

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: P1215257

Luminaire Tested: 22-ID2-25-DBR-L830-U

Issue Date: 12/4/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1215257  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2506-458-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/4/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: 22-ID2-25-DBR-L830-U  
Description: 2X2 IN DEPTH TROFFER WITH 2INCH DOUBLE BARREL REGRESSED  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

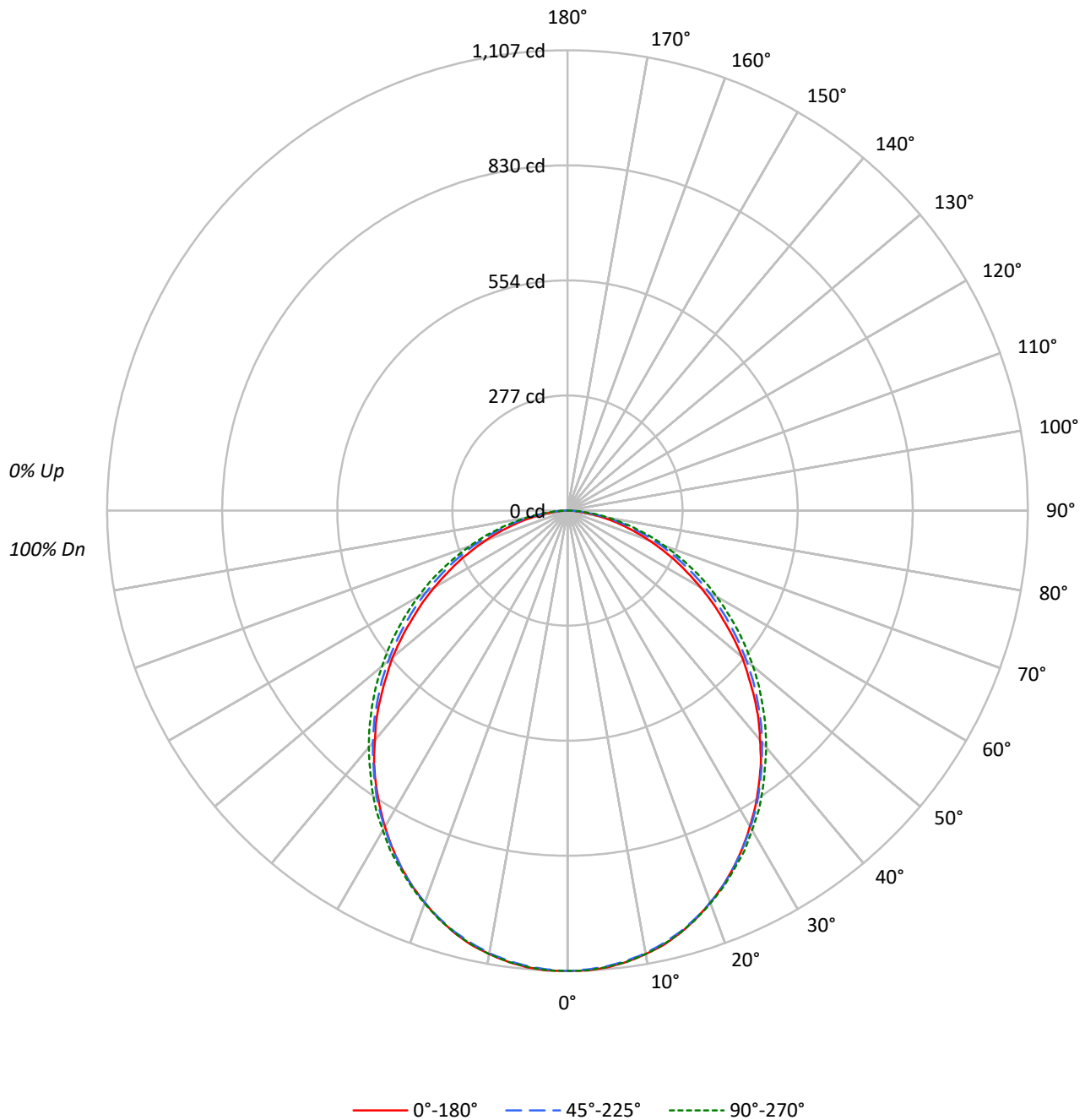
Lumens per Lamp: N/A  
Luminaire Lumens: 2783.6 lumens  
Efficiency: N/A  
Efficacy: 127.7 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.8  
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



TEST NUMBER: P1215257  
CATALOG NUMBER: 22-ID2-25-DBR-L830-U

### Luminous Intensity Polar Plot



TEST NUMBER: P1215257

CATALOG NUMBER: 22-ID2-25-DBR-L830-U

**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  | 50  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 |
| 1   | 109 | 105 | 101 | 97  | 107 | 102 | 99  | 95  | 98  | 95  | 92  | 94  | 92  | 89  | 91  | 89  | 87  |
| 2   | 100 | 92  | 85  | 80  | 97  | 90  | 84  | 79  | 86  | 81  | 77  | 83  | 79  | 75  | 80  | 77  | 73  |
| 3   | 91  | 81  | 73  | 67  | 89  | 79  | 72  | 66  | 76  | 70  | 65  | 74  | 68  | 64  | 71  | 67  | 63  |
| 4   | 84  | 72  | 63  | 57  | 81  | 71  | 63  | 56  | 68  | 61  | 56  | 66  | 60  | 55  | 64  | 59  | 54  |
| 5   | 77  | 65  | 56  | 49  | 75  | 63  | 55  | 49  | 61  | 54  | 48  | 59  | 53  | 48  | 58  | 52  | 47  |
| 6   | 71  | 58  | 50  | 43  | 69  | 57  | 49  | 43  | 56  | 48  | 43  | 54  | 47  | 42  | 52  | 46  | 42  |
| 7   | 66  | 53  | 44  | 38  | 65  | 52  | 44  | 38  | 51  | 43  | 38  | 49  | 43  | 38  | 48  | 42  | 37  |
| 8   | 62  | 48  | 40  | 34  | 60  | 48  | 40  | 34  | 46  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  |
| 9   | 58  | 45  | 36  | 31  | 56  | 44  | 36  | 31  | 43  | 36  | 31  | 42  | 35  | 31  | 41  | 35  | 30  |
| 10  | 54  | 41  | 33  | 28  | 53  | 41  | 33  | 28  | 40  | 33  | 28  | 39  | 32  | 28  | 38  | 32  | 28  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2979 | 2979 | 2979 |
| 5°  | 2979 | 2972 | 2976 |
| 10° | 2960 | 2954 | 2960 |
| 15° | 2929 | 2922 | 2928 |
| 20° | 2874 | 2873 | 2879 |
| 25° | 2809 | 2810 | 2821 |
| 30° | 2727 | 2733 | 2758 |
| 35° | 2637 | 2649 | 2689 |
| 40° | 2530 | 2557 | 2611 |
| 45° | 2417 | 2457 | 2527 |
| 50° | 2296 | 2352 | 2437 |
| 55° | 2142 | 2236 | 2338 |
| 60° | 1989 | 2110 | 2227 |
| 65° | 1831 | 1980 | 2110 |
| 70° | 1643 | 1836 | 1958 |
| 75° | 1421 | 1647 | 1783 |
| 80° | 1161 | 1427 | 1562 |
| 85° | 778  | 1096 | 1226 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 2527 cd/sqm

TEST NUMBER: P1215257  
 CATALOG NUMBER: 22-ID2-25-DBR-L830-U

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 104.5  | 3.8       |
| 10°-20°   | 295.7  | 10.6      |
| 20°-30°   | 436.2  | 15.7      |
| 30°-40°   | 505.7  | 18.2      |
| 40°-50°   | 499.7  | 18.0      |
| 50°-60°   | 426.9  | 15.3      |
| 60°-70°   | 307.0  | 11.0      |
| 70°-80°   | 166.7  | 6.0       |
| 80°-90°   | 41.2   | 1.5       |
| 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°    | 836.4  | 30.0      |
| 0°-40°    | 1342.1 | 48.2      |
| 0°-60°    | 2268.7 | 81.5      |
| 0°-90°    | 2783.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2783.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1107 | 1107  | 1107 | 1107  | 1107 |      |
| 5°  | 1103 | 1101  | 1100 | 1101  | 1102 | 105  |
| 15° | 1051 | 1050  | 1049 | 1049  | 1051 | 296  |
| 25° | 946  | 945   | 946  | 950   | 950  | 435  |
| 35° | 803  | 803   | 806  | 814   | 819  | 502  |
| 45° | 635  | 637   | 646  | 659   | 664  | 490  |
| 55° | 457  | 463   | 477  | 491   | 498  | 409  |
| 65° | 288  | 294   | 311  | 324   | 331  | 284  |
| 75° | 137  | 147   | 158  | 167   | 172  | 146  |
| 85° | 25   | 30    | 36   | 39    | 40   | 33   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

TEST NUMBER: P1215257

CATALOG NUMBER: 22-ID2-25-DBR-L830-U

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1107.1 | 1107.1 | 1107.1 | 1107.1 | 1107.1 |
| 2.5°  | 1107.1 | 1105.8 | 1104.7 | 1105.4 | 1106.8 |
| 5°    | 1102.7 | 1101.3 | 1100.2 | 1100.6 | 1101.6 |
| 7.5°  | 1094.7 | 1093.3 | 1092.0 | 1093.0 | 1094.4 |
| 10°   | 1083.3 | 1082.6 | 1080.9 | 1081.9 | 1083.3 |
| 12.5° | 1069.9 | 1067.4 | 1066.1 | 1067.4 | 1068.8 |
| 15°   | 1051.2 | 1049.8 | 1048.8 | 1048.8 | 1050.9 |
| 17.5° | 1028.8 | 1028.1 | 1027.4 | 1028.5 | 1029.5 |
| 20°   | 1003.6 | 1003.3 | 1003.3 | 1003.9 | 1005.3 |
| 22.5° | 976.7  | 975.6  | 977.0  | 978.4  | 979.4  |
| 25°   | 946.0  | 945.3  | 946.3  | 950.5  | 950.1  |
| 27.5° | 913.2  | 913.5  | 913.9  | 919.0  | 922.2  |
| 30°   | 877.6  | 878.7  | 879.7  | 887.0  | 887.6  |
| 32.5° | 841.4  | 842.1  | 845.2  | 852.4  | 855.5  |
| 35°   | 802.7  | 803.4  | 806.5  | 814.5  | 818.6  |
| 37.5° | 764.1  | 763.7  | 766.9  | 777.9  | 780.0  |
| 40°   | 720.3  | 721.3  | 727.9  | 739.9  | 743.4  |
| 42.5° | 679.9  | 680.2  | 687.8  | 699.6  | 704.4  |
| 45°   | 635.0  | 637.4  | 645.7  | 658.8  | 664.0  |
| 47.5° | 590.2  | 592.9  | 605.0  | 617.8  | 624.0  |
| 50°   | 548.4  | 550.1  | 561.9  | 575.7  | 582.2  |
| 52.5° | 502.8  | 507.3  | 519.4  | 533.9  | 540.5  |
| 55°   | 456.6  | 462.8  | 476.6  | 490.8  | 498.4  |
| 57.5° | 414.1  | 420.0  | 434.5  | 449.0  | 455.9  |
| 60°   | 369.6  | 376.9  | 392.1  | 406.9  | 413.8  |
| 62.5° | 327.2  | 335.1  | 351.3  | 366.5  | 374.1  |
| 65°   | 287.5  | 294.0  | 311.0  | 324.1  | 331.3  |
| 67.5° | 246.1  | 255.0  | 270.9  | 284.7  | 288.9  |
| 70°   | 208.8  | 216.4  | 233.3  | 243.7  | 248.8  |
| 72.5° | 170.5  | 181.5  | 195.7  | 205.3  | 211.6  |
| 75°   | 136.7  | 147.0  | 158.4  | 166.7  | 171.5  |
| 77.5° | 104.2  | 112.5  | 125.3  | 131.8  | 134.6  |
| 80°   | 74.9   | 81.4   | 92.1   | 98.7   | 100.8  |
| 82.5° | 48.7   | 54.5   | 62.1   | 66.3   | 68.3   |
| 85°   | 25.2   | 29.7   | 35.5   | 38.7   | 39.7   |
| 87.5° | 8.3    | 10.4   | 12.8   | 13.8   | 14.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

TEST NUMBER: P1215257

CATALOG NUMBER: 22-ID2-25-DBR-L830-U

**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 | 14.47            | 16.06 | 14.83 | 16.37 | 16.69 | 14.97          | 16.57 | 15.34 | 16.88 | 17.20 |
|                 | 3H   | 15.99            | 17.43 | 16.37 | 17.76 | 18.12 | 16.68          | 18.12 | 17.06 | 18.45 | 18.81 |
|                 | 4H   | 16.52            | 17.87 | 16.91 | 18.22 | 18.59 | 17.31          | 18.66 | 17.71 | 19.01 | 19.38 |
|                 | 6H   | 16.85            | 18.10 | 17.26 | 18.47 | 18.86 | 17.75          | 19.01 | 18.16 | 19.37 | 19.76 |
|                 | 8H   | 16.94            | 18.13 | 17.36 | 18.52 | 18.92 | 17.89          | 19.08 | 18.31 | 19.47 | 19.87 |
|                 | 12H  | 16.98            | 18.12 | 17.41 | 18.50 | 18.93 | 17.97          | 19.11 | 18.40 | 19.49 | 19.92 |
| 4H              | 2H   | 15.10            | 16.45 | 15.50 | 16.80 | 17.18 | 15.51          | 16.86 | 15.91 | 17.21 | 17.58 |
|                 | 3H   | 16.85            | 17.98 | 17.26 | 18.38 | 18.78 | 17.44          | 18.57 | 17.85 | 18.96 | 19.36 |
|                 | 4H   | 17.49            | 18.51 | 17.92 | 18.93 | 19.36 | 18.19          | 19.21 | 18.62 | 19.62 | 20.06 |
|                 | 6H   | 17.94            | 18.83 | 18.39 | 19.27 | 19.72 | 18.76          | 19.65 | 19.22 | 20.09 | 20.55 |
|                 | 8H   | 18.06            | 18.89 | 18.52 | 19.33 | 19.80 | 18.94          | 19.77 | 19.40 | 20.21 | 20.68 |
|                 | 12H  | 18.12            | 18.87 | 18.61 | 19.35 | 19.82 | 19.06          | 19.80 | 19.54 | 20.28 | 20.75 |
| 8H              | 4H   | 17.81            | 18.64 | 18.27 | 19.08 | 19.55 | 18.43          | 19.26 | 18.89 | 19.70 | 20.17 |
|                 | 6H   | 18.36            | 19.05 | 18.85 | 19.54 | 20.01 | 19.11          | 19.80 | 19.61 | 20.29 | 20.77 |
|                 | 8H   | 18.54            | 19.15 | 19.05 | 19.66 | 20.15 | 19.36          | 19.97 | 19.87 | 20.48 | 20.97 |
|                 | 12H  | 18.65            | 19.20 | 19.16 | 19.69 | 20.25 | 19.54          | 20.09 | 20.05 | 20.58 | 21.14 |
| 12H             | 4H   | 17.84            | 18.59 | 18.32 | 19.07 | 19.54 | 18.44          | 19.19 | 18.92 | 19.67 | 20.14 |
|                 | 6H   | 18.42            | 19.04 | 18.93 | 19.54 | 20.03 | 19.14          | 19.76 | 19.65 | 20.27 | 20.76 |
|                 | 8H   | 18.64            | 19.19 | 19.15 | 19.68 | 20.24 | 19.44          | 19.98 | 19.94 | 20.47 | 21.03 |

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

Report Prepared for

Cooper Lighting Solutions

Corelite

Report Number: SP1-2506-458-3

Test Date: 07/24/2025

Luminaire Tested: 22ID2-55-CFR1-L830-U

Data in this report applies to families of products including 22ID2-55-CFR1-L830-U



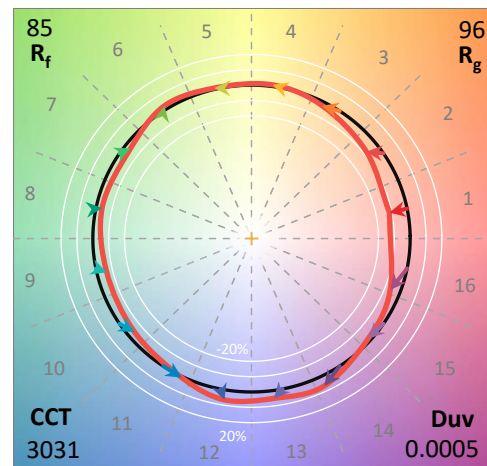
### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2506-458-3  
 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-L830-U**  
 Description: 2X2 CGTX WITH INDEPTH FRAME AND CFR1 LENS - 5500 LUMEN 3000K 80CRI

### Spectral Parameters

CCT (K): 3031  
 CIE  $u'$ : 0.2493  
 CIE  $v'$ : 0.5215  
 Duv: 0.0005  
 CIE x: 0.4355  
 CIE y: 0.4049  
 CIE z: 0.1596  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 582  
 Purity: 52.24762  
 Rf: 84.8  
 Rg: 95.8

CRI (Ra): 82.5  
 R1: 80.7  
 R2: 90.5  
 R3: 96.7  
 R4: 80.7  
 R5: 80.9  
 R6: 88.5  
 R7: 83.0  
 R8: 58.8  
 R9: 5.8  
 R10: 78.6  
 R11: 80.2  
 R12: 69.8  
 R13: 83.0  
 R14: 98.8  
 R15: 73.0



### Test Conditions

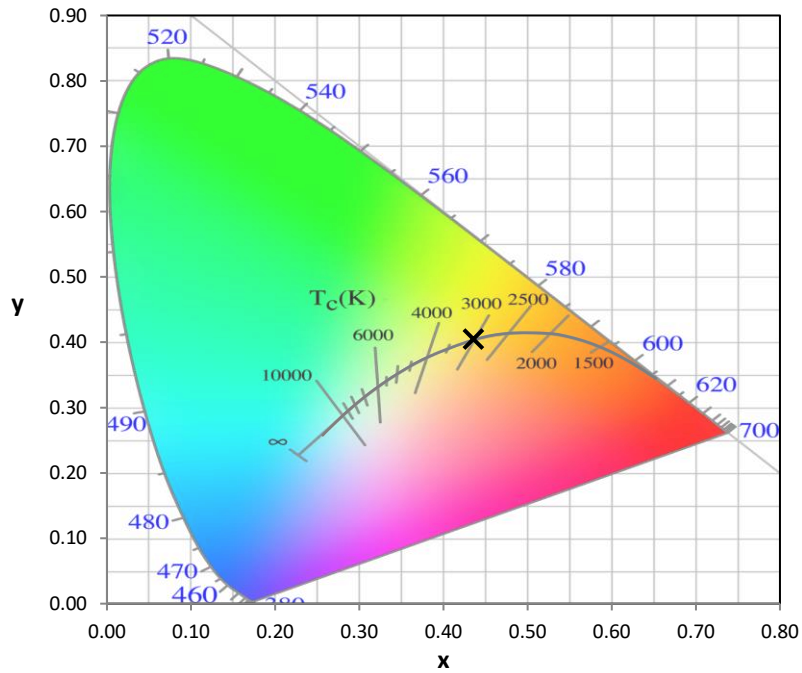
Stabilization Time: 38M  
 Operation Time: 1H 38M  
 Sphere Temperature (°C): 24.0

REPORT NUMBER: SP1-2506-458-3

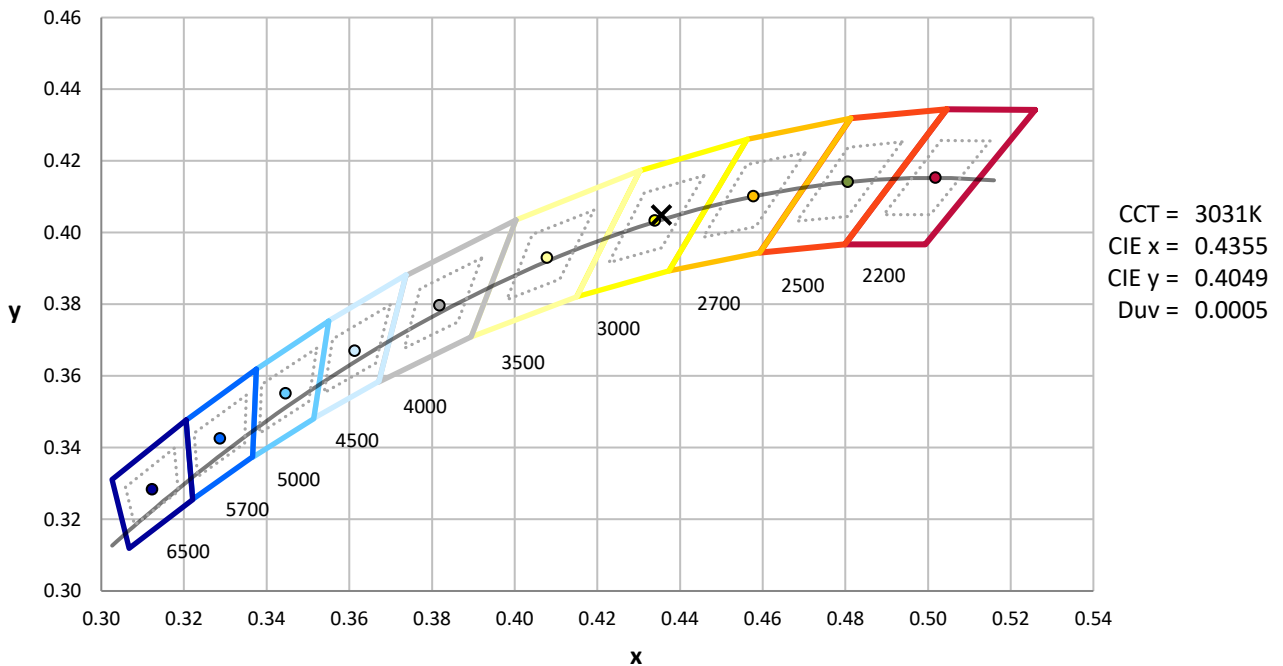
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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           |

REPORT NUMBER: SP1-2506-458-3

**CIE 1931 Chromaticity Diagram**



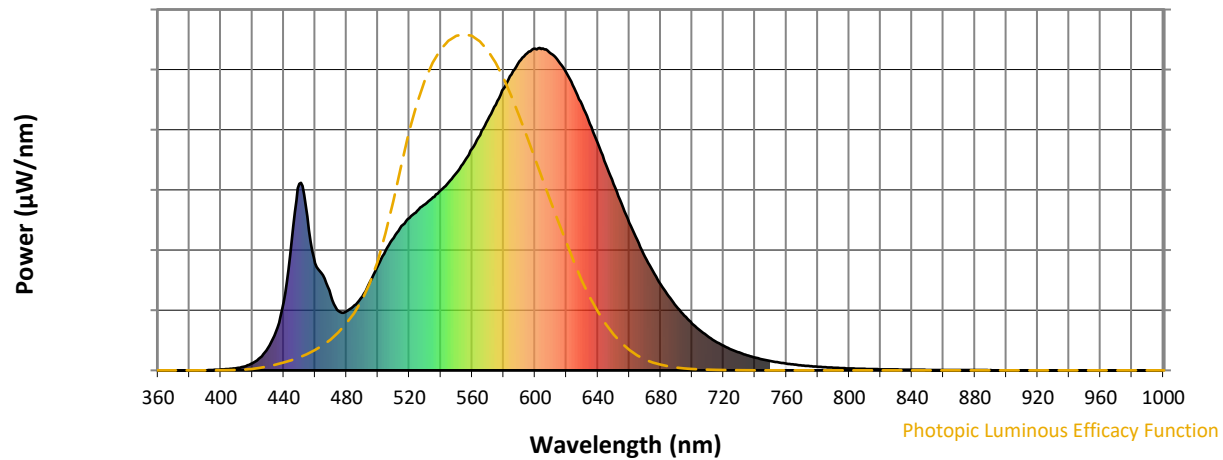
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2506-458-3

### Photopic Flux vs. Wavelength

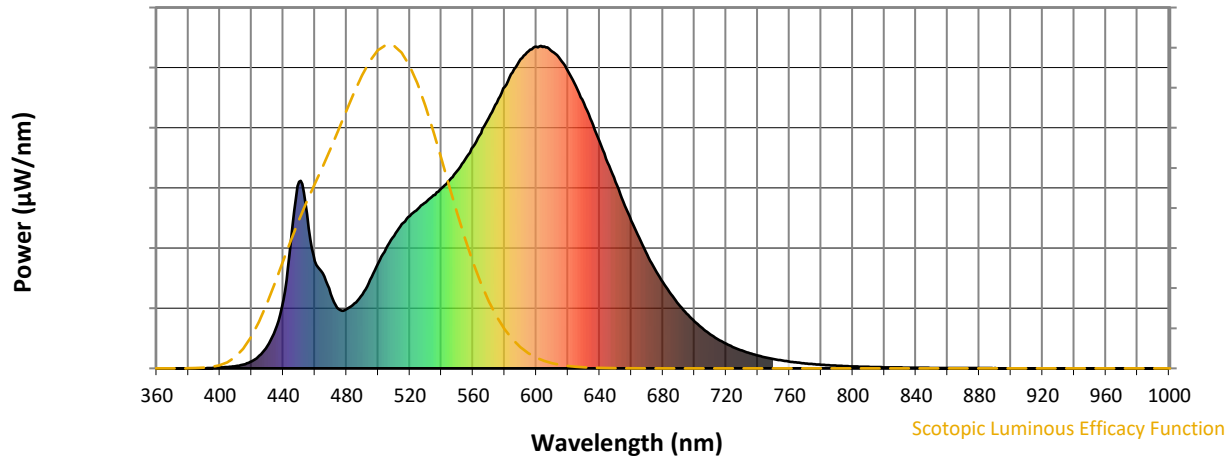


### Photopic Lumens: NR

| $\lambda$<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               | 229                                  | NR                             | 620               | 922                                  | NR                             | 750               | 29                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 275                                  | NR                             | 625               | 875                                  | NR                             | 755               | 25                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 326                                  | NR                             | 630               | 822                                  | NR                             | 760               | 21                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 372                                  | NR                             | 635               | 764                                  | NR                             | 765               | 18                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 411                                  | NR                             | 640               | 704                                  | NR                             | 770               | 15                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 447                                  | NR                             | 645               | 638                                  | NR                             | 775               | 13                                   | NR                             | 905               | 0                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 473                                  | NR                             | 650               | 577                                  | NR                             | 780               | 11                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 1                                    | NR                             | 525               | 495                                  | NR                             | 655               | 517                                  | NR                             | 785               | 10                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 3                                    | NR                             | 530               | 515                                  | NR                             | 660               | 457                                  | NR                             | 790               | 8                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 4                                    | NR                             | 535               | 537                                  | NR                             | 665               | 404                                  | NR                             | 795               | 7                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 7                                    | NR                             | 540               | 559                                  | NR                             | 670               | 353                                  | NR                             | 800               | 6                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 12                                   | NR                             | 545               | 584                                  | NR                             | 675               | 307                                  | NR                             | 805               | 5                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 22                                   | NR                             | 550               | 612                                  | NR                             | 680               | 267                                  | NR                             | 810               | 5                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 40                                   | NR                             | 555               | 648                                  | NR                             | 685               | 230                                  | NR                             | 815               | 4                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 69                                   | NR                             | 560               | 688                                  | NR                             | 690               | 199                                  | NR                             | 820               | 3                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 120                                  | NR                             | 565               | 730                                  | NR                             | 695               | 170                                  | NR                             | 825               | 3                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 212                                  | NR                             | 570               | 777                                  | NR                             | 700               | 145                                  | NR                             | 830               | 3                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 400                                  | NR                             | 575               | 824                                  | NR                             | 705               | 124                                  | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 578                                  | NR                             | 580               | 873                                  | NR                             | 710               | 106                                  | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 478                                  | NR                             | 585               | 918                                  | NR                             | 715               | 90                                   | NR                             | 845               | 2                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 332                                  | NR                             | 590               | 958                                  | NR                             | 720               | 76                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 295                                  | NR                             | 595               | 983                                  | NR                             | 725               | 65                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 231                                  | NR                             | 600               | 997                                  | NR                             | 730               | 55                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 183                                  | NR                             | 605               | 998                                  | NR                             | 735               | 47                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 184                                  | NR                             | 610               | 982                                  | NR                             | 740               | 40                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 201                                  | NR                             | 615               | 958                                  | NR                             | 745               | 34                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2506-458-3

### Scotopic Flux vs. Wavelength



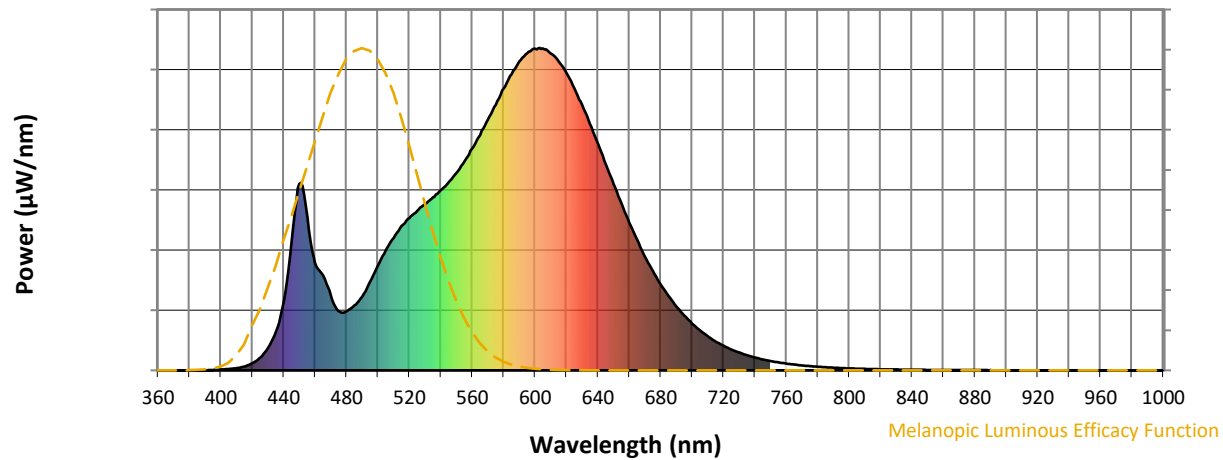
Scotopic Lumens: NR

S/P: 1.35

| $\lambda$<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               | 229                                  | NR                             | 620               | 922                                  | NR                             | 750               | 29                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 275                                  | NR                             | 625               | 875                                  | NR                             | 755               | 25                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 326                                  | NR                             | 630               | 822                                  | NR                             | 760               | 21                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 372                                  | NR                             | 635               | 764                                  | NR                             | 765               | 18                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 411                                  | NR                             | 640               | 704                                  | NR                             | 770               | 15                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 447                                  | NR                             | 645               | 638                                  | NR                             | 775               | 13                                   | NR                             | 905               | 0                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 473                                  | NR                             | 650               | 577                                  | NR                             | 780               | 11                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 1                                    | NR                             | 525               | 495                                  | NR                             | 655               | 517                                  | NR                             | 785               | 10                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 3                                    | NR                             | 530               | 515                                  | NR                             | 660               | 457                                  | NR                             | 790               | 8                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 4                                    | NR                             | 535               | 537                                  | NR                             | 665               | 404                                  | NR                             | 795               | 7                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 7                                    | NR                             | 540               | 559                                  | NR                             | 670               | 353                                  | NR                             | 800               | 6                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 12                                   | NR                             | 545               | 584                                  | NR                             | 675               | 307                                  | NR                             | 805               | 5                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 22                                   | NR                             | 550               | 612                                  | NR                             | 680               | 267                                  | NR                             | 810               | 5                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 40                                   | NR                             | 555               | 648                                  | NR                             | 685               | 230                                  | NR                             | 815               | 4                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 69                                   | NR                             | 560               | 688                                  | NR                             | 690               | 199                                  | NR                             | 820               | 3                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 120                                  | NR                             | 565               | 730                                  | NR                             | 695               | 170                                  | NR                             | 825               | 3                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 212                                  | NR                             | 570               | 777                                  | NR                             | 700               | 145                                  | NR                             | 830               | 3                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 400                                  | NR                             | 575               | 824                                  | NR                             | 705               | 124                                  | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 578                                  | NR                             | 580               | 873                                  | NR                             | 710               | 106                                  | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 478                                  | NR                             | 585               | 918                                  | NR                             | 715               | 90                                   | NR                             | 845               | 2                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 332                                  | NR                             | 590               | 958                                  | NR                             | 720               | 76                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 295                                  | NR                             | 595               | 983                                  | NR                             | 725               | 65                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 231                                  | NR                             | 600               | 997                                  | NR                             | 730               | 55                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 183                                  | NR                             | 605               | 998                                  | NR                             | 735               | 47                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 184                                  | NR                             | 610               | 982                                  | NR                             | 740               | 40                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 201                                  | NR                             | 615               | 958                                  | NR                             | 745               | 34                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2506-458-3

### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.59**

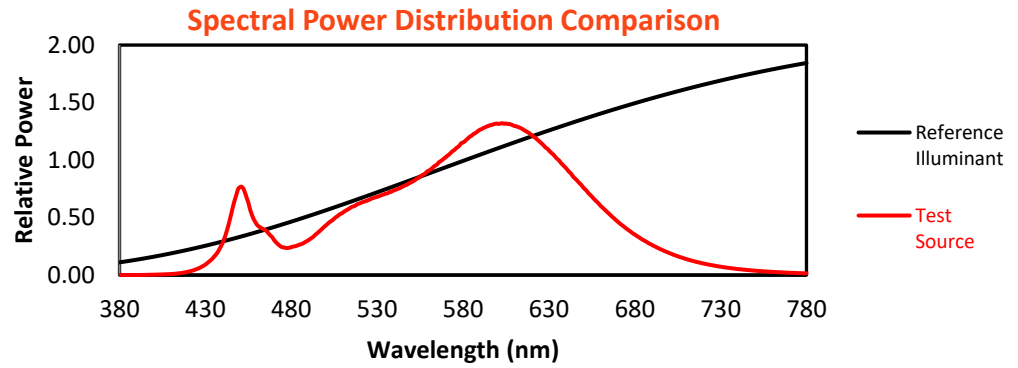
| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<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               | 229                                  | NR                             | 620               | 922                                  | NR                             | 750               | 29                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 275                                  | NR                             | 625               | 875                                  | NR                             | 755               | 25                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 326                                  | NR                             | 630               | 822                                  | NR                             | 760               | 21                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 372                                  | NR                             | 635               | 764                                  | NR                             | 765               | 18                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 411                                  | NR                             | 640               | 704                                  | NR                             | 770               | 15                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 447                                  | NR                             | 645               | 638                                  | NR                             | 775               | 13                                   | NR                             | 905               | 0                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 473                                  | NR                             | 650               | 577                                  | NR                             | 780               | 11                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 1                                    | NR                             | 525               | 495                                  | NR                             | 655               | 517                                  | NR                             | 785               | 10                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 3                                    | NR                             | 530               | 515                                  | NR                             | 660               | 457                                  | NR                             | 790               | 8                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 4                                    | NR                             | 535               | 537                                  | NR                             | 665               | 404                                  | NR                             | 795               | 7                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 7                                    | NR                             | 540               | 559                                  | NR                             | 670               | 353                                  | NR                             | 800               | 6                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 12                                   | NR                             | 545               | 584                                  | NR                             | 675               | 307                                  | NR                             | 805               | 5                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 22                                   | NR                             | 550               | 612                                  | NR                             | 680               | 267                                  | NR                             | 810               | 5                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 40                                   | NR                             | 555               | 648                                  | NR                             | 685               | 230                                  | NR                             | 815               | 4                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 69                                   | NR                             | 560               | 688                                  | NR                             | 690               | 199                                  | NR                             | 820               | 3                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 120                                  | NR                             | 565               | 730                                  | NR                             | 695               | 170                                  | NR                             | 825               | 3                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 212                                  | NR                             | 570               | 777                                  | NR                             | 700               | 145                                  | NR                             | 830               | 3                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 400                                  | NR                             | 575               | 824                                  | NR                             | 705               | 124                                  | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 578                                  | NR                             | 580               | 873                                  | NR                             | 710               | 106                                  | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 478                                  | NR                             | 585               | 918                                  | NR                             | 715               | 90                                   | NR                             | 845               | 2                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 332                                  | NR                             | 590               | 958                                  | NR                             | 720               | 76                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 295                                  | NR                             | 595               | 983                                  | NR                             | 725               | 65                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 231                                  | NR                             | 600               | 997                                  | NR                             | 730               | 55                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 183                                  | NR                             | 605               | 998                                  | NR                             | 735               | 47                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 184                                  | NR                             | 610               | 982                                  | NR                             | 740               | 40                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 201                                  | NR                             | 615               | 958                                  | NR                             | 745               | 34                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2506-458-3

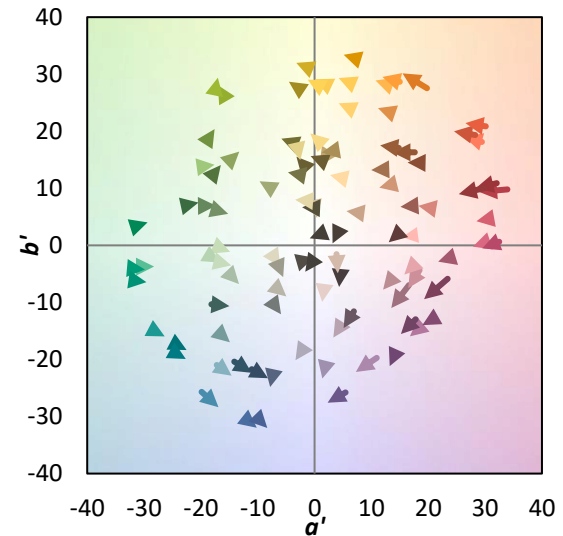
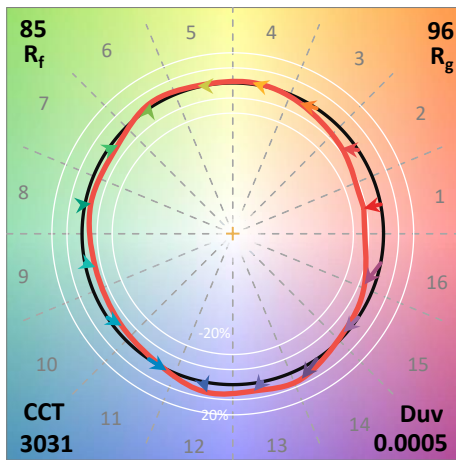
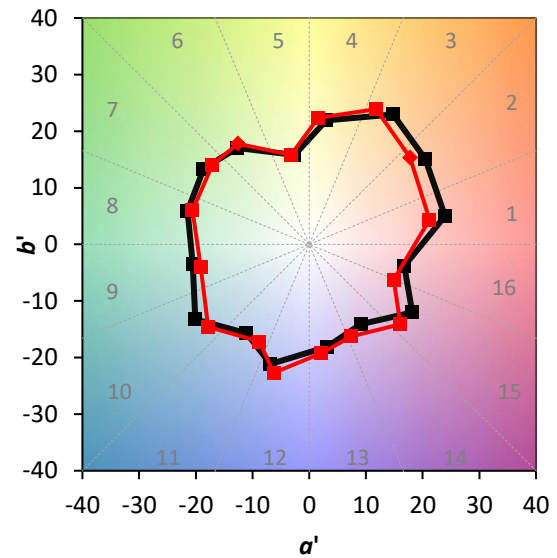
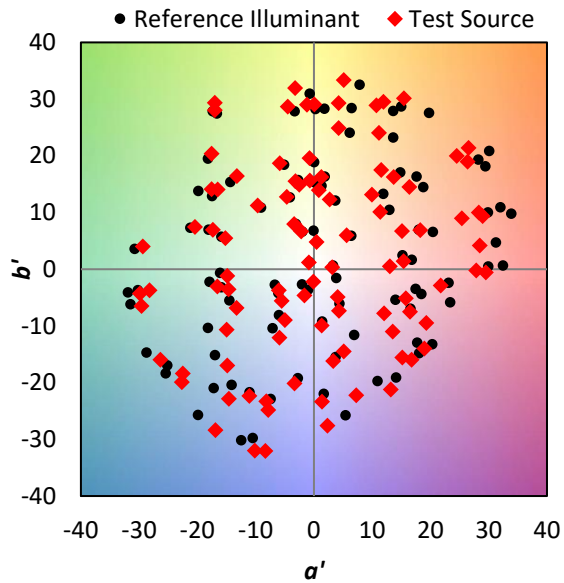
TM-30-18

### Summary

$R_f = 84.8$   
 $R_g = 95.8$   
 $CIE R_a = 82.5$   
 $R_9 = 5.8$

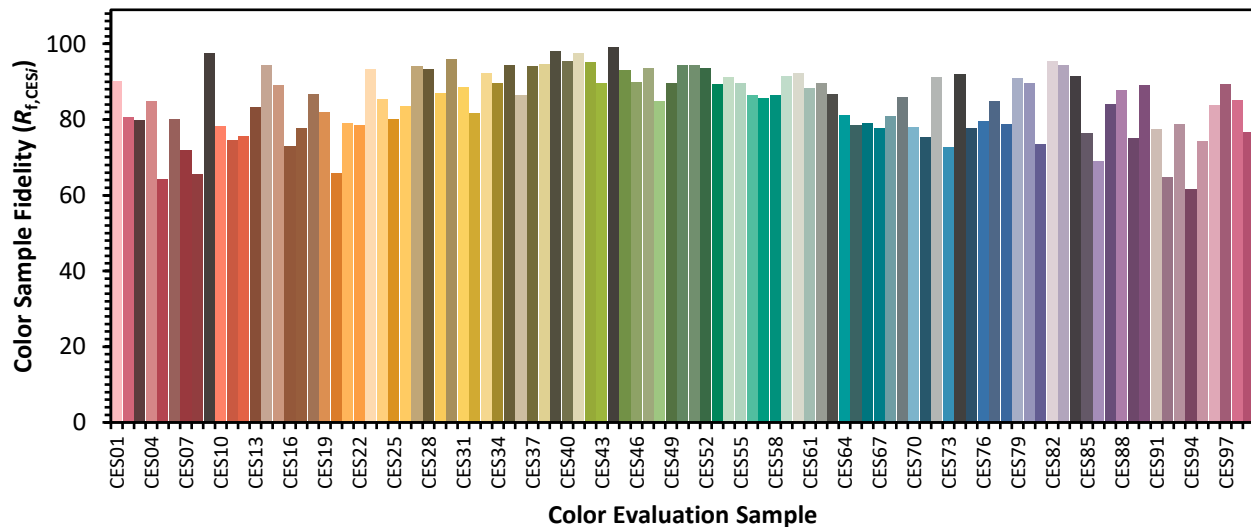


### Color Vector Graphics



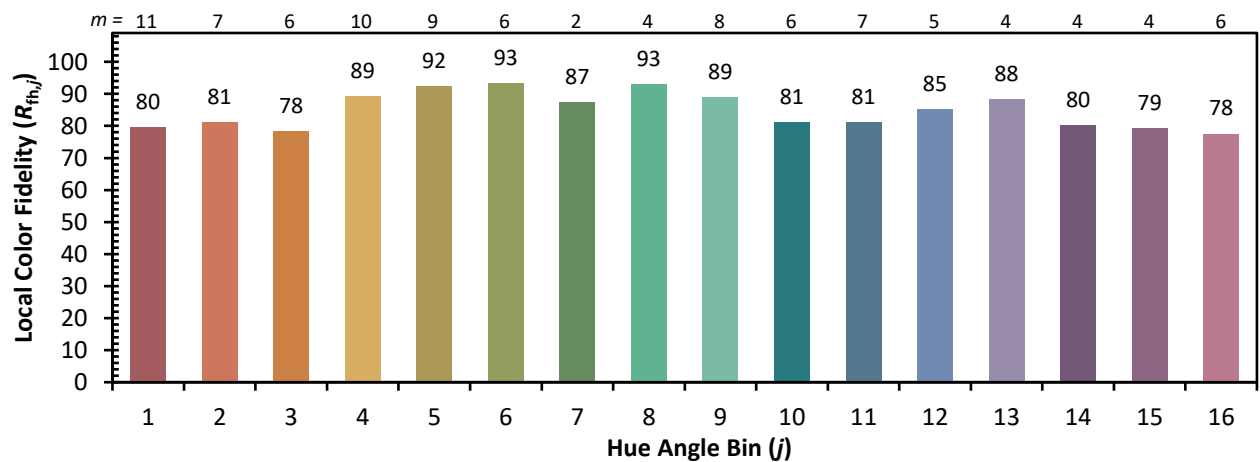
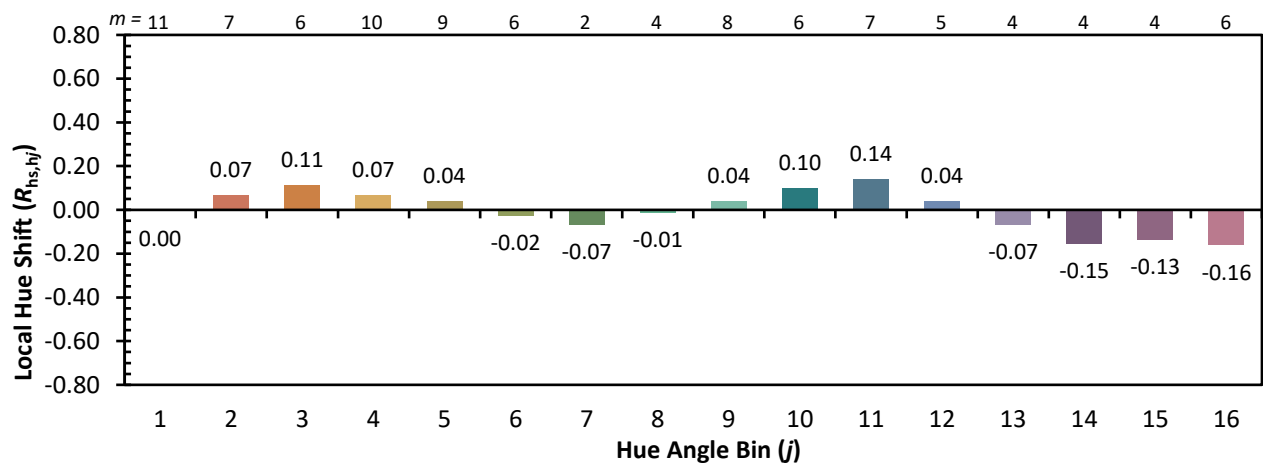
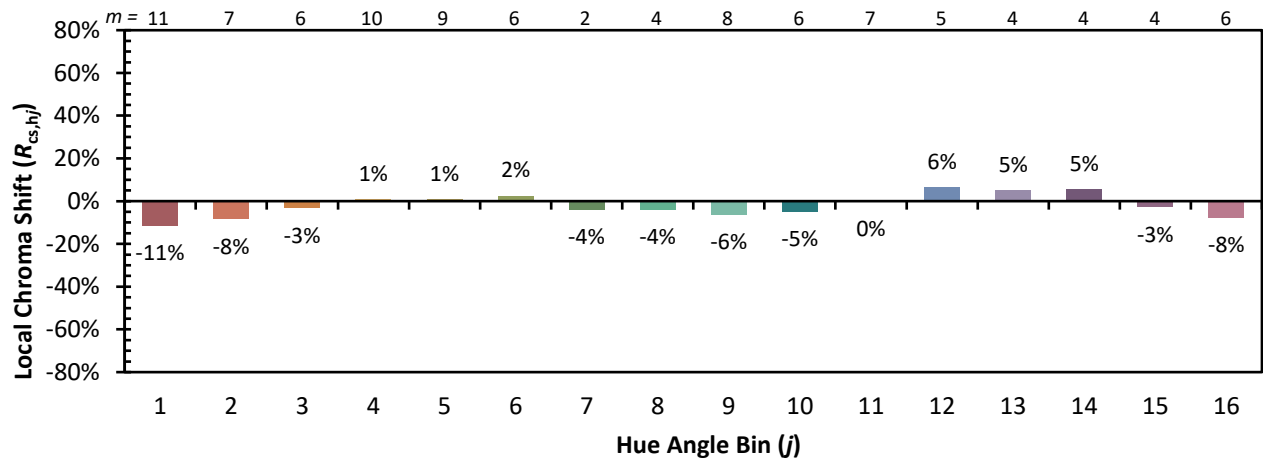
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 84 | CES51 = 94 | CES76 = 80 |
| CES02 = 63 | CES27 = 94 | CES52 = 94 | CES77 = 85 |
| CES03 = 31 | CES28 = 93 | CES53 = 89 | CES78 = 79 |
| CES04 = 70 | CES29 = 87 | CES54 = 91 | CES79 = 91 |
| CES05 = 50 | CES30 = 96 | CES55 = 90 | CES80 = 90 |
| CES06 = 51 | CES31 = 89 | CES56 = 87 | CES81 = 74 |
| CES07 = 42 | CES32 = 82 | CES57 = 86 | CES82 = 95 |
| CES08 = 41 | CES33 = 92 | CES58 = 87 | CES83 = 94 |
| CES09 = 29 | CES34 = 90 | CES59 = 91 | CES84 = 92 |
| CES10 = 76 | CES35 = 94 | CES60 = 92 | CES85 = 77 |
| CES11 = 59 | CES36 = 86 | CES61 = 88 | CES86 = 69 |
| CES12 = 65 | CES37 = 94 | CES62 = 90 | CES87 = 84 |
| CES13 = 43 | CES38 = 95 | CES63 = 87 | CES88 = 88 |
| CES14 = 74 | CES39 = 98 | CES64 = 81 | CES89 = 75 |
| CES15 = 72 | CES40 = 95 | CES65 = 79 | CES90 = 89 |
| CES16 = 47 | CES41 = 97 | CES66 = 79 | CES91 = 77 |
| CES17 = 50 | CES42 = 95 | CES67 = 78 | CES92 = 65 |
| CES18 = 56 | CES43 = 90 | CES68 = 81 | CES93 = 79 |
| CES19 = 72 | CES44 = 99 | CES69 = 86 | CES94 = 62 |
| CES20 = 67 | CES45 = 93 | CES70 = 78 | CES95 = 74 |
| CES21 = 87 | CES46 = 90 | CES71 = 75 | CES96 = 84 |
| CES22 = 79 | CES47 = 94 | CES72 = 91 | CES97 = 89 |
| CES23 = 92 | CES48 = 85 | CES73 = 73 | CES98 = 85 |
| CES24 = 91 | CES49 = 90 | CES74 = 92 | CES99 = 77 |
| CES25 = 72 | CES50 = 94 | CES75 = 78 |            |

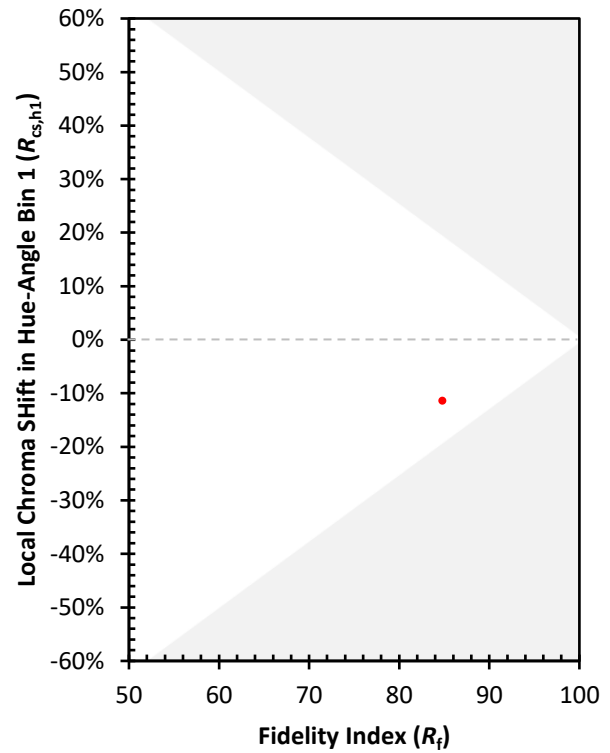
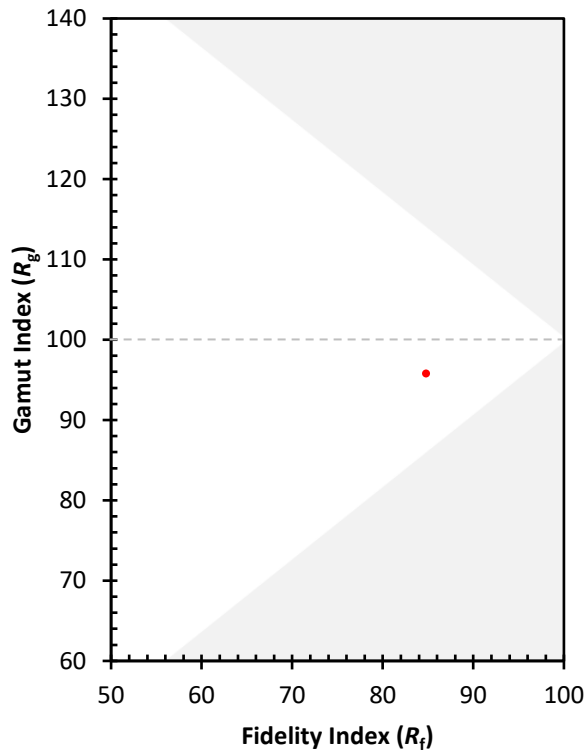




Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)