Signify Classified - Internal

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: METALUX

Report Number: P1527762

Luminaire Tested: 24CGTX-35-B2750-W2A-5000K

Issue Date: 8/26/2026

Report Generated By 670265710 / DESKTOP-98SHLC4

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

Scaled Data Report

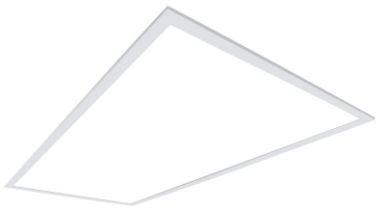
**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | P1527762 |
| | TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2510-581-11) |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Issue Date: | 8/26/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | METALUX |
| Catalog Number: | 24CGTX-35-B2750-W2A-5000K |
| Description: | 2X4 3500 LUMEN CGTX TROFFER WITH BIO UP LEDS AT 5000K CCT WITH FROSTED SMOOTH L |
| Light Source: | 5000K CCT, 80 CRI LEDS |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 3424.8 lumens |
| Efficiency: | N/A |
| Efficacy: | 115.3 lumens/watt |
| Spacing Criteria (0/90/45): | 1.27 / 1.28 / 1.39 |
| Luminous Opening: | Rectangular (W 2' x L: 4' x H: 0') |
| CIE Type: | Direct |

| | |
|---|---|
| Input Watts (W): | 29.7 |
| 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 |

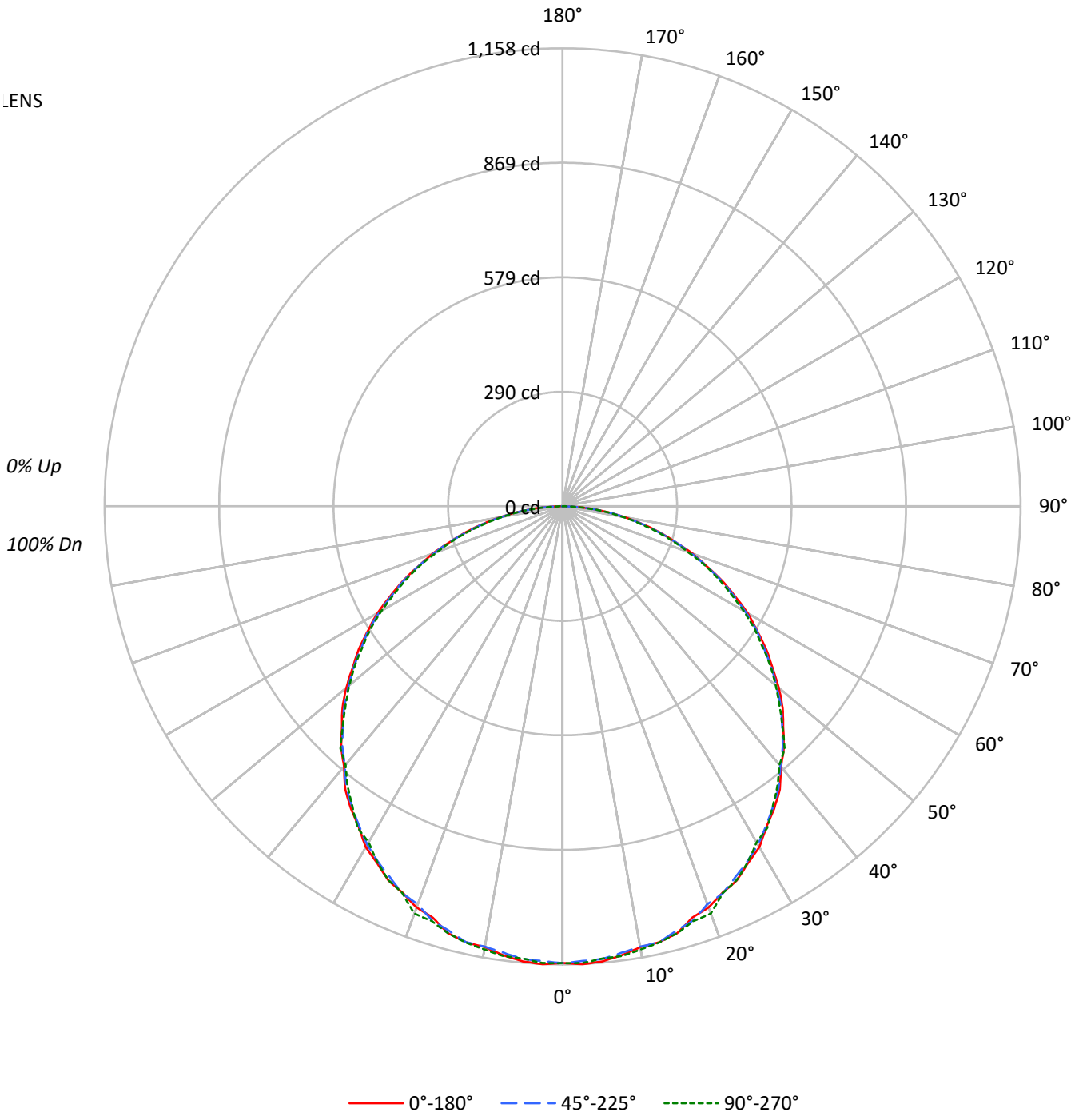


Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

TEST NUMBER: P1527762
CATALOG NUMBER: 24CGTX-35-B2750-W2A-5000K

## Luminous Intensity Polar Plot



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TEST NUMBER: P1527762
CATALOG NUMBER: 24CGTX-35-B2750-W2A-5000K

## 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 | 108 | 103 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 93 | 90 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 68 |
| 3 | 89 | 79 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 69 | 64 | 60 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 39 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 50 | 42 | 35 | 62 | 50 | 41 | 35 | 48 | 40 | 35 | 47 | 40 | 35 | 45 | 39 | 34 | 32 |
| 8 | 60 | 46 | 37 | 31 | 58 | 45 | 37 | 31 | 44 | 36 | 31 | 43 | 36 | 31 | 41 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 36 | 29 | 25 | 23 |

## AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|---|---|---|---|
| 0° | 1553 | 1553 | 1553 |
| 5° | 1559 | 1551 | 1550 |
| 10° | 1546 | 1544 | 1554 |
| 15° | 1556 | 1547 | 1556 |
| 20° | 1545 | 1532 | 1568 |
| 25° | 1549 | 1535 | 1547 |
| 30° | 1546 | 1535 | 1524 |
| 35° | 1532 | 1524 | 1522 |
| 40° | 1509 | 1504 | 1499 |
| 45° | 1502 | 1494 | 1496 |
| 50° | 1494 | 1477 | 1473 |
| 55° | 1474 | 1455 | 1446 |
| 60° | 1456 | 1437 | 1421 |
| 65° | 1416 | 1409 | 1387 |
| 70° | 1375 | 1359 | 1327 |
| 75° | 1320 | 1305 | 1274 |
| 80° | 1244 | 1221 | 1198 |
| 85° | 1147 | 1101 | 1070 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 47.5°
Luminance: 1504 cd/sqm

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TEST NUMBER: P1527762
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**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 109.2 | 3.2 |
| 10°-20° | 314.0 | 9.2 |
| 20°-30° | 478.2 | 14.0 |
| 30°-40° | 580.3 | 16.9 |
| 40°-50° | 606.2 | 17.7 |
| 50°-60° | 555.9 | 16.2 |
| 60°-70° | 435.0 | 12.7 |
| 70°-80° | 264.3 | 7.7 |
| 80°-90° | 81.7 | 2.4 |
| 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° | 901.4 | 26.3 |
| 0°-40° | 1481.6 | 43.3 |
| 0°-60° | 2643.8 | 77.2 |
| 0°-90° | 3424.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3424.8 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|---|---|---|---|---|---|---|
| 0° | 1154 | 1154 | 1154 | 1154 | 1154 | |
| 5° | 1154 | 1156 | 1148 | 1150 | 1148 | 109 |
| 15° | 1117 | 1112 | 1110 | 1110 | 1117 | 314 |
| 25° | 1043 | 1037 | 1034 | 1034 | 1042 | 479 |
| 35° | 933 | 931 | 928 | 922 | 927 | 583 |
| 45° | 789 | 787 | 785 | 782 | 786 | 610 |
| 55° | 628 | 623 | 620 | 619 | 616 | 561 |
| 65° | 445 | 445 | 443 | 437 | 436 | 439 |
| 75° | 254 | 254 | 251 | 247 | 245 | 267 |
| 85° | 74 | 73 | 71 | 70 | 69 | 84 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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Scaled Data Report

TEST NUMBER: P1527762
CATALOG NUMBER: 24CGTX-35-B2750-W2A-5000K

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° |
|---|---|---|---|---|---|
| 0° | *1154.5* | 1154.5 | 1154.5 | 1154.5 | 1154.5 |
| 2.5° | *1158.5* | *1158.5* | *1150.5* | *1148.5* | *1155.5* |
| 5° | *1154.5* | 1156.5 | 1148.5 | 1149.5 | 1147.5 |
| 7.5° | *1144.5* | 1142.5 | 1138.5 | 1137.5 | 1146.5 |
| 10° | *1131.4* | 1139.5 | 1130.4 | 1128.4 | 1137.5 |
| 12.5° | *1128.4* | 1129.4 | 1128.4 | 1122.4 | 1129.4 |
| 15° | *1117.4* | 1112.4 | 1110.4 | 1110.4 | 1117.4 |
| 17.5° | *1090.3* | 1099.3 | 1097.3 | 1094.3 | 1099.3 |
| 20° | *1079.2* | 1084.2 | 1070.2 | 1076.2 | 1095.3 |
| 22.5° | *1057.1* | 1060.2 | 1059.1 | 1067.2 | 1058.1 |
| 25° | *1043.1* | 1037.1 | 1034.1 | 1034.1 | 1042.1 |
| 27.5° | *1016.0* | 1009.0 | 1012.0 | 1014.0 | 1014.0 |
| 30° | *994.9* | 983.9 | 987.9 | 984.9 | 980.8 |
| 32.5° | *959.8* | 962.8 | 957.8 | 954.7 | 963.8 |
| 35° | *932.7* | 930.6 | 927.6 | 921.6 | 926.6 |
| 37.5° | *902.5* | 898.5 | 897.5 | 892.5 | 892.5 |
| 40° | *859.4* | 859.4 | 856.4 | 856.4 | 853.3 |
| 42.5° | *828.2* | 825.2 | 824.2 | 818.2 | 831.3 |
| 45° | *789.1* | 787.1 | 785.1 | 782.1 | 786.1 |
| 47.5° | *755.0* | 747.9 | 748.9 | 744.9 | 743.9 |
| 50° | *713.8* | 705.8 | 705.8 | 705.8 | 703.8 |
| 52.5° | *668.6* | 669.6 | 664.6 | 661.6 | 662.6 |
| 55° | *628.5* | 623.4 | 620.4 | 619.4 | 616.4 |
| 57.5° | *582.3* | 579.3 | 581.3 | 575.3 | 575.3 |
| 60° | *541.1* | 536.1 | 534.1 | 528.1 | 528.1 |
| 62.5° | *490.9* | 490.9 | 485.9 | 481.9 | 479.9 |
| 65° | *444.7* | 444.7 | 442.7 | 436.7 | 435.7 |
| 67.5° | *393.5* | 395.5 | 392.5 | 387.5 | 389.5 |
| 70° | *349.4* | 347.4 | 345.4 | 342.3 | 337.3 |
| 72.5° | *298.2* | 300.2 | 297.2 | 293.1 | 292.1 |
| 75° | *254.0* | 254.0 | 251.0 | 247.0 | 245.0 |
| 77.5° | *205.8* | 207.8 | 203.8 | 201.8 | 198.8 |
| 80° | *160.6* | 160.6 | 157.6 | 156.6 | 154.6 |
| 82.5° | *117.5* | 116.5 | 115.5 | 112.4 | 113.4 |
| 85° | *74.3* | 73.3 | 71.3 | 70.3 | 69.3 |
| 87.5° | *35.1* | 33.1 | 35.1 | 35.1 | 34.1 |
| 90° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |

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TEST NUMBER: P1527762
CATALOG NUMBER: 24CGTX-35-B2750-W2A-5000K

**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 | 13.52 | 15.19 | 13.89 | 15.50 | 15.81 | 13.46 | 15.13 | 13.83 | 15.44 | 15.76 |
| | 3H | 15.46 | 16.97 | 15.84 | 17.29 | 17.65 | 15.37 | 16.88 | 15.74 | 17.20 | 17.56 |
| | 4H | 16.22 | 17.65 | 16.62 | 17.99 | 18.37 | 16.11 | 17.53 | 16.51 | 17.88 | 18.25 |
| | 6H | 16.82 | 18.14 | 17.23 | 18.51 | 18.90 | 16.69 | 18.01 | 17.10 | 18.37 | 18.76 |
| | 8H | 17.03 | 18.29 | 17.46 | 18.68 | 19.08 | 16.89 | 18.15 | 17.31 | 18.54 | 18.94 |
| | 12H | 17.18 | 18.40 | 17.61 | 18.78 | 19.21 | 17.03 | 18.24 | 17.46 | 18.62 | 19.05 |
| 4H | 2H | 14.20 | 15.62 | 14.59 | 15.97 | 16.34 | 14.15 | 15.57 | 14.55 | 15.92 | 16.30 |
| | 3H | 16.36 | 17.56 | 16.77 | 17.95 | 18.35 | 16.28 | 17.48 | 16.69 | 17.87 | 18.27 |
| | 4H | 17.26 | 18.35 | 17.69 | 18.76 | 19.20 | 17.15 | 18.24 | 17.58 | 18.65 | 19.09 |
| | 6H | 18.00 | 18.95 | 18.45 | 19.39 | 19.85 | 17.87 | 18.82 | 18.32 | 19.26 | 19.72 |
| | 8H | 18.27 | 19.16 | 18.73 | 19.60 | 20.07 | 18.13 | 19.02 | 18.59 | 19.46 | 19.93 |
| | 12H | 18.47 | 19.28 | 18.95 | 19.75 | 20.22 | 18.32 | 19.13 | 18.80 | 19.60 | 20.07 |
| 8H | 4H | 17.61 | 18.51 | 18.07 | 18.95 | 19.41 | 17.52 | 18.41 | 17.98 | 18.85 | 19.32 |
| | 6H | 18.49 | 19.24 | 18.98 | 19.72 | 20.20 | 18.37 | 19.12 | 18.87 | 19.61 | 20.08 |
| | 8H | 18.85 | 19.52 | 19.35 | 20.02 | 20.51 | 18.72 | 19.38 | 19.22 | 19.89 | 20.37 |
| | 12H | 19.14 | 19.73 | 19.65 | 20.22 | 20.78 | 18.99 | 19.59 | 19.50 | 20.08 | 20.63 |
| 12H | 4H | 17.66 | 18.46 | 18.14 | 18.94 | 19.41 | 17.57 | 18.37 | 18.05 | 18.85 | 19.32 |
| | 6H | 18.57 | 19.24 | 19.07 | 19.74 | 20.23 | 18.45 | 19.12 | 18.96 | 19.63 | 20.11 |
| | 8H | 18.99 | 19.58 | 19.49 | 20.07 | 20.63 | 18.86 | 19.45 | 19.37 | 19.94 | 20.50 |

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2505-441-5-R2

Test Date: 06/12/2025

Luminaire Tested: 24CGTX-55-B2750-W2A-5000K

Data in this report applies to families of products including 24CGTX

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

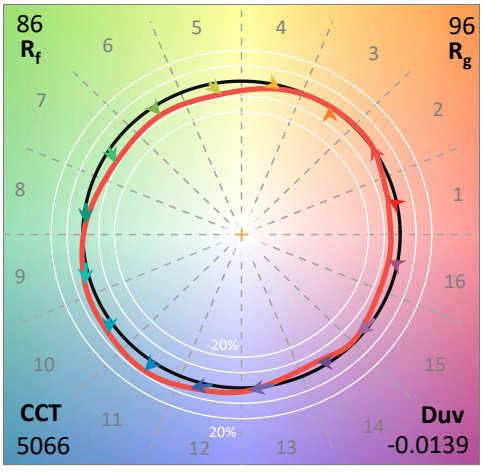
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2505-441-5-R2 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 07/28/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | Metalux |
| Catalog Number: | **24CGTX-55-B2750-W2A-5000K** |
| Description: | *THIS IS A REVISION OF REPORT SP1-2504-441-5-R2 TO UPDATE THE CATALOG INFORMATION* 2X4 5500 LUMEN CGTX AT 2.0V |

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 5066 | CRI (Ra): | 84.8 | | |
| CIE u': | 0.2206 | R1: | 90.0 | R9: | 84.7 |
| CIE v': | 0.4690 | R2: | 84.8 | R10: | 71.2 |
| Duv: | -0.0139 | R3: | 82.4 | R11: | 87.6 |
| CIE x: | 0.3411 | R4: | 87.2 | R12: | 68.6 |
| CIE y: | 0.3223 | R5: | 88.1 | R13: | 87.8 |
| CIE z: | 0.3366 | R6: | 78.9 | R14: | 91.9 |
| Peak Wavelength (nm): | 630 | R7: | 82.2 | R15: | 91.6 |
| Dominant Wavelength (nm): | 0 | R8: | 85.1 | | |
| Purity: | 0 | | | | |

| | |
|---|---|
| Rf: | 86.1 |
| Rg: | 95.8 |



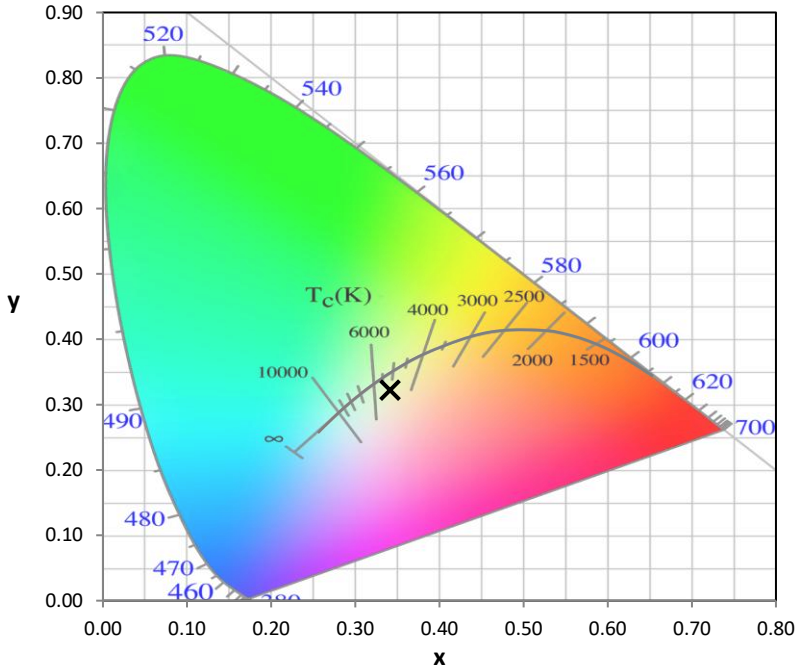

## Test Conditions

| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 25.0 |

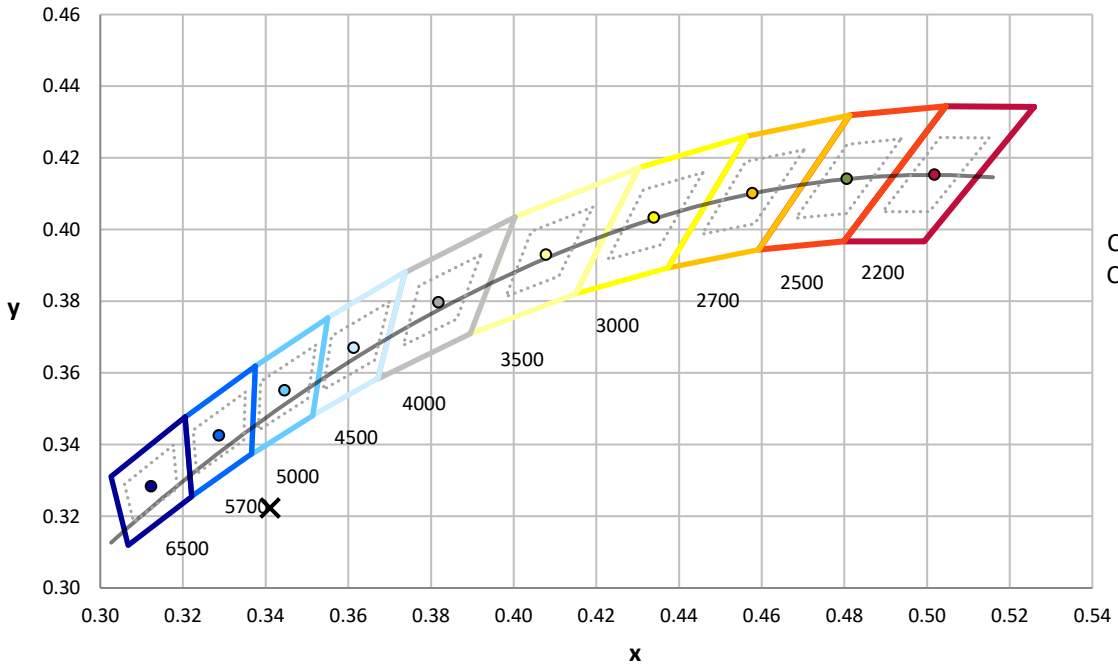
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 12/16/2024 | 6/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 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: SP1-2505-441-5-R2

## CIE 1931 Chromaticity Diagram




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

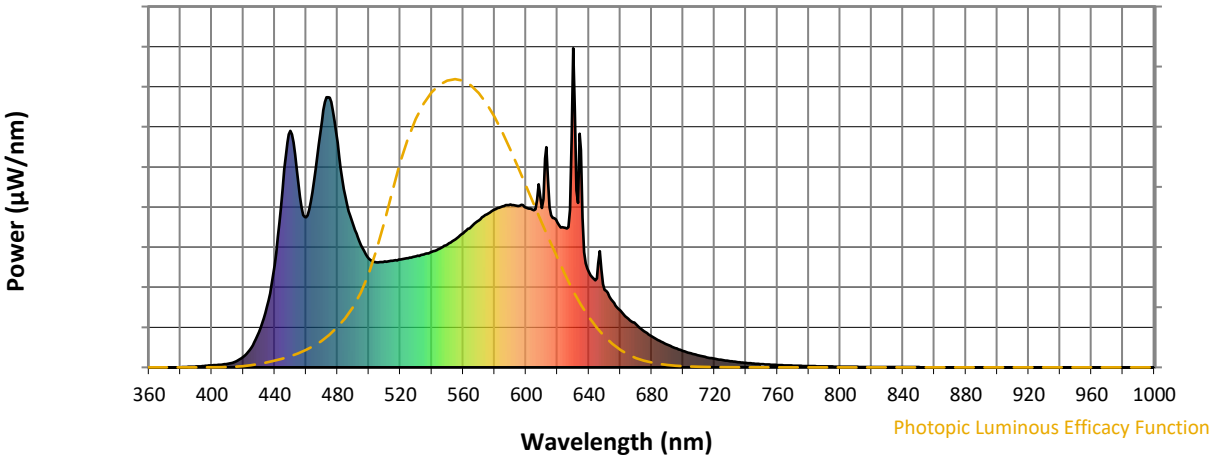



CCT = 5066K
CIE x = 0.3411
CIE y = 0.3223
Duv = -0.0139

Point lies outside the range

REPORT NUMBER: SP1-2505-441-5-R2

## Photopic Flux vs. Wavelength

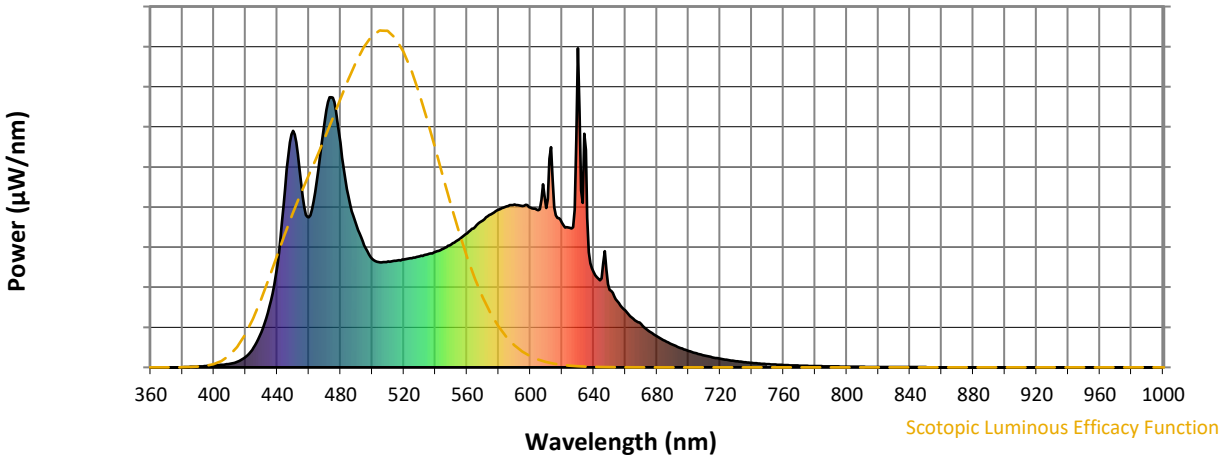



## Photopic Lumens: NR

| 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 | 446 | NR | 620 | 453 | NR | 750 | 10 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 382 | NR | 625 | 437 | NR | 755 | 9 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 340 | NR | 630 | 1000 | NR | 760 | 7 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 329 | NR | 635 | 681 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 332 | NR | 640 | 299 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 334 | NR | 645 | 278 | NR | 775 | 5 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 338 | NR | 650 | 242 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 342 | NR | 655 | 208 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 348 | NR | 660 | 178 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 354 | NR | 665 | 152 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 362 | NR | 670 | 136 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 372 | NR | 675 | 113 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 33 | NR | 550 | 385 | NR | 680 | 97 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 61 | NR | 555 | 401 | NR | 685 | 83 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 111 | NR | 560 | 420 | NR | 690 | 71 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 191 | NR | 565 | 440 | NR | 695 | 61 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 320 | NR | 570 | 461 | NR | 700 | 52 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 560 | NR | 575 | 479 | NR | 705 | 44 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 741 | NR | 580 | 494 | NR | 710 | 37 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 577 | NR | 585 | 505 | NR | 715 | 32 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 471 | NR | 590 | 510 | NR | 720 | 27 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 583 | NR | 595 | 506 | NR | 725 | 23 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 773 | NR | 600 | 501 | NR | 730 | 19 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 846 | NR | 605 | 492 | NR | 735 | 17 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 704 | NR | 610 | 500 | NR | 740 | 14 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 536 | NR | 615 | 501 | NR | 745 | 12 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2505-441-5-R2

## Scotopic Flux vs. Wavelength

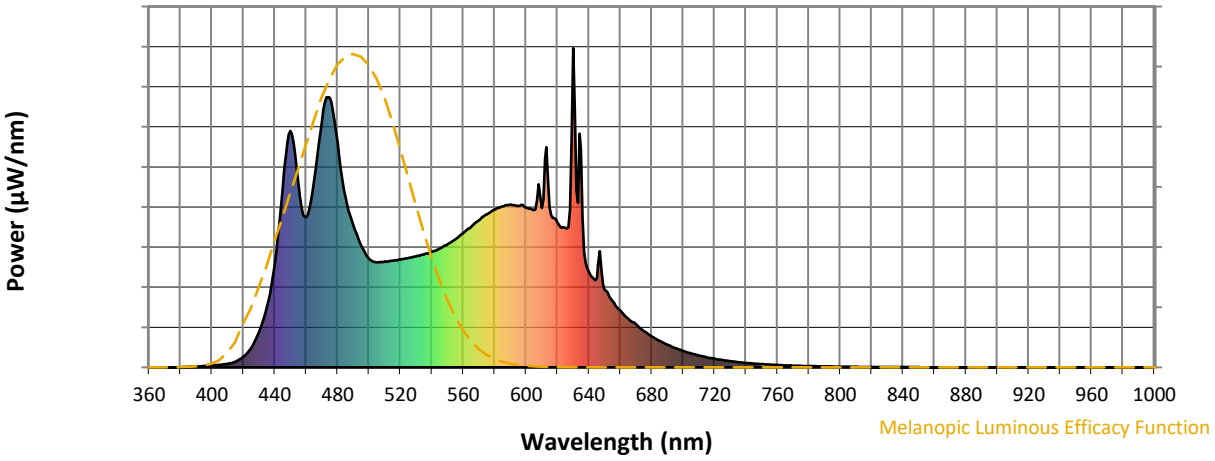



**Scotopic Lumens: NR** **S/P: 2.31**

| 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 | 446 | NR | 620 | 453 | NR | 750 | 10 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 382 | NR | 625 | 437 | NR | 755 | 9 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 340 | NR | 630 | 1000 | NR | 760 | 7 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 329 | NR | 635 | 681 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 332 | NR | 640 | 299 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 334 | NR | 645 | 278 | NR | 775 | 5 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 338 | NR | 650 | 242 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 342 | NR | 655 | 208 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 348 | NR | 660 | 178 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 354 | NR | 665 | 152 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 362 | NR | 670 | 136 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 372 | NR | 675 | 113 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 33 | NR | 550 | 385 | NR | 680 | 97 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 61 | NR | 555 | 401 | NR | 685 | 83 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 111 | NR | 560 | 420 | NR | 690 | 71 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 191 | NR | 565 | 440 | NR | 695 | 61 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 320 | NR | 570 | 461 | NR | 700 | 52 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 560 | NR | 575 | 479 | NR | 705 | 44 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 741 | NR | 580 | 494 | NR | 710 | 37 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 577 | NR | 585 | 505 | NR | 715 | 32 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 471 | NR | 590 | 510 | NR | 720 | 27 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 583 | NR | 595 | 506 | NR | 725 | 23 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 773 | NR | 600 | 501 | NR | 730 | 19 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 846 | NR | 605 | 492 | NR | 735 | 17 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 704 | NR | 610 | 500 | NR | 740 | 14 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 536 | NR | 615 | 501 | NR | 745 | 12 | NR | 875 | 0 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 5.41**

| 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 | 446 | NR | 620 | 453 | NR | 750 | 10 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 382 | NR | 625 | 437 | NR | 755 | 9 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 340 | NR | 630 | 1000 | NR | 760 | 7 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 329 | NR | 635 | 681 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 332 | NR | 640 | 299 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 334 | NR | 645 | 278 | NR | 775 | 5 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 338 | NR | 650 | 242 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 342 | NR | 655 | 208 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 348 | NR | 660 | 178 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 354 | NR | 665 | 152 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 362 | NR | 670 | 136 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 372 | NR | 675 | 113 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 33 | NR | 550 | 385 | NR | 680 | 97 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 61 | NR | 555 | 401 | NR | 685 | 83 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 111 | NR | 560 | 420 | NR | 690 | 71 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 191 | NR | 565 | 440 | NR | 695 | 61 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 320 | NR | 570 | 461 | NR | 700 | 52 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 560 | NR | 575 | 479 | NR | 705 | 44 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 741 | NR | 580 | 494 | NR | 710 | 37 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 577 | NR | 585 | 505 | NR | 715 | 32 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 471 | NR | 590 | 510 | NR | 720 | 27 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 583 | NR | 595 | 506 | NR | 725 | 23 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 773 | NR | 600 | 501 | NR | 730 | 19 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 846 | NR | 605 | 492 | NR | 735 | 17 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 704 | NR | 610 | 500 | NR | 740 | 14 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 536 | NR | 615 | 501 | NR | 745 | 12 | NR | 875 | 0 | NR | | | |

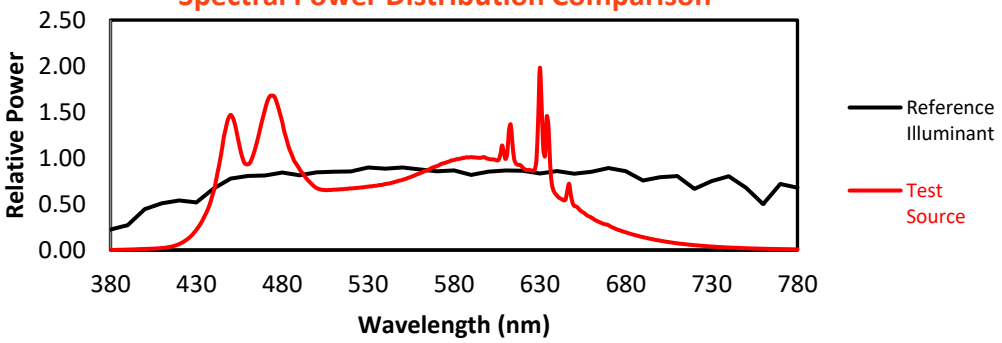
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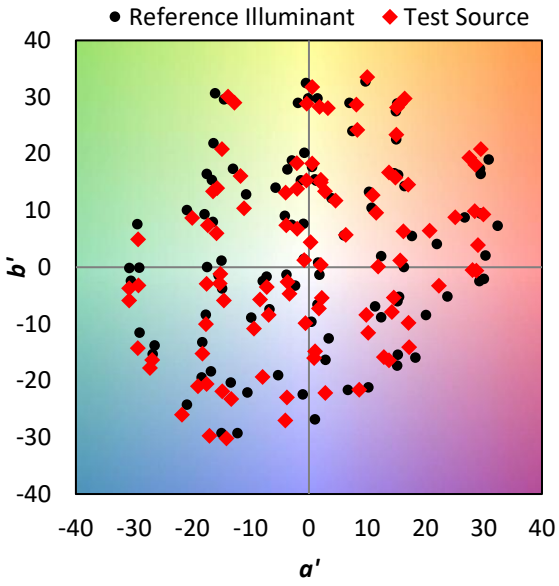
## Summary

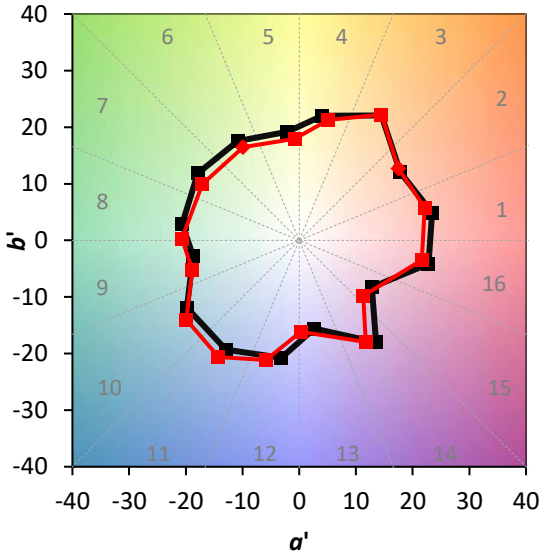
$R_f$ = 86.1
$R_g$ = 95.8
CIE $R_a$ = 84.8
$R_9$ = 84.7

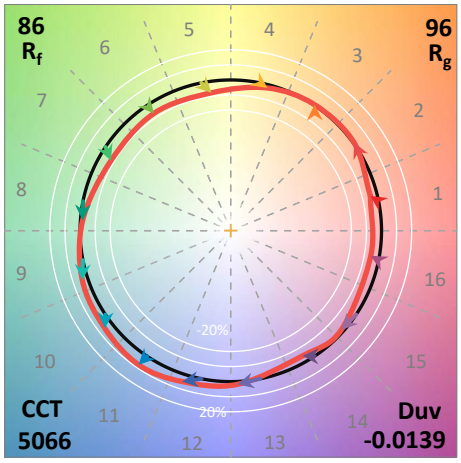
## Spectral Power Distribution Comparison

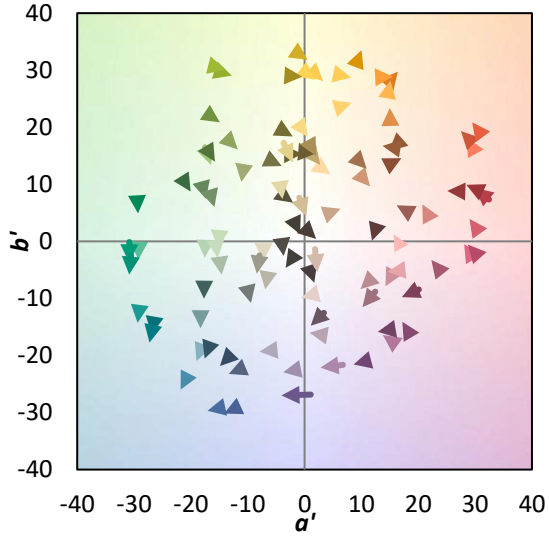



## Color Vector Graphics



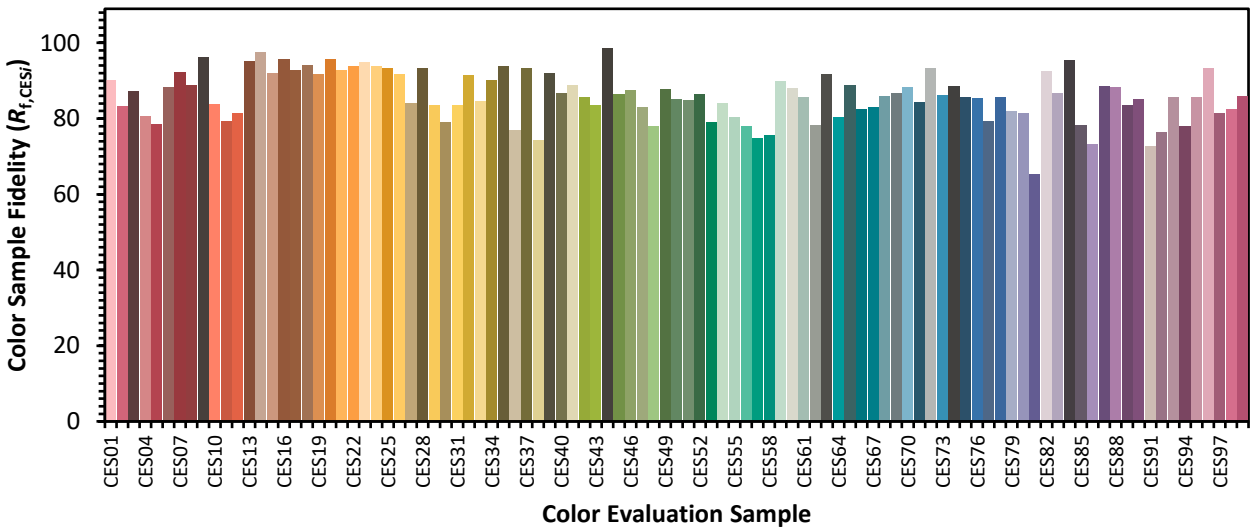



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**Individual Sample Fidelity Index ($R_{f,i}$)**

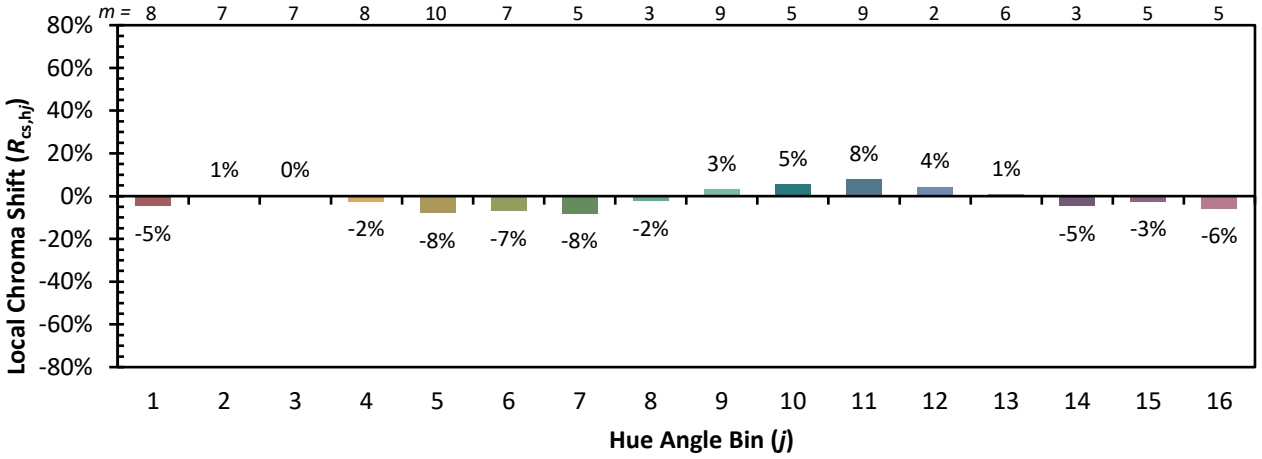
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 92 | CES51 = 85 | CES76 = 85 |
| CES02 = 62 | CES27 = 84 | CES52 = 86 | CES77 = 79 |
| CES03 = 31 | CES28 = 93 | CES53 = 79 | CES78 = 86 |
| CES04 = 69 | CES29 = 84 | CES54 = 84 | CES79 = 82 |
| CES05 = 48 | CES30 = 79 | CES55 = 80 | CES80 = 81 |
| CES06 = 50 | CES31 = 84 | CES56 = 78 | CES81 = 65 |
| CES07 = 41 | CES32 = 92 | CES57 = 75 | CES82 = 93 |
| CES08 = 40 | CES33 = 85 | CES58 = 76 | CES83 = 87 |
| CES09 = 29 | CES34 = 90 | CES59 = 90 | CES84 = 95 |
| CES10 = 74 | CES35 = 94 | CES60 = 88 | CES85 = 78 |
| CES11 = 57 | CES36 = 77 | CES61 = 86 | CES86 = 73 |
| CES12 = 63 | CES37 = 93 | CES62 = 78 | CES87 = 89 |
| CES13 = 43 | CES38 = 74 | CES63 = 92 | CES88 = 88 |
| CES14 = 74 | CES39 = 92 | CES64 = 80 | CES89 = 83 |
| CES15 = 71 | CES40 = 87 | CES65 = 89 | CES90 = 85 |
| CES16 = 47 | CES41 = 89 | CES66 = 82 | CES91 = 73 |
| CES17 = 49 | CES42 = 86 | CES67 = 83 | CES92 = 76 |
| CES18 = 56 | CES43 = 84 | CES68 = 86 | CES93 = 86 |
| CES19 = 71 | CES44 = 99 | CES69 = 87 | CES94 = 78 |
| CES20 = 66 | CES45 = 87 | CES70 = 88 | CES95 = 86 |
| CES21 = 85 | CES46 = 88 | CES71 = 84 | CES96 = 93 |
| CES22 = 77 | CES47 = 83 | CES72 = 93 | CES97 = 81 |
| CES23 = 91 | CES48 = 78 | CES73 = 86 | CES98 = 82 |
| CES24 = 90 | CES49 = 88 | CES74 = 89 | CES99 = 86 |
| CES25 = 70 | CES50 = 85 | CES75 = 86 | |

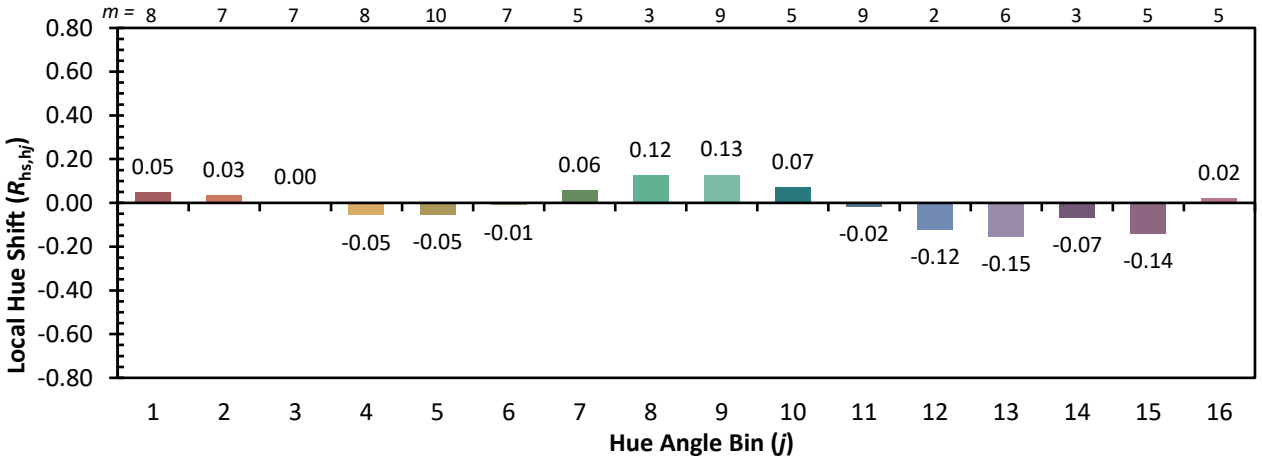


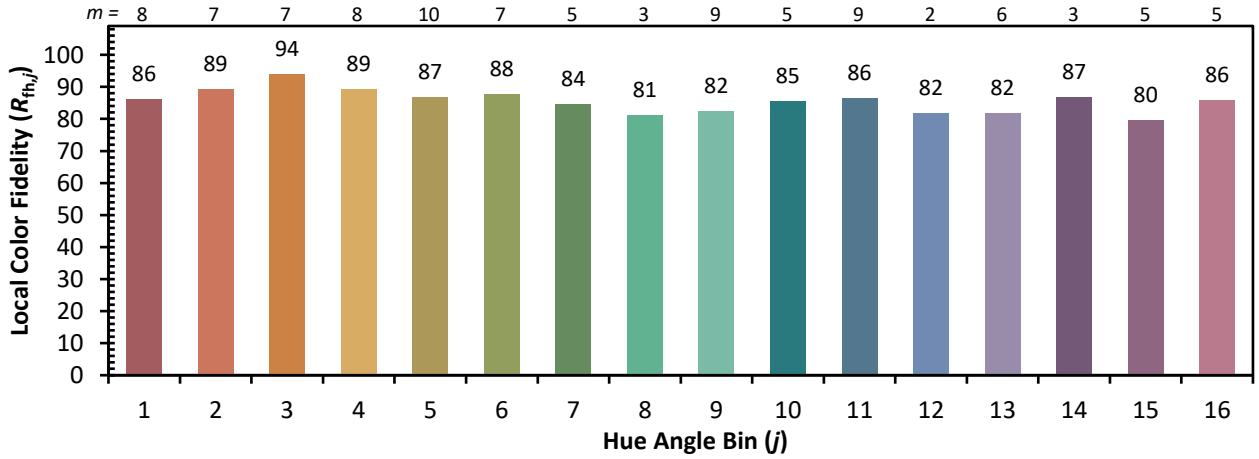
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## Color Rendition by Hue-Angle Bin



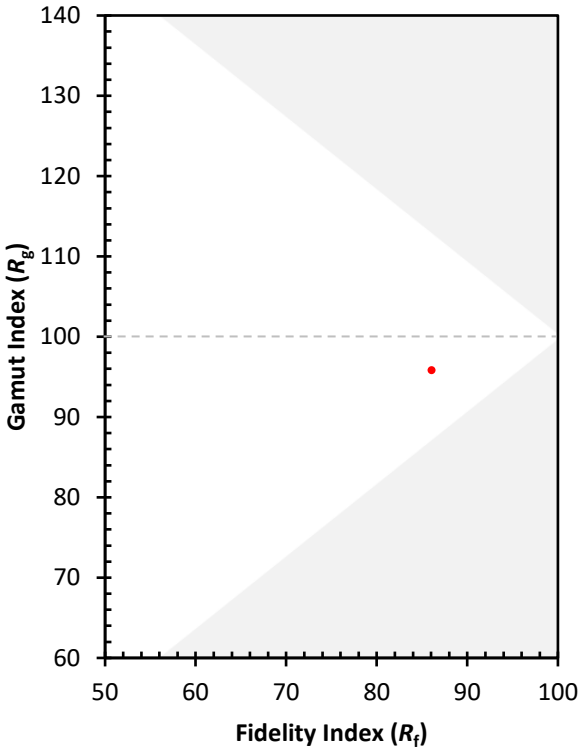



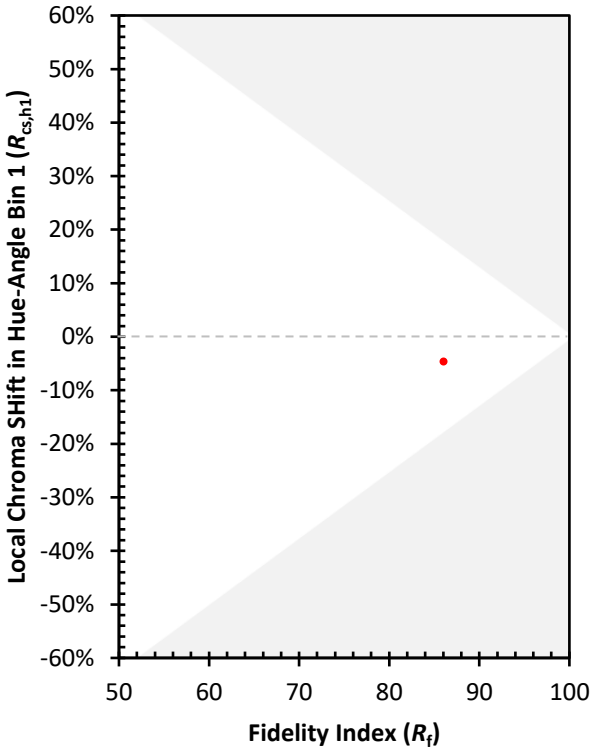



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## Measure Comparisons




(END OF REPORT)