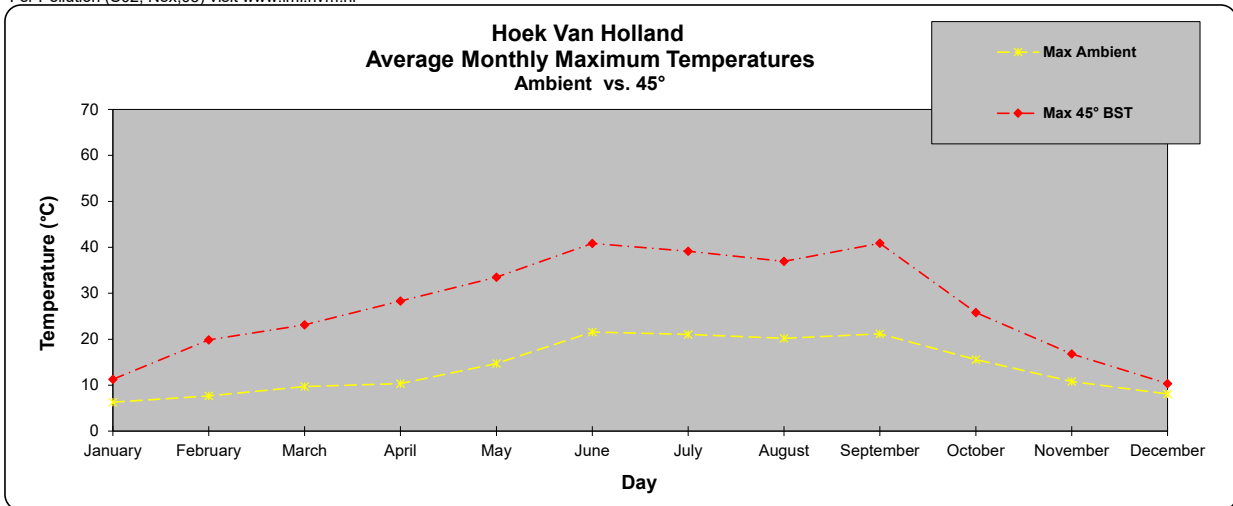
**North Sea Corrosion Test Centre**

**Hoek van Holland, The Netherlands**

Latitude 51° 57' North, Longitude 04° 10' East Elevation 6 (m)

| Year           | Temperature Summary |          |           |  |          |           | Climate Summary   |           |           |            |            |                |              |
|----------------|---------------------|----------|-----------|--|----------|-----------|-------------------|-----------|-----------|------------|------------|----------------|--------------|
|                | Ambient Temperature |          |           | Black Standard Temperature<br>BST (°C) |          |           | Relative Humidity |           |           | Wind Speed |            | Wind Direction | Rainfall     |
| 2021           | (° C)               |          |           | 45°                                    |          |           | (%)               |           |           | M/s        |            | 360°/0°=N      | (mm)         |
| Month          | Max                 | Min      | Avg.      | Max                                    | Min      | AVG       | Max               | Min       | Avg.      | Max        | Avg.       | Avg            |              |
| January        | 6                   | 2        | 4         | 11                                     | -3       | 1         | 96                | 72        | 86        | 10.3       | 4.3        | 189°           | 87.1         |
| February       | 8                   | 2        | 4         | 20                                     | -4       | 3         | 93                | 68        | 83        | 9.3        | 3.8        | 125°           | 39.1         |
| March          | 10                  | 4        | 7         | 23                                     | -2       | 6         | 94                | 61        | 80        | 10.2       | 4.2        | 218°           | 35.6         |
| April          | 10                  | 3        | 7         | 28                                     | -3       | 7         | 90                | 54        | 74        | 10.0       | 4.1        | 245°           | 59.4         |
| May            | 15                  | 8        | 11        | 33                                     | 3        | 12        | 93                | 59        | 79        | 11.1       | 4.2        | 202°           | 93.5         |
| June           | 22                  | 14       | 18        | 41                                     | 8        | 20        | 93                | 59        | 77        | 7.8        | 2.8        | 237°           | 89.9         |
| July           | 21                  | 15       | 18        | 39                                     | 10       | 19        | 95                | 64        | 82        | 8.7        | 3.4        | 193°           | 69.6         |
| August         | 20                  | 15       | 18        | 37                                     | 10       | 18        | 94                | 63        | 80        | 9.5        | 3.8        | 225°           | 56.4         |
| September      | 21                  | 13       | 17        | 41                                     | 8        | 18        | 93                | 58        | 79        | 7.7        | 2.8        | 142°           | 19.3         |
| October        | 16                  | 11       | 13        | 26                                     | 6        | 11        | 93                | 66        | 82        | 10.9       | 4.6        | 193°           | 145.3        |
| November       | 11                  | 7        | 9         | 17                                     | 2        | 6         | 94                | 71        | 85        | 9.6        | 3.9        | 193°           | 86.9         |
| December       | 8                   | 4        | 6         | 10                                     | -1       | 3         | 97                | 79        | 90        | 9.9        | 4.1        | 161°           | 77.2         |
| <b>Average</b> | <b>14</b>           | <b>8</b> | <b>11</b> | <b>27</b>                              | <b>3</b> | <b>10</b> | <b>94</b>         | <b>65</b> | <b>81</b> | <b>9.6</b> | <b>3.8</b> | <b>194°</b>    |              |
| <b>Total</b>   |                     |          |           |  |          |           |                   |           |           |            |            |                | <b>859.2</b> |

NOTE: All values are expressed as an average over each month period.  
For Pollution (SO2, NOx, O3) visit [www.lml.rivm.nl](http://www.lml.rivm.nl)

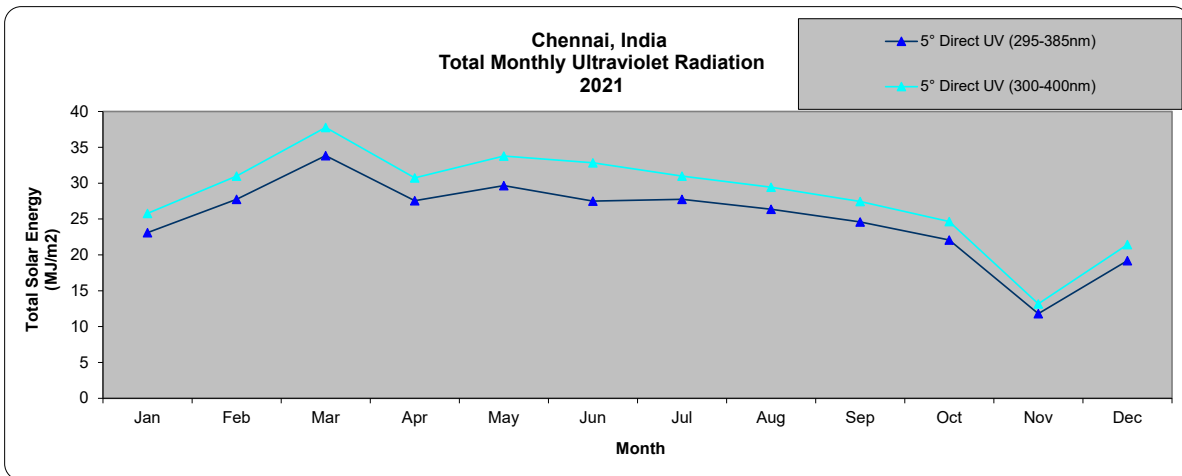
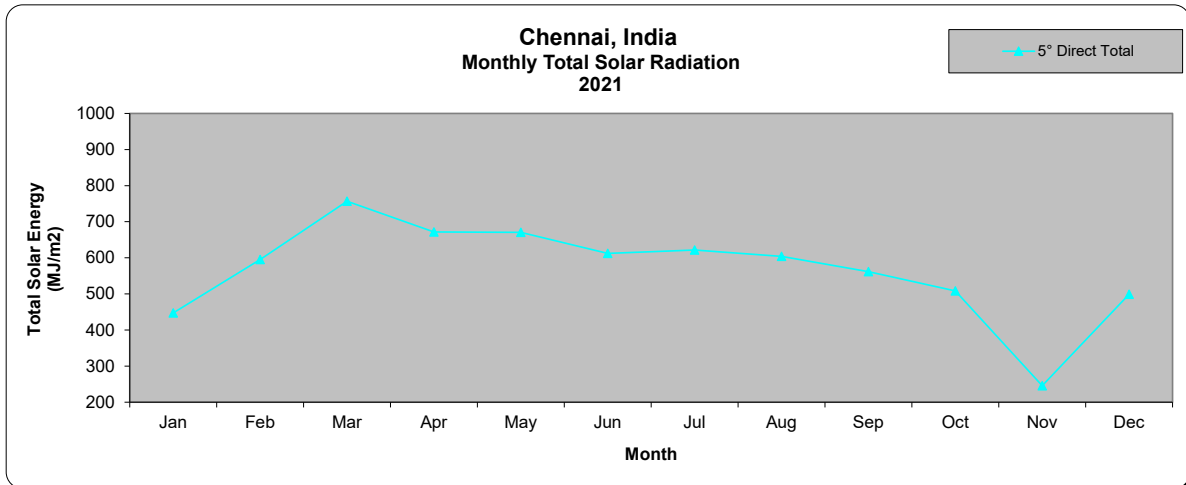


## 2021 Solar Radiation Summary Chennai, India

Latitude 12° 35' North, Longitude 79° 48' East Elevation 45 (m)

| Year  | Solar Radiation Summary                    |  |            |
|-------|--|--|------------|
|       | Total Solar Radiation (MJ/m <sup>2</sup> ) | Ultraviolet Solar Radiation (MJ/m <sup>2</sup> ) |            |
| 2021  | Direct                                     |  |            |
|       | 295-3000 nm                                | 295-385 nm                                       | 300-400 nm |
| Month | 5°   |  |            |
| Jan   | 447.2                                      | 23.10  | 25.78      |
| Feb   | 595.4                                      | 27.75  | 30.98      |
| Mar   | 756.7                                      | 33.84  | 37.78      |
| Apr   | 671.5                                      | 27.55  | 30.75      |
| May   | 670.8                                      | 29.66  | 33.80      |
| Jun   | 612.4                                      | 27.50  | 32.85      |
| Jul   | 621.8                                      | 27.75  | 30.98      |
| Aug   | 603.9                                      | 26.38  | 29.45      |
| Sep   | 561.5                                      | 24.59  | 27.45      |
| Oct   | 508.2                                      | 22.09  | 24.66      |
| Nov   | 245.7                                      | 11.81  | 13.18      |
| Dec   | 498.9                                      | 19.21  | 21.44      |
| YTD   | 6793.8                                     | 301.21   | 339.07     |

Note: Total Solar Radiation - (295-3000 nm) Ultraviolet Solar Radiation - (295-385 nm) or (300-400 nm).





# 2021 Weather Summary

Latitude 12° 35' North, Longitude 79° 48' East Elevation 45 (m)

## Chennai, India

| Year  | Temperature Summary |     |      |  |     |     | Climate Summary   |     |      |            |      |                |          |
|-------|---------------------|-----|------|--|-----|-----|-------------------|-----|------|------------|------|----------------|----------|
|       | Ambient Temperature |     |      | Black Metal Panel Temperature (ASTM G179) (°C) |     |     | Relative Humidity |     |      | Wind Speed |      | Wind Direction | Rainfall |
| 2021  | ° C                 |     |      | 5 °  |     |     | %                 |     |      | M/s        |      | 360°/0°=N      | (mm)     |
| Month | Max                 | Min | Avg. | Max  | Min | Avg | Max               | Min | Avg. | Max        | Avg. | Avg            |          |
| Jan   | 30                  | 23  | 26   | 51   | 21  | 28  | 99                | 60  | 86   | 4.4        | 0.9  | 152°           | 89.9     |
| Feb   | 32                  | 21  | 25   | 56   | 18  | 29  | 99                | 44  | 79   | 4.3        | 0.9  | 112°           | 20.8     |
| Mar   | 35                  | 23  | 28   | 62   | 20  | 33  | 100               | 39  | 78   | 3.9        | 0.7  | 81°            | 0.0      |
| Apr   | 38                  | 26  | 31   | 64   | 24  | 35  | 98                | 40  | 77   | 4.6        | 0.8  | 111°           | 29.7     |
| May   | 38                  | 27  | 31   | 62   | 25  | 35  | 95                | 45  | 74   | 5.2        | 0.9  | 156°           | 82.8     |
| Jun   | 37                  | 26  | 31   | 58   | 24  | 35  | 90                | 38  | 66   | 5.1        | 1.1  | 229°           | 29.7     |
| Jul   | 36                  | 26  | 30   | 58   | 24  | 33  | 94                | 50  | 74   | 5.1        | 1.0  | 242°           | 209.0    |
| Aug   | 36                  | 26  | 30   | 59   | 24  | 33  | 96                | 49  | 76   | 5.0        | 0.9  | 223°           | 215.9    |
| Sep   | 35                  | 25  | 29   | 58   | 23  | 33  | 98                | 53  | 79   | 5.1        | 0.8  | 256°           | 130.0    |
| Oct   | 34                  | 25  | 28   | 58   | 23  | 31  | 100               | 62  | 88   | 4.0        | 0.8  | 151°           | 307.6    |
| Nov   | 29                  | 24  | 26   | 45   | 23  | 27  | 85                | 49  | 74   | 4.9        | 1.0  | 223°           | 720.5    |
| Dec   | 31                  | 23  | 26   | 53   | 21  | 28  | 95                | 35  | 70   | 4.3        | 1.0  | 229°           | 129.8    |
| YTD   | 34                  | 25  | 29   | 57   | 22  | 32  | 96                | 47  | 77   | 4.7        | 0.9  | 180°           |          |
| Total |                     |     |      |  |     |     |                   |     |      |            |      |                | 1965.9   |

NOTE: All values are expressed as an average over each month period.

