Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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: P1217203

Luminaire Tested: 14-ID2-40-CNV-L840-U

Issue Date: 12/5/2025

Report Generated By 670265710 / DESKTOP-98SHLC4

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | P1217203 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2508-507-11) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 12/5/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | CORELITE |
| Catalog Number: | 14-ID2-40-CNV-L840-U |
| Description: | 1X4 IN DEPTH TROFFER WITH 2INCH CURVE DROP LENS |
| Light Source: | 4000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 4231.6 lumens |
| Efficiency: | N/A |
| Efficacy: | 120.6 lumens/watt |
| Spacing Criteria (0/90/45): | 1.21 / 1.22 / 1.33 |
| Luminous Opening: | Rectangular w/ Sides (W: 1' x L: 4' x H: 0.16') |
| CIE Type: | Direct |

| | |
|---|---|
| Input Watts (W): | 35.1 |
| 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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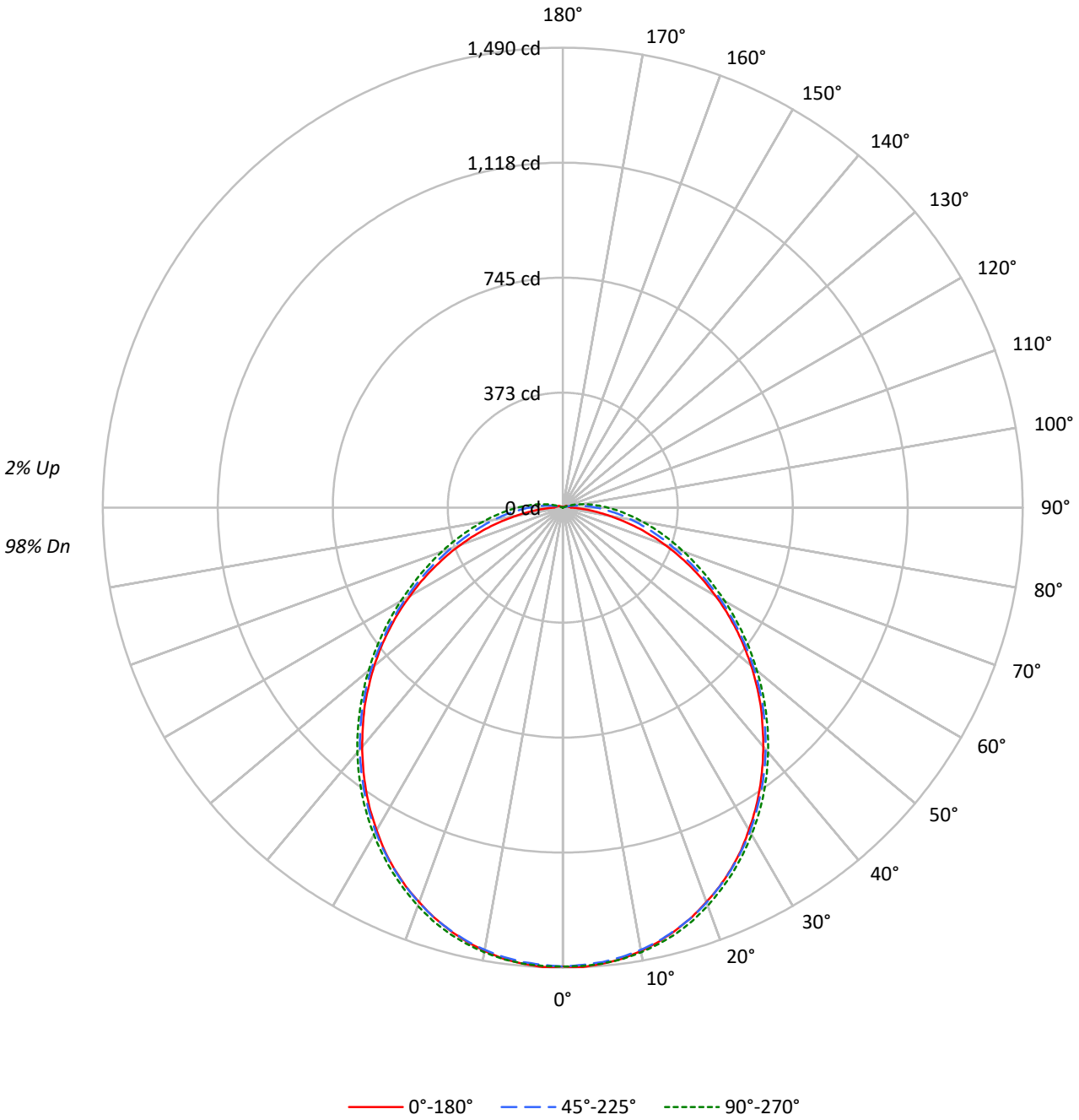
Scaled Data Report

TEST NUMBER: P1217203
CATALOG NUMBER: 14-ID2-40-CNV-L840-U

## Luminous Intensity Polar Plot



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## COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| RF | 20 | | | | 20 | | | | 20 | | | 20 | | | 20 | | | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RC | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 105 | 105 | 105 | 100 | 100 | 100 | 98 |
| 1 | 107 | 102 | 98 | 94 | 104 | 100 | 96 | 92 | 95 | 92 | 88 | 91 | 88 | 85 | 87 | 84 | 82 | 80 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 80 | 75 | 83 | 77 | 73 | 79 | 75 | 71 | 76 | 72 | 69 | 66 |
| 3 | 89 | 78 | 70 | 63 | 86 | 76 | 69 | 62 | 73 | 66 | 61 | 70 | 64 | 60 | 67 | 62 | 58 | 56 |
| 4 | 81 | 69 | 60 | 54 | 79 | 68 | 59 | 53 | 65 | 58 | 52 | 62 | 56 | 51 | 60 | 54 | 50 | 48 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 58 | 51 | 45 | 56 | 49 | 44 | 54 | 48 | 44 | 41 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 39 | 51 | 44 | 39 | 49 | 43 | 38 | 36 |
| 7 | 64 | 51 | 42 | 36 | 62 | 50 | 41 | 35 | 48 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 34 | 32 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 32 | 44 | 37 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 29 | 54 | 42 | 34 | 29 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 25 | 35 | 29 | 25 | 23 |

## AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|---|---|---|---|
| 0° | 4001 | 4001 | 4001 |
| 5° | 3993 | 3943 | 3950 |
| 10° | 3957 | 3879 | 3887 |
| 15° | 3906 | 3800 | 3812 |
| 20° | 3839 | 3708 | 3715 |
| 25° | 3764 | 3601 | 3603 |
| 30° | 3662 | 3482 | 3481 |
| 35° | 3555 | 3351 | 3350 |
| 40° | 3436 | 3210 | 3206 |
| 45° | 3319 | 3060 | 3050 |
| 50° | 3184 | 2895 | 2887 |
| 55° | 3041 | 2715 | 2722 |
| 60° | 2875 | 2537 | 2554 |
| 65° | 2699 | 2350 | 2401 |
| 70° | 2496 | 2172 | 2275 |
| 75° | 2259 | 2038 | 2177 |
| 80° | 1950 | 1939 | 2133 |
| 85° | 1704 | 1906 | 2182 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3319 cd/sqm

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TEST NUMBER: P1217203
CATALOG NUMBER: 14-ID2-40-CNV-L840-U

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 140.6 | 3.3 |
| 10°-20° | 400.0 | 9.5 |
| 20°-30° | 596.1 | 14.1 |
| 30°-40° | 701.5 | 16.6 |
| 40°-50° | 707.8 | 16.7 |
| 50°-60° | 624.0 | 14.7 |
| 60°-70° | 478.0 | 11.3 |
| 70°-80° | 313.1 | 7.4 |
| 80°-90° | 167.4 | 4.0 |
| 90°-100° | 71.1 | 1.7 |
| 100°-110° | 22.7 | 0.5 |
| 110°-120° | 5.3 | 0.1 |
| 120°-130° | 2.4 | 0.1 |
| 130°-140° | 1.2 | 0.0 |
| 140°-150° | 0.4 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 1136.7 | 26.9 |
| 0°-40° | 1838.2 | 43.4 |
| 0°-60° | 3169.9 | 74.9 |
| 0°-90° | 4128.4 | 97.6 |
| 90°-120° | 99.2 | 2.3 |
| 90°-150° | 103.2 | 2.4 |
| 90°-180° | 103.0 | 2.4 |
| 0°-180° | 4231.6 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|---|---|---|---|---|---|---|
| 0° | 1487 | 1487 | 1487 | 1487 | 1487 | |
| 5° | 1483 | 1481 | 1478 | 1478 | 1483 | 141 |
| 15° | 1417 | 1416 | 1416 | 1421 | 1427 | 399 |
| 25° | 1291 | 1289 | 1293 | 1299 | 1304 | 594 |
| 35° | 1113 | 1113 | 1121 | 1130 | 1134 | 696 |
| 45° | 907 | 908 | 918 | 928 | 930 | 699 |
| 55° | 685 | 685 | 696 | 710 | 713 | 612 |
| 65° | 460 | 462 | 481 | 499 | 506 | 456 |
| 75° | 250 | 260 | 300 | 326 | 334 | 265 |
| 85° | 80 | 110 | 162 | 192 | 200 | 81 |
| 90° | 28 | 63 | 109 | 137 | 146 | 18 |
| 95° | 24 | 32 | 67 | 92 | 101 | 18 |
| 105° | 16 | 13 | 14 | 28 | 34 | 17 |
| 115° | 11 | 8 | 4 | 0 | 0 | 11 |
| 125° | 6 | 5 | 2 | 0 | 0 | 6 |
| 135° | 4 | 3 | 1 | 0 | 0 | 3 |
| 145° | 2 | 1 | 0 | 0 | 0 | 1 |
| 155° | 0 | 0 | 0 | 0 | 0 | 0 |
| 165° | 0 | 0 | 0 | 0 | 0 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | |

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TEST NUMBER: P1217203
CATALOG NUMBER: 14-ID2-40-CNV-L840-U

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° |
|---|---|---|---|---|---|
| 0° | *1486.8* | 1486.8 | 1486.8 | 1486.8 | 1486.8 |
| 2.5° | *1489.7* | *1487.5* | *1482.6* | *1484.0* | *1486.1* |
| 5° | *1483.3* | 1481.1 | 1477.6 | 1478.3 | 1482.6 |
| 7.5° | *1474.0* | 1471.2 | 1468.3 | 1470.5 | 1475.4 |
| 10° | *1458.4* | 1456.9 | 1454.8 | 1457.7 | 1462.6 |
| 12.5° | *1439.9* | 1438.4 | 1437.7 | 1441.3 | 1447.0 |
| 15° | *1417.1* | 1415.7 | 1415.7 | 1421.4 | 1427.1 |
| 17.5° | *1390.8* | 1390.1 | 1391.5 | 1397.9 | 1402.2 |
| 20° | *1360.2* | 1359.5 | 1361.6 | 1368.0 | 1373.0 |
| 22.5° | *1328.2* | 1326.8 | 1328.9 | 1334.6 | 1339.6 |
| 25° | *1291.2* | 1289.1 | 1292.6 | 1299.0 | 1304.0 |
| 27.5° | *1251.4* | 1247.8 | 1253.5 | 1260.6 | 1264.9 |
| 30° | *1205.8* | 1206.5 | 1212.2 | 1219.3 | 1223.6 |
| 32.5° | *1161.0* | 1160.3 | 1167.4 | 1175.9 | 1180.2 |
| 35° | *1112.6* | 1112.6 | 1121.2 | 1130.4 | 1134.0 |
| 37.5° | *1062.1* | 1064.3 | 1072.8 | 1081.3 | 1085.6 |
| 40° | *1010.9* | 1013.7 | 1022.3 | 1031.5 | 1035.1 |
| 42.5° | *958.3* | 961.1 | 970.3 | 980.3 | 983.2 |
| 45° | *907.0* | 907.7 | 917.7 | 928.4 | 929.8 |
| 47.5° | *851.5* | 852.3 | 862.9 | 873.6 | 875.7 |
| 50° | *796.8* | 797.5 | 808.1 | 819.5 | 821.0 |
| 52.5° | *741.3* | 742.0 | 751.2 | 764.8 | 767.6 |
| 55° | *685.1* | 685.1 | 695.7 | 710.0 | 712.8 |
| 57.5° | *628.9* | 628.9 | 640.3 | 655.2 | 658.8 |
| 60° | *571.3* | 572.7 | 586.9 | 601.1 | 606.1 |
| 62.5° | *515.8* | 517.2 | 532.8 | 547.8 | 554.2 |
| 65° | *460.3* | 462.4 | 480.9 | 498.7 | 506.5 |
| 67.5° | *406.2* | 409.1 | 430.4 | 453.2 | 460.3 |
| 70° | *352.1* | 357.8 | 383.4 | 408.3 | 416.2 |
| 72.5° | *300.2* | 306.6 | 340.8 | 367.1 | 374.2 |
| 75° | *249.7* | 259.7 | 299.5 | 326.5 | 334.4 |
| 77.5° | *200.6* | 215.6 | 261.1 | 290.3 | 297.4 |
| 80° | *154.4* | 176.4 | 225.5 | 254.7 | 262.5 |
| 82.5° | *115.2* | 140.1 | 192.8 | 222.7 | 229.8 |
| 85° | *80.4* | 110.3 | 161.5 | 192.1 | 199.9 |
| 87.5° | *51.9* | 84.7 | 133.7 | 163.6 | 172.2 |
| 90° | *28.5* | 62.6 | 108.8 | 137.3 | 145.8 |
| 92.5° | *25.6* | 45.5 | 86.8 | 113.8 | 122.4 |
| 95° | *23.5* | 32.0 | 66.9 | 92.5 | 101.0 |
| 97.5° | *21.3* | 21.3 | 49.8 | 73.3 | 81.1 |
| 100° | *19.9* | 15.7 | 35.6 | 56.2 | 64.0 |
| 102.5° | *17.8* | 14.2 | 23.5 | 41.3 | 48.4 |
| 105° | *16.4* | 12.8 | 14.2 | 28.5 | 34.1 |
| 107.5° | *14.9* | 11.4 | 7.1 | 17.8 | 22.8 |
| 110° | *13.5* | 10.7 | 5.7 | 8.5 | 13.5 |

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Scaled Data Report

TEST NUMBER: P1217203
CATALOG NUMBER: 14-ID2-40-CNV-L840-U

**CANDELA DISTRIBUTION (continued):**

| | 0° | 22.5° | 45° | 67.5° | 90° |
|---|---|---|---|---|---|
| 112.5° | *12.1* | 9.2 | 5.0 | 2.1 | 5.0 |
| 115° | *10.7* | 8.5 | 4.3 | 0.0 | 0.0 |
| 117.5° | *9.2* | 7.8 | 3.6 | 0.0 | 0.0 |
| 120° | *8.5* | 6.4 | 3.6 | 0.0 | 0.0 |
| 122.5° | *7.8* | 5.7 | 2.8 | 0.0 | 0.0 |
| 125° | *6.4* | 5.0 | 2.1 | 0.0 | 0.0 |
| 127.5° | *5.7* | 4.3 | 2.1 | 0.0 | 0.0 |
| 130° | *5.0* | 4.3 | 1.4 | 0.0 | 0.0 |
| 132.5° | *4.3* | 3.6 | 1.4 | 0.0 | 0.0 |
| 135° | *3.6* | 2.8 | 1.4 | 0.0 | 0.0 |
| 137.5° | *3.6* | 2.8 | 0.7 | 0.0 | 0.0 |
| 140° | *2.8* | 2.1 | 0.7 | 0.0 | 0.0 |
| 142.5° | *2.1* | 1.4 | 0.7 | 0.0 | 0.0 |
| 145° | *2.1* | 1.4 | 0.0 | 0.0 | 0.0 |
| 147.5° | *1.4* | 1.4 | 0.0 | 0.0 | 0.0 |
| 150° | *1.4* | 0.7 | 0.0 | 0.0 | 0.0 |
| 152.5° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 155° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 157.5° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 160° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |
| 180° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |

TEST NUMBER: P1217203
CATALOG NUMBER: 14-ID2-40-CNV-L840-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 | 14.88 | 16.47 | 15.28 | 16.84 | 17.22 | 15.52 | 17.12 | 15.93 | 17.48 | 17.86 |
| | 3H | 16.48 | 17.92 | 16.90 | 18.30 | 18.72 | 17.50 | 18.95 | 17.92 | 19.32 | 19.74 |
| | 4H | 17.05 | 18.41 | 17.49 | 18.81 | 19.25 | 18.40 | 19.76 | 18.83 | 20.16 | 20.59 |
| | 6H | 17.45 | 18.72 | 17.90 | 19.13 | 19.58 | 19.27 | 20.54 | 19.72 | 20.95 | 21.40 |
| | 8H | 17.57 | 18.78 | 18.03 | 19.22 | 19.68 | 19.69 | 20.91 | 20.15 | 21.34 | 21.80 |
| | 12H | 17.65 | 18.81 | 18.12 | 19.24 | 19.73 | 20.13 | 21.30 | 20.60 | 21.73 | 22.21 |
| 4H | 2H | 15.52 | 16.89 | 15.96 | 17.29 | 17.72 | 16.04 | 17.40 | 16.47 | 17.80 | 18.23 |
| | 3H | 17.34 | 18.50 | 17.79 | 18.94 | 19.40 | 18.24 | 19.40 | 18.69 | 19.84 | 20.30 |
| | 4H | 18.03 | 19.09 | 18.50 | 19.54 | 20.04 | 19.30 | 20.35 | 19.77 | 20.81 | 21.30 |
| | 6H | 18.56 | 19.48 | 19.05 | 19.97 | 20.48 | 20.35 | 21.28 | 20.84 | 21.76 | 22.27 |
| | 8H | 18.73 | 19.60 | 19.23 | 20.08 | 20.60 | 20.87 | 21.73 | 21.36 | 22.22 | 22.74 |
| | 12H | 18.86 | 19.64 | 19.37 | 20.16 | 20.68 | 21.41 | 22.20 | 21.93 | 22.71 | 23.24 |
| 8H | 4H | 18.46 | 19.33 | 18.96 | 19.82 | 20.34 | 19.57 | 20.44 | 20.07 | 20.93 | 21.45 |
| | 6H | 19.13 | 19.86 | 19.66 | 20.39 | 20.92 | 20.79 | 21.52 | 21.32 | 22.05 | 22.58 |
| | 8H | 19.39 | 20.05 | 19.93 | 20.59 | 21.13 | 21.44 | 22.10 | 21.98 | 22.64 | 23.18 |
| | 12H | 19.60 | 20.18 | 20.14 | 20.72 | 21.33 | 22.15 | 22.74 | 22.69 | 23.27 | 23.88 |
| 12H | 4H | 18.55 | 19.34 | 19.07 | 19.86 | 20.38 | 19.59 | 20.38 | 20.11 | 20.90 | 21.42 |
| | 6H | 19.29 | 19.95 | 19.83 | 20.49 | 21.03 | 20.85 | 21.51 | 21.39 | 22.06 | 22.60 |
| | 8H | 19.62 | 20.21 | 20.16 | 20.74 | 21.35 | 21.57 | 22.16 | 22.11 | 22.69 | 23.30 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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

Report Prepared for

Cooper Lighting Solutions

Corelite

Report Number: SP1-2506-458-5

Test Date: 08/26/2025

Luminaire Tested: 22ID2-55-CFR1-L840-U

Data in this report applies to families of products including 22ID2-55-CFR1-L840-U

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

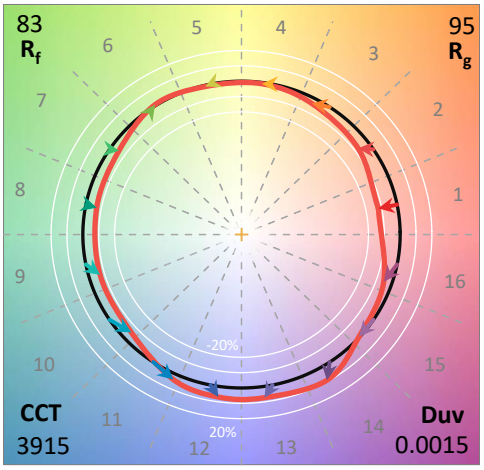
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2506-458-5 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 08/27/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | Corelite |
| Catalog Number: | **22ID2-55-CFR1-L840-U** |
| Description: | 2X2 CGTX WITH INDEPTH FRAME AND CFR1 LENS - 5500 LUMEN 4000K 80CRI |

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 3915 | CRI (Ra): | 82.3 | | |
| CIE u': | 0.2259 | R1: | 80.6 | R9: | 7.6 |
| CIE v': | 0.5051 | R2: | 88.9 | R10: | 72.9 |
| Duv: | 0.0015 | R3: | 94.6 | R11: | 78.7 |
| CIE x: | 0.3854 | R4: | 80.5 | R12: | 57.3 |
| CIE y: | 0.3830 | R5: | 80.0 | R13: | 82.7 |
| CIE z: | 0.2316 | R6: | 84.0 | R14: | 97.1 |
| Peak Wavelength (nm): | 453 | R7: | 86.1 | R15: | 74.3 |
| Dominant Wavelength (nm): | 578 | R8: | 64.0 | | |
| Purity: | 30.6207 | | | | |

| | |
|---|---|
| Rf: | 83.2 |
| Rg: | 94.6 |




## Test Conditions

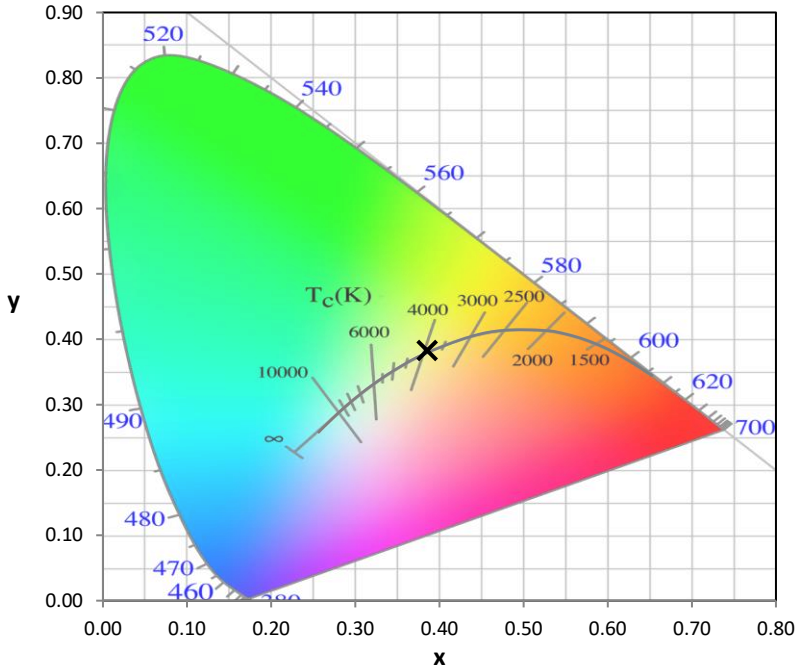
| | |
|---|---|
| Stabilization Time: | 34M |
| Operation Time: | 1H 34M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2506-458-5

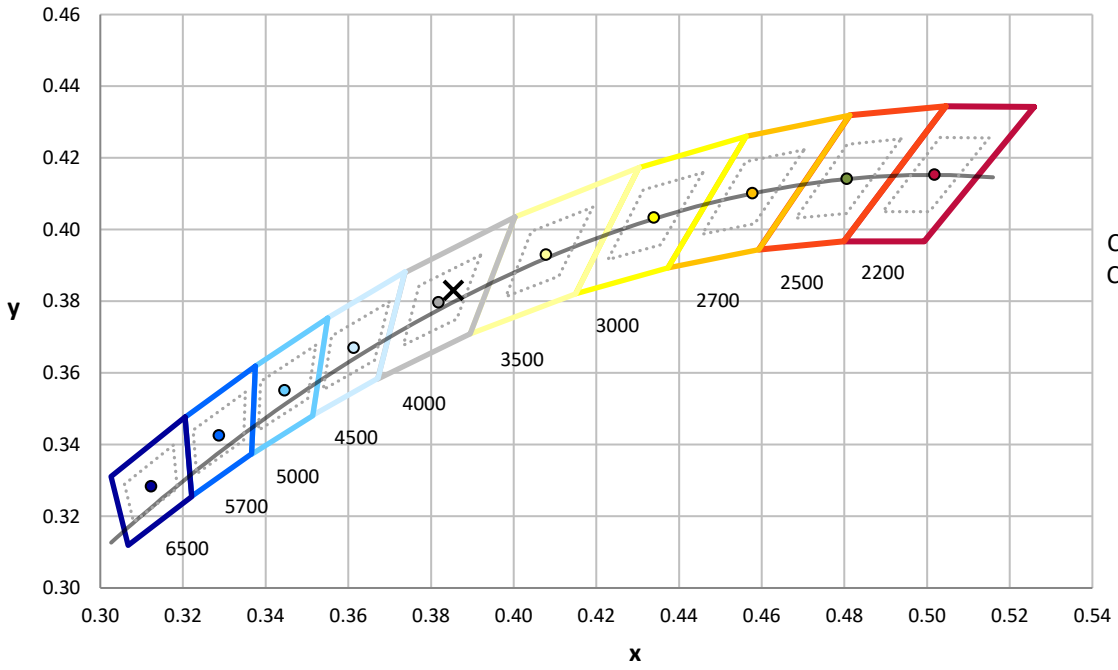
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 6/16/2025 | 12/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 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: SP1-2506-458-5

## CIE 1931 Chromaticity Diagram




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

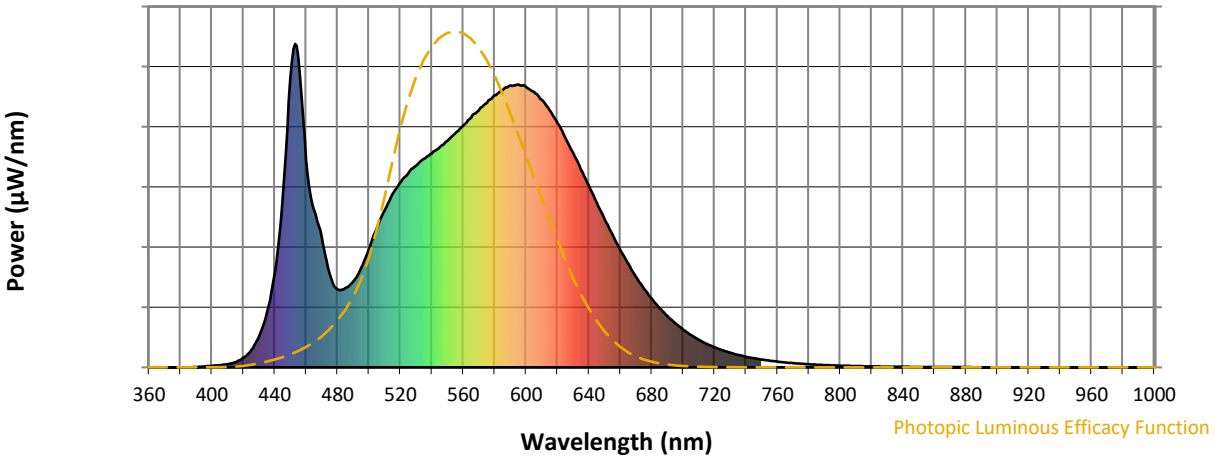



CCT = 3915K
CIE x = 0.3854
CIE y = 0.3830
Duv = 0.0015

Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2506-458-5

## Photopic Flux vs. Wavelength

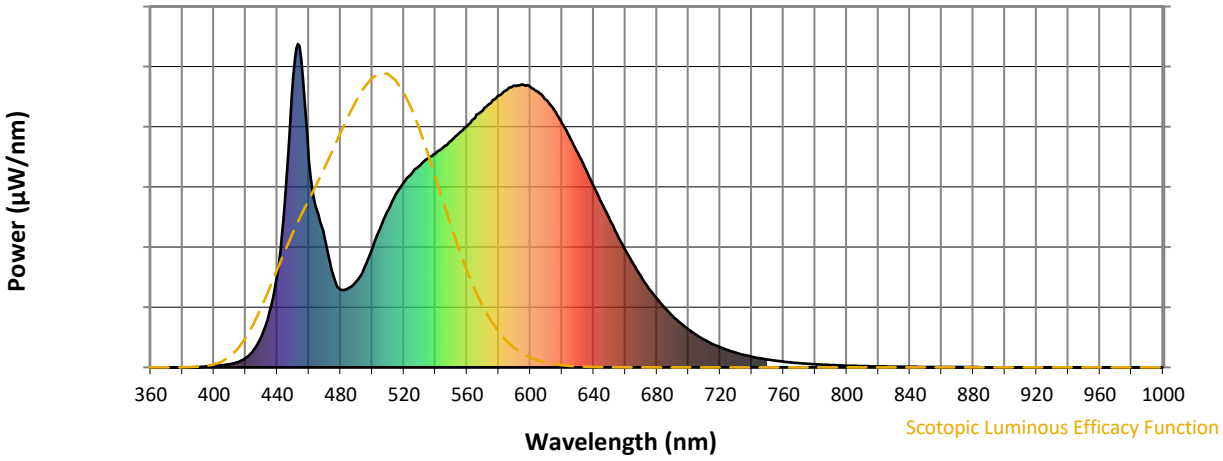



## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 266 | NR | 620 | 755 | NR | 750 | 24 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 307 | NR | 625 | 710 | NR | 755 | 21 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 366 | NR | 630 | 663 | NR | 760 | 18 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 430 | NR | 635 | 612 | NR | 765 | 15 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 486 | NR | 640 | 561 | NR | 770 | 13 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 536 | NR | 645 | 509 | NR | 775 | 11 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 571 | NR | 650 | 458 | NR | 780 | 10 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 600 | NR | 655 | 410 | NR | 785 | 8 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 624 | NR | 660 | 363 | NR | 790 | 7 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 645 | NR | 665 | 321 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 10 | NR | 540 | 661 | NR | 670 | 280 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 16 | NR | 545 | 681 | NR | 675 | 244 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 30 | NR | 550 | 701 | NR | 680 | 213 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 53 | NR | 555 | 724 | NR | 685 | 183 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 95 | NR | 560 | 747 | NR | 690 | 159 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 170 | NR | 565 | 772 | NR | 695 | 136 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 289 | NR | 570 | 795 | NR | 700 | 117 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 522 | NR | 575 | 817 | NR | 705 | 100 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 895 | NR | 580 | 841 | NR | 710 | 85 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 957 | NR | 585 | 857 | NR | 715 | 72 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 642 | NR | 590 | 871 | NR | 720 | 62 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 487 | NR | 595 | 875 | NR | 725 | 53 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 397 | NR | 600 | 866 | NR | 730 | 45 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 289 | NR | 605 | 852 | NR | 735 | 39 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 241 | NR | 610 | 827 | NR | 740 | 33 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 245 | NR | 615 | 796 | NR | 745 | 28 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2506-458-5

## Scotopic Flux vs. Wavelength

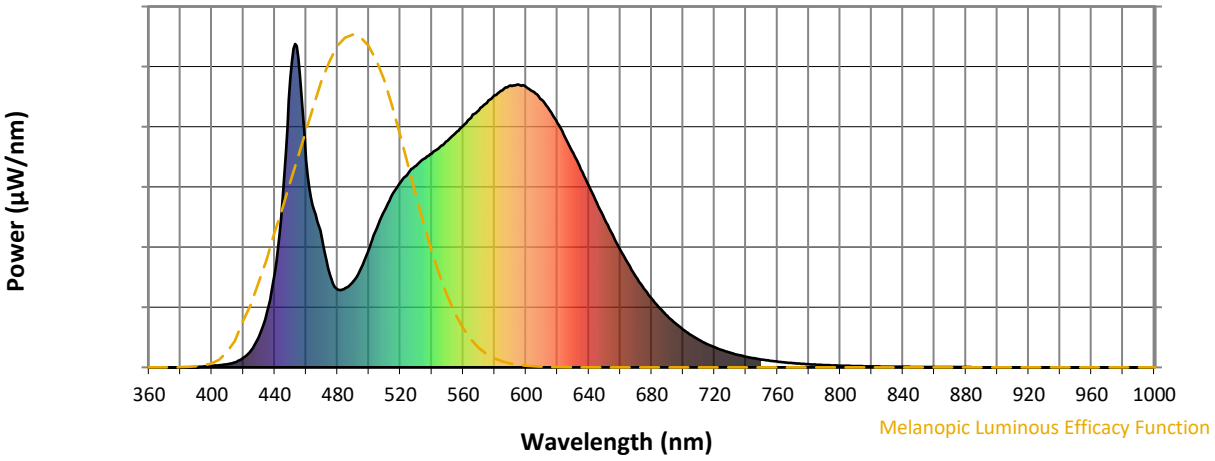



**Scotopic Lumens: NR** **S/P: 1.65**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 266 | NR | 620 | 755 | NR | 750 | 24 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 307 | NR | 625 | 710 | NR | 755 | 21 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 366 | NR | 630 | 663 | NR | 760 | 18 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 430 | NR | 635 | 612 | NR | 765 | 15 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 486 | NR | 640 | 561 | NR | 770 | 13 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 536 | NR | 645 | 509 | NR | 775 | 11 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 571 | NR | 650 | 458 | NR | 780 | 10 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 600 | NR | 655 | 410 | NR | 785 | 8 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 624 | NR | 660 | 363 | NR | 790 | 7 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 645 | NR | 665 | 321 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 10 | NR | 540 | 661 | NR | 670 | 280 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 16 | NR | 545 | 681 | NR | 675 | 244 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 30 | NR | 550 | 701 | NR | 680 | 213 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 53 | NR | 555 | 724 | NR | 685 | 183 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 95 | NR | 560 | 747 | NR | 690 | 159 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 170 | NR | 565 | 772 | NR | 695 | 136 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 289 | NR | 570 | 795 | NR | 700 | 117 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 522 | NR | 575 | 817 | NR | 705 | 100 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 895 | NR | 580 | 841 | NR | 710 | 85 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 957 | NR | 585 | 857 | NR | 715 | 72 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 642 | NR | 590 | 871 | NR | 720 | 62 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 487 | NR | 595 | 875 | NR | 725 | 53 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 397 | NR | 600 | 866 | NR | 730 | 45 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 289 | NR | 605 | 852 | NR | 735 | 39 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 241 | NR | 610 | 827 | NR | 740 | 33 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 245 | NR | 615 | 796 | NR | 745 | 28 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2506-458-5

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.36**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 266 | NR | 620 | 755 | NR | 750 | 24 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 307 | NR | 625 | 710 | NR | 755 | 21 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 366 | NR | 630 | 663 | NR | 760 | 18 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 430 | NR | 635 | 612 | NR | 765 | 15 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 486 | NR | 640 | 561 | NR | 770 | 13 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 536 | NR | 645 | 509 | NR | 775 | 11 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 571 | NR | 650 | 458 | NR | 780 | 10 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 600 | NR | 655 | 410 | NR | 785 | 8 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 624 | NR | 660 | 363 | NR | 790 | 7 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 645 | NR | 665 | 321 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 10 | NR | 540 | 661 | NR | 670 | 280 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 16 | NR | 545 | 681 | NR | 675 | 244 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 30 | NR | 550 | 701 | NR | 680 | 213 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 53 | NR | 555 | 724 | NR | 685 | 183 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 95 | NR | 560 | 747 | NR | 690 | 159 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 170 | NR | 565 | 772 | NR | 695 | 136 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 289 | NR | 570 | 795 | NR | 700 | 117 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 522 | NR | 575 | 817 | NR | 705 | 100 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 895 | NR | 580 | 841 | NR | 710 | 85 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 957 | NR | 585 | 857 | NR | 715 | 72 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 642 | NR | 590 | 871 | NR | 720 | 62 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 487 | NR | 595 | 875 | NR | 725 | 53 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 397 | NR | 600 | 866 | NR | 730 | 45 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 289 | NR | 605 | 852 | NR | 735 | 39 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 241 | NR | 610 | 827 | NR | 740 | 33 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 245 | NR | 615 | 796 | NR | 745 | 28 | NR | 875 | 1 | NR | | | |

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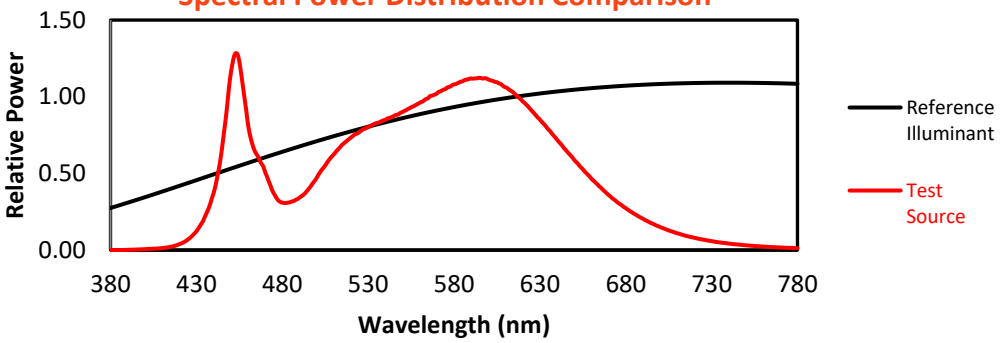
# TM-30-18

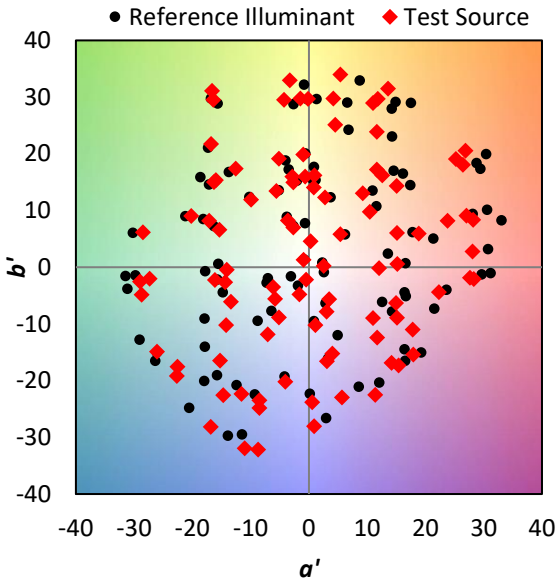
## Summary

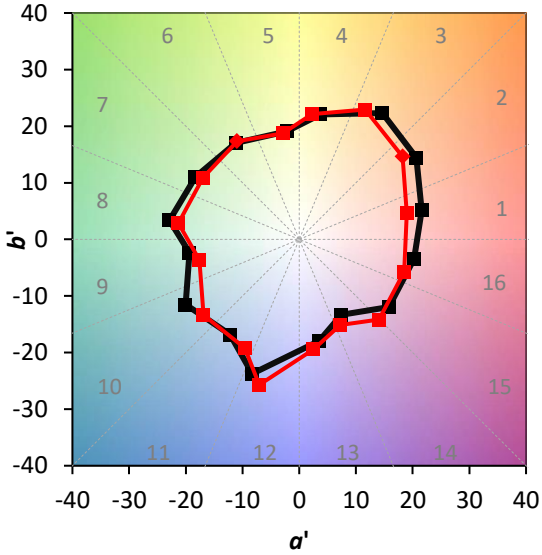
$R_f$ = 83.2
$R_g$ = 94.6
CIE $R_a$ = 82.3
$R_9$ = 7.6

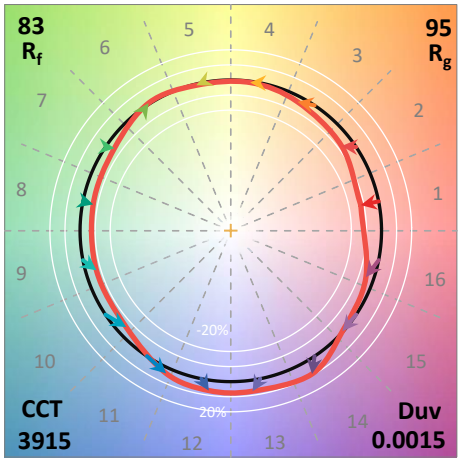
## Spectral Power Distribution Comparison

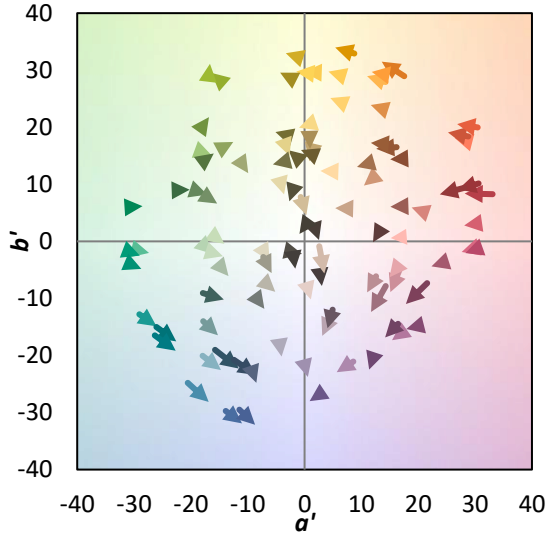



## Color Vector Graphics



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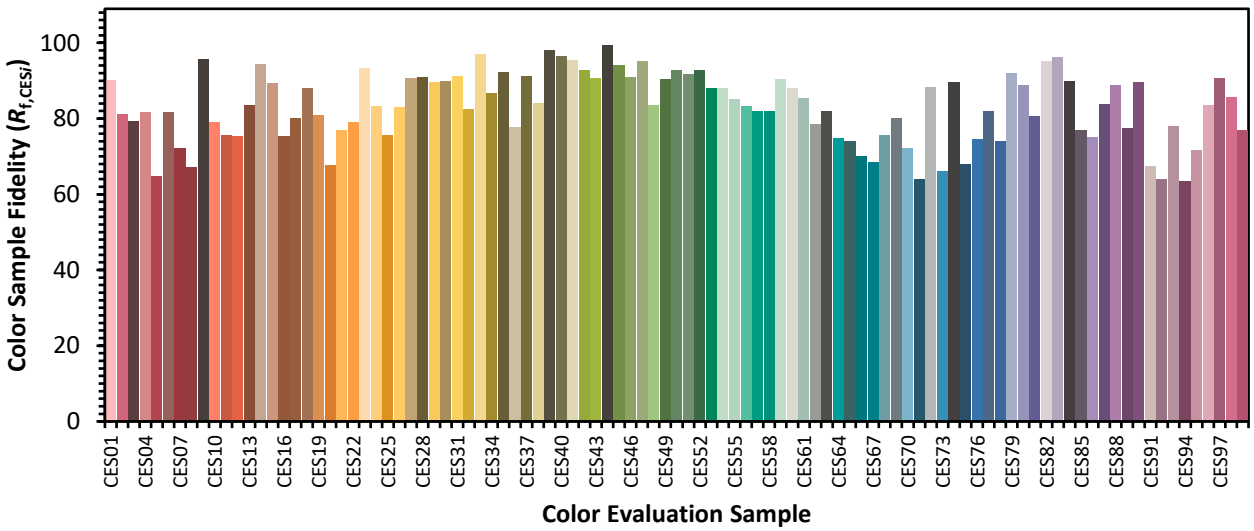
# TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 83 | CES51 = 92 | CES76 = 75 |
| CES02 = 61 | CES27 = 91 | CES52 = 93 | CES77 = 82 |
| CES03 = 31 | CES28 = 91 | CES53 = 88 | CES78 = 74 |
| CES04 = 70 | CES29 = 90 | CES54 = 88 | CES79 = 92 |
| CES05 = 48 | CES30 = 90 | CES55 = 85 | CES80 = 89 |
| CES06 = 50 | CES31 = 91 | CES56 = 83 | CES81 = 81 |
| CES07 = 41 | CES32 = 83 | CES57 = 82 | CES82 = 95 |
| CES08 = 40 | CES33 = 97 | CES58 = 82 | CES83 = 96 |
| CES09 = 29 | CES34 = 87 | CES59 = 90 | CES84 = 90 |
| CES10 = 74 | CES35 = 92 | CES60 = 88 | CES85 = 77 |
| CES11 = 57 | CES36 = 78 | CES61 = 85 | CES86 = 75 |
| CES12 = 63 | CES37 = 91 | CES62 = 79 | CES87 = 84 |
| CES13 = 42 | CES38 = 84 | CES63 = 82 | CES88 = 89 |
| CES14 = 74 | CES39 = 98 | CES64 = 75 | CES89 = 77 |
| CES15 = 71 | CES40 = 96 | CES65 = 74 | CES90 = 90 |
| CES16 = 47 | CES41 = 95 | CES66 = 70 | CES91 = 67 |
| CES17 = 49 | CES42 = 93 | CES67 = 69 | CES92 = 64 |
| CES18 = 56 | CES43 = 91 | CES68 = 76 | CES93 = 78 |
| CES19 = 71 | CES44 = 99 | CES69 = 80 | CES94 = 63 |
| CES20 = 65 | CES45 = 94 | CES70 = 72 | CES95 = 72 |
| CES21 = 86 | CES46 = 91 | CES71 = 64 | CES96 = 84 |
| CES22 = 78 | CES47 = 95 | CES72 = 88 | CES97 = 91 |
| CES23 = 91 | CES48 = 83 | CES73 = 66 | CES98 = 86 |
| CES24 = 90 | CES49 = 90 | CES74 = 90 | CES99 = 77 |
| CES25 = 71 | CES50 = 93 | CES75 = 68 | |



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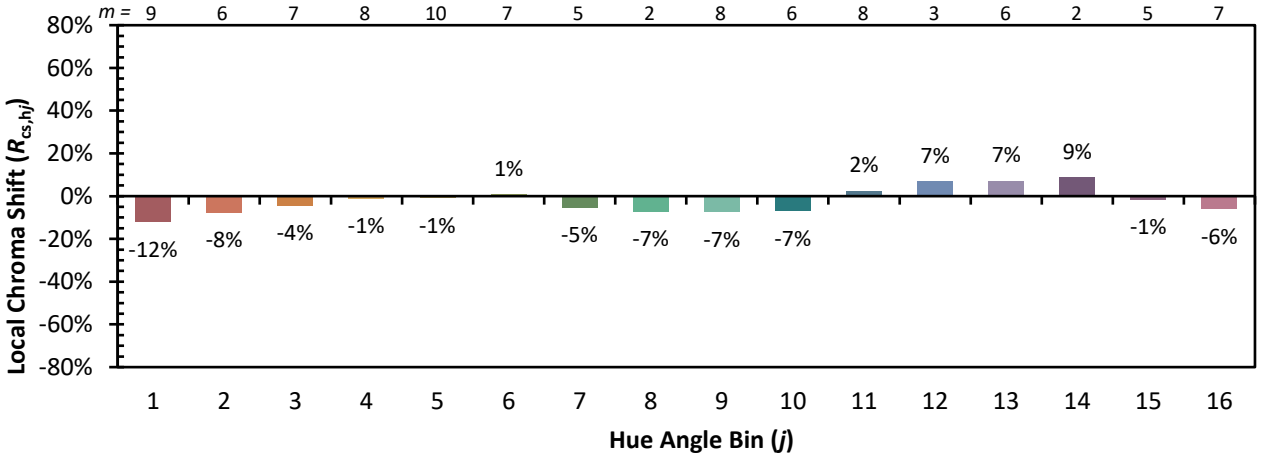
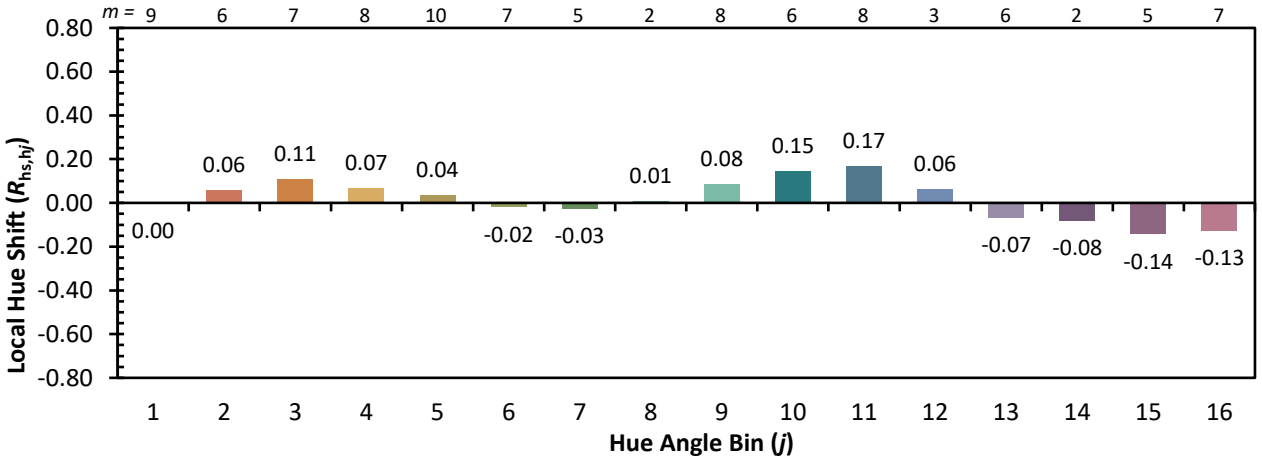
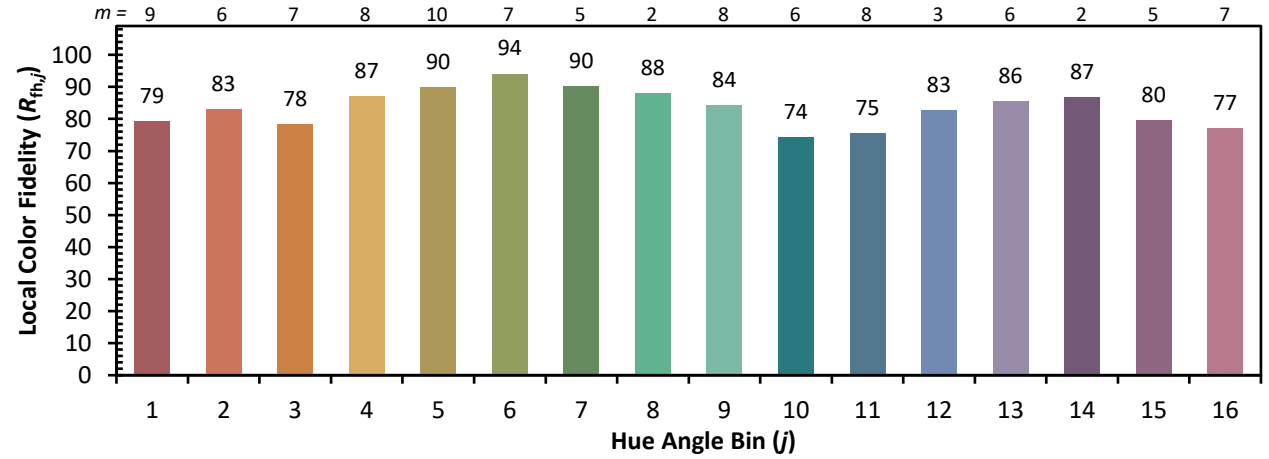
# TM-30-18

## Color Rendition by Hue-Angle Bin



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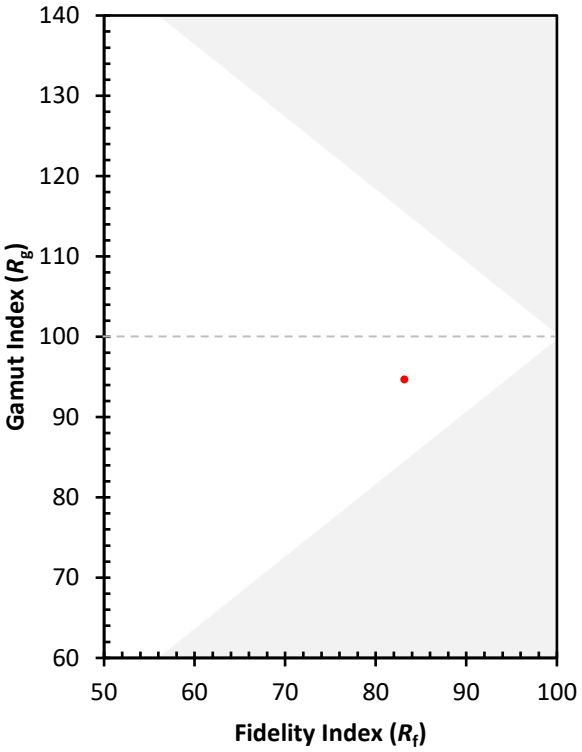
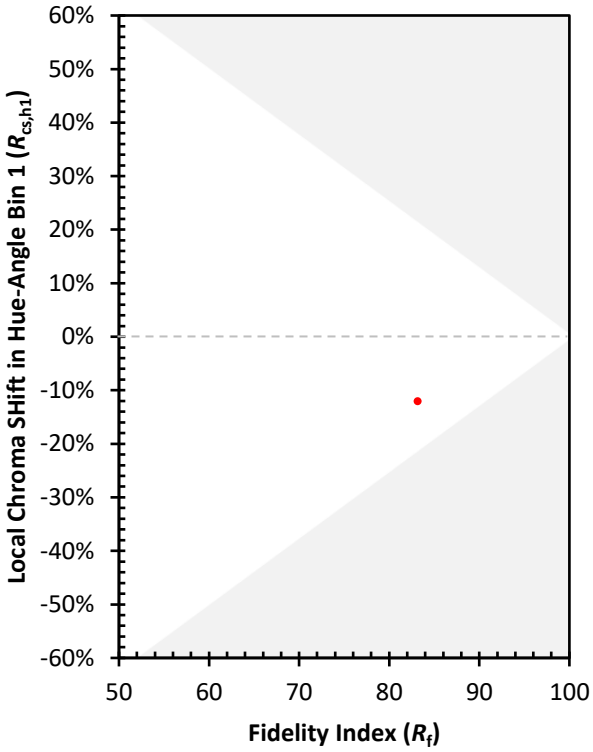
# TM-30-18

## Measure Comparisons




(END OF REPORT)