

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: CORELITE

Report Number: P1216795

Luminaire Tested: 14-ID2-55-CFR1-L935-U

Issue Date: 12/5/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1216795  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2508-507-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/5/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: 14-ID2-55-CFR1-L935-U  
Description: 1X4 IN DEPTH TROFFER WITH 1INCH CUBE REGRESS LENS  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

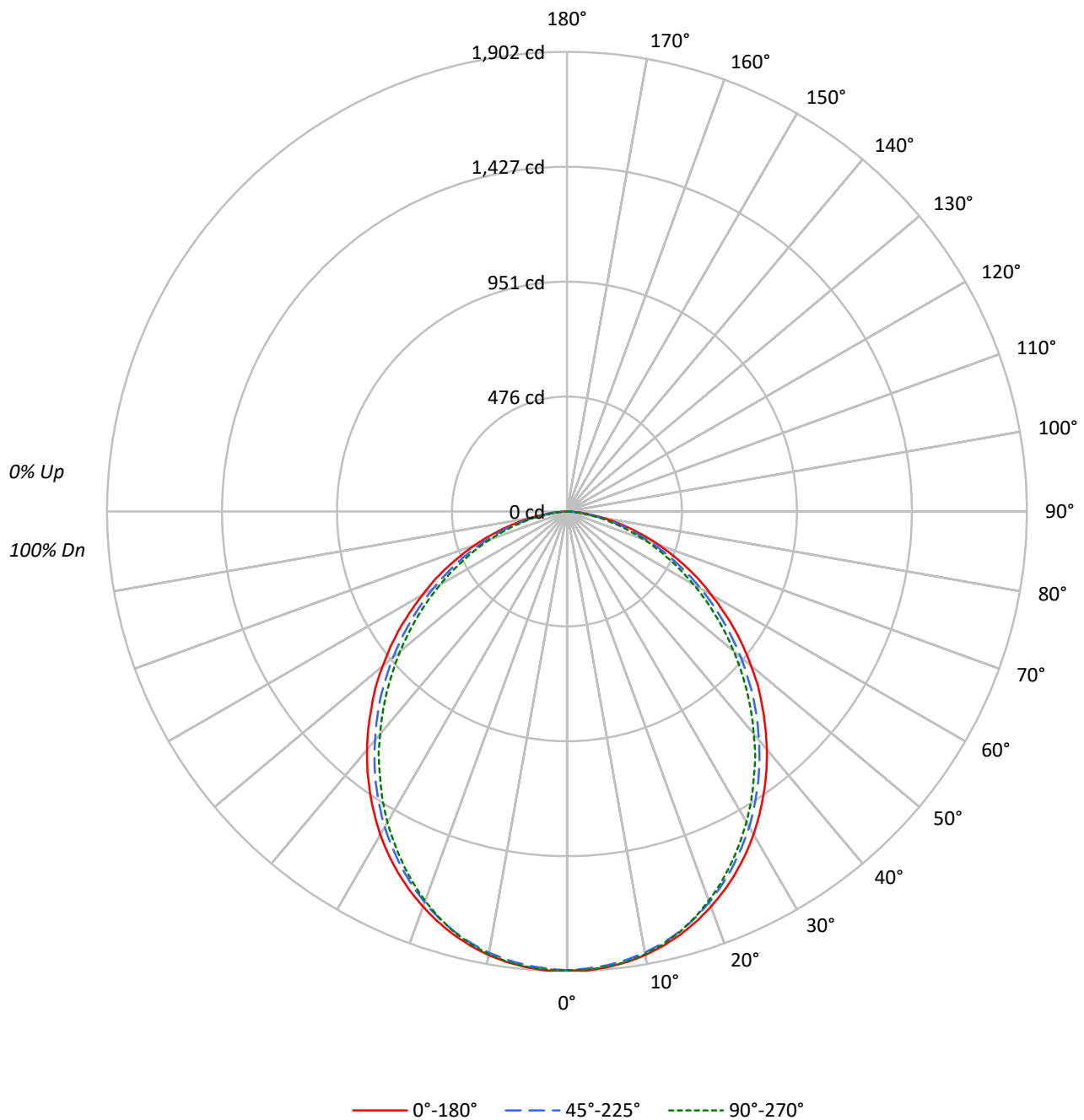
Lumens per Lamp: N/A  
Luminaire Lumens: 4664.8 lumens  
Efficiency: N/A  
Efficacy: 95.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.17 / 1.28  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 48.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot



TEST NUMBER: P1216795

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |  | 20  |     |     |  | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |  | 30  |     |     |  | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 100 |
| 1   | 109 | 105 | 101 | 97  | 107 | 103 | 99  | 96  | 99  | 96  | 93  |  | 95  | 92  | 90  |  | 85  |
| 2   | 100 | 92  | 86  | 80  | 97  | 90  | 84  | 79  | 87  | 82  | 77  |  | 84  | 79  | 76  |  | 72  |
| 3   | 92  | 81  | 74  | 67  | 89  | 80  | 73  | 67  | 77  | 71  | 66  |  | 74  | 69  | 65  |  | 61  |
| 4   | 84  | 73  | 64  | 58  | 82  | 71  | 63  | 57  | 69  | 62  | 56  |  | 66  | 61  | 56  |  | 53  |
| 5   | 78  | 65  | 56  | 50  | 75  | 64  | 56  | 50  | 62  | 55  | 49  |  | 60  | 54  | 49  |  | 46  |
| 6   | 72  | 59  | 50  | 44  | 70  | 58  | 50  | 44  | 56  | 49  | 43  |  | 54  | 48  | 43  |  | 41  |
| 7   | 67  | 53  | 45  | 39  | 65  | 53  | 45  | 39  | 51  | 44  | 39  |  | 50  | 43  | 38  |  | 36  |
| 8   | 62  | 49  | 41  | 35  | 61  | 48  | 40  | 35  | 47  | 40  | 35  |  | 46  | 39  | 34  |  | 32  |
| 9   | 58  | 45  | 37  | 32  | 57  | 44  | 37  | 31  | 43  | 36  | 31  |  | 42  | 36  | 31  |  | 29  |
| 10  | 55  | 42  | 34  | 29  | 53  | 41  | 34  | 29  | 40  | 33  | 29  |  | 39  | 33  | 28  |  | 27  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5109 | 5109 | 5109 |
| 5°  | 5115 | 5094 | 5111 |
| 10° | 5095 | 5067 | 5084 |
| 15° | 5049 | 5014 | 5019 |
| 20° | 4985 | 4929 | 4911 |
| 25° | 4902 | 4816 | 4771 |
| 30° | 4797 | 4685 | 4614 |
| 35° | 4665 | 4523 | 4425 |
| 40° | 4519 | 4339 | 4222 |
| 45° | 4347 | 4149 | 4005 |
| 50° | 4162 | 3928 | 3769 |
| 55° | 3954 | 3692 | 3522 |
| 60° | 3709 | 3442 | 3256 |
| 65° | 3471 | 3165 | 2959 |
| 70° | 3173 | 2863 | 2652 |
| 75° | 2809 | 2490 | 2277 |
| 80° | 2295 | 2015 | 1807 |
| 85° | 1630 | 1337 | 1093 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4347 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 179.3  | 3.8       |
| 10°-20°   | 507.9  | 10.9      |
| 20°-30°   | 748.0  | 16.0      |
| 30°-40°   | 862.8  | 18.5      |
| 40°-50°   | 843.7  | 18.1      |
| 50°-60°   | 709.4  | 15.2      |
| 60°-70°   | 498.4  | 10.7      |
| 70°-80°   | 258.1  | 5.5       |
| 80°-90°   | 57.2   | 1.2       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 1435.2 | 30.8      |
| 0°-40°    | 2298.0 | 49.3      |
| 0°-60°    | 3851.1 | 82.6      |
| 0°-90°    | 4664.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4664.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1898 | 1898  | 1898 | 1898  | 1898 |      |
| 5°  | 1894 | 1891  | 1886 | 1886  | 1892 | 180  |
| 15° | 1812 | 1809  | 1800 | 1797  | 1802 | 511  |
| 25° | 1651 | 1644  | 1622 | 1605  | 1607 | 760  |
| 35° | 1420 | 1408  | 1377 | 1352  | 1347 | 888  |
| 45° | 1142 | 1128  | 1090 | 1060  | 1052 | 882  |
| 55° | 843  | 827   | 787  | 761   | 751  | 753  |
| 65° | 545  | 531   | 497  | 475   | 465  | 540  |
| 75° | 270  | 261   | 240  | 224   | 219  | 287  |
| 85° | 53   | 54    | 43   | 37    | 35   | 66   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1898.4 | 1898.4 | 1898.4 | 1898.4 | 1898.4 |
| 2.5°  | 1902.3 | 1898.4 | 1893.6 | 1895.2 | 1897.6 |
| 5°    | 1893.6 | 1891.3 | 1885.8 | 1886.5 | 1892.1 |
| 7.5°  | 1881.8 | 1878.7 | 1872.4 | 1873.9 | 1880.2 |
| 10°   | 1864.5 | 1859.8 | 1854.2 | 1855.0 | 1860.6 |
| 12.5° | 1840.9 | 1836.9 | 1829.8 | 1829.0 | 1834.6 |
| 15°   | 1812.5 | 1808.6 | 1799.9 | 1796.7 | 1801.5 |
| 17.5° | 1779.4 | 1774.7 | 1763.7 | 1758.1 | 1761.3 |
| 20°   | 1740.8 | 1736.1 | 1721.1 | 1710.9 | 1714.8 |
| 22.5° | 1698.3 | 1692.8 | 1673.9 | 1662.1 | 1663.6 |
| 25°   | 1651.0 | 1643.9 | 1621.9 | 1605.3 | 1606.9 |
| 27.5° | 1599.8 | 1590.4 | 1566.0 | 1547.8 | 1547.0 |
| 30°   | 1543.9 | 1533.7 | 1507.7 | 1486.4 | 1484.8 |
| 32.5° | 1483.2 | 1473.0 | 1443.1 | 1420.2 | 1418.7 |
| 35°   | 1420.2 | 1408.4 | 1376.9 | 1351.7 | 1347.0 |
| 37.5° | 1354.8 | 1341.5 | 1307.6 | 1283.2 | 1279.2 |
| 40°   | 1286.3 | 1272.1 | 1235.1 | 1209.1 | 1202.0 |
| 42.5° | 1215.4 | 1202.0 | 1162.6 | 1137.4 | 1128.0 |
| 45°   | 1142.2 | 1128.0 | 1090.2 | 1060.2 | 1052.4 |
| 47.5° | 1072.1 | 1053.2 | 1013.0 | 987.8  | 976.0  |
| 50°   | 994.1  | 978.3  | 938.2  | 912.2  | 900.3  |
| 52.5° | 919.2  | 903.5  | 861.7  | 835.8  | 825.5  |
| 55°   | 842.8  | 827.1  | 786.9  | 760.9  | 750.7  |
| 57.5° | 764.1  | 751.5  | 712.9  | 688.5  | 677.4  |
| 60°   | 689.2  | 676.6  | 639.6  | 616.8  | 605.0  |
| 62.5° | 619.1  | 603.4  | 567.1  | 545.9  | 534.1  |
| 65°   | 545.1  | 530.9  | 497.0  | 475.0  | 464.7  |
| 67.5° | 473.4  | 460.0  | 428.5  | 409.6  | 401.7  |
| 70°   | 403.3  | 391.5  | 363.9  | 345.0  | 337.1  |
| 72.5° | 334.8  | 324.5  | 300.1  | 282.0  | 276.5  |
| 75°   | 270.2  | 260.7  | 239.5  | 223.7  | 219.0  |
| 77.5° | 207.2  | 201.7  | 182.0  | 168.6  | 164.6  |
| 80°   | 148.1  | 145.7  | 130.0  | 118.9  | 116.6  |
| 82.5° | 96.1   | 95.3   | 85.1   | 75.6   | 72.5   |
| 85°   | 52.8   | 54.4   | 43.3   | 37.0   | 35.4   |
| 87.5° | 18.9   | 18.9   | 13.4   | 11.8   | 11.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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**CIE UGR TABLE:**

| Reflectances:   |      |                  |       |       |       |       |                |       |       |       |       |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling         |      | 0.7              | 0.7   | 0.5   | 0.5   | 0.3   | 0.7            | 0.7   | 0.5   | 0.5   | 0.3   |
| Wall            |      | 0.5              | 0.3   | 0.5   | 0.3   | 0.3   | 0.5            | 0.3   | 0.5   | 0.3   | 0.3   |
| Reference plane |      | 0.2              | 0.2   | 0.2   | 0.2   | 0.2   | 0.2            | 0.2   | 0.2   | 0.2   | 0.2   |
| Room dimensions |      | Viewed crosswise |       |       |       |       | Viewed endwise |       |       |       |       |
| X=2H            | Y=2H | 16.77            | 18.35 | 17.14 | 18.67 | 18.98 | 16.12          | 17.70 | 16.49 | 18.02 | 18.33 |
|                 | 3H   | 18.40            | 19.82 | 18.77 | 20.15 | 20.51 | 17.61          | 19.03 | 17.98 | 19.36 | 19.72 |
|                 | 4H   | 18.97            | 20.30 | 19.36 | 20.65 | 21.03 | 18.10          | 19.44 | 18.50 | 19.78 | 20.16 |
|                 | 6H   | 19.34            | 20.58 | 19.75 | 20.94 | 21.33 | 18.40          | 19.64 | 18.81 | 20.00 | 20.40 |
|                 | 8H   | 19.44            | 20.62 | 19.86 | 21.01 | 21.41 | 18.47          | 19.65 | 18.90 | 20.04 | 20.44 |
|                 | 12H  | 19.49            | 20.62 | 19.92 | 21.00 | 21.43 | 18.50          | 19.63 | 18.93 | 20.01 | 20.44 |
| 4H              | 2H   | 17.25            | 18.59 | 17.65 | 18.94 | 19.31 | 16.72          | 18.06 | 17.12 | 18.41 | 18.79 |
|                 | 3H   | 19.09            | 20.20 | 19.50 | 20.60 | 21.00 | 18.41          | 19.53 | 18.82 | 19.93 | 20.33 |
|                 | 4H   | 19.78            | 20.78 | 20.21 | 21.20 | 21.64 | 19.01          | 20.01 | 19.44 | 20.43 | 20.86 |
|                 | 6H   | 20.27            | 21.15 | 20.73 | 21.59 | 22.05 | 19.41          | 20.28 | 19.86 | 20.72 | 21.18 |
|                 | 8H   | 20.41            | 21.23 | 20.87 | 21.67 | 22.13 | 19.50          | 20.32 | 19.97 | 20.77 | 21.23 |
|                 | 12H  | 20.49            | 21.22 | 20.97 | 21.70 | 22.17 | 19.55          | 20.28 | 20.03 | 20.76 | 21.23 |
| 8H              | 4H   | 19.98            | 20.79 | 20.44 | 21.24 | 21.70 | 19.28          | 20.10 | 19.74 | 20.54 | 21.01 |
|                 | 6H   | 20.56            | 21.24 | 21.06 | 21.73 | 22.20 | 19.76          | 20.44 | 20.26 | 20.93 | 21.41 |
|                 | 8H   | 20.75            | 21.36 | 21.26 | 21.87 | 22.35 | 19.90          | 20.51 | 20.41 | 21.02 | 21.50 |
|                 | 12H  | 20.89            | 21.42 | 21.40 | 21.92 | 22.48 | 19.99          | 20.52 | 20.49 | 21.01 | 21.57 |
| 12H             | 4H   | 19.98            | 20.71 | 20.46 | 21.19 | 21.66 | 19.30          | 20.03 | 19.78 | 20.51 | 20.98 |
|                 | 6H   | 20.57            | 21.18 | 21.09 | 21.69 | 22.18 | 19.80          | 20.41 | 20.31 | 20.92 | 21.40 |
|                 | 8H   | 20.81            | 21.34 | 21.32 | 21.84 | 22.40 | 19.98          | 20.52 | 20.49 | 21.01 | 21.57 |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Corelite

Report Number: SP1-2506-458-10

Test Date: 08/26/2025

Luminaire Tested: 22ID2-55-CFR1-L935-U

Data in this report applies to families of products including 22ID2-55-CFR1-L935-U

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2506-458-10  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 08/27/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Corelite  
 Catalog Number: **22ID2-55-CFR1-L935-U**  
 Description: 2X2 CGTX WITH INDEPTH FRAME AND CFR1 LENS - 5500 LUMEN 3500K 90CRI

### Spectral Parameters

CCT (K): 3377  
 CIE  $u'$ : 0.2392  
 CIE  $v'$ : 0.5128  
 Duv: -0.0007  
 CIE x: 0.4116  
 CIE y: 0.3922  
 CIE z: 0.1962  
 Peak Wavelength (nm): 618  
 Dominant Wavelength (nm): 581  
 Purity: 41.24368  
 R<sub>f</sub>: 91.8  
 R<sub>g</sub>: 99.6

CRI (Ra): 93.6  
 R1: 94.1  
 R2: 96.6  
 R3: 97.5  
 R4: 94.0  
 R5: 93.6  
 R6: 94.8  
 R7: 93.4  
 R8: 84.8  
 R9: 64.2  
 R10: 91.1  
 R11: 94.7  
 R12: 78.5  
 R13: 95.0  
 R14: 98.1  
 R15: 91.0



### Test Conditions

Stabilization Time: 32M  
 Operation Time: 1H 32M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2506-458-10

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | 76INCH SPHERE IN0058  | 6/16/2025        | 12/16/2025           |
| Power Meter                    | XITRON INXT2011004    | 1/21/2025        | 1/21/2026            |
| AC Power Source                | CHROMA 61603 IN0063   | 10/22/2024       | 10/22/2025           |
| DC Power Source                | AGILENT E3634A IN0208 | 10/22/2024       | 10/22/2025           |
| Sphere Thermometer             | ONSET IN0085          | 10/22/2024       | 10/22/2025           |
| Room Thermometer               | ONSET IN0046          | 10/22/2024       | 10/22/2025           |

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**CIE 1931 Chromaticity Diagram**



**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 3500K 4-step quadrangle

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### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 362                                  | NR                             | 620               | 996                                  | NR                             | 750               | 68                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 412                                  | NR                             | 625               | 989                                  | NR                             | 755               | 58                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 463                                  | NR                             | 630               | 973                                  | NR                             | 760               | 49                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 509                                  | NR                             | 635               | 947                                  | NR                             | 765               | 42                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 548                                  | NR                             | 640               | 914                                  | NR                             | 770               | 36                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 582                                  | NR                             | 645               | 872                                  | NR                             | 775               | 31                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 1                                    | NR                             | 520               | 605                                  | NR                             | 650               | 822                                  | NR                             | 780               | 26                                   | NR                             | 910               | 1                                    | NR                             |
| 395               | 2                                    | NR                             | 525               | 626                                  | NR                             | 655               | 770                                  | NR                             | 785               | 22                                   | NR                             | 915               | 1                                    | NR                             |
| 400               | 4                                    | NR                             | 530               | 646                                  | NR                             | 660               | 712                                  | NR                             | 790               | 19                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 6                                    | NR                             | 535               | 666                                  | NR                             | 665               | 656                                  | NR                             | 795               | 16                                   | NR                             | 925               | 0                                    | NR                             |
| 410               | 9                                    | NR                             | 540               | 683                                  | NR                             | 670               | 596                                  | NR                             | 800               | 14                                   | NR                             | 930               | 0                                    | NR                             |
| 415               | 15                                   | NR                             | 545               | 702                                  | NR                             | 675               | 538                                  | NR                             | 805               | 12                                   | NR                             | 935               | 0                                    | NR                             |
| 420               | 27                                   | NR                             | 550               | 720                                  | NR                             | 680               | 486                                  | NR                             | 810               | 10                                   | NR                             | 940               | 0                                    | NR                             |
| 425               | 48                                   | NR                             | 555               | 740                                  | NR                             | 685               | 432                                  | NR                             | 815               | 9                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 85                                   | NR                             | 560               | 757                                  | NR                             | 690               | 385                                  | NR                             | 820               | 7                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 152                                  | NR                             | 565               | 776                                  | NR                             | 695               | 339                                  | NR                             | 825               | 6                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 274                                  | NR                             | 570               | 794                                  | NR                             | 700               | 297                                  | NR                             | 830               | 5                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 536                                  | NR                             | 575               | 816                                  | NR                             | 705               | 260                                  | NR                             | 835               | 5                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 793                                  | NR                             | 580               | 842                                  | NR                             | 710               | 225                                  | NR                             | 840               | 4                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 659                                  | NR                             | 585               | 867                                  | NR                             | 715               | 194                                  | NR                             | 845               | 3                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 484                                  | NR                             | 590               | 899                                  | NR                             | 720               | 169                                  | NR                             | 850               | 3                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 441                                  | NR                             | 595               | 927                                  | NR                             | 725               | 146                                  | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 353                                  | NR                             | 600               | 950                                  | NR                             | 730               | 125                                  | NR                             | 860               | 2                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 293                                  | NR                             | 605               | 974                                  | NR                             | 735               | 107                                  | NR                             | 865               | 2                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 300                                  | NR                             | 610               | 986                                  | NR                             | 740               | 92                                   | NR                             | 870               | 2                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 325                                  | NR                             | 615               | 998                                  | NR                             | 745               | 79                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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### Scotopic Flux vs. Wavelength



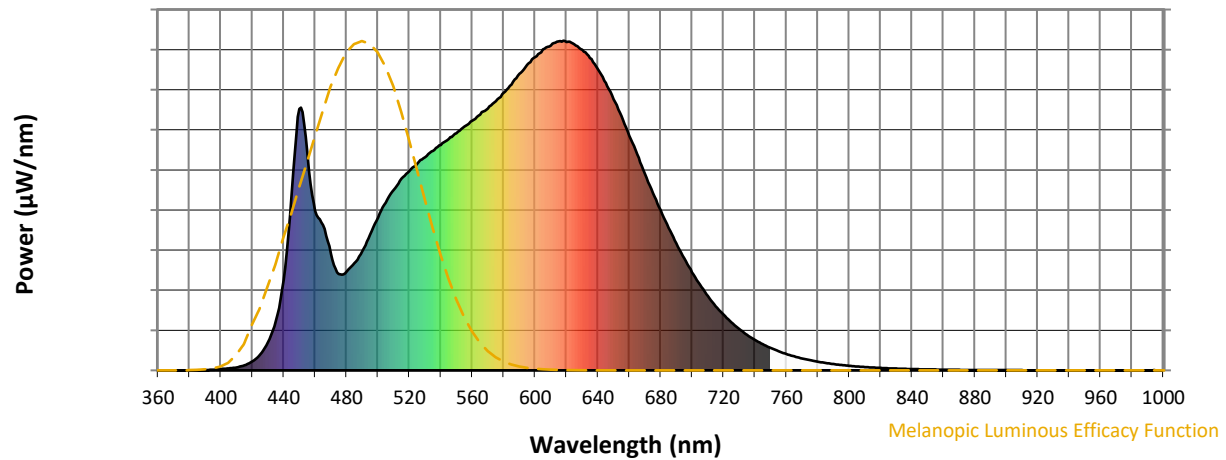
Scotopic Lumens: NR

S/P: 1.58

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 362                         | NR               | 620       | 996                         | NR               | 750       | 68                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 412                         | NR               | 625       | 989                         | NR               | 755       | 58                          | NR               | 885       | 1                           | NR               |
| 370       | 0                           | NR               | 500       | 463                         | NR               | 630       | 973                         | NR               | 760       | 49                          | NR               | 890       | 1                           | NR               |
| 375       | 0                           | NR               | 505       | 509                         | NR               | 635       | 947                         | NR               | 765       | 42                          | NR               | 895       | 1                           | NR               |
| 380       | 0                           | NR               | 510       | 548                         | NR               | 640       | 914                         | NR               | 770       | 36                          | NR               | 900       | 1                           | NR               |
| 385       | 0                           | NR               | 515       | 582                         | NR               | 645       | 872                         | NR               | 775       | 31                          | NR               | 905       | 1                           | NR               |
| 390       | 1                           | NR               | 520       | 605                         | NR               | 650       | 822                         | NR               | 780       | 26                          | NR               | 910       | 1                           | NR               |
| 395       | 2                           | NR               | 525       | 626                         | NR               | 655       | 770                         | NR               | 785       | 22                          | NR               | 915       | 1                           | NR               |
| 400       | 4                           | NR               | 530       | 646                         | NR               | 660       | 712                         | NR               | 790       | 19                          | NR               | 920       | 0                           | NR               |
| 405       | 6                           | NR               | 535       | 666                         | NR               | 665       | 656                         | NR               | 795       | 16                          | NR               | 925       | 0                           | NR               |
| 410       | 9                           | NR               | 540       | 683                         | NR               | 670       | 596                         | NR               | 800       | 14                          | NR               | 930       | 0                           | NR               |
| 415       | 15                          | NR               | 545       | 702                         | NR               | 675       | 538                         | NR               | 805       | 12                          | NR               | 935       | 0                           | NR               |
| 420       | 27                          | NR               | 550       | 720                         | NR               | 680       | 486                         | NR               | 810       | 10                          | NR               | 940       | 0                           | NR               |
| 425       | 48                          | NR               | 555       | 740                         | NR               | 685       | 432                         | NR               | 815       | 9                           | NR               | 945       | 0                           | NR               |
| 430       | 85                          | NR               | 560       | 757                         | NR               | 690       | 385                         | NR               | 820       | 7                           | NR               | 950       | 0                           | NR               |
| 435       | 152                         | NR               | 565       | 776                         | NR               | 695       | 339                         | NR               | 825       | 6                           | NR               | 955       | 0                           | NR               |
| 440       | 274                         | NR               | 570       | 794                         | NR               | 700       | 297                         | NR               | 830       | 5                           | NR               | 960       | 0                           | NR               |
| 445       | 536                         | NR               | 575       | 816                         | NR               | 705       | 260                         | NR               | 835       | 5                           | NR               | 965       | 0                           | NR               |
| 450       | 793                         | NR               | 580       | 842                         | NR               | 710       | 225                         | NR               | 840       | 4                           | NR               | 970       | 0                           | NR               |
| 455       | 659                         | NR               | 585       | 867                         | NR               | 715       | 194                         | NR               | 845       | 3                           | NR               | 975       | 0                           | NR               |
| 460       | 484                         | NR               | 590       | 899                         | NR               | 720       | 169                         | NR               | 850       | 3                           | NR               | 980       | 0                           | NR               |
| 465       | 441                         | NR               | 595       | 927                         | NR               | 725       | 146                         | NR               | 855       | 2                           | NR               | 985       | 0                           | NR               |
| 470       | 353                         | NR               | 600       | 950                         | NR               | 730       | 125                         | NR               | 860       | 2                           | NR               | 990       | 0                           | NR               |
| 475       | 293                         | NR               | 605       | 974                         | NR               | 735       | 107                         | NR               | 865       | 2                           | NR               | 995       | 0                           | NR               |
| 480       | 300                         | NR               | 610       | 986                         | NR               | 740       | 92                          | NR               | 870       | 2                           | NR               | 1000      | 0                           | NR               |
| 485       | 325                         | NR               | 615       | 998                         | NR               | 745       | 79                          | NR               | 875       | 1                           | NR               |           |                             |                  |

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### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 3.19**

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 362                                  | NR                             | 620               | 996                                  | NR                             | 750               | 68                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 412                                  | NR                             | 625               | 989                                  | NR                             | 755               | 58                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 463                                  | NR                             | 630               | 973                                  | NR                             | 760               | 49                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 509                                  | NR                             | 635               | 947                                  | NR                             | 765               | 42                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 548                                  | NR                             | 640               | 914                                  | NR                             | 770               | 36                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 582                                  | NR                             | 645               | 872                                  | NR                             | 775               | 31                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 1                                    | NR                             | 520               | 605                                  | NR                             | 650               | 822                                  | NR                             | 780               | 26                                   | NR                             | 910               | 1                                    | NR                             |
| 395               | 2                                    | NR                             | 525               | 626                                  | NR                             | 655               | 770                                  | NR                             | 785               | 22                                   | NR                             | 915               | 1                                    | NR                             |
| 400               | 4                                    | NR                             | 530               | 646                                  | NR                             | 660               | 712                                  | NR                             | 790               | 19                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 6                                    | NR                             | 535               | 666                                  | NR                             | 665               | 656                                  | NR                             | 795               | 16                                   | NR                             | 925               | 0                                    | NR                             |
| 410               | 9                                    | NR                             | 540               | 683                                  | NR                             | 670               | 596                                  | NR                             | 800               | 14                                   | NR                             | 930               | 0                                    | NR                             |
| 415               | 15                                   | NR                             | 545               | 702                                  | NR                             | 675               | 538                                  | NR                             | 805               | 12                                   | NR                             | 935               | 0                                    | NR                             |
| 420               | 27                                   | NR                             | 550               | 720                                  | NR                             | 680               | 486                                  | NR                             | 810               | 10                                   | NR                             | 940               | 0                                    | NR                             |
| 425               | 48                                   | NR                             | 555               | 740                                  | NR                             | 685               | 432                                  | NR                             | 815               | 9                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 85                                   | NR                             | 560               | 757                                  | NR                             | 690               | 385                                  | NR                             | 820               | 7                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 152                                  | NR                             | 565               | 776                                  | NR                             | 695               | 339                                  | NR                             | 825               | 6                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 274                                  | NR                             | 570               | 794                                  | NR                             | 700               | 297                                  | NR                             | 830               | 5                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 536                                  | NR                             | 575               | 816                                  | NR                             | 705               | 260                                  | NR                             | 835               | 5                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 793                                  | NR                             | 580               | 842                                  | NR                             | 710               | 225                                  | NR                             | 840               | 4                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 659                                  | NR                             | 585               | 867                                  | NR                             | 715               | 194                                  | NR                             | 845               | 3                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 484                                  | NR                             | 590               | 899                                  | NR                             | 720               | 169                                  | NR                             | 850               | 3                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 441                                  | NR                             | 595               | 927                                  | NR                             | 725               | 146                                  | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 353                                  | NR                             | 600               | 950                                  | NR                             | 730               | 125                                  | NR                             | 860               | 2                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 293                                  | NR                             | 605               | 974                                  | NR                             | 735               | 107                                  | NR                             | 865               | 2                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 300                                  | NR                             | 610               | 986                                  | NR                             | 740               | 92                                   | NR                             | 870               | 2                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 325                                  | NR                             | 615               | 998                                  | NR                             | 745               | 79                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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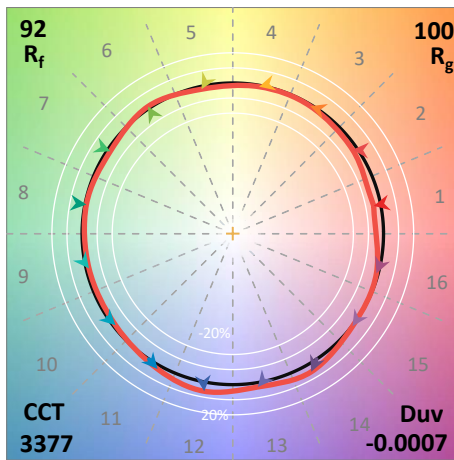
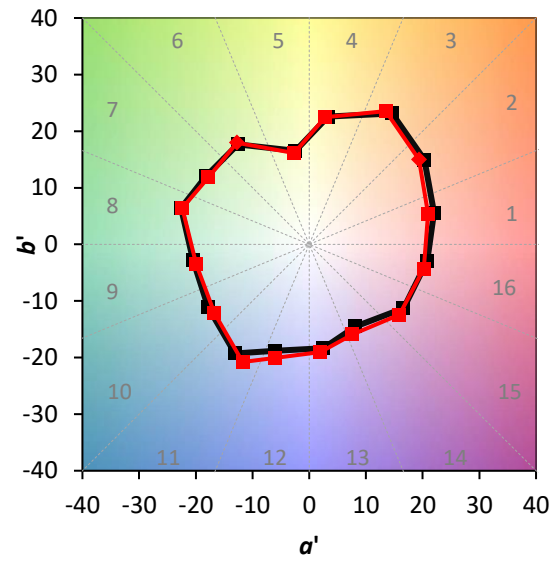
TM-30-18

### Summary

$R_f = 91.8$   
 $R_g = 99.6$   
 $CIE R_a = 93.6$   
 $R_9 = 64.2$



### Color Vector Graphics

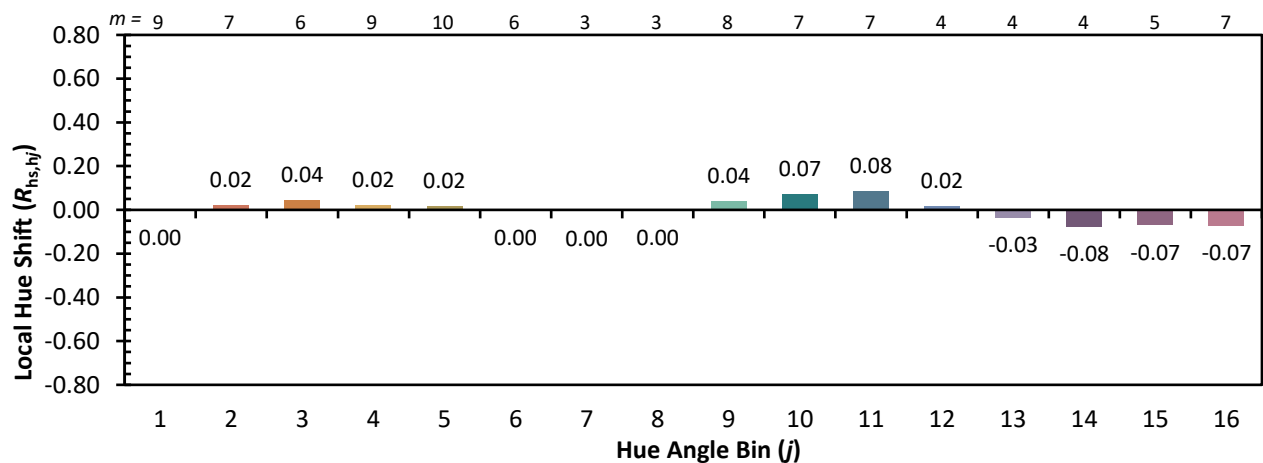


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 94 | CES51 = 97 | CES76 = 88 |
| CES02 = 62 | CES27 = 92 | CES52 = 99 | CES77 = 89 |
| CES03 = 31 | CES28 = 96 | CES53 = 97 | CES78 = 85 |
| CES04 = 70 | CES29 = 96 | CES54 = 93 | CES79 = 95 |
| CES05 = 50 | CES30 = 92 | CES55 = 92 | CES80 = 93 |
| CES06 = 51 | CES31 = 97 | CES56 = 95 | CES81 = 86 |
| CES07 = 43 | CES32 = 91 | CES57 = 93 | CES82 = 97 |
| CES08 = 42 | CES33 = 99 | CES58 = 94 | CES83 = 97 |
| CES09 = 29 | CES34 = 94 | CES59 = 97 | CES84 = 94 |
| CES10 = 75 | CES35 = 96 | CES60 = 92 | CES85 = 83 |
| CES11 = 58 | CES36 = 82 | CES61 = 92 | CES86 = 86 |
| CES12 = 64 | CES37 = 95 | CES62 = 87 | CES87 = 91 |
| CES13 = 43 | CES38 = 87 | CES63 = 93 | CES88 = 97 |
| CES14 = 74 | CES39 = 99 | CES64 = 90 | CES89 = 87 |
| CES15 = 72 | CES40 = 98 | CES65 = 89 | CES90 = 96 |
| CES16 = 48 | CES41 = 97 | CES66 = 88 | CES91 = 75 |
| CES17 = 50 | CES42 = 95 | CES67 = 87 | CES92 = 80 |
| CES18 = 56 | CES43 = 94 | CES68 = 88 | CES93 = 88 |
| CES19 = 71 | CES44 = 99 | CES69 = 89 | CES94 = 81 |
| CES20 = 67 | CES45 = 97 | CES70 = 86 | CES95 = 84 |
| CES21 = 86 | CES46 = 97 | CES71 = 82 | CES96 = 92 |
| CES22 = 78 | CES47 = 96 | CES72 = 94 | CES97 = 96 |
| CES23 = 91 | CES48 = 92 | CES73 = 82 | CES98 = 95 |
| CES24 = 90 | CES49 = 96 | CES74 = 92 | CES99 = 92 |
| CES25 = 71 | CES50 = 98 | CES75 = 84 |            |



### Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)