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: P1216879

Luminaire Tested: 14-ID2-55-CFR2-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: | P1216879 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2508-507-14) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 12/5/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | CORELITE |
| Catalog Number: | 14-ID2-55-CFR2-L840-U |
| Description: | 1X4 IN DEPTH TROFFER WITH 2INCH CUBE REGRESS LENS |
| Light Source: | 4000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 5839.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 119.9 lumens/watt |
| Spacing Criteria (0/90/45): | 1.22 / 1.16 / 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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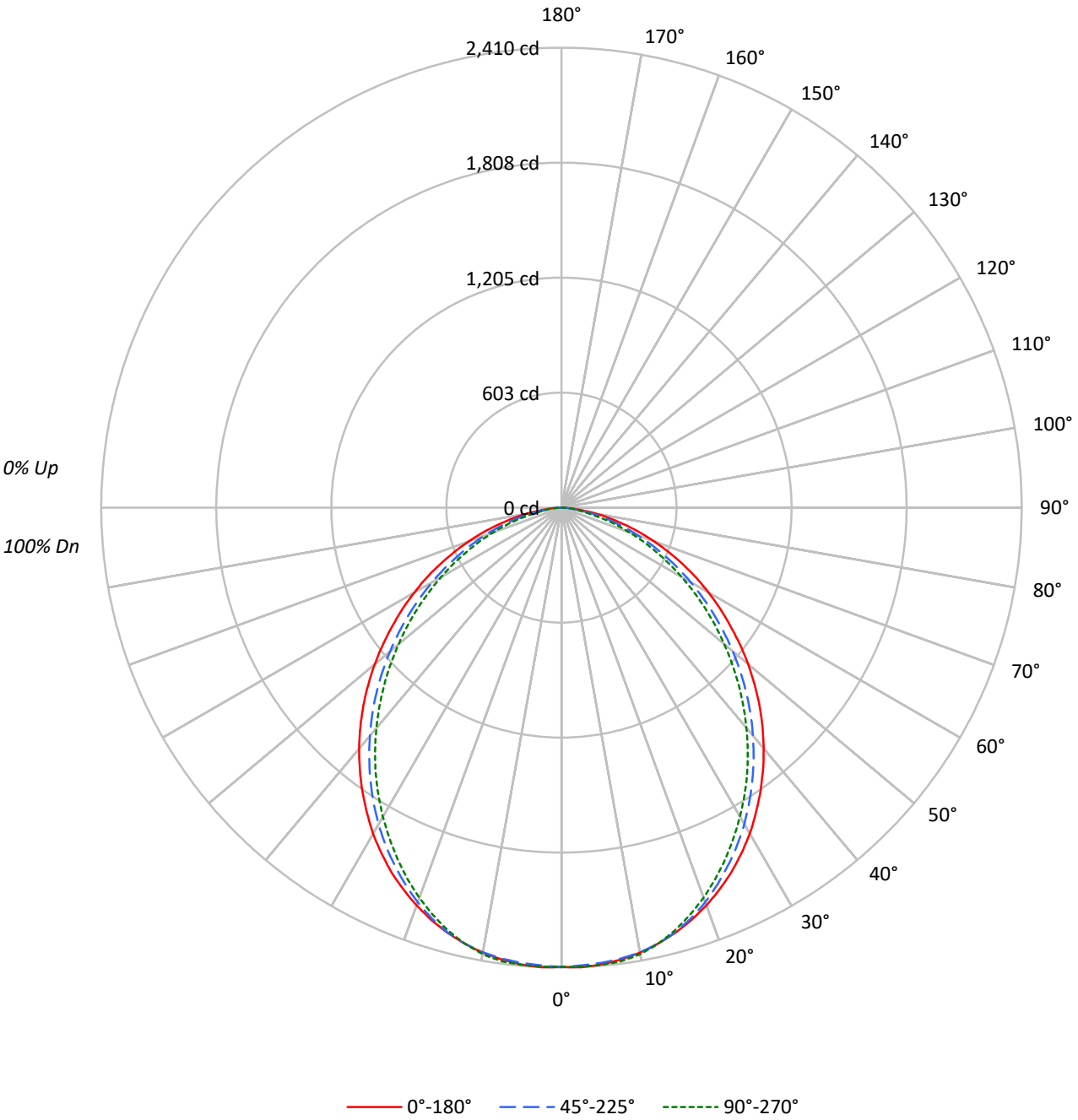
Scaled Data Report

TEST NUMBER: P1216879
CATALOG NUMBER: 14-ID2-55-CFR2-L840-U

## Luminous Intensity Polar Plot



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TEST NUMBER: P1216879
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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 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 110 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 93 | 90 | 91 | 89 | 88 | 86 |
| 2 | 100 | 93 | 86 | 81 | 98 | 91 | 85 | 80 | 87 | 82 | 78 | 84 | 80 | 76 | 81 | 78 | 75 | 72 |
| 3 | 92 | 82 | 74 | 68 | 89 | 80 | 73 | 67 | 77 | 71 | 66 | 75 | 70 | 65 | 72 | 68 | 64 | 62 |
| 4 | 84 | 73 | 65 | 58 | 82 | 72 | 64 | 58 | 69 | 62 | 57 | 67 | 61 | 56 | 65 | 60 | 56 | 53 |
| 5 | 78 | 66 | 57 | 51 | 76 | 64 | 56 | 50 | 62 | 55 | 50 | 60 | 54 | 49 | 59 | 53 | 49 | 47 |
| 6 | 72 | 59 | 51 | 44 | 70 | 58 | 50 | 44 | 57 | 49 | 44 | 55 | 48 | 44 | 53 | 48 | 43 | 41 |
| 7 | 67 | 54 | 45 | 40 | 65 | 53 | 45 | 39 | 52 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 37 |
| 8 | 62 | 49 | 41 | 35 | 61 | 49 | 41 | 35 | 47 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 33 |
| 9 | 58 | 45 | 37 | 32 | 57 | 45 | 37 | 32 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 31 | 30 |
| 10 | 55 | 42 | 34 | 29 | 54 | 41 | 34 | 29 | 40 | 34 | 29 | 40 | 33 | 29 | 39 | 33 | 29 | 27 |

## AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|---|---|---|---|
| 0° | 6476 | 6476 | 6476 |
| 5° | 6491 | 6468 | 6496 |
| 10° | 6470 | 6465 | 6493 |
| 15° | 6425 | 6417 | 6390 |
| 20° | 6351 | 6302 | 6229 |
| 25° | 6256 | 6138 | 6030 |
| 30° | 6131 | 5951 | 5810 |
| 35° | 5968 | 5728 | 5572 |
| 40° | 5788 | 5482 | 5295 |
| 45° | 5581 | 5210 | 4993 |
| 50° | 5341 | 4901 | 4659 |
| 55° | 5065 | 4571 | 4304 |
| 60° | 4779 | 4207 | 3916 |
| 65° | 4458 | 3805 | 3479 |
| 70° | 4053 | 3366 | 2993 |
| 75° | 3551 | 2860 | 2357 |
| 80° | 2867 | 2117 | 1646 |
| 85° | 1933 | 1553 | 1377 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 5581 cd/sqm

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Scaled Data Report

TEST NUMBER: P1216879
CATALOG NUMBER: 14-ID2-55-CFR2-L840-U

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 228.1 | 3.9 |
| 10°-20° | 648.1 | 11.1 |
| 20°-30° | 953.1 | 16.3 |
| 30°-40° | 1095.9 | 18.8 |
| 40°-50° | 1065.3 | 18.2 |
| 50°-60° | 883.7 | 15.1 |
| 60°-70° | 605.7 | 10.4 |
| 70°-80° | 296.7 | 5.1 |
| 80°-90° | 62.7 | 1.1 |
| 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° | 1829.2 | 31.3 |
| 0°-40° | 2925.2 | 50.1 |
| 0°-60° | 4874.2 | 83.5 |
| 0°-90° | 5839.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 5839.2 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|---|---|---|---|---|---|---|
| 0° | 2407 | 2407 | 2407 | 2407 | 2407 | |
| 5° | 2403 | 2400 | 2394 | 2398 | 2405 | 228 |
| 15° | 2306 | 2308 | 2303 | 2294 | 2294 | 650 |
| 25° | 2107 | 2110 | 2067 | 2040 | 2031 | 970 |
| 35° | 1817 | 1807 | 1744 | 1708 | 1696 | 1136 |
| 45° | 1467 | 1442 | 1369 | 1327 | 1312 | 1130 |
| 55° | 1080 | 1044 | 974 | 934 | 917 | 967 |
| 65° | 700 | 656 | 598 | 564 | 546 | 693 |
| 75° | 342 | 313 | 275 | 240 | 227 | 364 |
| 85° | 63 | 55 | 50 | 46 | 45 | 80 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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Scaled Data Report

TEST NUMBER: P1216879
CATALOG NUMBER: 14-ID2-55-CFR2-L840-U

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° |
|---|---|---|---|---|---|
| 0° | *2406.7* | 2406.7 | 2406.7 | 2406.7 | 2406.7 |
| 2.5° | *2410.5* | *2406.7* | *2401.0* | *2402.9* | *2406.7* |
| 5° | *2402.9* | 2400.1 | 2394.4 | 2398.2 | 2404.8 |
| 7.5° | *2388.7* | 2386.8 | 2383.0 | 2388.7 | 2397.2 |
| 10° | *2367.8* | 2366.9 | 2365.9 | 2369.7 | 2376.3 |
| 12.5° | *2340.3* | 2340.3 | 2340.3 | 2337.4 | 2340.3 |
| 15° | *2306.1* | 2308.0 | 2303.3 | 2293.8 | 2293.8 |
| 17.5° | *2265.4* | 2269.1 | 2256.8 | 2241.6 | 2237.8 |
| 20° | *2217.9* | 2222.7 | 2200.8 | 2179.0 | 2175.2 |
| 22.5° | *2164.8* | 2169.5 | 2136.3 | 2110.7 | 2106.0 |
| 25° | *2106.9* | 2109.8 | 2067.1 | 2039.6 | 2031.0 |
| 27.5° | *2041.5* | 2041.5 | 1994.0 | 1962.7 | 1951.4 |
| 30° | *1973.2* | 1969.4 | 1915.3 | 1882.1 | 1869.8 |
| 32.5° | *1895.4* | 1890.6 | 1830.9 | 1796.7 | 1784.4 |
| 35° | *1816.6* | 1807.2 | 1743.6 | 1708.5 | 1696.2 |
| 37.5° | *1734.1* | 1720.8 | 1653.5 | 1616.5 | 1602.3 |
| 40° | *1647.8* | 1629.8 | 1560.5 | 1521.6 | 1507.4 |
| 42.5° | *1558.6* | 1537.7 | 1465.6 | 1427.7 | 1409.7 |
| 45° | *1466.6* | 1441.9 | 1368.9 | 1327.1 | 1312.0 |
| 47.5° | *1371.7* | 1344.2 | 1270.2 | 1230.4 | 1212.4 |
| 50° | *1275.9* | 1244.6 | 1170.6 | 1130.8 | 1112.8 |
| 52.5° | *1178.2* | 1142.2 | 1072.0 | 1032.1 | 1015.0 |
| 55° | *1079.6* | 1044.5 | 974.3 | 934.4 | 917.3 |
| 57.5° | *985.6* | 944.8 | 876.5 | 839.5 | 820.6 |
| 60° | *887.9* | 847.1 | 781.7 | 744.7 | 727.6 |
| 62.5° | *795.9* | 750.4 | 688.7 | 652.7 | 635.6 |
| 65° | *700.1* | 656.5 | 597.6 | 563.5 | 546.4 |
| 67.5° | *606.2* | 565.4 | 511.3 | 476.2 | 462.0 |
| 70° | *515.1* | 476.2 | 427.8 | 394.6 | 380.4 |
| 72.5° | *426.9* | 393.7 | 351.0 | 314.9 | 302.6 |
| 75° | *341.5* | 313.1 | 275.1 | 240.0 | 226.7 |
| 77.5° | *260.9* | 238.1 | 202.1 | 167.9 | 154.6 |
| 80° | *185.0* | 167.9 | 136.6 | 108.1 | 106.2 |
| 82.5° | *119.5* | 107.2 | 81.6 | 77.8 | 75.9 |
| 85° | *62.6* | 55.0 | 50.3 | 46.5 | 44.6 |
| 87.5° | *19.9* | 19.9 | 19.9 | 16.1 | 15.2 |
| 90° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |

TEST NUMBER: P1216879
CATALOG NUMBER: 14-ID2-55-CFR2-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 | 17.63 | 19.20 | 18.00 | 19.51 | 19.83 | 16.72 | 18.29 | 17.09 | 18.61 | 18.92 |
| | 3H | 19.23 | 20.64 | 19.61 | 20.97 | 21.33 | 18.06 | 19.47 | 18.44 | 19.80 | 20.16 |
| | 4H | 19.79 | 21.11 | 20.19 | 21.46 | 21.84 | 18.45 | 19.78 | 18.85 | 20.13 | 20.50 |
| | 6H | 20.15 | 21.37 | 20.56 | 21.74 | 22.13 | 18.63 | 19.85 | 19.04 | 20.22 | 20.61 |
| | 8H | 20.24 | 21.41 | 20.67 | 21.80 | 22.20 | 18.67 | 19.84 | 19.10 | 20.23 | 20.63 |
| | 12H | 20.28 | 21.40 | 20.71 | 21.78 | 22.21 | 18.69 | 19.81 | 19.12 | 20.19 | 20.62 |
| 4H | 2H | 18.05 | 19.38 | 18.45 | 19.73 | 20.10 | 17.31 | 18.63 | 17.71 | 18.98 | 19.36 |
| | 3H | 19.85 | 20.95 | 20.26 | 21.35 | 21.75 | 18.85 | 19.95 | 19.26 | 20.35 | 20.75 |
| | 4H | 20.52 | 21.52 | 20.96 | 21.93 | 22.37 | 19.32 | 20.32 | 19.76 | 20.73 | 21.17 |
| | 6H | 21.00 | 21.86 | 21.45 | 22.30 | 22.76 | 19.57 | 20.43 | 20.03 | 20.88 | 21.33 |
| | 8H | 21.12 | 21.93 | 21.58 | 22.37 | 22.84 | 19.63 | 20.44 | 20.10 | 20.88 | 21.35 |
| | 12H | 21.19 | 21.91 | 21.67 | 22.39 | 22.86 | 19.68 | 20.40 | 20.16 | 20.88 | 21.35 |
| 8H | 4H | 20.67 | 21.48 | 21.13 | 21.92 | 22.39 | 19.58 | 20.38 | 20.04 | 20.83 | 21.29 |
| | 6H | 21.22 | 21.88 | 21.71 | 22.37 | 22.85 | 19.89 | 20.55 | 20.38 | 21.04 | 21.52 |
| | 8H | 21.39 | 21.99 | 21.90 | 22.49 | 22.98 | 19.98 | 20.58 | 20.50 | 21.09 | 21.58 |
| | 12H | 21.50 | 22.03 | 22.01 | 22.52 | 23.09 | 20.07 | 20.60 | 20.58 | 21.09 | 21.65 |
| 12H | 4H | 20.66 | 21.38 | 21.15 | 21.86 | 22.33 | 19.60 | 20.32 | 20.08 | 20.79 | 21.26 |
| | 6H | 21.21 | 21.81 | 21.72 | 22.32 | 22.80 | 19.91 | 20.51 | 20.42 | 21.02 | 21.50 |
| | 8H | 21.42 | 21.95 | 21.93 | 22.44 | 23.00 | 20.05 | 20.58 | 20.56 | 21.07 | 21.63 |

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

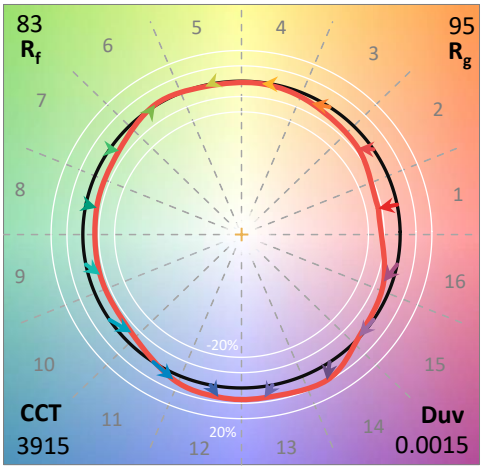
## Test Information

| | |
|---|---|
| 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 |
| CIE u': | 0.2259 |
| CIE v': | 0.5051 |
| Duv: | 0.0015 |
| CIE x: | 0.3854 |
| CIE y: | 0.3830 |
| CIE z: | 0.2316 |
| Peak Wavelength (nm): | 453 |
| Dominant Wavelength (nm): | 578 |
| Purity: | 30.6207 |
| Rf: | 83.2 |
| Rg: | 94.6 |

| | |
|---|---|
| CRI (Ra): | 82.3 |
| R1: | 80.6 |
| R2: | 88.9 |
| R3: | 94.6 |
| R4: | 80.5 |
| R5: | 80.0 |
| R6: | 84.0 |
| R7: | 86.1 |
| R8: | 64.0 |
| R9: | 7.6 |
| R10: | 72.9 |
| R11: | 78.7 |
| R12: | 57.3 |
| R13: | 82.7 |
| R14: | 97.1 |
| R15: | 74.3 |




## Test Conditions

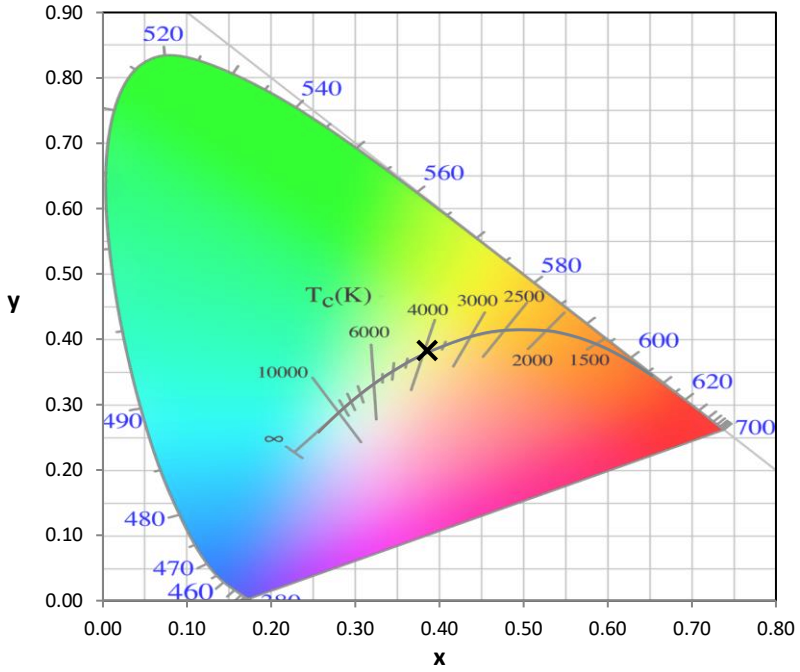
| | |
|---|---|
| Stabilization Time: | 34M |
| Operation Time: | 1H 34M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2506-458-5

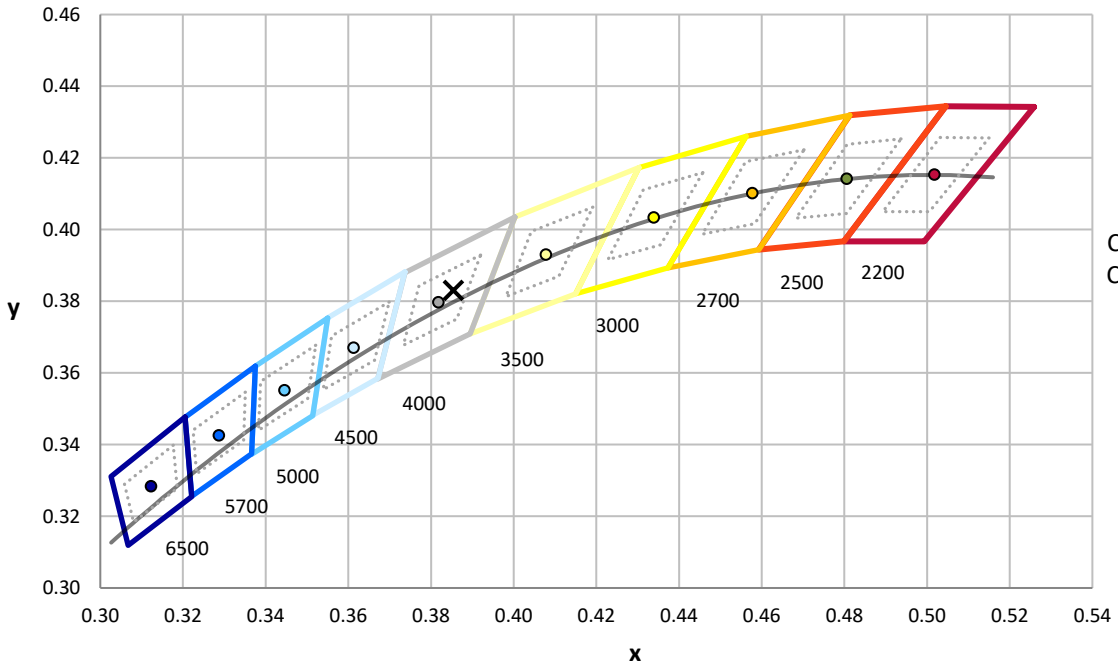
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 6/16/2025 | 12/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063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

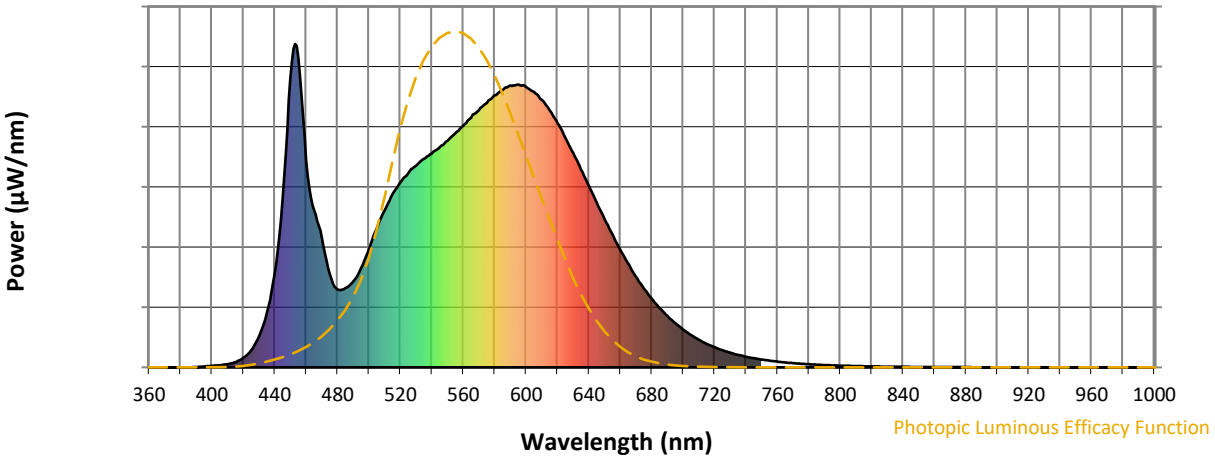



CCT = 3915K
CIE x = 0.3854
CIE y = 0.3830
Duv = 0.0015

Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2506-458-5

## Photopic Flux vs. Wavelength

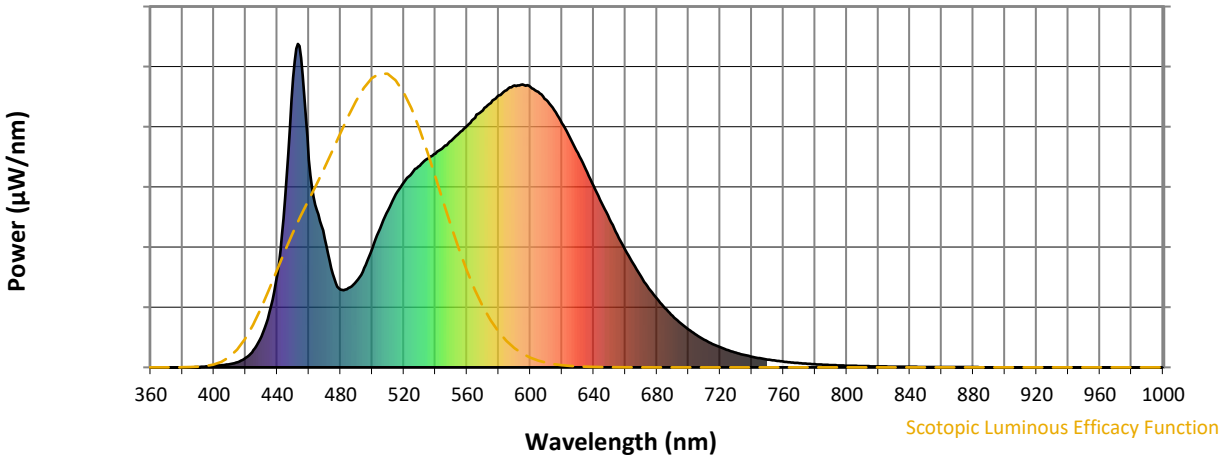



## Photopic Lumens: NR

| 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 | | | |

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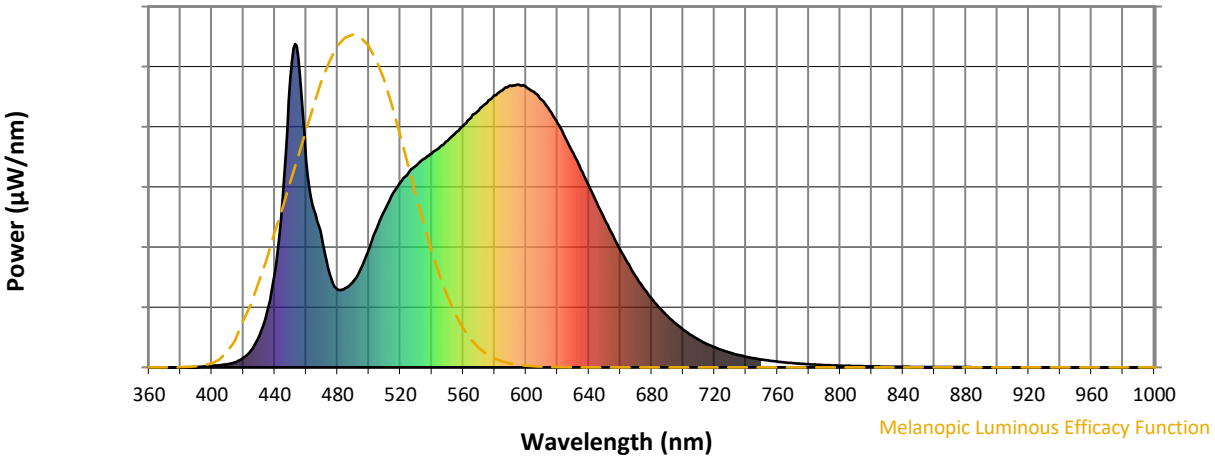
## Melanopic Flux vs. Wavelength




**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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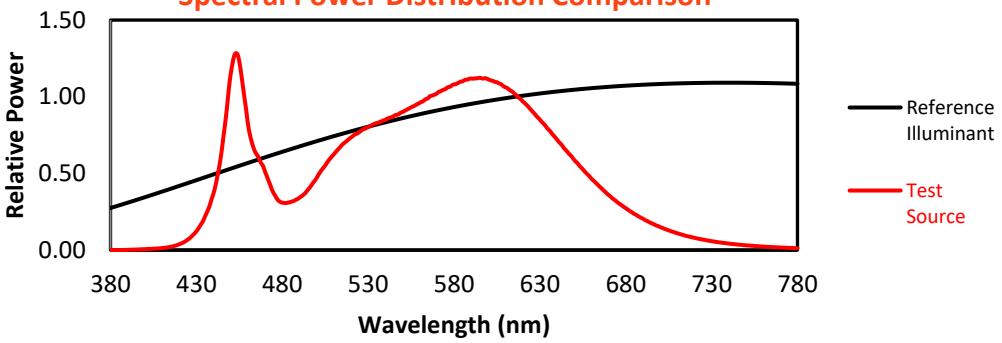
# TM-30-18

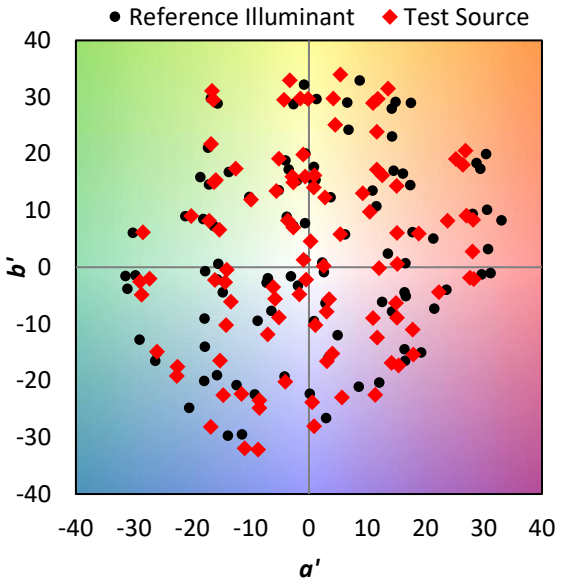
## Summary

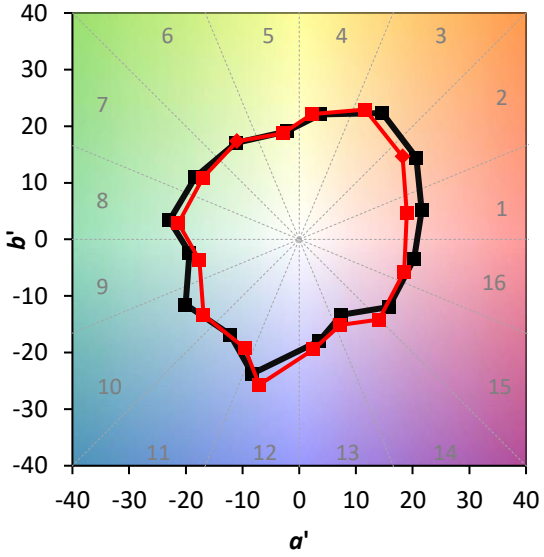
$R_f$ = 83.2
$R_g$ = 94.6
CIE $R_a$ = 82.3
$R_9$ = 7.6

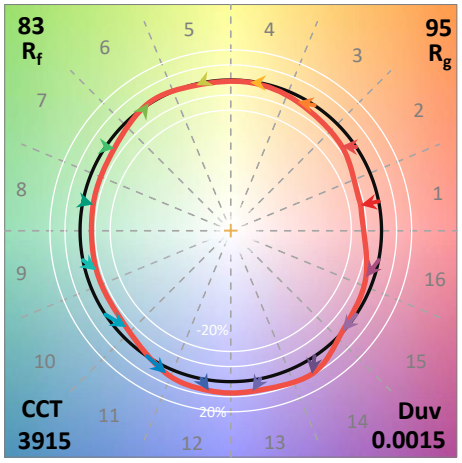
## Spectral Power Distribution Comparison

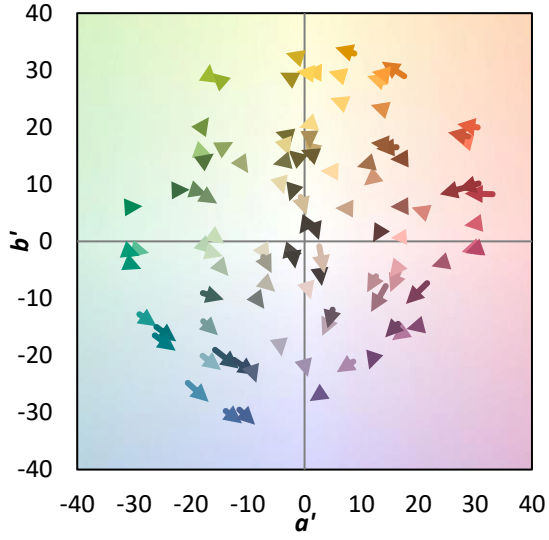



## Color Vector Graphics



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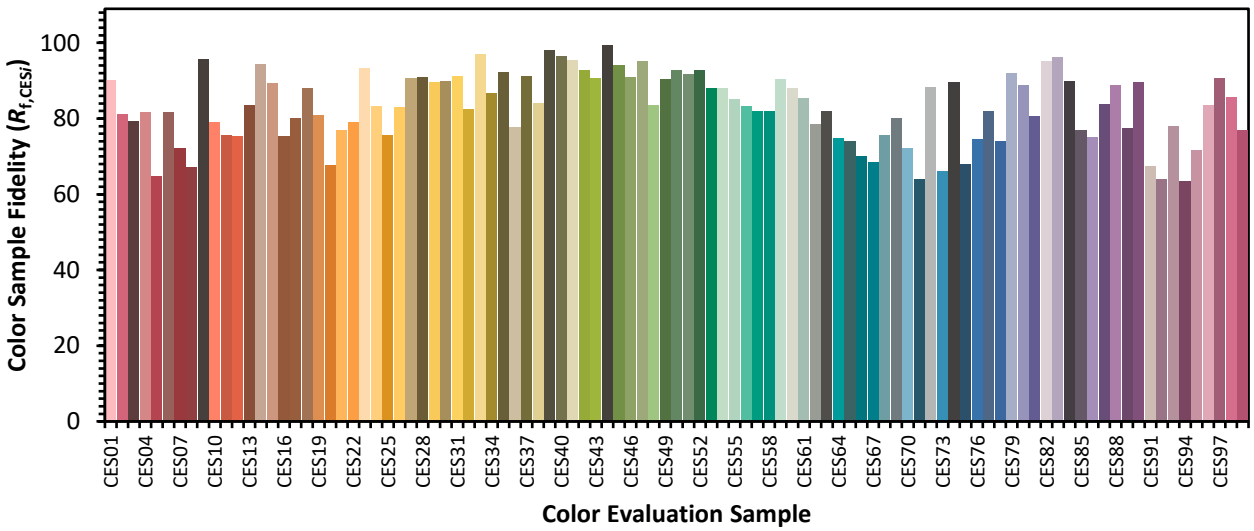
# TM-30-18

**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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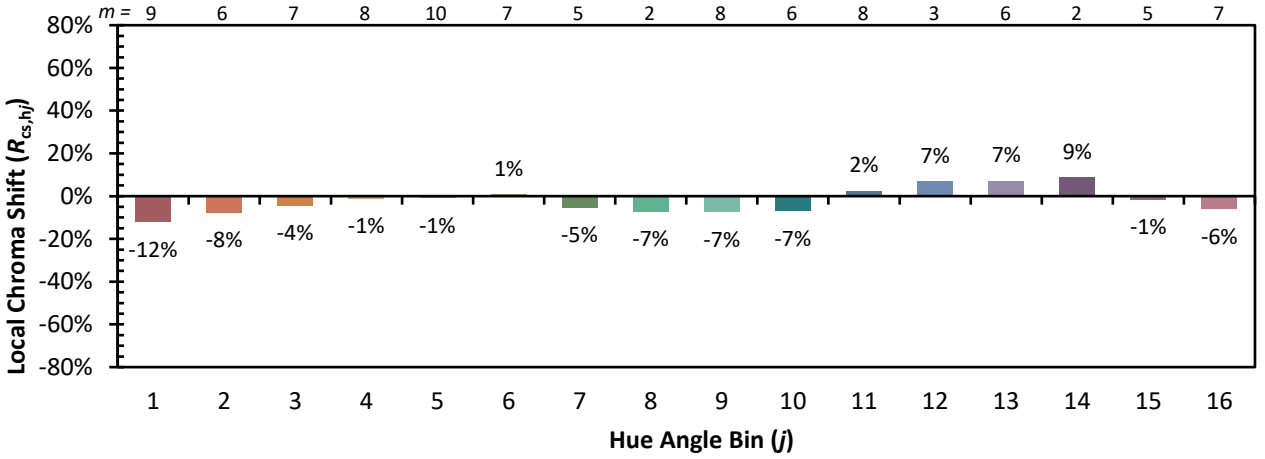
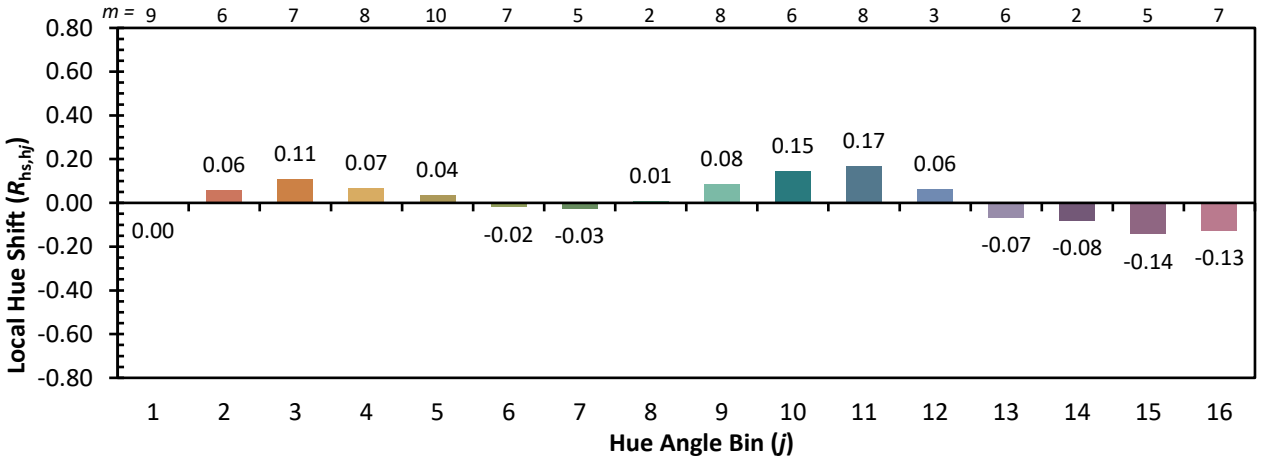
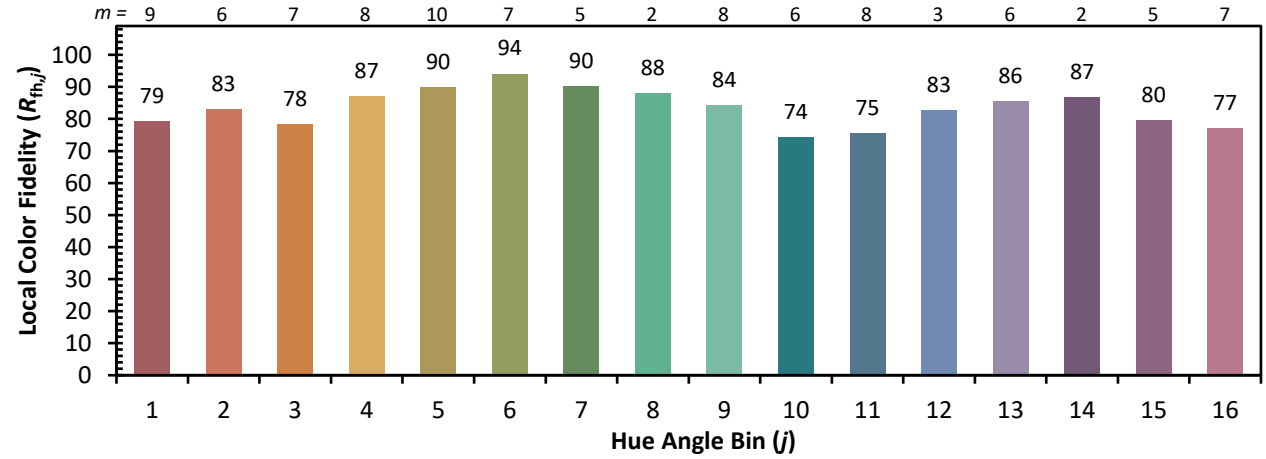
## Color Rendition by Hue-Angle Bin



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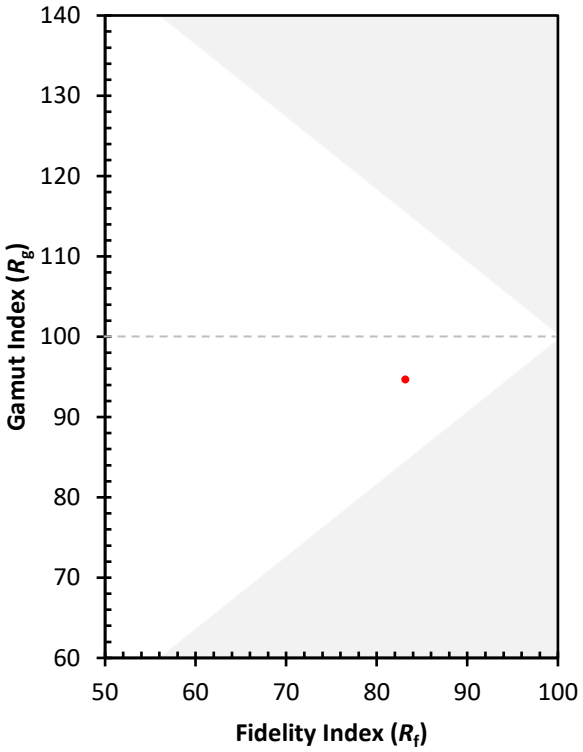
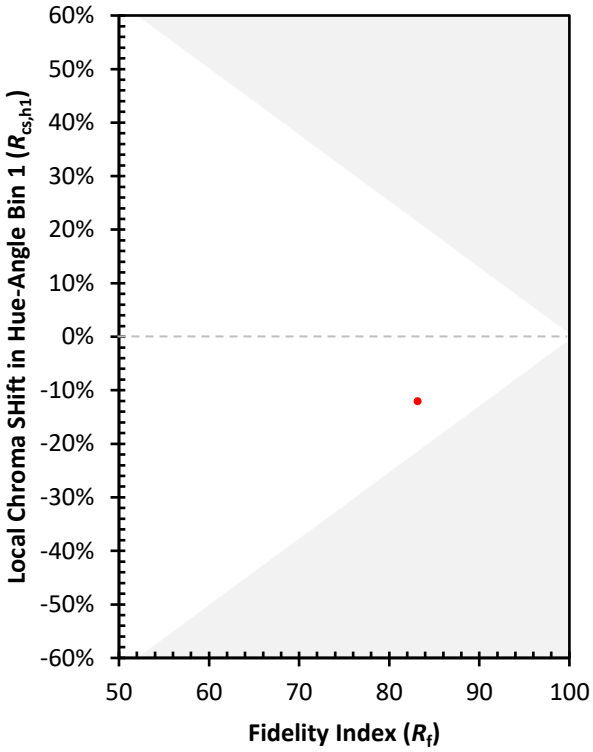
## TM-30-18

### Measure Comparisons




(END OF REPORT)