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: P1590715

Luminaire Tested: 14CGTX-42-L92765-W2A-4000K

Issue Date: 9/7/2026

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: | P1590715 |
| | TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2510-586-3) |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Issue Date: | 9/7/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | METALUX |
| Catalog Number: | 14CGTX-42-L92765-W2A-4000K |
| Description: | 1X4 4200 LUMEN CGTX TROFFER WITH VividTune LEDS AT 4000K CCT WITH FROSTED SMOOTH LENS |
| Light Source: | 4000K CCT, 90 CRI LEDS |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 3985.8 lumens |
| Efficiency: | N/A |
| Efficacy: | 100.4 lumens/watt |
| Spacing Criteria (0/90/45): | 1.26 / 1.26 / 1.38 |
| Luminous Opening: | Rectangular (W 1' x L: 4' x H: 0') |
| CIE Type: | Direct |
| Input Watts (W): | 39.7 |
| 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 |

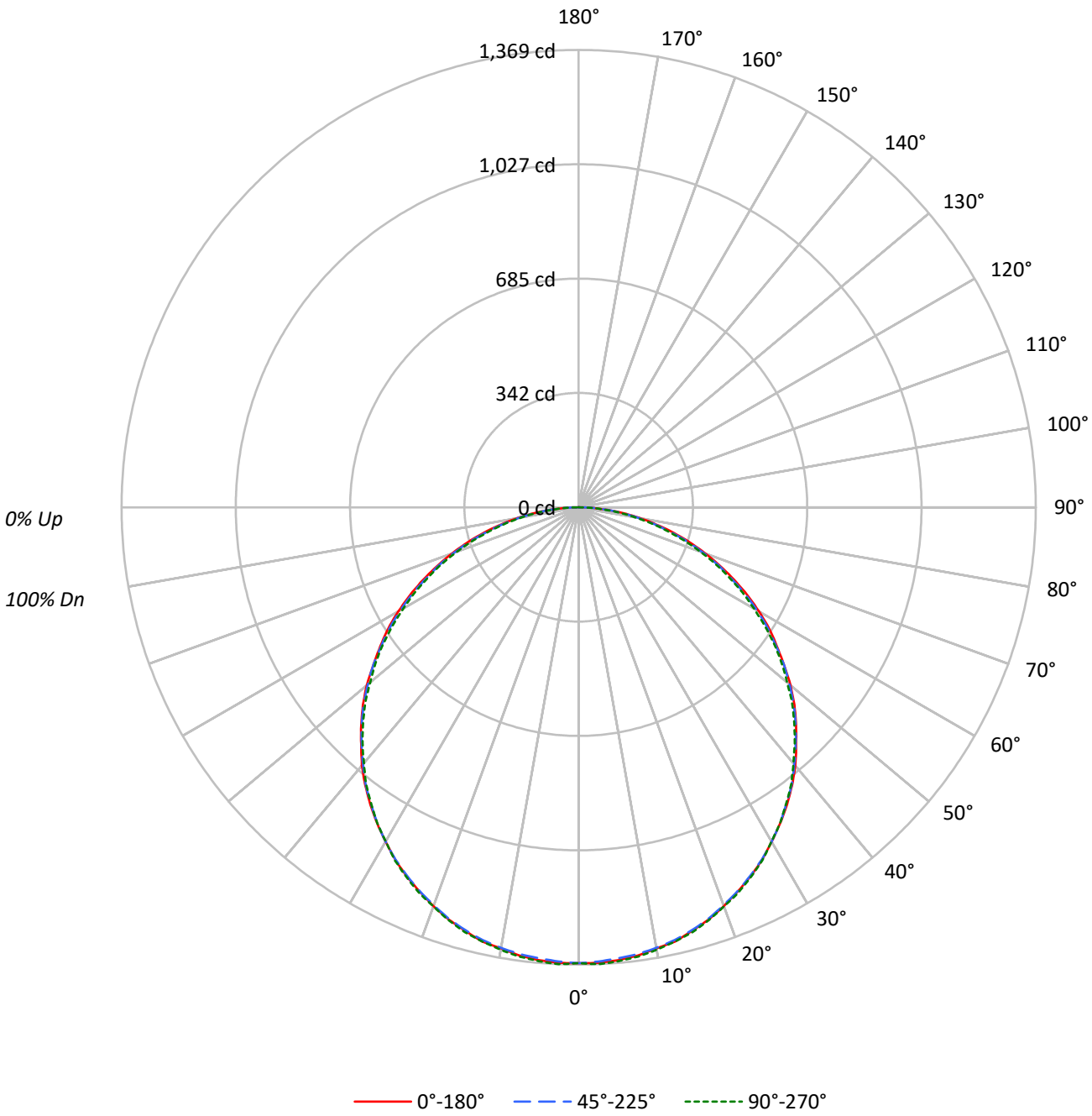


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Scaled Data Report

TEST NUMBER: P1590715
CATALOG NUMBER: 14CGTX-42-L92765-W2A-4000K

## Luminous Intensity Polar Plot



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Scaled Data Report

TEST NUMBER: P1590715
CATALOG NUMBER: 14CGTX-42-L92765-W2A-4000K

## 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 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 84 | 79 | 74 | 81 | 77 | 73 | 78 | 74 | 71 | 69 |
| 3 | 90 | 79 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 68 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 53 | 66 | 59 | 53 | 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 | 68 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 45 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 55 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 30 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

## AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|---|---|---|---|
| 0° | 3673 | 3673 | 3673 |
| 5° | 3676 | 3662 | 3684 |
| 10° | 3664 | 3658 | 3675 |
| 15° | 3657 | 3651 | 3669 |
| 20° | 3639 | 3631 | 3643 |
| 25° | 3619 | 3612 | 3625 |
| 30° | 3592 | 3592 | 3589 |
| 35° | 3571 | 3561 | 3557 |
| 40° | 3547 | 3529 | 3514 |
| 45° | 3505 | 3497 | 3473 |
| 50° | 3467 | 3450 | 3410 |
| 55° | 3400 | 3381 | 3356 |
| 60° | 3355 | 3316 | 3260 |
| 65° | 3272 | 3205 | 3165 |
| 70° | 3172 | 3105 | 3040 |
| 75° | 3051 | 2954 | 2866 |
| 80° | 2864 | 2783 | 2655 |
| 85° | 2516 | 2452 | 2288 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3505 cd/sqm

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Scaled Data Report

TEST NUMBER: P1590715
CATALOG NUMBER: 14CGTX-42-L92765-W2A-4000K

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 129.2 | 3.2 |
| 10°-20° | 370.5 | 9.3 |
| 20°-30° | 561.8 | 14.1 |
| 30°-40° | 678.9 | 17.0 |
| 40°-50° | 707.8 | 17.8 |
| 50°-60° | 645.2 | 16.2 |
| 60°-70° | 501.0 | 12.6 |
| 70°-80° | 301.4 | 7.6 |
| 80°-90° | 89.9 | 2.3 |
| 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° | 1061.6 | 26.6 |
| 0°-40° | 1740.5 | 43.7 |
| 0°-60° | 3093.5 | 77.6 |
| 0°-90° | 3985.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3985.8 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|---|---|---|---|---|---|---|
| 0° | 1365 | 1365 | 1365 | 1365 | 1365 | |
| 5° | 1361 | 1358 | 1356 | 1361 | 1364 | 129 |
| 15° | 1313 | 1313 | 1311 | 1314 | 1317 | 371 |
| 25° | 1219 | 1220 | 1217 | 1220 | 1221 | 562 |
| 35° | 1087 | 1086 | 1084 | 1083 | 1083 | 680 |
| 45° | 921 | 920 | 919 | 917 | 913 | 711 |
| 55° | 725 | 727 | 721 | 717 | 715 | 649 |
| 65° | 514 | 513 | 503 | 499 | 497 | 508 |
| 75° | 293 | 291 | 284 | 279 | 276 | 310 |
| 85° | 82 | 82 | 79 | 76 | 74 | 93 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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Peachtree City, GA 30269

Scaled Data Report

TEST NUMBER: P1590715
CATALOG NUMBER: 14CGTX-42-L92765-W2A-4000K

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° |
|---|---|---|---|---|---|
| 0° | 1364.9 | 1364.9 | 1364.9 | 1364.9 | *1364.9* |
| 2.5° | *1364.9* | *1364.9* | *1360.7* | *1366.0* | *1369.1* |
| 5° | 1360.7 | 1357.6 | 1355.5 | 1360.7 | *1363.9* |
| 7.5° | 1353.4 | 1352.4 | 1349.2 | 1354.5 | *1356.6* |
| 10° | 1340.9 | 1341.9 | 1338.8 | 1344.0 | *1345.1* |
| 12.5° | 1331.5 | 1329.4 | 1327.3 | 1332.5 | *1331.5* |
| 15° | 1312.7 | 1312.7 | 1310.6 | 1313.7 | *1316.9* |
| 17.5° | 1293.9 | 1292.8 | 1291.8 | 1296.0 | *1296.0* |
| 20° | 1270.9 | 1269.9 | 1267.8 | 1274.1 | *1272.0* |
| 22.5° | 1244.8 | 1245.9 | 1243.8 | 1246.9 | *1249.0* |
| 25° | 1218.7 | 1219.7 | 1216.6 | 1219.7 | *1220.8* |
| 27.5° | 1189.5 | 1189.5 | 1188.4 | 1190.5 | *1191.6* |
| 30° | 1156.0 | 1157.1 | 1156.0 | 1158.1 | *1155.0* |
| 32.5° | 1122.6 | 1122.6 | 1121.6 | 1122.6 | *1121.6* |
| 35° | 1087.1 | 1086.1 | 1084.0 | 1082.9 | *1082.9* |
| 37.5° | 1049.5 | 1048.5 | 1047.4 | 1045.3 | *1045.3* |
| 40° | 1009.8 | 1007.8 | 1004.6 | 1003.6 | *1000.4* |
| 42.5° | 963.9 | 964.9 | 961.8 | 959.7 | *957.6* |
| 45° | 921.1 | 920.0 | 919.0 | 916.9 | *912.7* |
| 47.5° | 876.2 | 874.1 | 873.0 | 867.8 | *866.8* |
| 50° | 828.1 | 828.1 | 824.0 | 817.7 | *814.6* |
| 52.5° | 774.9 | 779.1 | 774.9 | 769.7 | *766.5* |
| 55° | 724.7 | 726.8 | 720.6 | 717.4 | *715.3* |
| 57.5° | 676.7 | 676.7 | 670.4 | 665.2 | *661.0* |
| 60° | 623.4 | 622.4 | 616.1 | 609.9 | *605.7* |
| 62.5° | 569.1 | 569.1 | 561.8 | 555.6 | *553.5* |
| 65° | 513.8 | 512.8 | 503.4 | 499.2 | *497.1* |
| 67.5° | 458.4 | 458.4 | 452.2 | 444.9 | *443.8* |
| 70° | 403.1 | 402.1 | 394.7 | 390.6 | *386.4* |
| 72.5° | 348.8 | 346.7 | 340.4 | 334.2 | *331.0* |
| 75° | 293.4 | 291.4 | 284.1 | 278.8 | *275.7* |
| 77.5° | 238.1 | 236.0 | 230.8 | 224.5 | *222.4* |
| 80° | 184.8 | 184.8 | 179.6 | 175.4 | *171.3* |
| 82.5° | 133.7 | 132.6 | 129.5 | 126.4 | *124.3* |
| 85° | 81.5 | 82.5 | 79.4 | 76.2 | *74.1* |
| 87.5° | 35.5 | 35.5 | 32.4 | 29.2 | *30.3* |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* |

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TEST NUMBER: P1590715
CATALOG NUMBER: 14CGTX-42-L92765-W2A-4000K

**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 | 16.48 | 18.14 | 16.85 | 18.45 | 18.77 | 16.35 | 18.01 | 16.72 | 18.32 | 18.64 |
| | 3H | 18.40 | 19.90 | 18.78 | 20.23 | 20.59 | 18.23 | 19.73 | 18.60 | 20.05 | 20.41 |
| | 4H | 19.15 | 20.57 | 19.55 | 20.92 | 21.29 | 18.94 | 20.36 | 19.34 | 20.71 | 21.08 |
| | 6H | 19.74 | 21.06 | 20.15 | 21.42 | 21.81 | 19.49 | 20.80 | 19.90 | 21.17 | 21.56 |
| | 8H | 19.94 | 21.20 | 20.37 | 21.59 | 21.99 | 19.68 | 20.93 | 20.10 | 21.32 | 21.72 |
| | 12H | 20.08 | 21.29 | 20.51 | 21.67 | 22.10 | 19.80 | 21.01 | 20.23 | 21.39 | 21.82 |
| 4H | 2H | 17.12 | 18.54 | 17.52 | 18.88 | 19.26 | 17.02 | 18.44 | 17.42 | 18.78 | 19.16 |
| | 3H | 19.27 | 20.46 | 19.68 | 20.86 | 21.26 | 19.12 | 20.31 | 19.53 | 20.71 | 21.11 |
| | 4H | 20.16 | 21.25 | 20.60 | 21.66 | 22.09 | 19.97 | 21.05 | 20.40 | 21.46 | 21.90 |
| | 6H | 20.89 | 21.84 | 21.35 | 22.28 | 22.73 | 20.65 | 21.60 | 21.11 | 22.04 | 22.49 |
| | 8H | 21.15 | 22.04 | 21.61 | 22.48 | 22.95 | 20.90 | 21.78 | 21.36 | 22.23 | 22.69 |
| | 12H | 21.35 | 22.14 | 21.83 | 22.62 | 23.09 | 21.07 | 21.87 | 21.55 | 22.35 | 22.81 |
| 8H | 4H | 20.50 | 21.39 | 20.96 | 21.83 | 22.29 | 20.33 | 21.22 | 20.79 | 21.66 | 22.12 |
| | 6H | 21.37 | 22.11 | 21.86 | 22.59 | 23.07 | 21.15 | 21.89 | 21.64 | 22.38 | 22.85 |
| | 8H | 21.71 | 22.38 | 22.22 | 22.88 | 23.37 | 21.48 | 22.14 | 21.98 | 22.65 | 23.13 |
| | 12H | 21.99 | 22.58 | 22.50 | 23.07 | 23.63 | 21.73 | 22.32 | 22.24 | 22.81 | 23.37 |
| 12H | 4H | 20.54 | 21.34 | 21.02 | 21.82 | 22.28 | 20.38 | 21.18 | 20.86 | 21.65 | 22.12 |
| | 6H | 21.44 | 22.10 | 21.94 | 22.61 | 23.09 | 21.23 | 21.90 | 21.74 | 22.40 | 22.88 |
| | 8H | 21.85 | 22.43 | 22.35 | 22.92 | 23.48 | 21.62 | 22.21 | 22.13 | 22.70 | 23.26 |

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: SP1-2510-566-11-R2

Test Date: 10/14/2025

Luminaire Tested: 22CGTX-50-L92765-W2A-4000K

Data in this report applies to families of products including 22CGTX

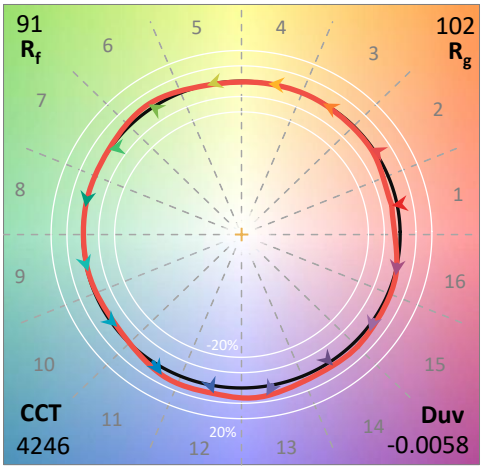
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2510-566-11-R2 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 07/29/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | Metalux |
| Catalog Number: | **22CGTX-50-L92765-W2A-4000K** |
| Description: | *THIS IS A REVISION OF REPORT SP1-2512-566-11-R2 TO UPDATE THE CATALOG INFORMATION* 2X2 50000 Lumen CGTX TUNABLE WHITE FROM 2700K TO 6500K -5 V |

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 4246 | CRI (Ra): | 96.1 | | |
| CIE u': | 0.2245 | R1: | 98.0 | R9: | 83.1 |
| CIE v': | 0.4902 | R2: | 98.1 | R10: | 94.7 |
| Duv: | -0.0058 | R3: | 95.1 | R11: | 95.0 |
| CIE x: | 0.3671 | R4: | 97.2 | R12: | 76.2 |
| CIE y: | 0.3563 | R5: | 97.9 | R13: | 98.7 |
| CIE z: | 0.2766 | R6: | 93.8 | R14: | 96.3 |
| Peak Wavelength (nm): | 630 | R7: | 95.3 | R15: | 98.7 |
| Dominant Wavelength (nm): | 582 | R8: | 93.5 | | |
| Purity: | 17.05535 | | | | |
| Rf: | 91.3 | | | | |
| Rg: | 101.8 | | | | |



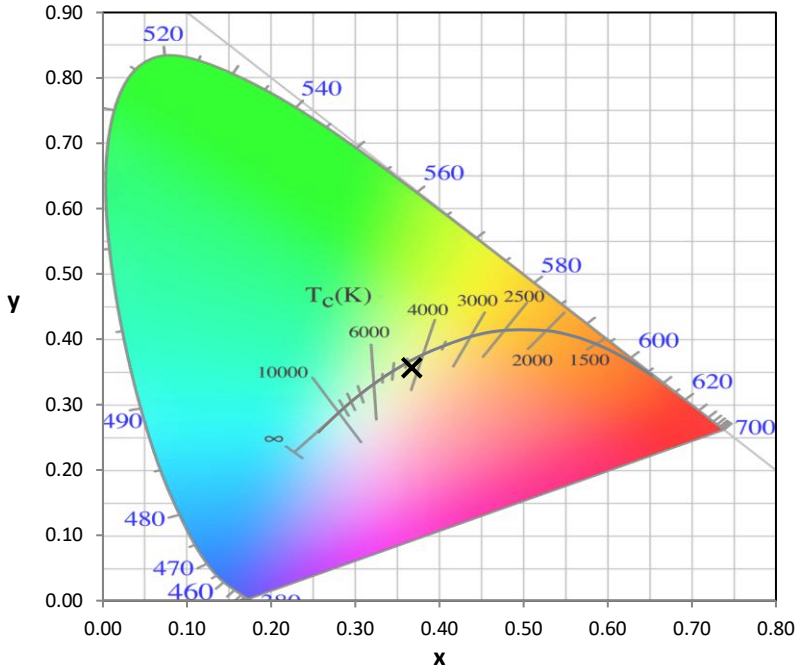

## Test Conditions

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

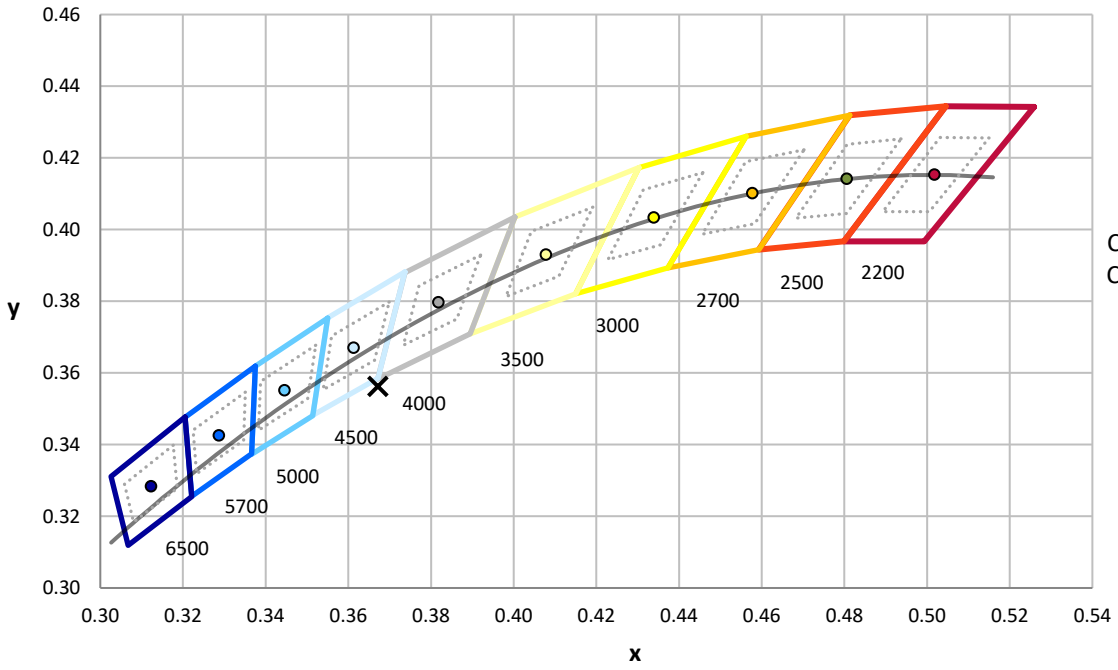
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 6/16/2025 | 12/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 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: SP1-2510-566-11-R2

## CIE 1931 Chromaticity Diagram




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

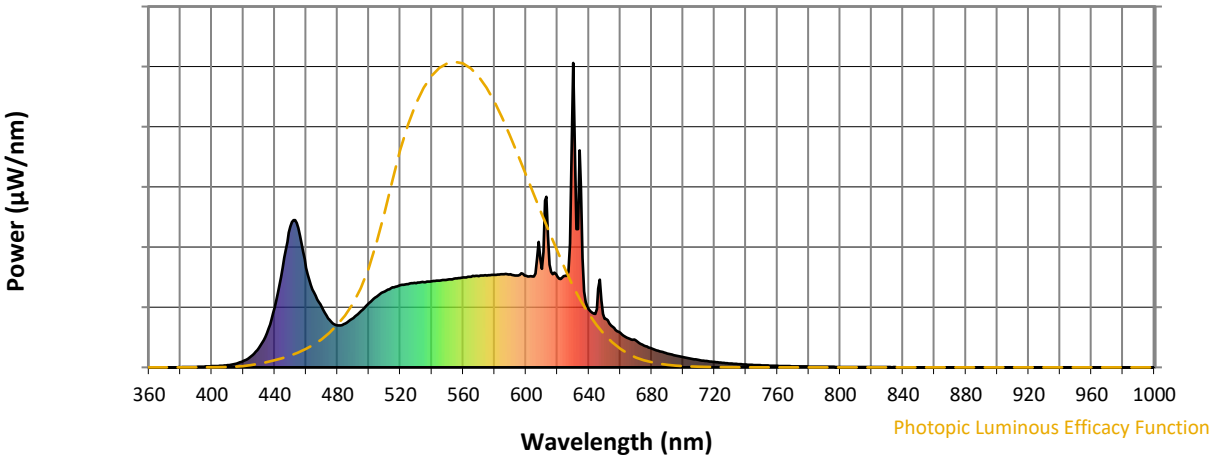



CCT = 4246K
CIE x = 0.3671
CIE y = 0.3563
Duv = -0.0058

Point lies outside the range

REPORT NUMBER: SP1-2510-566-11-R2

## Photopic Flux vs. Wavelength

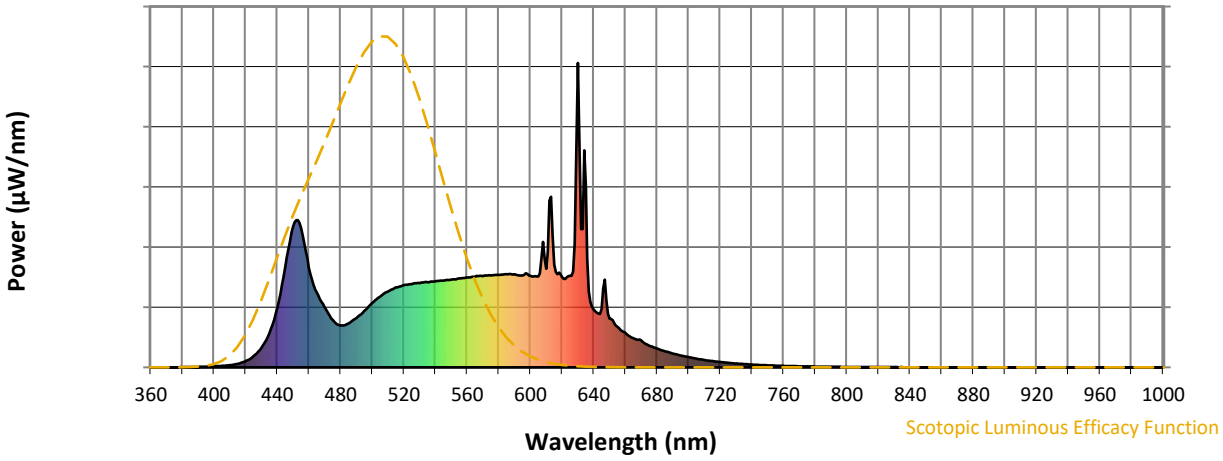



## Photopic Lumens: NR

| 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 | 162 | NR | 620 | 297 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 185 | NR | 625 | 301 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 211 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 232 | NR | 635 | 592 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 249 | NR | 640 | 190 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 262 | NR | 645 | 191 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 270 | NR | 650 | 160 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 273 | NR | 655 | 134 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 277 | NR | 660 | 114 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 280 | NR | 665 | 96 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 7 | NR | 540 | 283 | NR | 670 | 88 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 12 | NR | 545 | 285 | NR | 675 | 72 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 21 | NR | 550 | 288 | NR | 680 | 62 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 36 | NR | 555 | 292 | NR | 685 | 53 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 64 | NR | 560 | 295 | NR | 690 | 46 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 113 | NR | 565 | 298 | NR | 695 | 39 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 196 | NR | 570 | 300 | NR | 700 | 33 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 327 | NR | 575 | 302 | NR | 705 | 28 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 462 | NR | 580 | 304 | NR | 710 | 24 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 458 | NR | 585 | 306 | NR | 715 | 21 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 327 | NR | 590 | 306 | NR | 720 | 17 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 246 | NR | 595 | 302 | NR | 725 | 15 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 197 | NR | 600 | 300 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 155 | NR | 605 | 299 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 138 | NR | 610 | 324 | NR | 740 | 9 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 144 | NR | 615 | 337 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2510-566-11-R2

## Scotopic Flux vs. Wavelength

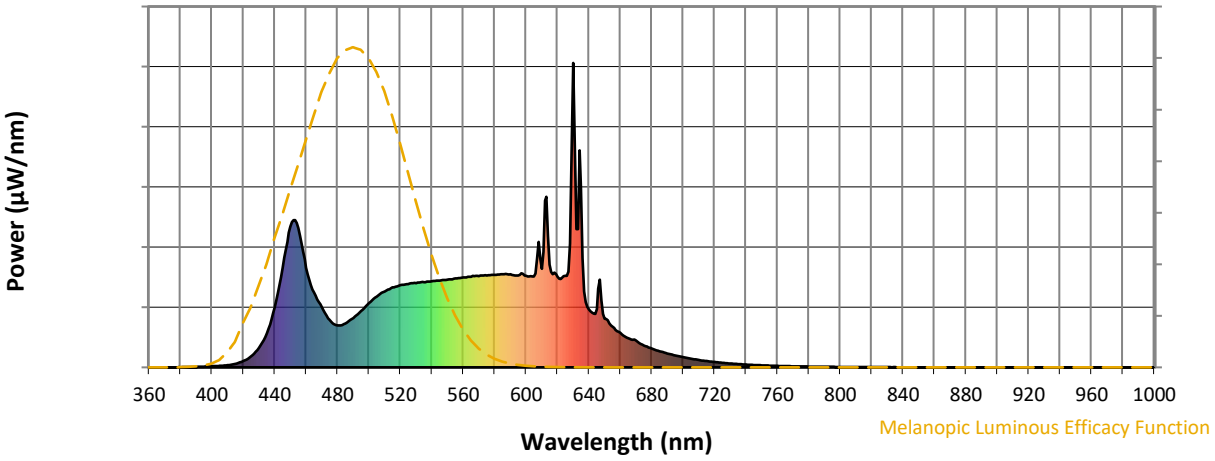



**Scotopic Lumens: NR** **S/P: 1.9**

| 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 | 162 | NR | 620 | 297 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 185 | NR | 625 | 301 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 211 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 232 | NR | 635 | 592 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 249 | NR | 640 | 190 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 262 | NR | 645 | 191 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 270 | NR | 650 | 160 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 273 | NR | 655 | 134 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 277 | NR | 660 | 114 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 280 | NR | 665 | 96 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 7 | NR | 540 | 283 | NR | 670 | 88 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 12 | NR | 545 | 285 | NR | 675 | 72 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 21 | NR | 550 | 288 | NR | 680 | 62 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 36 | NR | 555 | 292 | NR | 685 | 53 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 64 | NR | 560 | 295 | NR | 690 | 46 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 113 | NR | 565 | 298 | NR | 695 | 39 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 196 | NR | 570 | 300 | NR | 700 | 33 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 327 | NR | 575 | 302 | NR | 705 | 28 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 462 | NR | 580 | 304 | NR | 710 | 24 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 458 | NR | 585 | 306 | NR | 715 | 21 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 327 | NR | 590 | 306 | NR | 720 | 17 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 246 | NR | 595 | 302 | NR | 725 | 15 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 197 | NR | 600 | 300 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 155 | NR | 605 | 299 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 138 | NR | 610 | 324 | NR | 740 | 9 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 144 | NR | 615 | 337 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 4.06**

| 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 | 162 | NR | 620 | 297 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 185 | NR | 625 | 301 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 211 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 232 | NR | 635 | 592 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 249 | NR | 640 | 190 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 262 | NR | 645 | 191 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 270 | NR | 650 | 160 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 273 | NR | 655 | 134 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 277 | NR | 660 | 114 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 280 | NR | 665 | 96 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 7 | NR | 540 | 283 | NR | 670 | 88 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 12 | NR | 545 | 285 | NR | 675 | 72 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 21 | NR | 550 | 288 | NR | 680 | 62 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 36 | NR | 555 | 292 | NR | 685 | 53 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 64 | NR | 560 | 295 | NR | 690 | 46 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 113 | NR | 565 | 298 | NR | 695 | 39 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 196 | NR | 570 | 300 | NR | 700 | 33 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 327 | NR | 575 | 302 | NR | 705 | 28 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 462 | NR | 580 | 304 | NR | 710 | 24 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 458 | NR | 585 | 306 | NR | 715 | 21 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 327 | NR | 590 | 306 | NR | 720 | 17 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 246 | NR | 595 | 302 | NR | 725 | 15 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 197 | NR | 600 | 300 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 155 | NR | 605 | 299 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 138 | NR | 610 | 324 | NR | 740 | 9 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 144 | NR | 615 | 337 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

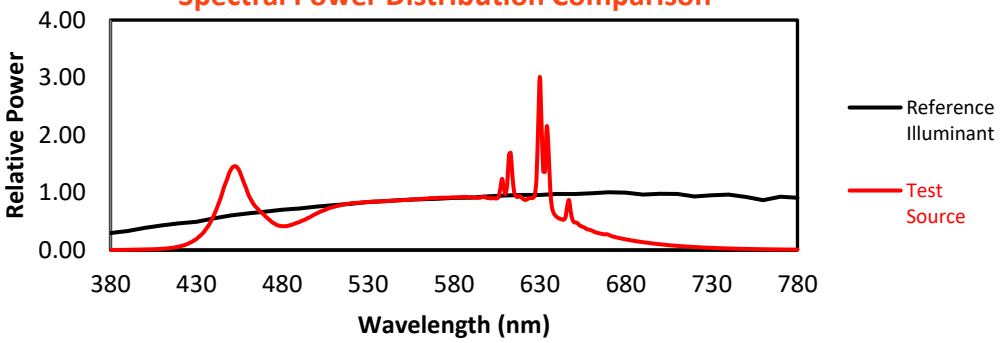
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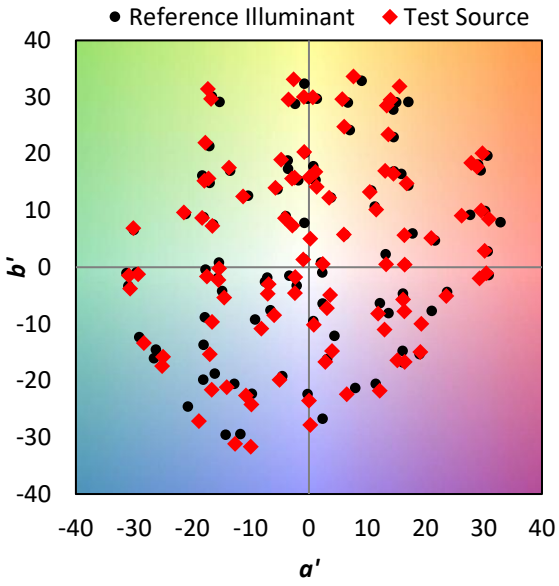
## Summary

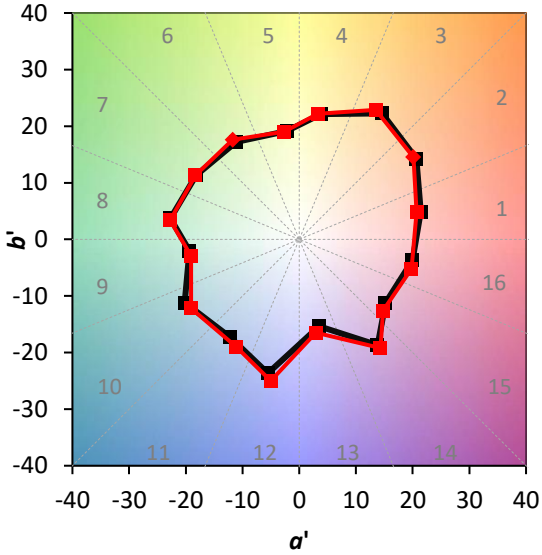
$R_f$ = 91.3
$R_g$ = 101.8
CIE $R_a$ = 96.1
$R_9$ = 83.1

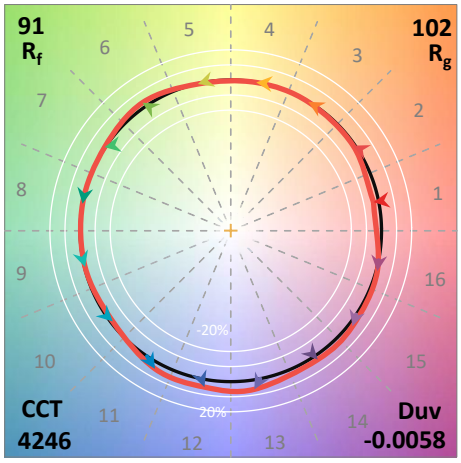
## Spectral Power Distribution Comparison

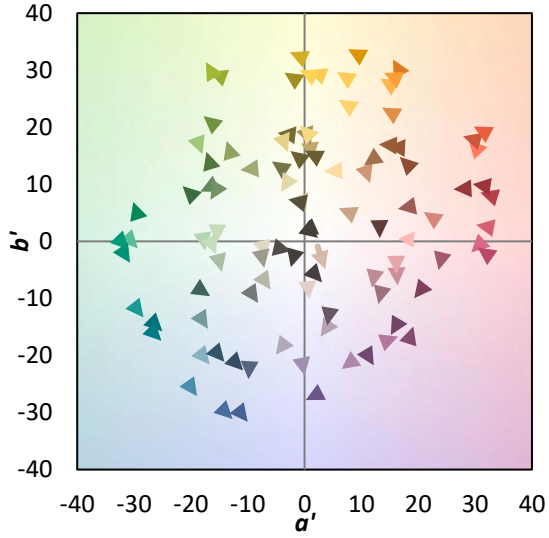



## Color Vector Graphics



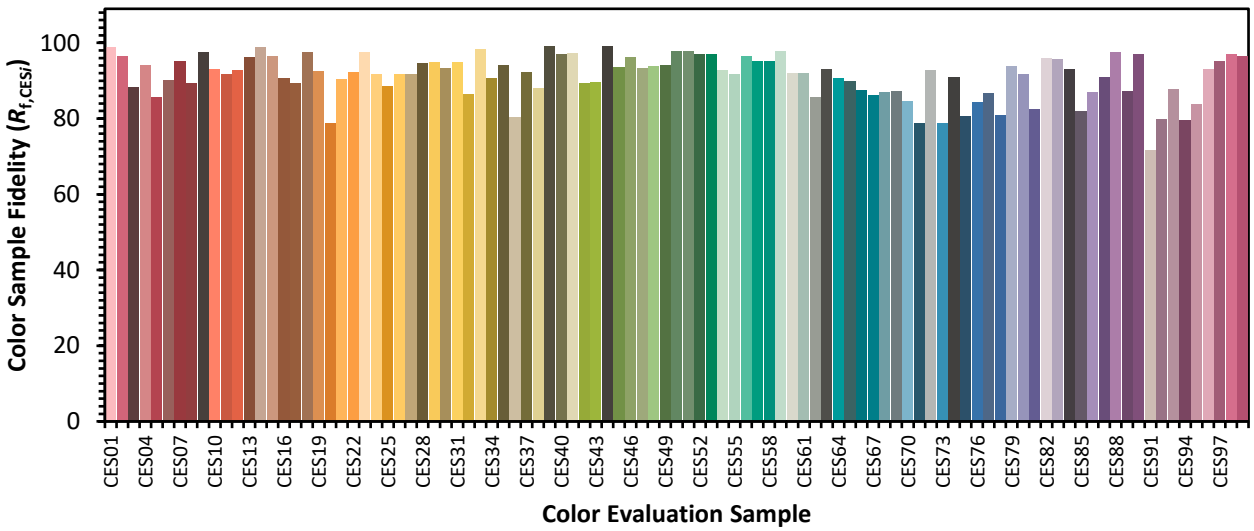



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**Individual Sample Fidelity Index ($R_{f,i}$)**

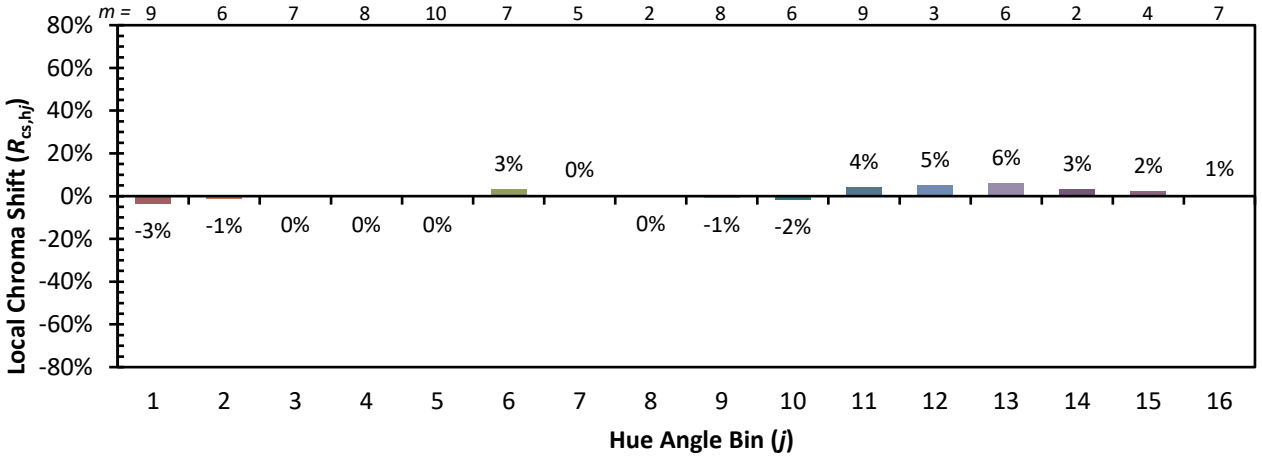
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 92 | CES51 = 98 | CES76 = 84 |
| CES02 = 62 | CES27 = 92 | CES52 = 97 | CES77 = 87 |
| CES03 = 31 | CES28 = 95 | CES53 = 97 | CES78 = 81 |
| CES04 = 69 | CES29 = 95 | CES54 = 93 | CES79 = 94 |
| CES05 = 49 | CES30 = 93 | CES55 = 92 | CES80 = 92 |
| CES06 = 50 | CES31 = 95 | CES56 = 96 | CES81 = 83 |
| CES07 = 42 | CES32 = 86 | CES57 = 95 | CES82 = 96 |
| CES08 = 41 | CES33 = 98 | CES58 = 95 | CES83 = 96 |
| CES09 = 29 | CES34 = 91 | CES59 = 98 | CES84 = 93 |
| CES10 = 74 | CES35 = 94 | CES60 = 92 | CES85 = 82 |
| CES11 = 57 | CES36 = 80 | CES61 = 92 | CES86 = 87 |
| CES12 = 63 | CES37 = 92 | CES62 = 86 | CES87 = 91 |
| CES13 = 43 | CES38 = 88 | CES63 = 93 | CES88 = 98 |
| CES14 = 74 | CES39 = 99 | CES64 = 91 | CES89 = 87 |
| CES15 = 71 | CES40 = 97 | CES65 = 90 | CES90 = 97 |
| CES16 = 47 | CES41 = 97 | CES66 = 88 | CES91 = 72 |
| CES17 = 49 | CES42 = 89 | CES67 = 86 | CES92 = 80 |
| CES18 = 56 | CES43 = 90 | CES68 = 87 | CES93 = 88 |
| CES19 = 71 | CES44 = 99 | CES69 = 87 | CES94 = 80 |
| CES20 = 66 | CES45 = 94 | CES70 = 85 | CES95 = 84 |
| CES21 = 85 | CES46 = 96 | CES71 = 79 | CES96 = 93 |
| CES22 = 78 | CES47 = 93 | CES72 = 93 | CES97 = 95 |
| CES23 = 91 | CES48 = 94 | CES73 = 79 | CES98 = 97 |
| CES24 = 90 | CES49 = 94 | CES74 = 91 | CES99 = 96 |
| CES25 = 71 | CES50 = 98 | CES75 = 81 | |

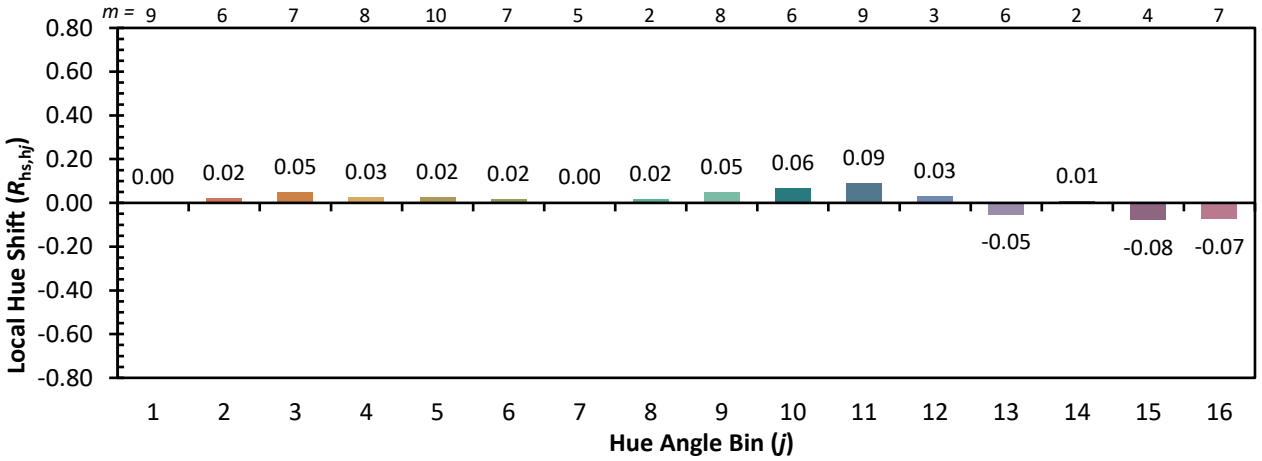


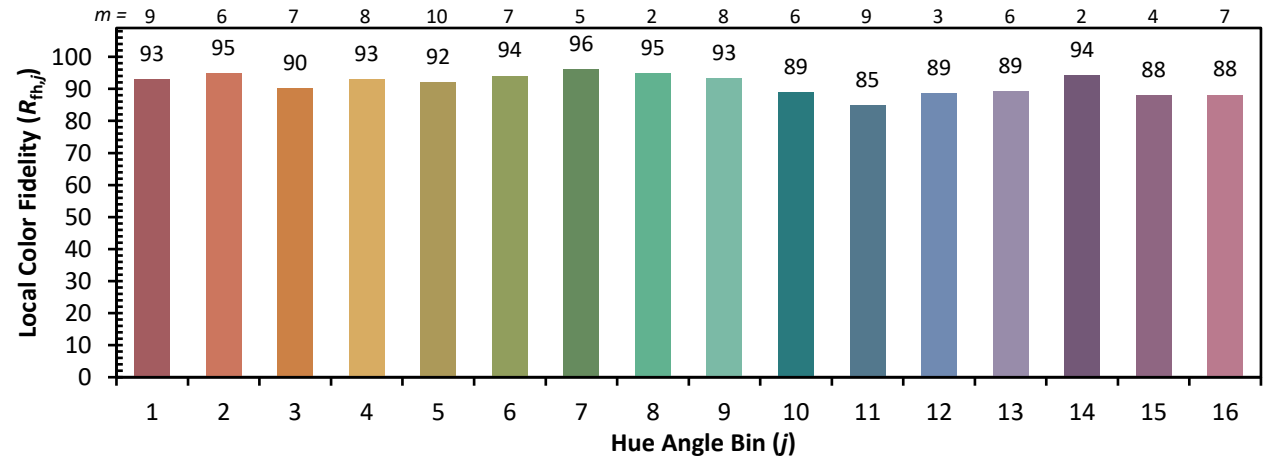
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## Color Rendition by Hue-Angle Bin



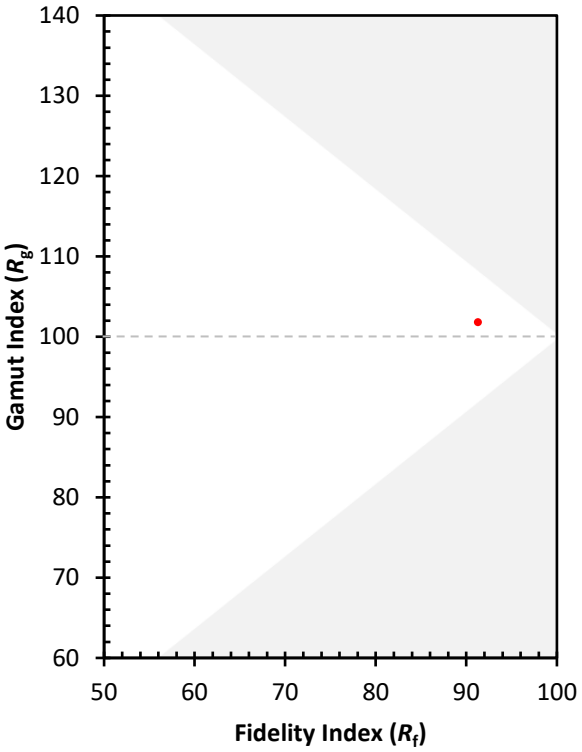



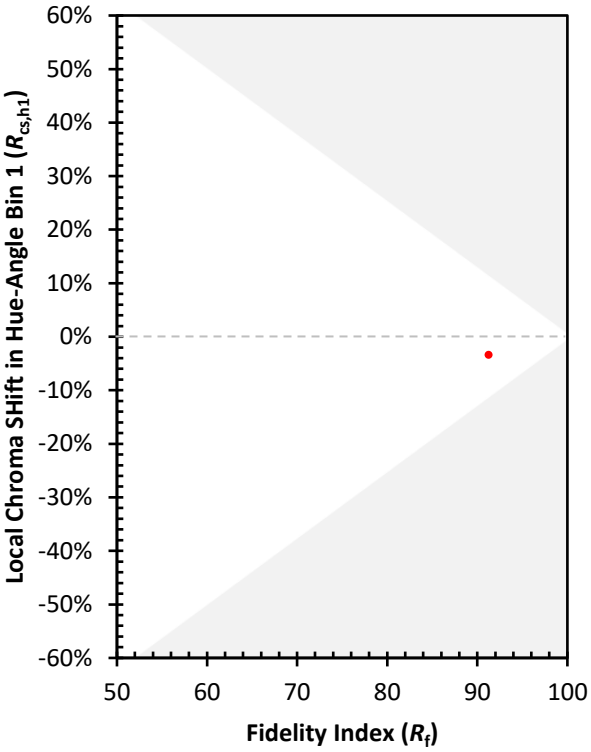



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### Measure Comparisons




(END OF REPORT)