

Light efficiency:



Output: 592 lm

Light quality:

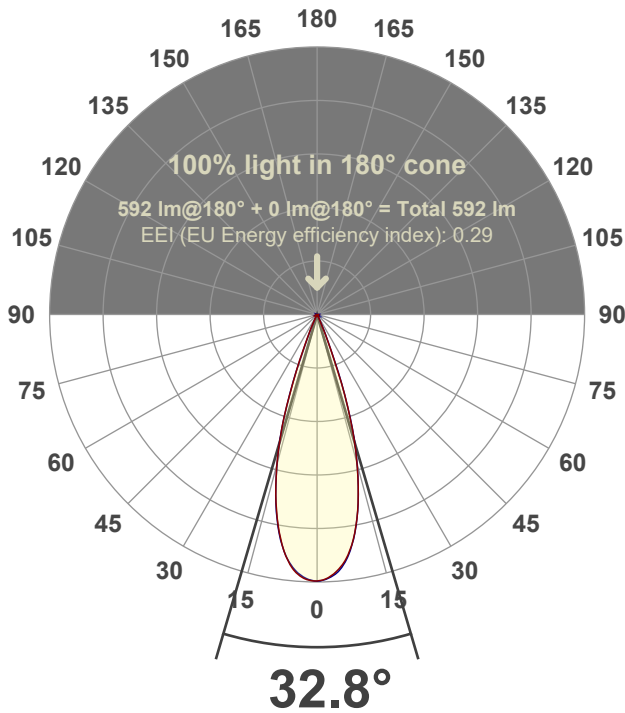


Peak: 2169 cd

Power: 14.6 W



Beam angle



Test number:

GR-F-F-A14-3019-FL-SQ-Rev2

Luminaire Model:

Graffiti Flat Square Fixed Downlight-A14-3019 38° Optic

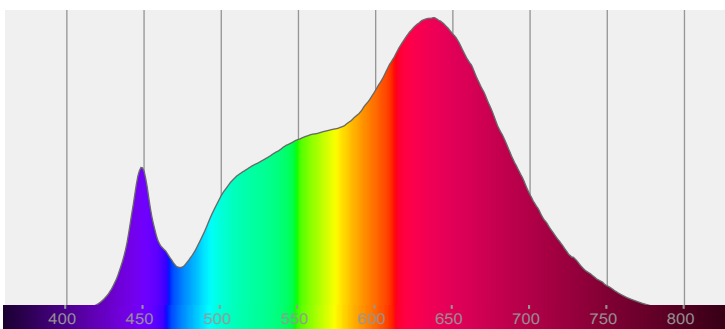
Date and time:

6/30/2022 11:56:53 AM

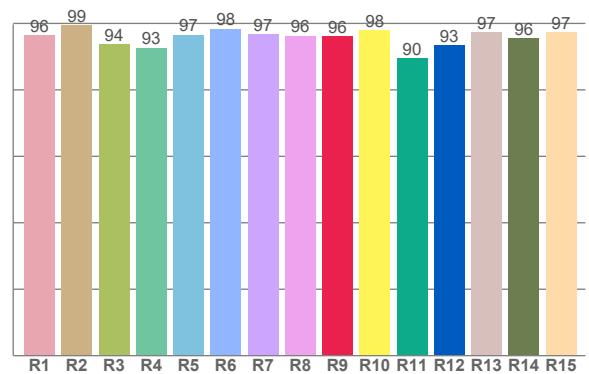
Delivered Lumens

592

Spectra



CRI: 96.3 (R1-R8)



Color parameters

|  | Color rendering index | Red component | Color fidelity      | Color gamut         | Color quality scale | Color coordinate cie 1931 | Color coordinate cie 1931 | Color coordinate | Color coordinate | Color deviation from black body |
|--|-----------------------|---------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|------------------|------------------|---------------------------------|
|  | CRI                   | CRI R9        | TM30 R <sub>f</sub> | TM30 R <sub>g</sub> | CQS                 | x                         | y                         | u                | v                | Δuv                             |
|  | 96.3                  | 96.0          | 95.4                | 104.2               | 94.9                | 0.435                     | 0.402                     | 0.250            | 0.347            | -0.0005                         |

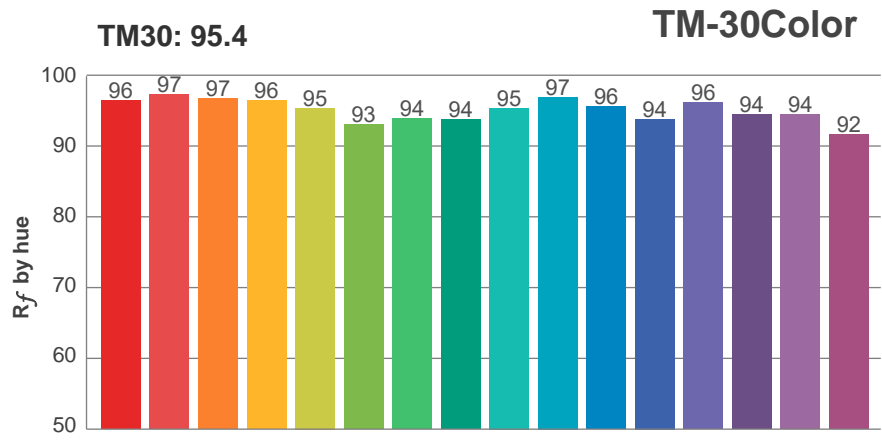
**$R_f$  95.4**

Fidelity index  $R_f$

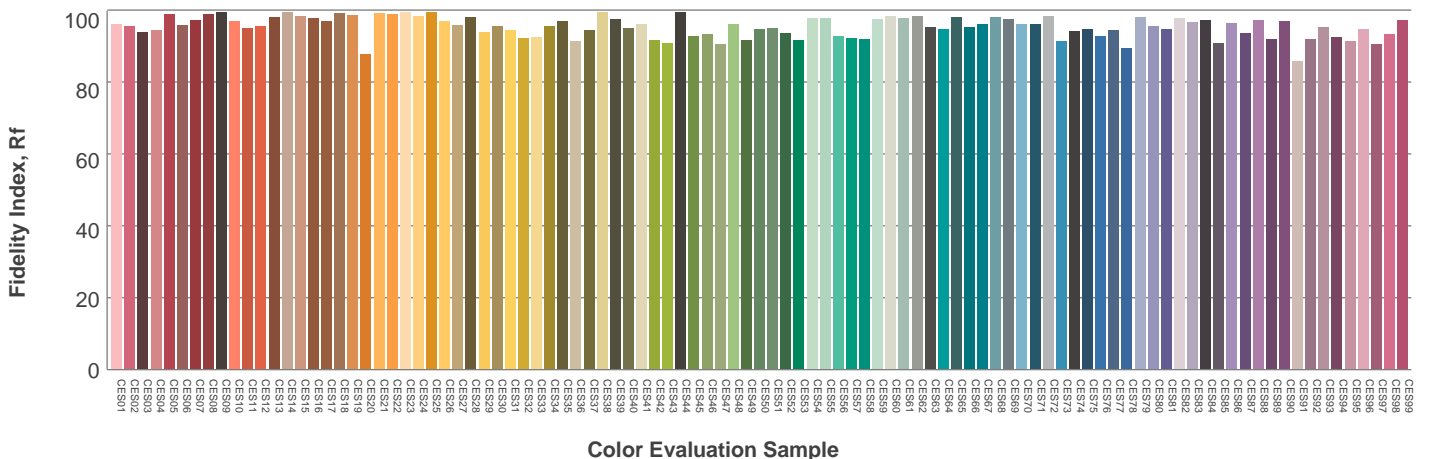
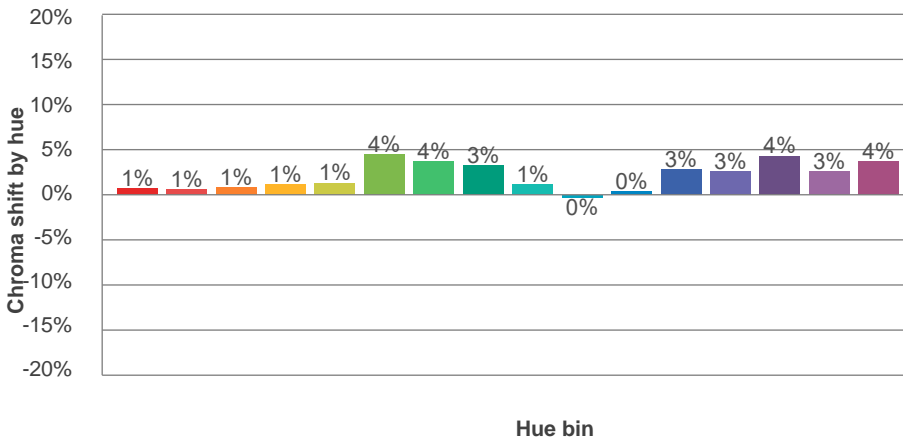
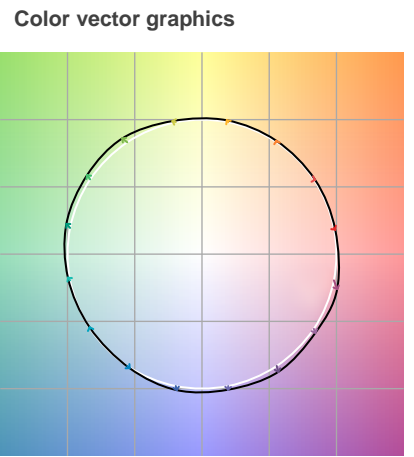
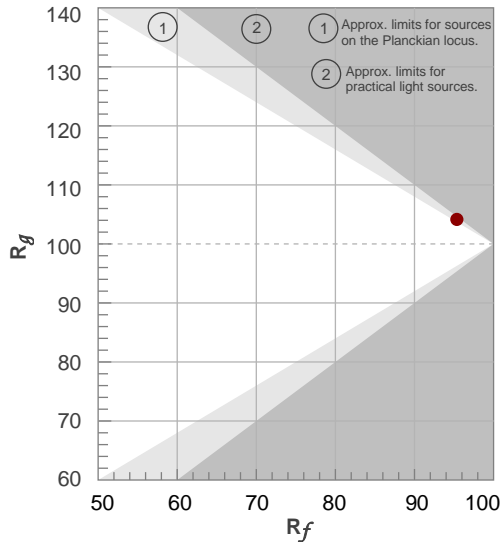
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**$R_g$  104.2**

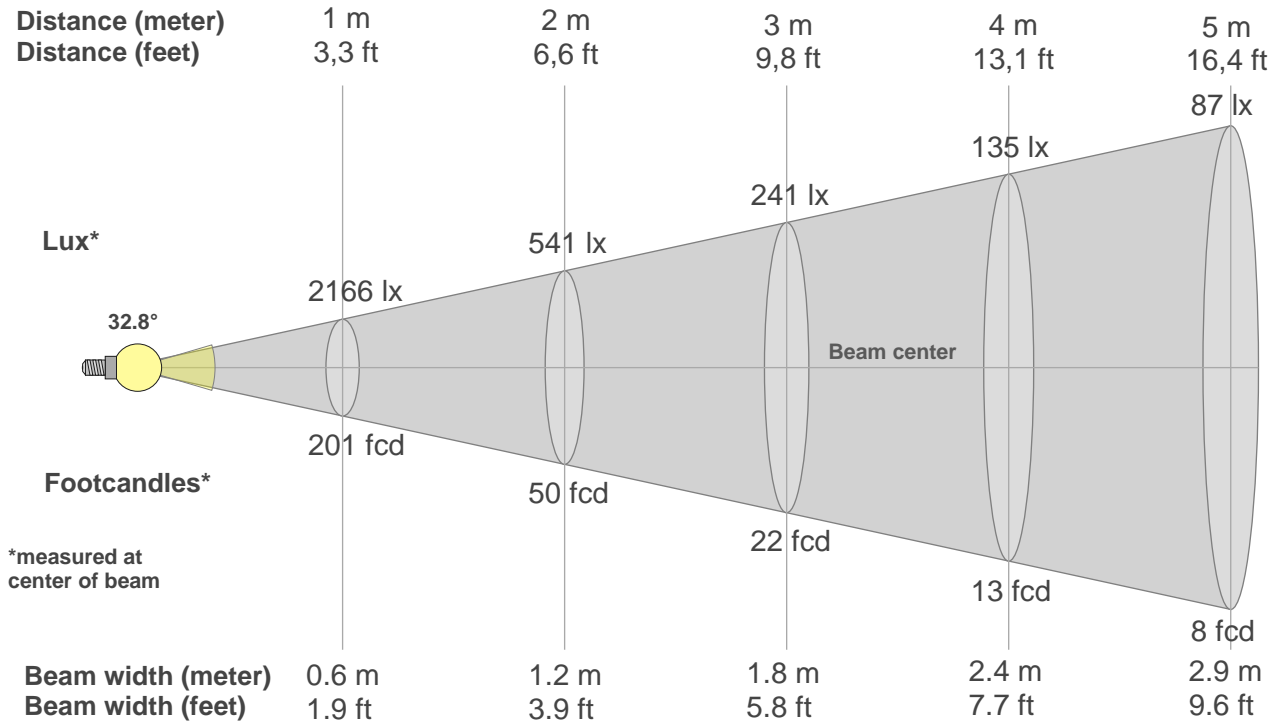
Gammut index  $R_g$



| Hue Bin | $R_f$ | Graphic shifts (%) |     |
|---------|-------|--------------------|-----|
|         |       | Chroma             | Hue |
| 1       | 96    | 1%                 | -2% |
| 2       | 97    | 1%                 | -1% |
| 3       | 97    | 1%                 | 1%  |
| 4       | 96    | 1%                 | 1%  |
| 5       | 95    | 1%                 | 2%  |
| 6       | 93    | 4%                 | 2%  |
| 7       | 94    | 4%                 | -1% |
| 8       | 94    | 3%                 | -2% |
| 9       | 95    | 1%                 | -2% |
| 10      | 97    | 0%                 | -1% |
| 11      | 96    | 0%                 | 2%  |
| 12      | 94    | 3%                 | 1%  |
| 13      | 96    | 3%                 | -1% |
| 14      | 94    | 4%                 | -1% |
| 15      | 94    | 3%                 | -2% |
| 16      | 92    | 4%                 | -6% |



### Beam details



#### Beam intensities from 1-20m

| 1m       | 2m      | 3m      | 4m      | 5m     | 6m     | 7m     | 8m     | 9m     | 10m    | 11m    | 12m    | 13m    | 14m    | 15m    | 16m    | 17m    | 18m    | 19m    | 20m    |
|----------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 3.3ft    | 6.6ft   | 9.8ft   | 13.1ft  | 16.4ft | 19.7ft | 23ft   | 26.2ft | 29.5ft | 32.8ft | 36.1ft | 39.4ft | 42.7ft | 45.9ft | 49.2ft | 52.5ft | 55.8ft | 59.1ft | 62.3ft | 65.6ft |
| 2166lx   | 541lx   | 241lx   | 135lx   | 87lx   | 60lx   | 44lx   | 34lx   | 27lx   | 22lx   | 18lx   | 15lx   | 13lx   | 11lx   | 10lx   | 8lx    | 7lx    | 7lx    | 6lx    | 5lx    |
| 201.2fcd | 50.3fcd | 22.4fcd | 12.6fcd | 8fcd   | 5.6fcd | 4.1fcd | 3.1fcd | 2.5fcd | 2fcd   | 1.7fcd | 1.4fcd | 1.2fcd | 1fcd   | 0.9fcd | 0.8fcd | 0.7fcd | 0.6fcd | 0.6fcd | 0.5fcd |

#### Intensities in 0° c-plane

| 0°   | 2°   | 4°   | 6°   | 8°   | 10°  | 12°  | 14°  | 16°  | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2166 | 2148 | 2103 | 2031 | 1925 | 1780 | 1598 | 1378 | 1132 | 850 | 544 | 264 | 97  | 46  | 21  | 11  | 7   | 5   | 5   | 3   |
| 100% | 99%  | 97%  | 94%  | 89%  | 82%  | 74%  | 64%  | 52%  | 39% | 25% | 12% | 4%  | 2%  | 1%  | 0%  | 0%  | 0%  | 0%  | 0%  |

#### Intensities in 90° c-plane

| 0°   | 2°   | 4°   | 6°   | 8°   | 10°  | 12°  | 14°  | 16°  | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2166 | 2151 | 2112 | 2042 | 1934 | 1788 | 1598 | 1376 | 1132 | 857 | 550 | 270 | 134 | 63  | 27  | 12  | 7   | 6   | 5   | 3   |
| 100% | 99%  | 98%  | 94%  | 89%  | 83%  | 74%  | 64%  | 52%  | 40% | 25% | 12% | 6%  | 3%  | 1%  | 1%  | 0%  | 0%  | 0%  | 0%  |

#### Intensities in 180° c-plane

| 0°   | 2°   | 4°   | 6°   | 8°   | 10°  | 12°  | 14°  | 16°  | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2166 | 2155 | 2119 | 2051 | 1941 | 1783 | 1596 | 1381 | 1138 | 863 | 542 | 302 | 152 | 74  | 32  | 15  | 9   | 6   | 4   | 3   |
| 100% | 99%  | 98%  | 95%  | 90%  | 82%  | 74%  | 64%  | 53%  | 40% | 25% | 14% | 7%  | 3%  | 1%  | 1%  | 0%  | 0%  | 0%  | 0%  |

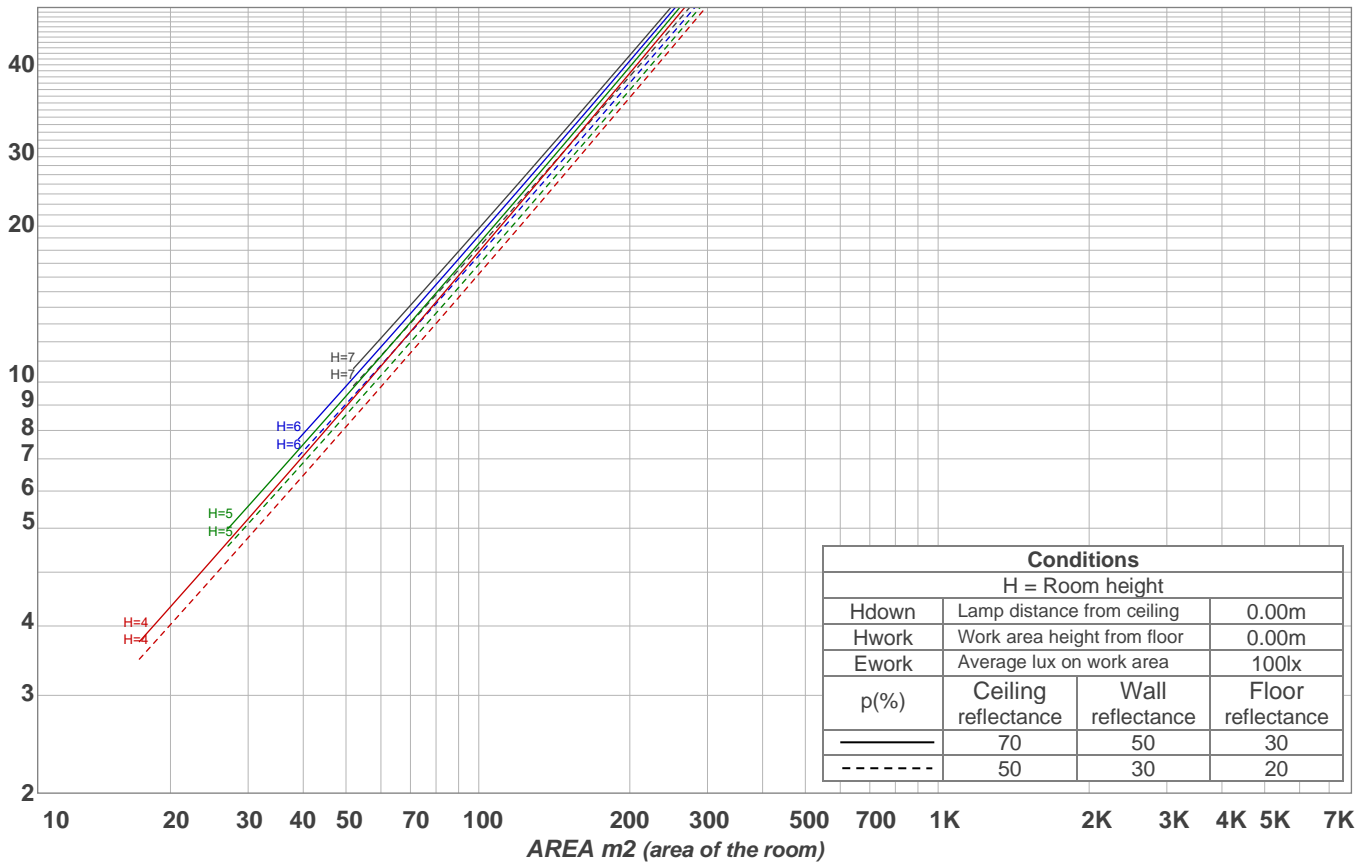
#### Intensities in 270° c-plane

| 0°   | 2°   | 4°   | 6°   | 8°   | 10°  | 12°  | 14°  | 16°  | 18° | 20° | 22° | 24° | 26° | 28° | 30° | 32° | 34° | 36° | 38° |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2166 | 2151 | 2110 | 2040 | 1936 | 1793 | 1605 | 1378 | 1132 | 854 | 542 | 247 | 116 | 51  | 23  | 12  | 7   | 5   | 5   | 4   |
| 100% | 99%  | 97%  | 94%  | 89%  | 83%  | 74%  | 64%  | 52%  | 39% | 25% | 11% | 5%  | 2%  | 1%  | 1%  | 0%  | 0%  | 0%  | 0%  |

| Beam angle 50% | Field angle 10% | Cutoff angle 2,5% | Intensity ratio in 120° cone | Intensity ratio in 90° cone |
|----------------|-----------------|-------------------|------------------------------|-----------------------------|
| <b>32.8°</b>   | <b>45.1°</b>    | <b>52.4°</b>      | <b>98.8%</b>                 | <b>98.4%</b>                |

LAMPS (number of lamps)  
50

### Light planning Luminaire budgetary diagram



### Luminaire budgetary diagram AREA m2 (area of the room) Coefficients of Utilization

| Ceiling reflectance | 80  |     |     |     | 70  |     |     |     | 50  |     |     | 30  |     |     | 10  |     |     | 0   |     |     |   |
|---------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| Wall reflectance    | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 0 |
| Floor reflectance   | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 0 |
| RCR                 | (RCR: Room Cavity Ratio)  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
|                     | Room Values are expressed as percentage of Lumens delivered to the task surface |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
| 0                   | 119   | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 | 100 |   |
| 1                   | 115   | 113 | 111 | 109 | 112 | 111 | 109 | 107 | 107 | 105 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 98  | 96  | 96  |   |
| 2                   | 111   | 107 | 104 | 102 | 109 | 106 | 103 | 101 | 103 | 101 | 99  | 100 | 98  | 97  | 97  | 96  | 95  | 95  | 93  | 93  |   |
| 3                   | 108   | 103 | 99  | 97  | 106 | 102 | 98  | 96  | 99  | 97  | 94  | 97  | 95  | 93  | 95  | 93  | 92  | 92  | 90  | 90  |   |
| 4                   | 105   | 99  | 95  | 92  | 103 | 98  | 95  | 92  | 96  | 93  | 91  | 94  | 92  | 90  | 93  | 91  | 89  | 88  | 86  | 86  |   |
| 5                   | 102   | 96  | 92  | 89  | 100 | 95  | 91  | 88  | 93  | 90  | 88  | 92  | 89  | 87  | 90  | 88  | 86  | 85  | 83  | 83  |   |
| 6                   | 99  | 93  | 89  | 86  | 98  | 92  | 88  | 85  | 91  | 87  | 85  | 89  | 86  | 84  | 88  | 86  | 84  | 83  | 81  | 81  |   |
| 7                   | 96  | 90  | 86  | 83  | 95  | 89  | 85  | 83  | 88  | 85  | 82  | 87  | 84  | 82  | 86  | 83  | 81  | 80  | 78  | 78  |   |
| 8                   | 94  | 87  | 83  | 80  | 93  | 87  | 83  | 80  | 86  | 82  | 80  | 85  | 82  | 80  | 84  | 81  | 79  | 78  | 76  | 76  |   |
| 9                   | 91  | 85  | 81  | 78  | 90  | 84  | 80  | 78  | 83  | 80  | 78  | 83  | 80  | 77  | 82  | 79  | 77  | 76  | 74  | 74  |   |
| 10                  | 89  | 82  | 78  | 76  | 88  | 82  | 78  | 76  | 81  | 78  | 76  | 81  | 78  | 75  | 80  | 77  | 75  | 74  | 72  | 72  |   |

### Zonal Lumen Summary

|          |           |           |           |           |           |           |           |           |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0°-10°   | 10°-20°   | 20°-30°   | 30°-40°   | 40°-50°   | 50°-60°   | 60°-70°   | 70°-80°   | 80°-90°   |
| 189 lm   | 329 lm    | 60.3 lm   | 3.42 lm   | 1.42 lm   | 1.59 lm   | 1.90 lm   | 2.20 lm   | 2.74 lm   |
| 90°-100° | 100°-110° | 110°-120° | 120°-130° | 130°-140° | 140°-150° | 150°-160° | 160°-170° | 170°-180° |
| 0.000 lm | 0.000 lm  | 0.000 lm  | 0.000 lm  | 0.000 lm  | 0.000 lm  | 0.000 lm  | 0.000 lm  | 0.000 lm  |