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: P1527758

Luminaire Tested: 24CGTX-35-B2750-W2A-3000K

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

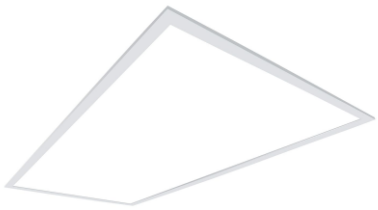
**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | P1527758 |
| | 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-3000K |
| Description: | 2X4 3500 LUMEN CGTX TROFFER WITH BIO UP LEDS AT 3000K CCT WITH FROSTED SMOOTH L |
| Light Source: | 3000K CCT, 80 CRI LEDS |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 3417.9 lumens |
| Efficiency: | N/A |
| Efficacy: | 115.1 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 |

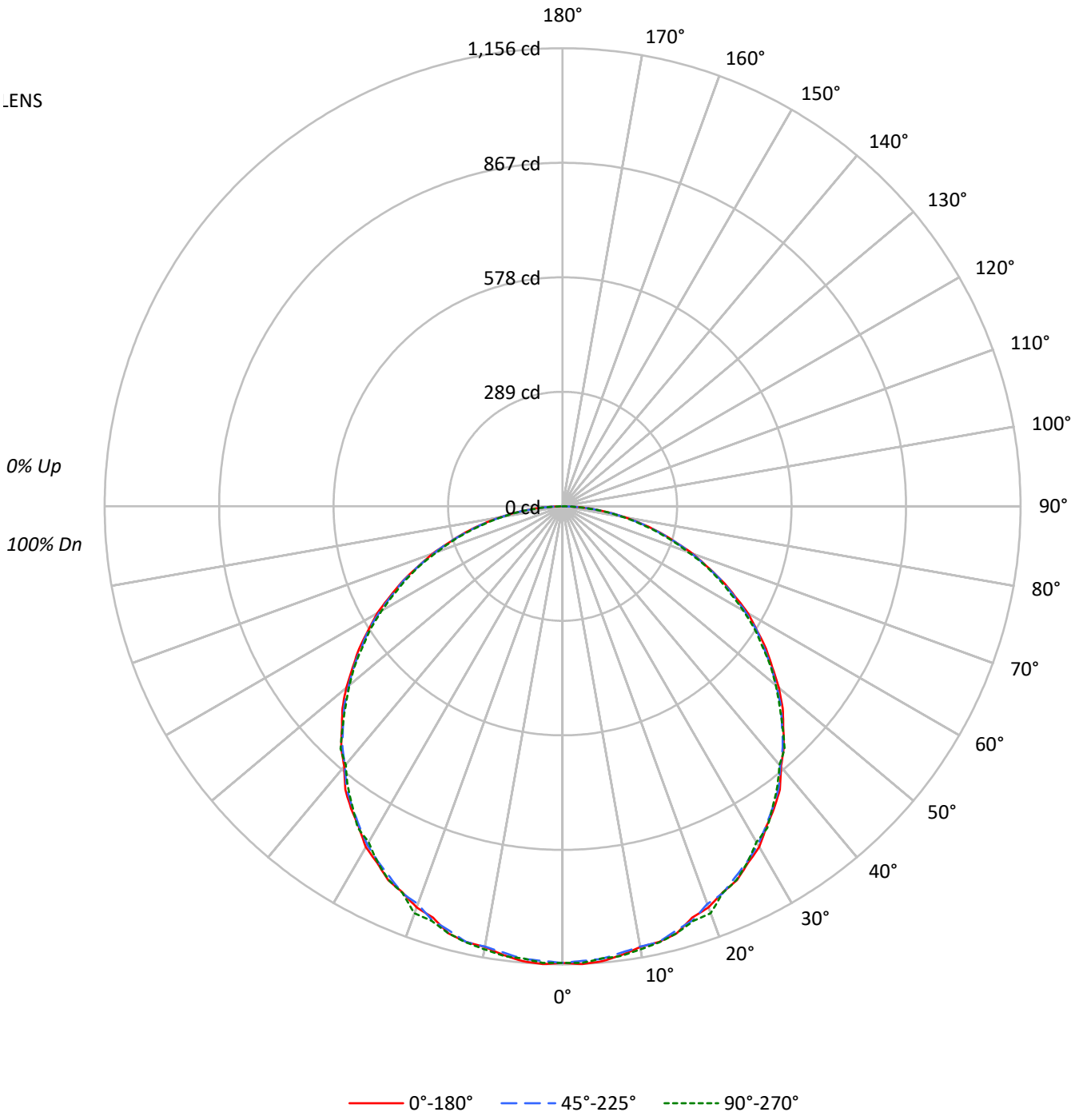


Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

TEST NUMBER: P1527758
CATALOG NUMBER: 24CGTX-35-B2750-W2A-3000K

## Luminous Intensity Polar Plot



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

Scaled Data Report

TEST NUMBER: P1527758
CATALOG NUMBER: 24CGTX-35-B2750-W2A-3000K

## 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° | 1550 | 1550 | 1550 |
| 5° | 1556 | 1548 | 1547 |
| 10° | 1543 | 1541 | 1551 |
| 15° | 1553 | 1544 | 1553 |
| 20° | 1542 | 1529 | 1565 |
| 25° | 1545 | 1532 | 1544 |
| 30° | 1543 | 1532 | 1521 |
| 35° | 1529 | 1521 | 1519 |
| 40° | 1506 | 1501 | 1496 |
| 45° | 1498 | 1491 | 1493 |
| 50° | 1491 | 1474 | 1470 |
| 55° | 1471 | 1453 | 1443 |
| 60° | 1453 | 1434 | 1418 |
| 65° | 1413 | 1407 | 1384 |
| 70° | 1372 | 1356 | 1324 |
| 75° | 1318 | 1302 | 1271 |
| 80° | 1242 | 1219 | 1196 |
| 85° | 1144 | 1098 | 1067 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 47.5°
Luminance: 1500 cd/sqm

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

Scaled Data Report

TEST NUMBER: P1527758
CATALOG NUMBER: 24CGTX-35-B2750-W2A-3000K

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 109.0 | 3.2 |
| 10°-20° | 313.4 | 9.2 |
| 20°-30° | 477.2 | 14.0 |
| 30°-40° | 579.1 | 16.9 |
| 40°-50° | 605.0 | 17.7 |
| 50°-60° | 554.8 | 16.2 |
| 60°-70° | 434.1 | 12.7 |
| 70°-80° | 263.8 | 7.7 |
| 80°-90° | 81.5 | 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° | 899.5 | 26.3 |
| 0°-40° | 1478.6 | 43.3 |
| 0°-60° | 2638.5 | 77.2 |
| 0°-90° | 3417.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3417.9 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|---|---|---|---|---|---|---|
| 0° | 1152 | 1152 | 1152 | 1152 | 1152 | |
| 5° | 1152 | 1154 | 1146 | 1147 | 1145 | 109 |
| 15° | 1115 | 1110 | 1108 | 1108 | 1115 | 313 |
| 25° | 1041 | 1035 | 1032 | 1032 | 1040 | 479 |
| 35° | 931 | 929 | 926 | 920 | 925 | 582 |
| 45° | 788 | 786 | 784 | 780 | 784 | 609 |
| 55° | 627 | 622 | 619 | 618 | 615 | 560 |
| 65° | 444 | 444 | 442 | 436 | 435 | 438 |
| 75° | 254 | 254 | 250 | 246 | 244 | 267 |
| 85° | 74 | 73 | 71 | 70 | 69 | 83 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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

Scaled Data Report

TEST NUMBER: P1527758
CATALOG NUMBER: 24CGTX-35-B2750-W2A-3000K

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° |
|---|---|---|---|---|---|
| 0° | *1152.2* | 1152.2 | 1152.2 | 1152.2 | 1152.2 |
| 2.5° | *1156.2* | *1156.2* | *1148.2* | *1146.2* | *1153.2* |
| 5° | *1152.2* | 1154.2 | 1146.2 | 1147.2 | 1145.2 |
| 7.5° | *1142.2* | 1140.2 | 1136.2 | 1135.2 | 1144.2 |
| 10° | *1129.2* | 1137.2 | 1128.2 | 1126.1 | 1135.2 |
| 12.5° | *1126.1* | 1127.2 | 1126.1 | 1120.1 | 1127.2 |
| 15° | *1115.1* | 1110.1 | 1108.1 | 1108.1 | 1115.1 |
| 17.5° | *1088.1* | 1097.1 | 1095.1 | 1092.1 | 1097.1 |
| 20° | *1077.1* | 1082.1 | 1068.0 | 1074.0 | 1093.1 |
| 22.5° | *1055.0* | 1058.0 | 1057.0 | 1065.0 | 1056.0 |
| 25° | *1041.0* | 1035.0 | 1032.0 | 1032.0 | 1040.0 |
| 27.5° | *1013.9* | 1006.9 | 1009.9 | 1011.9 | 1011.9 |
| 30° | *992.9* | 981.9 | 985.9 | 982.9 | 978.9 |
| 32.5° | *957.8* | 960.8 | 955.8 | 952.8 | 961.8 |
| 35° | *930.8* | 928.8 | 925.8 | 919.8 | 924.8 |
| 37.5° | *900.7* | 896.7 | 895.7 | 890.7 | 890.7 |
| 40° | *857.6* | 857.6 | 854.6 | 854.6 | 851.6 |
| 42.5° | *826.6* | 823.6 | 822.6 | 816.6 | 829.6 |
| 45° | *787.5* | 785.5 | 783.5 | 780.5 | 784.5 |
| 47.5° | *753.4* | 746.4 | 747.4 | 743.4 | 742.4 |
| 50° | *712.4* | 704.3 | 704.3 | 704.3 | 702.3 |
| 52.5° | *667.3* | 668.3 | 663.3 | 660.3 | 661.3 |
| 55° | *627.2* | 622.2 | 619.2 | 618.2 | 615.2 |
| 57.5° | *581.1* | 578.1 | 580.1 | 574.1 | 574.1 |
| 60° | *540.0* | 535.0 | 533.0 | 527.0 | 527.0 |
| 62.5° | *489.9* | 489.9 | 484.9 | 480.9 | 478.9 |
| 65° | *443.8* | 443.8 | 441.8 | 435.8 | 434.8 |
| 67.5° | *392.7* | 394.8 | 391.7 | 386.7 | 388.7 |
| 70° | *348.7* | 346.7 | 344.7 | 341.7 | 336.6 |
| 72.5° | *297.6* | 299.6 | 296.6 | 292.6 | 291.6 |
| 75° | *253.5* | 253.5 | 250.5 | 246.5 | 244.5 |
| 77.5° | *205.4* | 207.4 | 203.4 | 201.4 | 198.4 |
| 80° | *160.3* | 160.3 | 157.3 | 156.3 | 154.3 |
| 82.5° | *117.2* | 116.2 | 115.2 | 112.2 | 113.2 |
| 85° | *74.1* | 73.1 | 71.1 | 70.1 | 69.1 |
| 87.5° | *35.1* | 33.1 | 35.1 | 35.1 | 34.1 |
| 90° | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |

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

TEST NUMBER: P1527758
CATALOG NUMBER: 24CGTX-35-B2750-W2A-3000K

**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 | 15.18 | 13.88 | 15.49 | 15.81 | 13.46 | 15.12 | 13.82 | 15.43 | 15.75 |
| | 3H | 15.45 | 16.96 | 15.83 | 17.29 | 17.65 | 15.36 | 16.87 | 15.74 | 17.19 | 17.55 |
| | 4H | 16.22 | 17.64 | 16.61 | 17.99 | 18.36 | 16.10 | 17.52 | 16.50 | 17.87 | 18.25 |
| | 6H | 16.81 | 18.13 | 17.22 | 18.50 | 18.89 | 16.68 | 18.00 | 17.09 | 18.36 | 18.75 |
| | 8H | 17.03 | 18.29 | 17.45 | 18.68 | 19.07 | 16.88 | 18.15 | 17.31 | 18.53 | 18.93 |
| | 12H | 17.18 | 18.39 | 17.61 | 18.77 | 19.20 | 17.02 | 18.23 | 17.45 | 18.62 | 19.04 |
| 4H | 2H | 14.19 | 15.61 | 14.59 | 15.96 | 16.33 | 14.14 | 15.57 | 14.54 | 15.91 | 16.29 |
| | 3H | 16.35 | 17.55 | 16.76 | 17.94 | 18.34 | 16.27 | 17.47 | 16.68 | 17.87 | 18.26 |
| | 4H | 17.25 | 18.34 | 17.69 | 18.75 | 19.19 | 17.15 | 18.23 | 17.58 | 18.65 | 19.08 |
| | 6H | 17.99 | 18.95 | 18.45 | 19.39 | 19.84 | 17.86 | 18.82 | 18.32 | 19.26 | 19.71 |
| | 8H | 18.26 | 19.15 | 18.72 | 19.60 | 20.06 | 18.12 | 19.01 | 18.58 | 19.46 | 19.92 |
| | 12H | 18.47 | 19.27 | 18.95 | 19.75 | 20.21 | 18.31 | 19.12 | 18.79 | 19.59 | 20.06 |
| 8H | 4H | 17.61 | 18.50 | 18.07 | 18.94 | 19.40 | 17.51 | 18.40 | 17.97 | 18.85 | 19.31 |
| | 6H | 18.49 | 19.23 | 18.98 | 19.72 | 20.19 | 18.37 | 19.11 | 18.86 | 19.60 | 20.07 |
| | 8H | 18.84 | 19.51 | 19.35 | 20.01 | 20.50 | 18.71 | 19.38 | 19.22 | 19.88 | 20.37 |
| | 12H | 19.13 | 19.73 | 19.64 | 20.22 | 20.77 | 18.99 | 19.58 | 19.49 | 20.07 | 20.63 |
| 12H | 4H | 17.65 | 18.46 | 18.13 | 18.93 | 19.40 | 17.56 | 18.37 | 18.04 | 18.84 | 19.31 |
| | 6H | 18.56 | 19.23 | 19.07 | 19.73 | 20.22 | 18.45 | 19.12 | 18.95 | 19.62 | 20.11 |
| | 8H | 18.98 | 19.57 | 19.48 | 20.06 | 20.62 | 18.85 | 19.45 | 19.36 | 19.94 | 20.50 |

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

Metalux

Report Number: SP1-2505-441-15-R2

Test Date: 06/12/2025

Luminaire Tested: 24CGTX-55-B2750-W2A-3000K

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

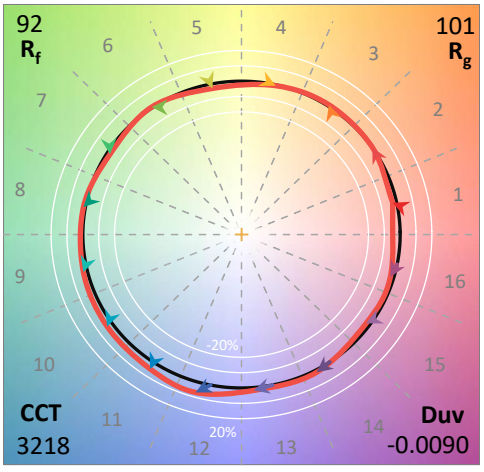
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2505-441-15-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-3000K** |
| Description: | *THIS IS A REVISION OF REPORT SP1-2504-441-15-R2 TO UPDATE THE CATALOG INFORMATION* 2X4 5500 LUMEN CGTX AT 7.0V |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3218 |
| CIE u': | 0.2471 |
| CIE v': | 0.5047 |
| Duv: | -0.0090 |
| CIE x: | 0.4113 |
| CIE y: | 0.3733 |
| CIE z: | 0.2154 |
| Peak Wavelength (nm): | 630 |
| Dominant Wavelength (nm): | 586 |
| Purity: | 35.5 |
| Rf: | 92.4 |
| Rg: | 100.9 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 92.1 | | | | |
| R1: | 94.2 | R9: | 87.4 | | |
| R2: | 92.2 | R10: | 85.6 | | |
| R3: | 93.0 | R11: | 94.6 | | |
| R4: | 97.8 | R12: | 78.5 | | |
| R5: | 93.2 | R13: | 92.9 | | |
| R6: | 85.3 | R14: | 97.6 | | |
| R7: | 90.0 | R15: | 96.4 | | |
| R8: | 91.4 | | | | |



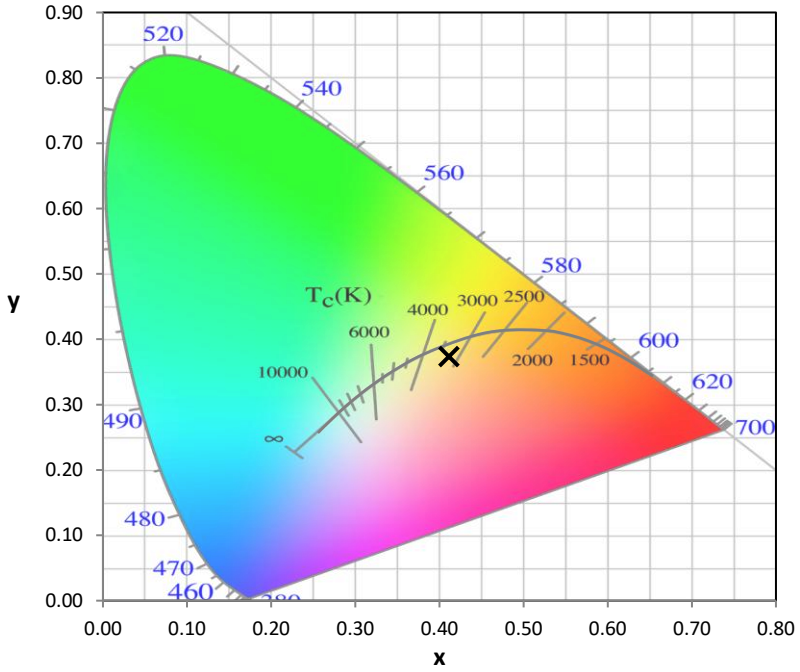

## Test Conditions

| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.0 |

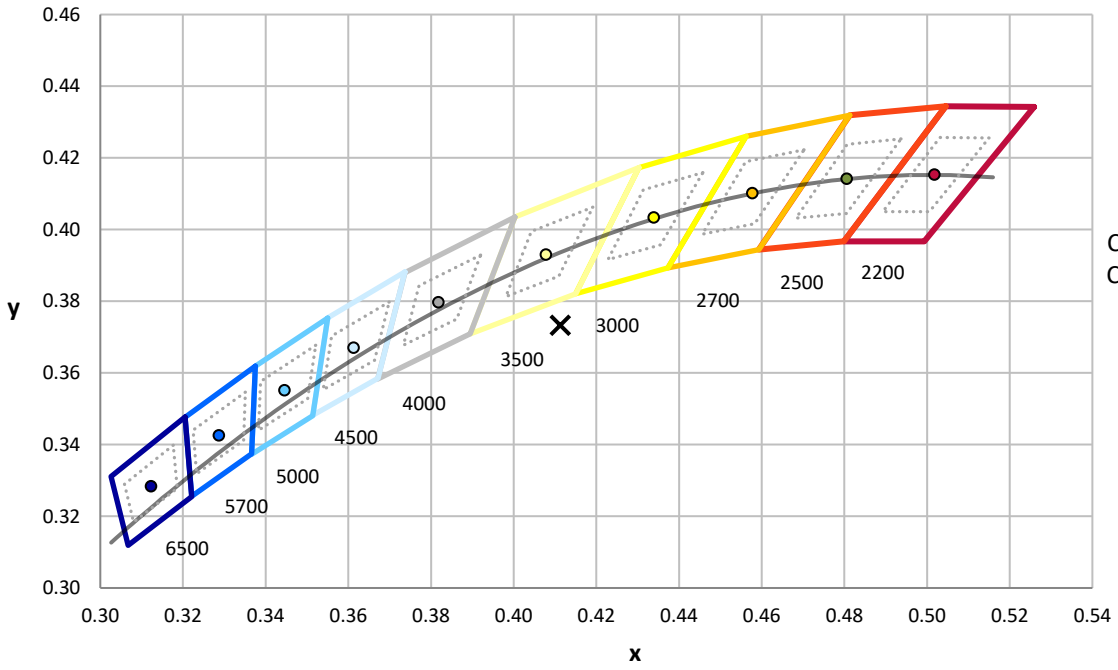
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 12/16/2024 | 6/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 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: SP1-2505-441-15-R2

## CIE 1931 Chromaticity Diagram




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

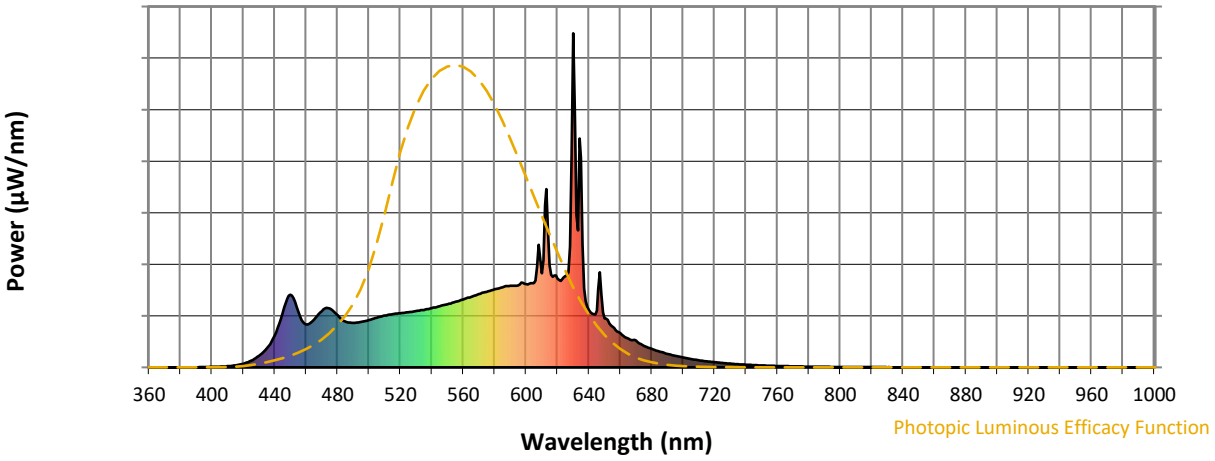



CCT = 3218K
CIE x = 0.4113
CIE y = 0.3733
Duv = -0.0090

Point lies outside the range

REPORT NUMBER: SP1-2505-441-15-R2

## Photopic Flux vs. Wavelength

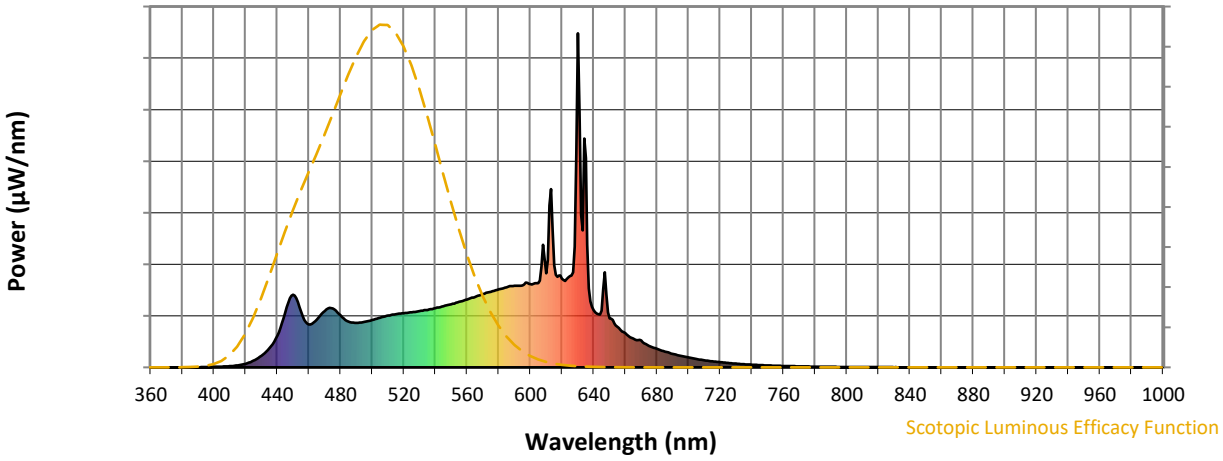



## Photopic Lumens: NR

| 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 | 133 | NR | 620 | 266 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 136 | NR | 625 | 273 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 142 | NR | 630 | 1000 | NR | 760 | 4 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 149 | NR | 635 | 627 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 155 | NR | 640 | 172 | NR | 770 | 3 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 159 | NR | 645 | 169 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 162 | NR | 650 | 146 | NR | 780 | 2 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 165 | NR | 655 | 122 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 169 | NR | 660 | 103 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 2 | NR | 535 | 172 | NR | 665 | 86 | NR | 795 | 1 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 177 | NR | 670 | 80 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 6 | NR | 545 | 183 | NR | 675 | 65 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 11 | NR | 550 | 189 | NR | 680 | 55 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 20 | NR | 555 | 196 | NR | 685 | 47 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 35 | NR | 560 | 203 | NR | 690 | 40 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 57 | NR | 565 | 211 | NR | 695 | 35 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 94 | NR | 570 | 219 | NR | 700 | 29 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 163 | NR | 575 | 226 | NR | 705 | 25 | NR | 835 | 0 | NR | 965 | 0 | NR |
| 450 | 218 | NR | 580 | 233 | NR | 710 | 21 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 167 | NR | 585 | 240 | NR | 715 | 18 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 129 | NR | 590 | 244 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 143 | NR | 595 | 245 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 169 | NR | 600 | 249 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 177 | NR | 605 | 252 | NR | 735 | 9 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 156 | NR | 610 | 282 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 137 | NR | 615 | 306 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2505-441-15-R2

## Scotopic Flux vs. Wavelength

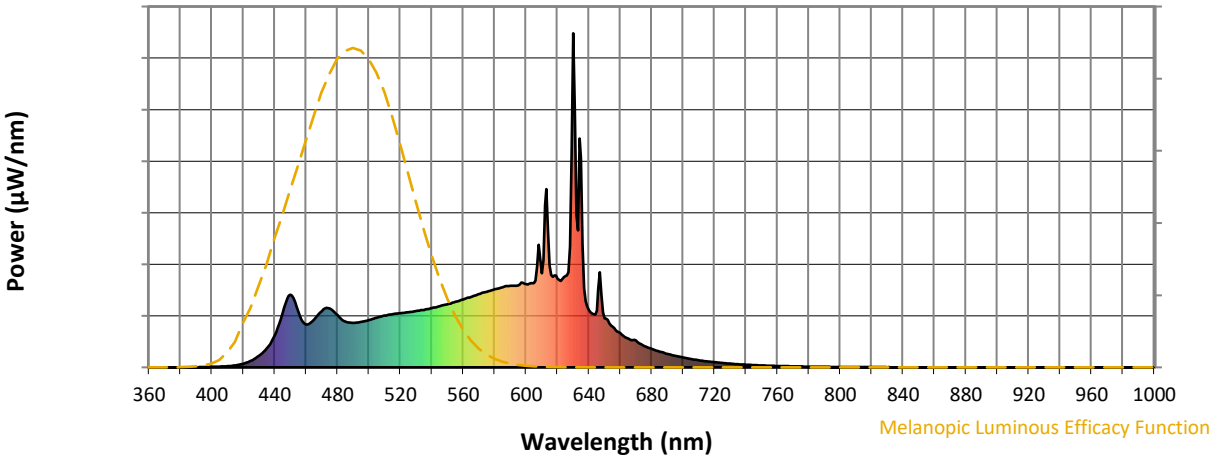



**Scotopic Lumens: NR** **S/P: 1.68**

| 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 | 133 | NR | 620 | 266 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 136 | NR | 625 | 273 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 142 | NR | 630 | 1000 | NR | 760 | 4 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 149 | NR | 635 | 627 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 155 | NR | 640 | 172 | NR | 770 | 3 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 159 | NR | 645 | 169 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 162 | NR | 650 | 146 | NR | 780 | 2 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 165 | NR | 655 | 122 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 169 | NR | 660 | 103 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 2 | NR | 535 | 172 | NR | 665 | 86 | NR | 795 | 1 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 177 | NR | 670 | 80 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 6 | NR | 545 | 183 | NR | 675 | 65 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 11 | NR | 550 | 189 | NR | 680 | 55 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 20 | NR | 555 | 196 | NR | 685 | 47 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 35 | NR | 560 | 203 | NR | 690 | 40 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 57 | NR | 565 | 211 | NR | 695 | 35 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 94 | NR | 570 | 219 | NR | 700 | 29 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 163 | NR | 575 | 226 | NR | 705 | 25 | NR | 835 | 0 | NR | 965 | 0 | NR |
| 450 | 218 | NR | 580 | 233 | NR | 710 | 21 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 167 | NR | 585 | 240 | NR | 715 | 18 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 129 | NR | 590 | 244 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 143 | NR | 595 | 245 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 169 | NR | 600 | 249 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 177 | NR | 605 | 252 | NR | 735 | 9 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 156 | NR | 610 | 282 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 137 | NR | 615 | 306 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2505-441-15-R2

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.56**

| 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 | 133 | NR | 620 | 266 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 136 | NR | 625 | 273 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 142 | NR | 630 | 1000 | NR | 760 | 4 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 149 | NR | 635 | 627 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 155 | NR | 640 | 172 | NR | 770 | 3 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 159 | NR | 645 | 169 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 162 | NR | 650 | 146 | NR | 780 | 2 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 165 | NR | 655 | 122 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 169 | NR | 660 | 103 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 2 | NR | 535 | 172 | NR | 665 | 86 | NR | 795 | 1 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 177 | NR | 670 | 80 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 6 | NR | 545 | 183 | NR | 675 | 65 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 11 | NR | 550 | 189 | NR | 680 | 55 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 20 | NR | 555 | 196 | NR | 685 | 47 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 35 | NR | 560 | 203 | NR | 690 | 40 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 57 | NR | 565 | 211 | NR | 695 | 35 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 94 | NR | 570 | 219 | NR | 700 | 29 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 163 | NR | 575 | 226 | NR | 705 | 25 | NR | 835 | 0 | NR | 965 | 0 | NR |
| 450 | 218 | NR | 580 | 233 | NR | 710 | 21 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 167 | NR | 585 | 240 | NR | 715 | 18 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 129 | NR | 590 | 244 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 143 | NR | 595 | 245 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 169 | NR | 600 | 249 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 177 | NR | 605 | 252 | NR | 735 | 9 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 156 | NR | 610 | 282 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 137 | NR | 615 | 306 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

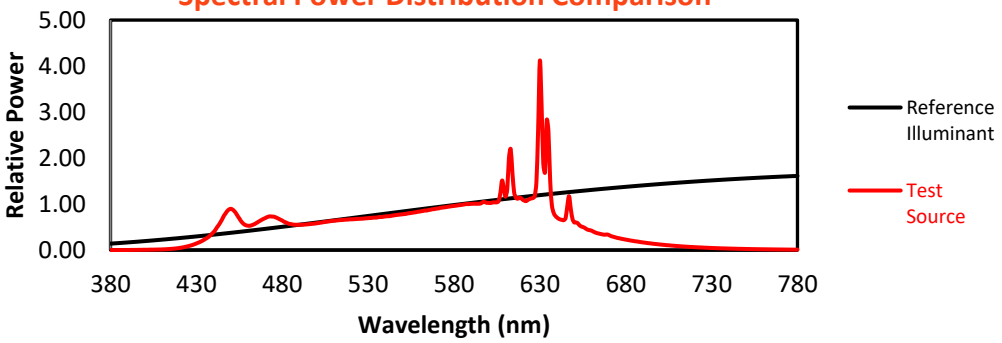
REPORT NUMBER: SP1-2505-441-15-R2

# TM-30-18

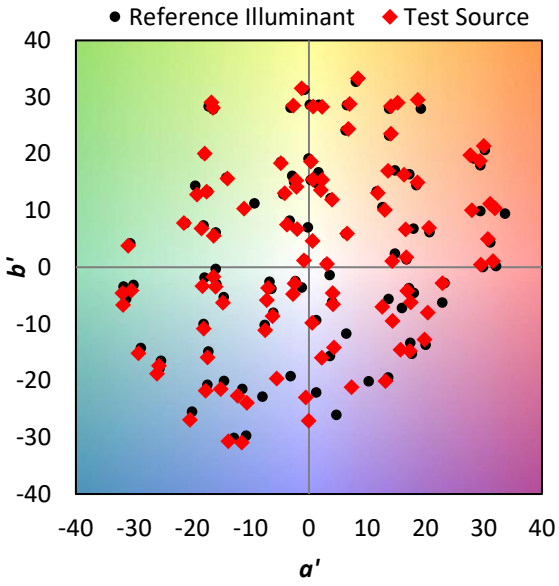
## Summary

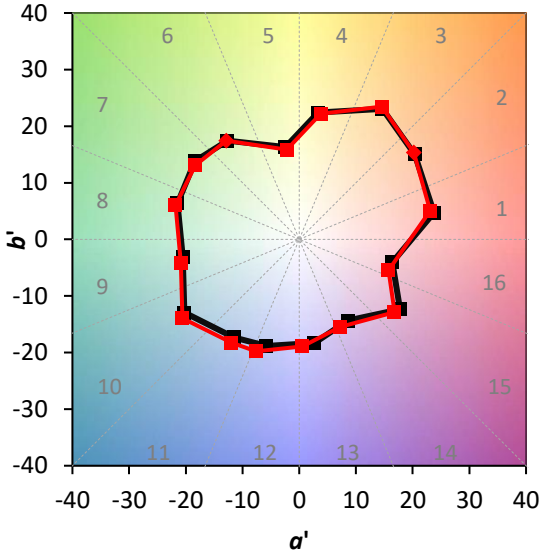
$R_f$ = 92.4
$R_g$ = 100.9
CIE $R_a$ = 92.1
$R_9$ = 87.4

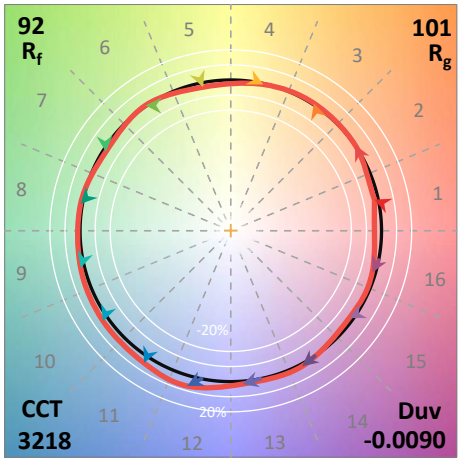
## Spectral Power Distribution Comparison

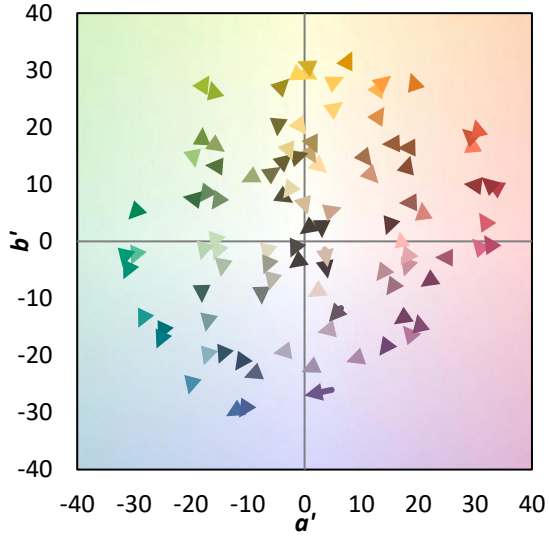



## Color Vector Graphics



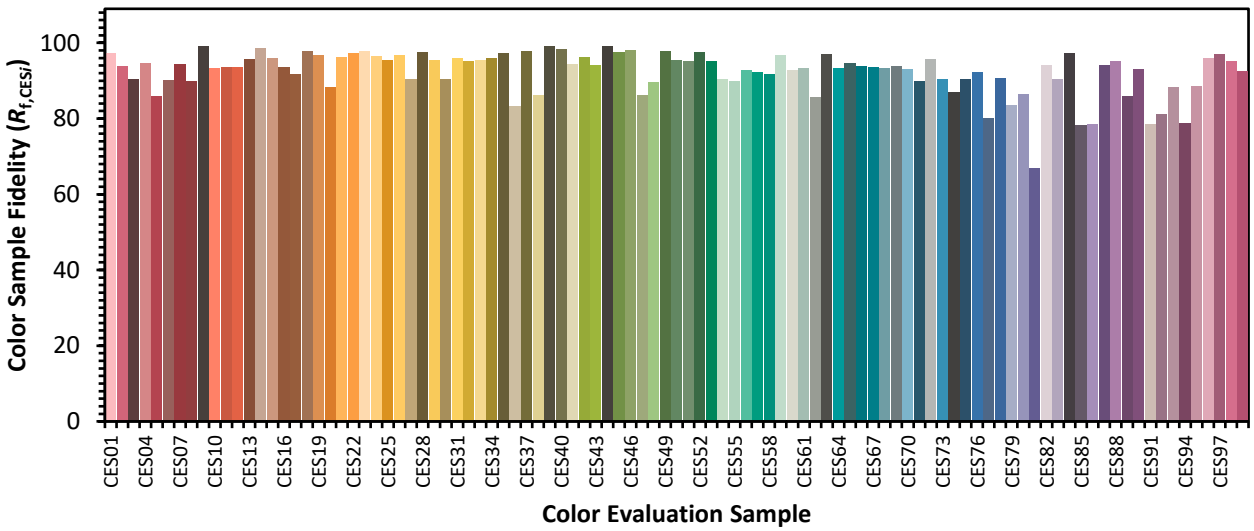



REPORT NUMBER: SP1-2505-441-15-R2

# TM-30-18

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

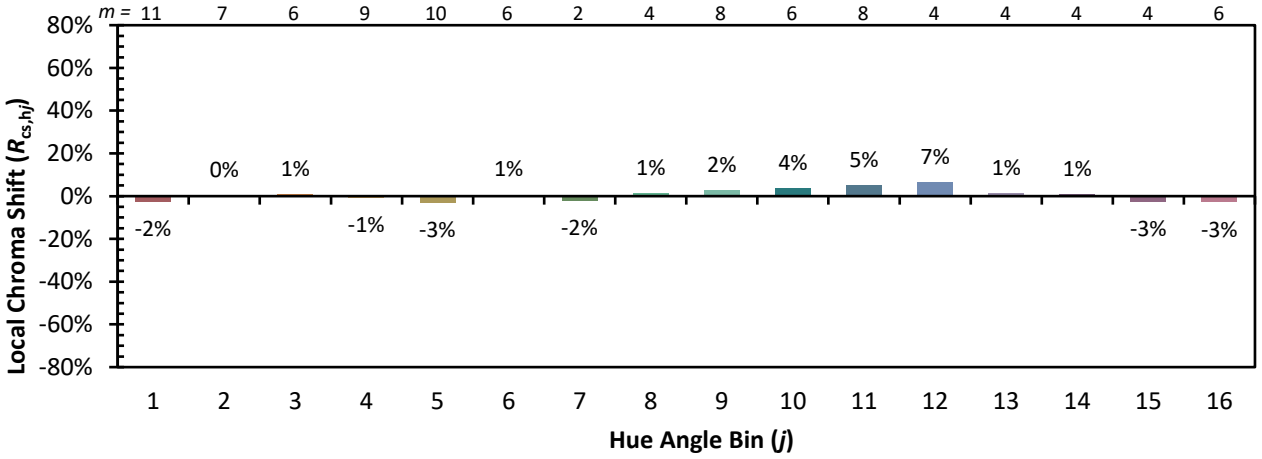
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 97 | CES51 = 95 | CES76 = 92 |
| CES02 = 63 | CES27 = 90 | CES52 = 97 | CES77 = 80 |
| CES03 = 32 | CES28 = 97 | CES53 = 95 | CES78 = 91 |
| CES04 = 70 | CES29 = 95 | CES54 = 91 | CES79 = 83 |
| CES05 = 51 | CES30 = 90 | CES55 = 90 | CES80 = 86 |
| CES06 = 51 | CES31 = 96 | CES56 = 93 | CES81 = 67 |
| CES07 = 44 | CES32 = 95 | CES57 = 92 | CES82 = 94 |
| CES08 = 42 | CES33 = 96 | CES58 = 92 | CES83 = 90 |
| CES09 = 29 | CES34 = 96 | CES59 = 97 | CES84 = 97 |
| CES10 = 76 | CES35 = 97 | CES60 = 93 | CES85 = 78 |
| CES11 = 58 | CES36 = 83 | CES61 = 93 | CES86 = 79 |
| CES12 = 65 | CES37 = 98 | CES62 = 86 | CES87 = 94 |
| CES13 = 44 | CES38 = 86 | CES63 = 97 | CES88 = 95 |
| CES14 = 74 | CES39 = 99 | CES64 = 93 | CES89 = 86 |
| CES15 = 72 | CES40 = 98 | CES65 = 95 | CES90 = 93 |
| CES16 = 48 | CES41 = 94 | CES66 = 94 | CES91 = 79 |
| CES17 = 50 | CES42 = 96 | CES67 = 94 | CES92 = 81 |
| CES18 = 57 | CES43 = 94 | CES68 = 93 | CES93 = 88 |
| CES19 = 71 | CES44 = 99 | CES69 = 94 | CES94 = 79 |
| CES20 = 67 | CES45 = 97 | CES70 = 93 | CES95 = 89 |
| CES21 = 86 | CES46 = 98 | CES71 = 90 | CES96 = 96 |
| CES22 = 79 | CES47 = 86 | CES72 = 96 | CES97 = 97 |
| CES23 = 91 | CES48 = 90 | CES73 = 90 | CES98 = 95 |
| CES24 = 90 | CES49 = 98 | CES74 = 87 | CES99 = 92 |
| CES25 = 71 | CES50 = 95 | CES75 = 90 | |

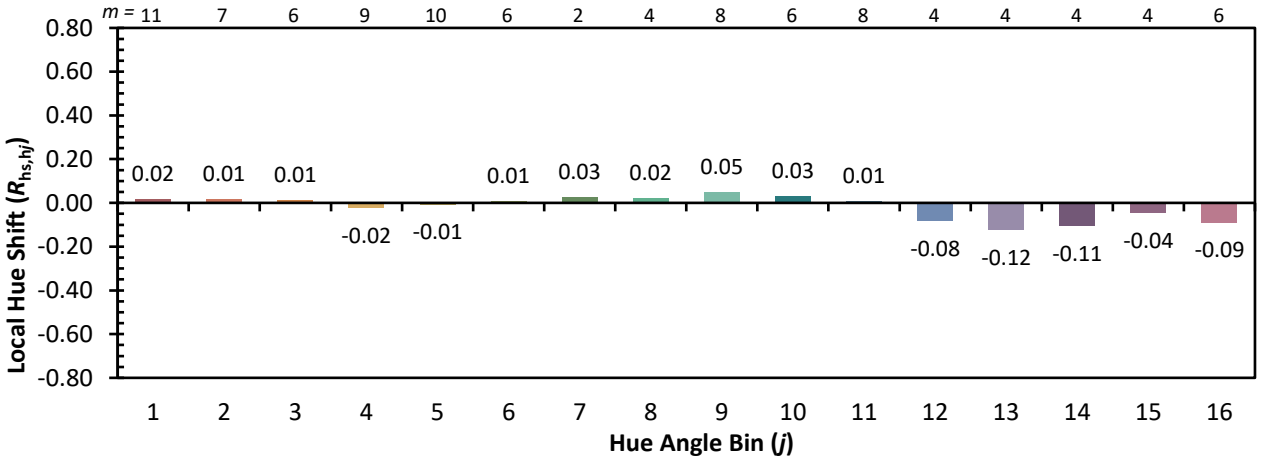


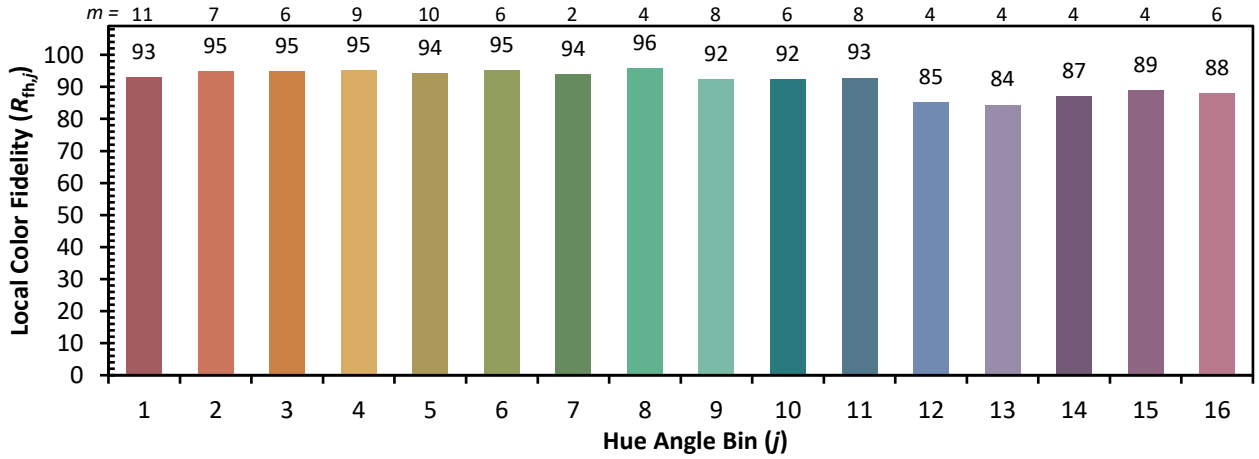
REPORT NUMBER: SP1-2505-441-15-R2

**TM-30-18**

## Color Rendition by Hue-Angle Bin



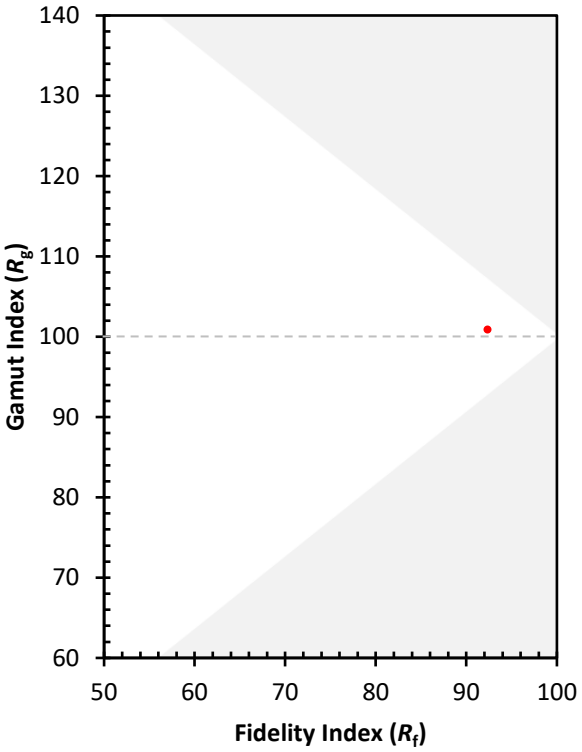



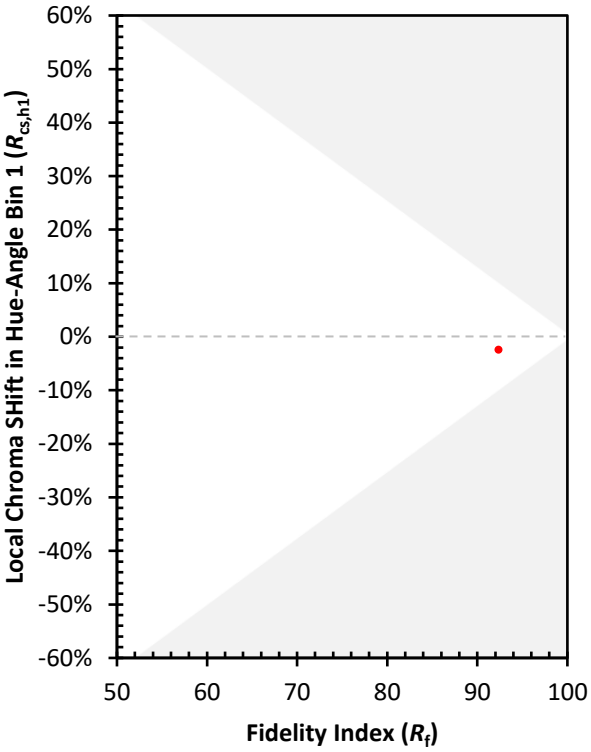



REPORT NUMBER: SP1-2505-441-15-R2

# TM-30-18

## Measure Comparisons




(END OF REPORT)