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

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Peachtree City, GA 30269

Scaled data based on original data using

LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: LUMARK

Report Number: P1503449

Luminaire Tested: PRV-P-PB1B-730-U-T4RE-HSS

Issue Date: 07/22/2026

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1503449 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 7/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | LUMARK |
| Catalog Number: | PRV-P-PB1B-730-U-T4RE-HSS |
| Description: | PREVAIL PETITE DISCRETE LED 1 SQUARE AT 1470MA 70CRI 3000K FIXTURE w/ TYPE IV ROADWAY ILLUMIANCE DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD |
| Light Source: | (10) 3000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 4355.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 83.0 lumens/watt |
| Luminous Opening: | Rectangular (W 0.33' x L: 0.33' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G2 |
| Input Watts (W): | 52.5 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.97 |
| Total Harmonic Distortion (THDi): | 6.0% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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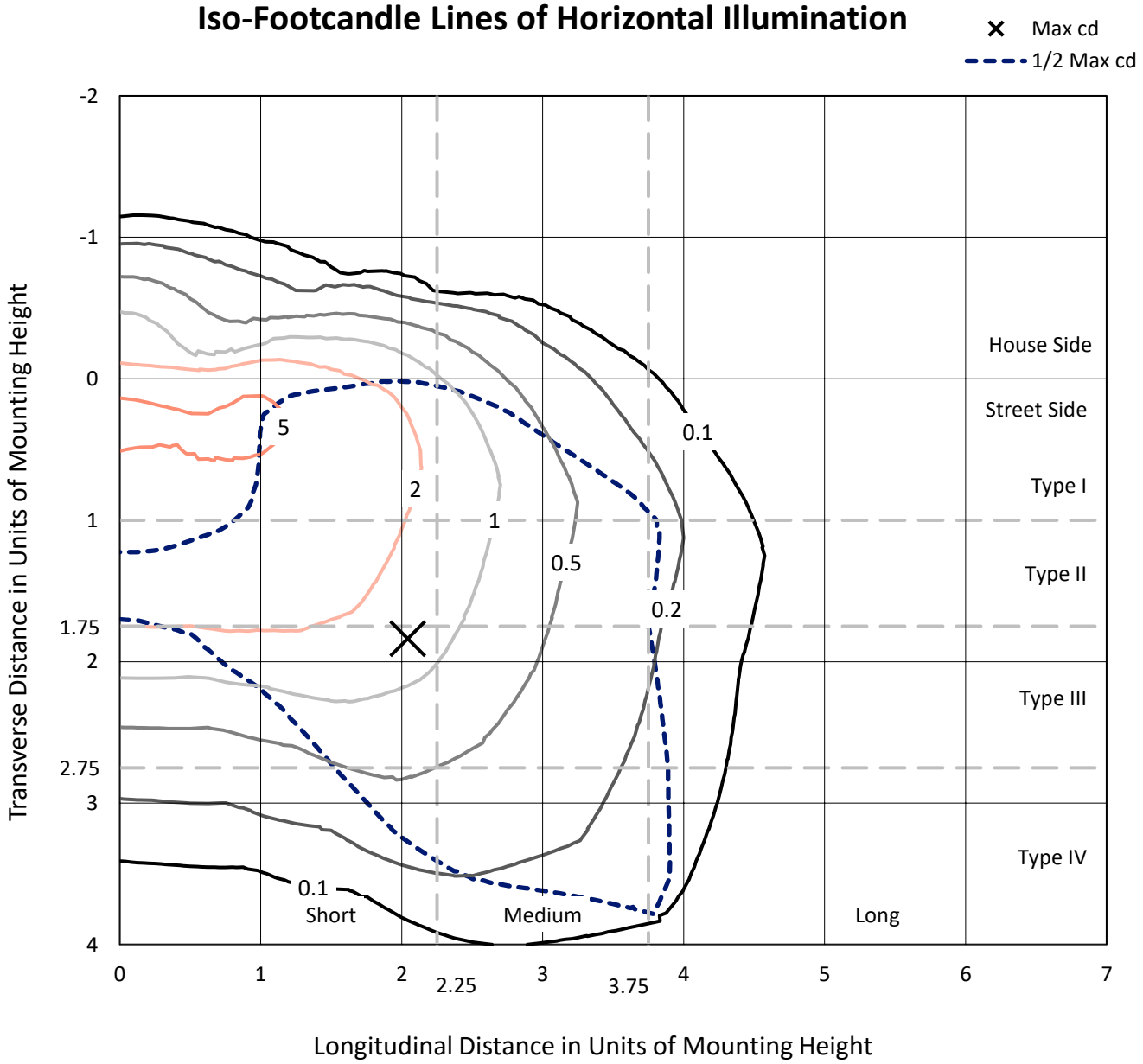
Scaled Data Report

REPORT NUMBER: P1503449
CATALOG NUMBER: PRV-P-PB1B-730-U-T4RE-HSS

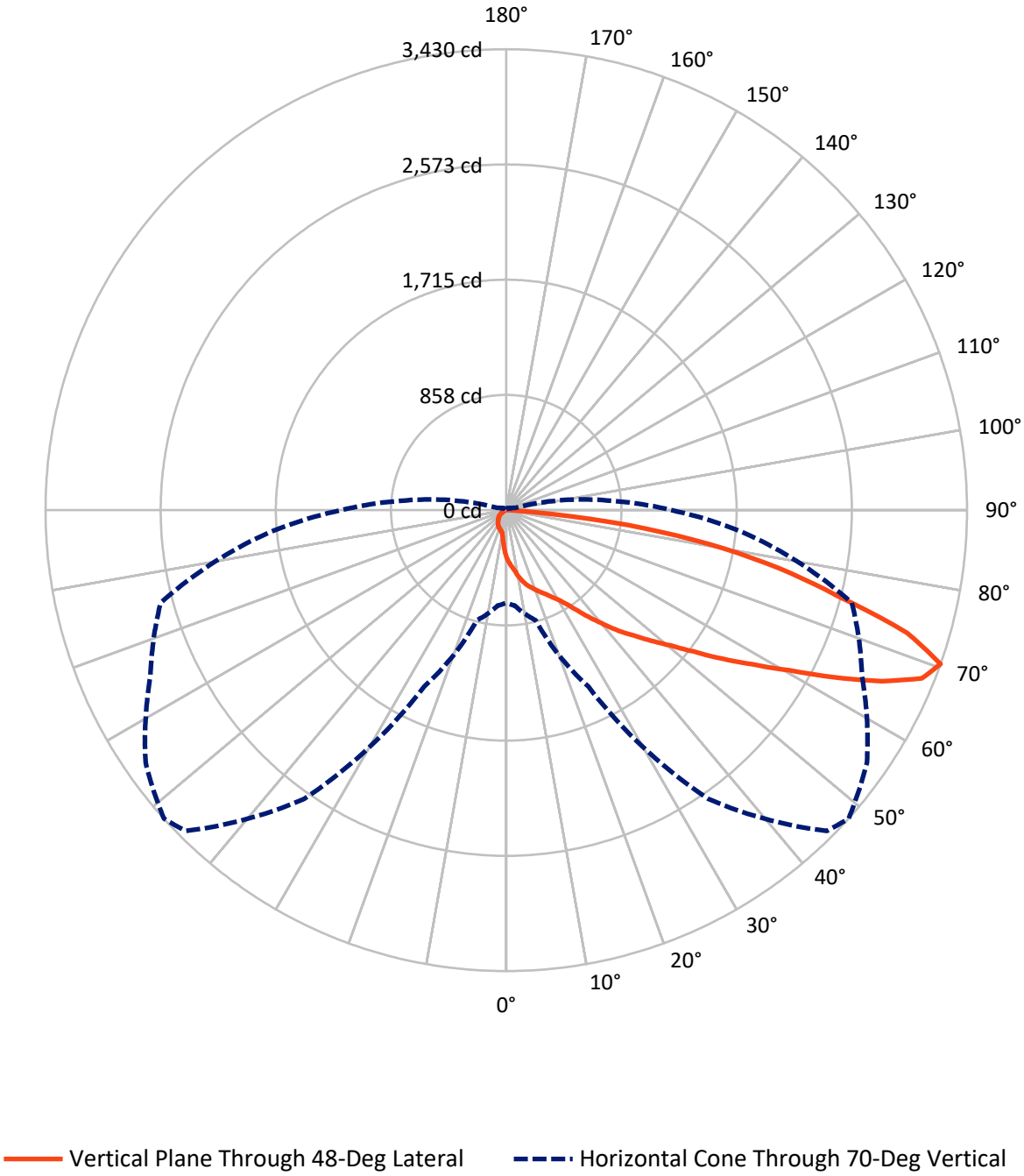
## Iso-Footcandle Lines of Horizontal Illumination




Based on 10 foot mounting height. Maximum calculated value = 5.8 fc
Type IV - Short - N/A

REPORT NUMBER: P1503449
CATALOG NUMBER: PRV-P-PB1B-730-U-T4RE-HSS

## Luminous Intensity Polar Plot



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Scaled Data Report

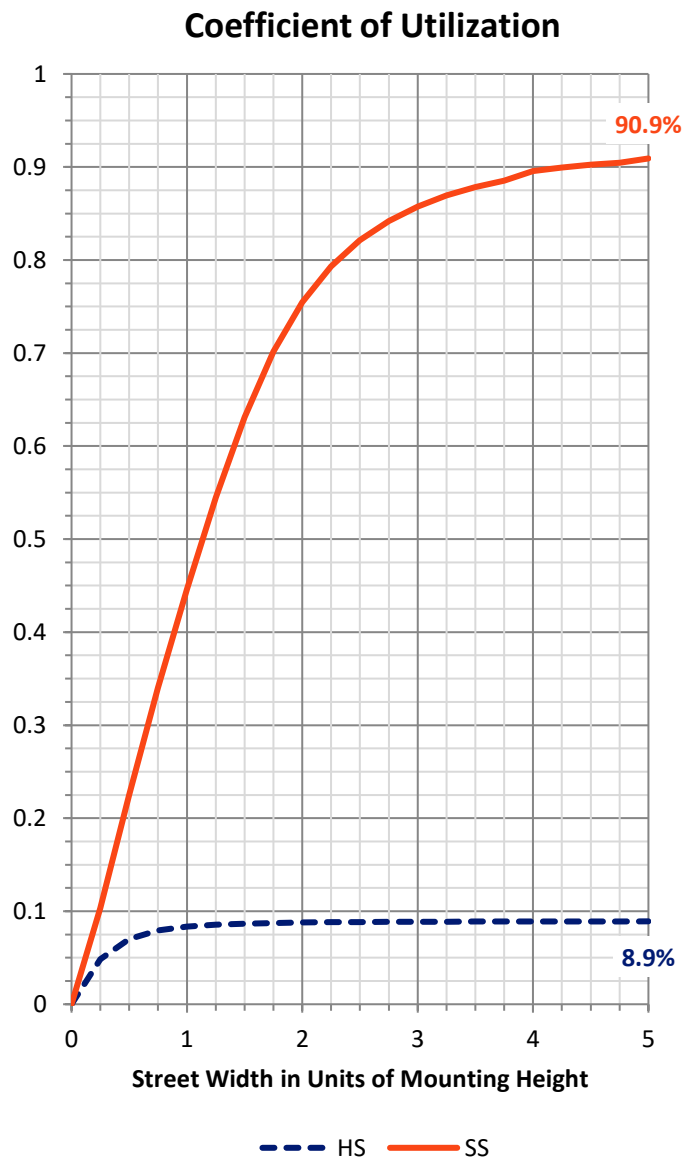
REPORT NUMBER: P1503449
CATALOG NUMBER: PRV-P-PB1B-730-U-T4RE-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 390.9 | 0.0 | 390.9 |
| | % Fixture | 9.0 | 0.0 | 9.0 |
| **Street Side** | Lumens | 3964.2 | 0.0 | 3964.2 |
| | % Fixture | 91.0 | 0.0 | 91.0 |
| **Total** | Lumens | 4355.1 | 0.0 | 4355.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 32.7 | 0.8 |
| 10°-20° | 104.6 | 2.4 |
| 20°-30° | 190.0 | 4.4 |
| 30°-40° | 324.2 | 7.4 |
| 40°-50° | 596.8 | 13.7 |
| 50°-60° | 971.8 | 22.3 |
| 60°-70° | 1234.2 | 28.3 |
| 70°-80° | 807.8 | 18.5 |
| 80°-90° | 93.1 | 2.1 |
| 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°-90° | 4355.1 | 100.0 |
| 0°-180° | 4355.1 | 100.0 |

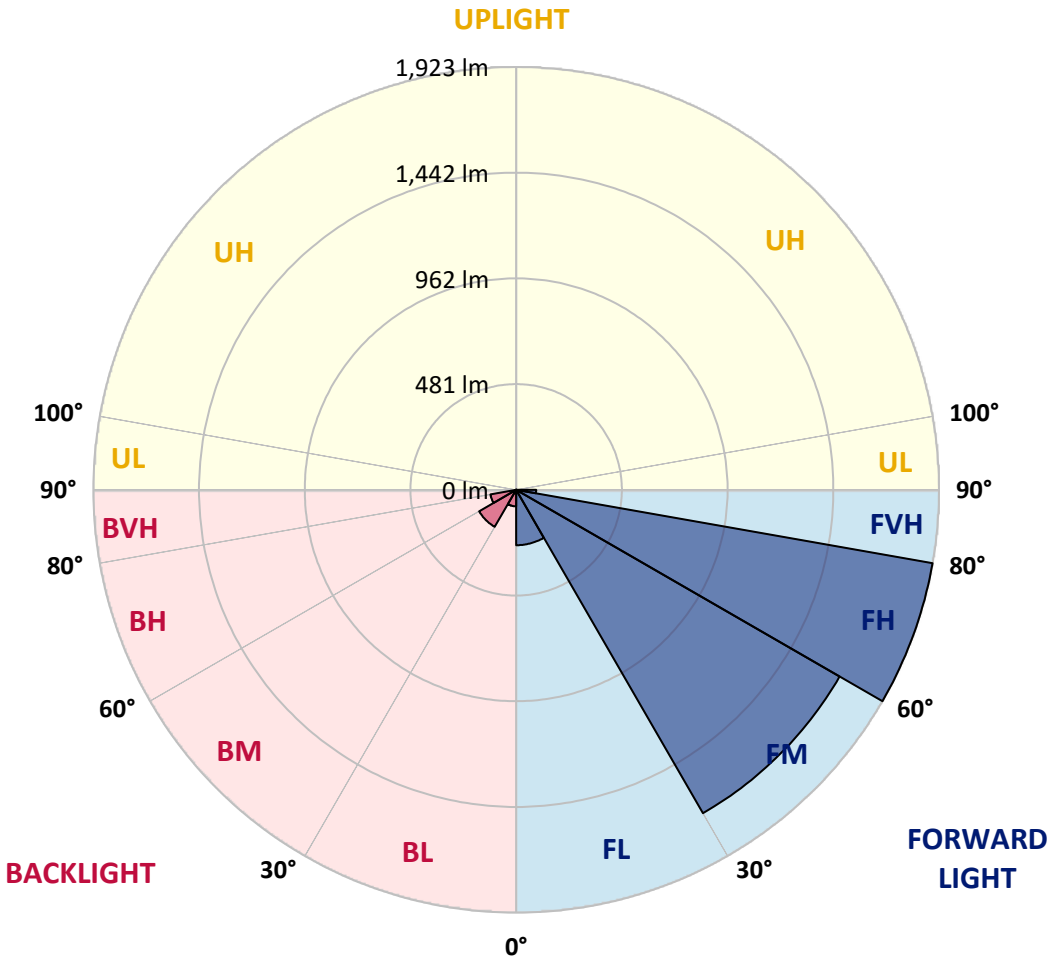


REPORT NUMBER: P1503449
CATALOG NUMBER: PRV-P-PB1B-730-U-T4RE-HSS

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 252.0 | 5.8 | | | |
| FM | (30°-60°) | 1698.3 | 39.0 | | | |
| FH | (60°-80°) | 1923.1 | 44.2 | | | G2/5000 |
| FVH | (80°-90°) | 90.8 | 2.1 | | | G1/100 |
| BL | (0°-30°) | 75.2 | 1.7 | B0/110 | | |
| BM | (30°-60°) | 194.5 | 4.5 | B0/220 | | |
| BH | (60°-80°) | 118.9 | 2.7 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 2.3 | 0.1 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G2**
Type IV Short



REPORT NUMBER: P1503449
CATALOG NUMBER: PRV-P-PB1B-730-U-T4RE-HSS

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 48° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 352.3 | 352.3 | 352.3 | 352.3 | 352.3 | 352.3 | *352.3* | 352.3 | 352.3 | 352.3 | 352.3 |
| 2.5° | 402.3 | 402.3 | 400.9 | 399.6 | 396.9 | 391.5 | *388.8* | 383.4 | 376.6 | 368.5 | 359.1 |
| 5° | 454.9 | 448.2 | 450.9 | 445.5 | 434.7 | 422.5 | *419.8* | 410.4 | 396.9 | 382.0 | 364.5 |
| 7.5° | 515.7 | 515.7 | 508.9 | 500.8 | 487.3 | 461.7 | *454.9* | 437.4 | 415.8 | 394.2 | 367.2 |
| 10° | 564.2 | 561.5 | 557.5 | 550.7 | 538.6 | 510.3 | *502.2* | 479.2 | 438.7 | 406.3 | 372.6 |
| 12.5° | 593.9 | 591.2 | 588.5 | 583.1 | 571.0 | 553.4 | *544.0* | 522.4 | 472.5 | 422.5 | 382.0 |
| 15° | 614.2 | 612.8 | 610.1 | 607.4 | 598.0 | 587.2 | *577.7* | 561.5 | 514.3 | 449.5 | 395.5 |
| 17.5° | 625.0 | 625.0 | 625.0 | 625.0 | 622.3 | 611.5 | *606.1* | 595.3 | 557.5 | 479.2 | 409.0 |
| 20° | 638.5 | 639.8 | 639.8 | 642.5 | 642.5 | 639.8 | *634.4* | 627.7 | 599.3 | 518.4 | 425.2 |
| 22.5° | 653.3 | 656.0 | 658.7 | 664.1 | 665.5 | 665.5 | *664.1* | 660.1 | 639.8 | 562.9 | 444.1 |
| 25° | 676.3 | 676.3 | 679.0 | 687.1 | 693.8 | 699.2 | *695.2* | 696.5 | 679.0 | 612.8 | 467.1 |
| 27.5° | 715.4 | 710.0 | 711.4 | 715.4 | 726.2 | 734.3 | *734.3* | 734.3 | 722.2 | 665.5 | 495.4 |
| 30° | 754.6 | 754.6 | 757.3 | 757.3 | 766.7 | 778.9 | *777.5* | 781.6 | 769.4 | 724.9 | 531.9 |
| 32.5° | 804.5 | 804.5 | 805.9 | 812.6 | 823.4 | 836.9 | *836.9* | 851.8 | 835.6 | 792.4 | 584.5 |
| 35° | 861.2 | 862.6 | 873.4 | 886.9 | 897.7 | 915.2 | *920.6* | 940.9 | 932.8 | 889.6 | 658.7 |
| 37.5° | 924.7 | 928.7 | 944.9 | 966.5 | 973.3 | 1007.0 | *1016.5* | 1035.4 | 1058.3 | 1051.6 | 791.0 |
| 40° | 996.2 | 997.6 | 1019.2 | 1048.9 | 1063.7 | 1101.5 | *1115.0* | 1156.8 | 1214.9 | 1243.2 | 986.8 |
| 42.5° | 1115.0 | 1109.6 | 1116.3 | 1151.4 | 1155.5 | 1204.1 | *1228.4* | 1282.4 | 1375.5 | 1452.5 | 1190.6 |
| 45° | 1304.0 | 1293.2 | 1266.2 | 1250.0 | 1229.7 | 1304.0 | *1331.0* | 1402.5 | 1556.4 | 1640.1 | 1376.9 |
| 47.5° | 1502.4 | 1488.9 | 1452.5 | 1420.1 | 1353.9 | 1418.7 | *1451.1* | 1542.9 | 1708.9 | 1807.5 | 1526.7 |
| 50° | 1672.5 | 1667.1 | 1640.1 | 1606.4 | 1530.8 | 1552.4 | *1582.1* | 1706.2 | 1857.4 | 1984.3 | 1664.4 |
| 52.5° | 1796.7 | 1792.6 | 1788.6 | 1794.0 | 1729.2 | 1729.2 | *1748.1* | 1872.3 | 2003.2 | 2126.1 | 1784.5 |
| 55° | 1888.5 | 1892.5 | 1896.6 | 1943.8 | 1927.6 | 1916.8 | *1953.3* | 2046.4 | 2155.8 | 2267.8 | 1888.5 |
| 57.5° | 1873.6 | 1887.1 | 1993.8 | 2086.9 | 2111.2 | 2150.4 | *2163.9* | 2235.4 | 2316.4 | 2416.3 | 1991.1 |
| 60° | 1665.7 | 1686.0 | 1854.7 | 2225.9 | 2327.2 | 2401.4 | *2419.0* | 2448.7 | 2483.8 | 2594.5 | 2143.6 |
| 62.5° | 1447.1 | 1463.3 | 1611.8 | 2203.0 | 2560.7 | 2728.1 | *2736.2* | 2738.9 | 2706.5 | 2814.5 | 2270.5 |
| 65° | 1256.7 | 1272.9 | 1393.1 | 2001.9 | 2761.8 | 3071.0 | *3069.6* | 3010.2 | 2938.7 | 2926.5 | 2227.3 |
| 67.5° | 980.0 | 1005.7 | 1150.1 | 1717.0 | 2788.8 | 3343.6 | *3338.2* | 3233.0 | 3069.6 | 2863.1 | 2027.5 |
| 70° | *691.1* | *712.7* | *849.1* | *1449.8* | *2622.8* | *3376.0* | *3430.0* | *3277.5* | *2922.5* | *2663.3* | *1735.9* |
| 72.5° | 549.4 | 571.0 | 664.1 | 1166.3 | 2478.4 | 3089.9 | *3120.9* | 2936.0 | 2563.4 | 2305.6 | 1331.0 |
| 75° | 326.7 | 353.7 | 454.9 | 834.2 | 2242.1 | 2610.7 | *2544.5* | 2471.6 | 2061.3 | 1915.5 | 973.3 |
| 77.5° | 141.7 | 157.9 | 232.2 | 445.5 | 1557.8 | 2177.3 | *2080.2* | 1848.0 | 1428.2 | 1291.8 | 542.6 |
| 80° | 67.5 | 71.5 | 86.4 | 179.5 | 742.4 | 1559.1 | *1534.8* | 1251.3 | 787.0 | 608.8 | 198.4 |
| 82.5° | 35.1 | 36.4 | 51.3 | 74.2 | 240.3 | 823.4 | *909.8* | 711.4 | 317.2 | 175.5 | 37.8 |
| 85° | 13.5 | 16.2 | 21.6 | 35.1 | 44.5 | 186.3 | *217.3* | 238.9 | 97.2 | 33.7 | 16.2 |
| 87.5° | 1.3 | 2.7 | 4.0 | 5.4 | 6.7 | 8.1 | *8.1* | 9.4 | 8.1 | 4.0 | 2.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 |

REPORT NUMBER: P1503449
CATALOG NUMBER: PRV-P-PB1B-730-U-T4RE-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 352.3 | 352.3 | 352.3 | 352.3 | 352.3 | 352.3 | 352.3 | 352.3 | 352.3 | 352.3 | 352.3 |
| 2.5° | 353.7 | 348.3 | 334.8 | 325.3 | 313.2 | 301.0 | 294.3 | 284.8 | 280.8 | 282.1 | 280.8 |
| 5° | 352.3 | 341.5 | 314.5 | 286.2 | 265.9 | 244.3 | 233.5 | 220.0 | 216.0 | 211.9 | 216.0 |
| 7.5° | 352.3 | 333.4 | 291.6 | 251.1 | 221.4 | 201.1 | 187.6 | 180.9 | 178.2 | 178.2 | 178.2 |
| 10° | 352.3 | 325.3 | 270.0 | 220.0 | 187.6 | 171.4 | 168.7 | 170.1 | 171.4 | 172.8 | 172.8 |
| 12.5° | 355.0 | 321.3 | 247.0 | 194.4 | 164.7 | 160.6 | 163.3 | 166.0 | 168.7 | 168.7 | 170.1 |
| 15° | 360.4 | 318.6 | 229.5 | 171.4 | 156.6 | 156.6 | 157.9 | 160.6 | 163.3 | 164.7 | 164.7 |
| 17.5° | 368.5 | 315.9 | 210.6 | 157.9 | 151.2 | 151.2 | 152.5 | 153.9 | 157.9 | 159.3 | 159.3 |
| 20° | 376.6 | 313.2 | 194.4 | 149.8 | 147.1 | 147.1 | 147.1 | 148.5 | 151.2 | 152.5 | 152.5 |
| 22.5° | 387.4 | 311.8 | 176.8 | 144.4 | 141.7 | 141.7 | 141.7 | 141.7 | 143.1 | 144.4 | 144.4 |
| 25° | 398.2 | 310.5 | 160.6 | 139.0 | 137.7 | 136.3 | 135.0 | 135.0 | 135.0 | 136.3 | 136.3 |
| 27.5° | 411.7 | 309.1 | 145.8 | 132.3 | 130.9 | 129.6 | 129.6 | 126.9 | 128.2 | 129.6 | 128.2 |
| 30° | 430.6 | 309.1 | 135.0 | 125.5 | 122.8 | 122.8 | 121.5 | 118.8 | 120.1 | 120.1 | 120.1 |
| 32.5° | 461.7 | 319.9 | 129.6 | 118.8 | 114.7 | 114.7 | 112.0 | 110.7 | 110.7 | 110.7 | 110.7 |
| 35° | 508.9 | 345.6 | 130.9 | 116.1 | 109.3 | 105.3 | 102.6 | 101.2 | 99.9 | 98.5 | 98.5 |
| 37.5° | 585.8 | 379.3 | 140.4 | 117.4 | 103.9 | 98.5 | 94.5 | 90.4 | 87.7 | 85.0 | 83.7 |
| 40° | 726.2 | 463.0 | 153.9 | 122.8 | 99.9 | 90.4 | 85.0 | 78.3 | 72.9 | 70.2 | 67.5 |
| 42.5° | 886.9 | 571.0 | 172.8 | 126.9 | 97.2 | 82.3 | 74.2 | 66.1 | 60.7 | 56.7 | 55.3 |
| 45° | 1024.6 | 676.3 | 217.3 | 128.2 | 91.8 | 75.6 | 64.8 | 55.3 | 51.3 | 47.2 | 45.9 |
| 47.5° | 1128.5 | 755.9 | 263.2 | 125.5 | 87.7 | 68.8 | 55.3 | 47.2 | 43.2 | 39.1 | 37.8 |
| 50° | 1225.7 | 819.4 | 297.0 | 118.8 | 83.7 | 62.1 | 47.2 | 40.5 | 36.4 | 33.7 | 32.4 |
| 52.5° | 1301.3 | 868.0 | 319.9 | 110.7 | 78.3 | 55.3 | 41.8 | 35.1 | 31.0 | 29.7 | 29.7 |
| 55° | 1372.8 | 916.6 | 336.1 | 105.3 | 71.5 | 47.2 | 36.4 | 32.4 | 28.3 | 27.0 | 27.0 |
| 57.5° | 1439.0 | 971.9 | 361.8 | 99.9 | 60.7 | 41.8 | 32.4 | 29.7 | 27.0 | 24.3 | 22.9 |
| 60° | 1559.1 | 1085.3 | 380.7 | 81.0 | 49.9 | 36.4 | 29.7 | 27.0 | 24.3 | 21.6 | 21.6 |
| 62.5° | 1654.9 | 1151.4 | 325.3 | 52.6 | 41.8 | 32.4 | 28.3 | 24.3 | 21.6 | 18.9 | 18.9 |
| 65° | 1614.5 | 1102.8 | 224.1 | 41.8 | 35.1 | 29.7 | 24.3 | 21.6 | 17.5 | 14.8 | 14.8 |
| 67.5° | 1457.9 | 976.0 | 135.0 | 35.1 | 29.7 | 25.6 | 21.6 | 17.5 | 13.5 | 10.8 | 10.8 |
| 70° | *1228.4* | *789.7* | *70.2* | *29.7* | *24.3* | *20.2* | *16.2* | *13.5* | *9.4* | *8.1* | *6.7* |
| 72.5° | 950.3 | 531.9 | 35.1 | 25.6 | 21.6 | 17.5 | 13.5 | 10.8 | 6.7 | 5.4 | 4.0 |
| 75° | 656.0 | 332.1 | 27.0 | 21.6 | 17.5 | 13.5 | 10.8 | 8.1 | 4.0 | 2.7 | 2.7 |
| 77.5° | 345.6 | 163.3 | 21.6 | 18.9 | 14.8 | 12.1 | 8.1 | 5.4 | 2.7 | 1.3 | 1.3 |
| 80° | 129.6 | 48.6 | 17.5 | 14.8 | 12.1 | 9.4 | 5.4 | 2.7 | 1.3 | 0.0 | 0.0 |
| 82.5° | 24.3 | 14.8 | 10.8 | 10.8 | 8.1 | 5.4 | 2.7 | 1.3 | 0.0 | 0.0 | 0.0 |
| 85° | 12.1 | 8.1 | 4.0 | 4.0 | 2.7 | 1.3 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 2.7 | 2.7 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP2-2501-321-4

Test Date: 04/10/2025

Luminaire Tested: GKO-PB1E-730-U-T4W

Data in this report applies to families of products including GKO-PB1E-730-U-T4W

Report Generated By FNC07603 / LDUCLS01DT447
Version: v7.04

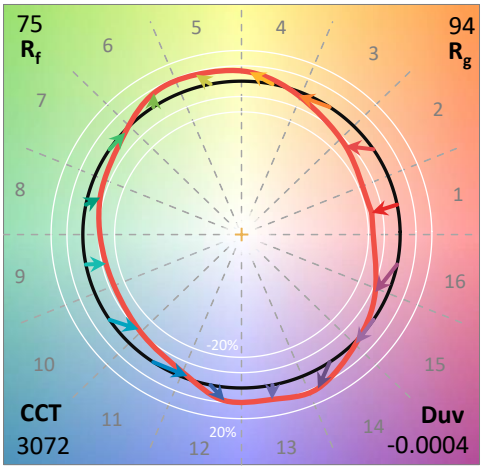
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP2-2501-321-4 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP2 - 165CM SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 04/10/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGraw-Edison |
| Catalog Number: | **GKO-PB1E-730-U-T4W** |
| Description: | Gekko Wedge Wall Pack Fixture 1 SQ w/ T4W distribution |

## Spectral Parameters

| | | | | | | |
|---|---|---|---|---|---|---|
| CCT (K): | 3072 | CRI (Ra): | 71.7 | | | |
| CIE u': | 0.2482 | R1: | 68.1 | R9: | -33.9 | |
| CIE v': | 0.5193 | R2: | 82.1 | R10: | 58.6 | |
| Duv: | -0.0004 | R3: | 93.4 | R11: | 62.0 | |
| CIE x: | 0.4313 | R4: | 67.3 | R12: | 48.5 | |
| CIE y: | 0.4010 | R5: | 67.2 | R13: | 70.7 | |
| CIE z: | 0.1677 | R6: | 74.9 | R14: | 96.4 | |
| Peak Wavelength (nm): | 593 | R7: | 77.5 | R15: | 60.2 | |
| Dominant Wavelength (nm): | 582 | R8: | 43.4 | | | |
| Purity: | 49.8225 | | | | | |

| | |
|---|---|
| Rf: | 74.7 |
| Rg: | 94.2 |



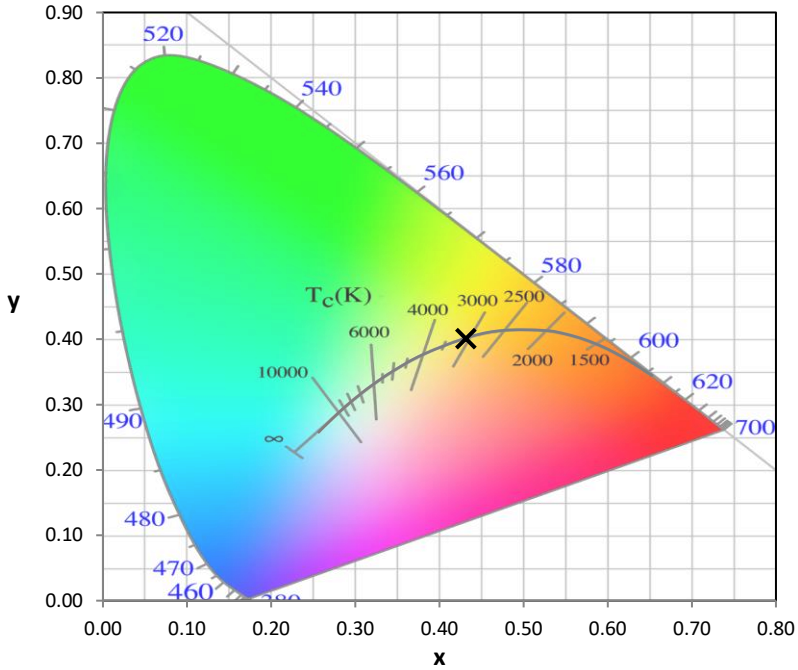

## Test Conditions

| | |
|---|---|
| Stabilization Time: | 30M |
| Operation Time: | 1H 30M |
| Sphere Temperature (°C): | 25.7 |

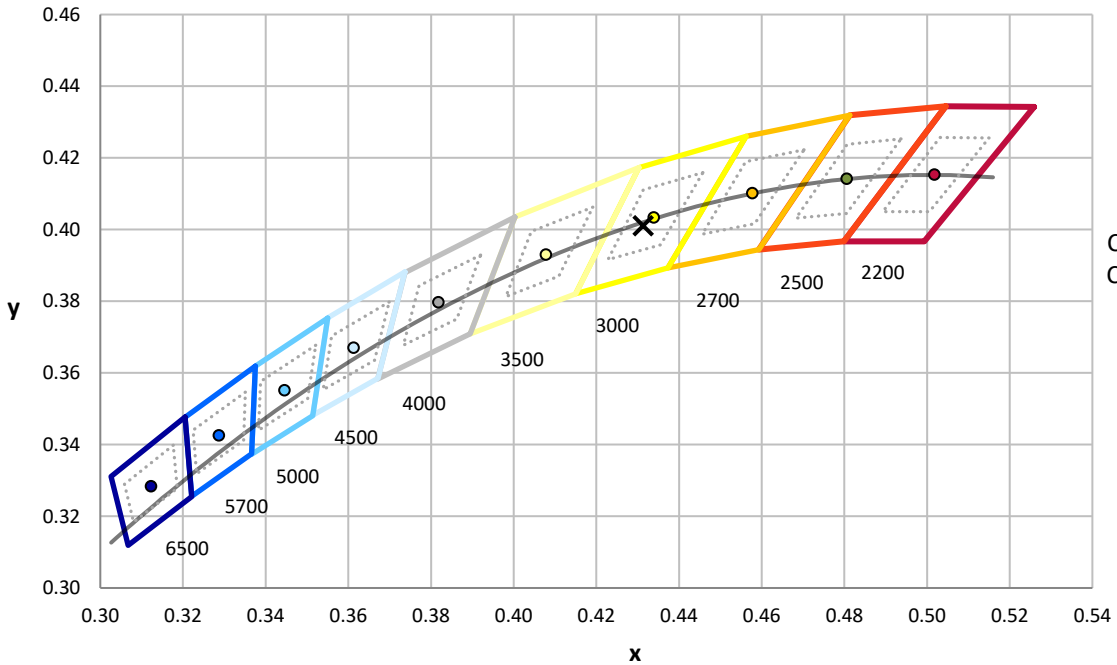
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN2187 | 1/6/2025 | 7/6/2025 |
| Power Meter | INXT2011002 | 1/21/2025 | 1/21/2026 |
| AC Power Source | IN0458 | 10/22/2024 | 10/22/2025 |
| DC Power Source | IN0212 | 10/22/2024 | 10/22/2025 |
| Sphere Thermometer | IN4036B | 10/22/2024 | 10/22/2025 |
| Room Thermometer | IN0046 | 10/22/2024 | 10/22/2025 |

REPORT NUMBER: SP2-2501-321-4

## CIE 1931 Chromaticity Diagram




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

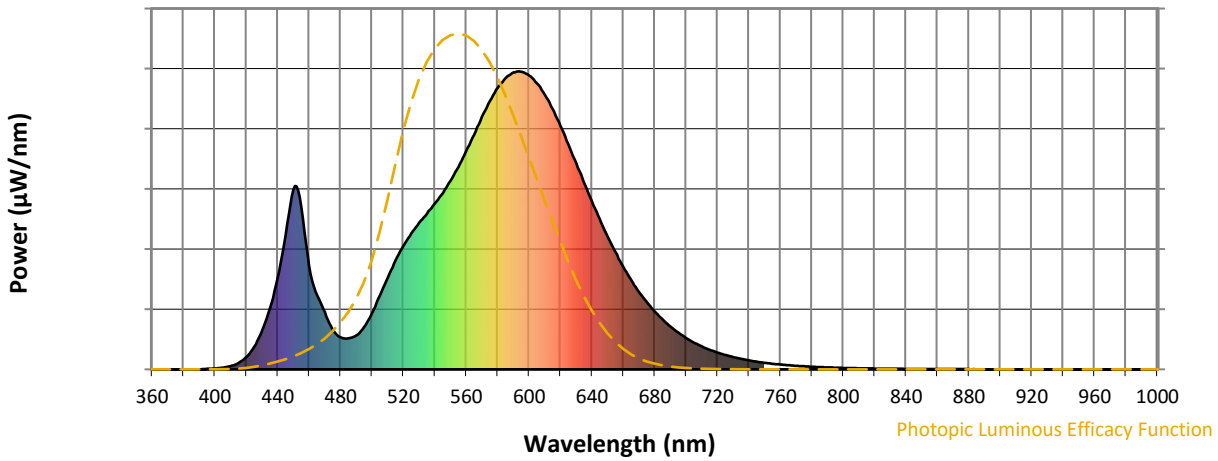



CCT = 3072K
CIE x = 0.4313
CIE y = 0.4010
Duv = -0.0004

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP2-2501-321-4

## Photopic Flux vs. Wavelength

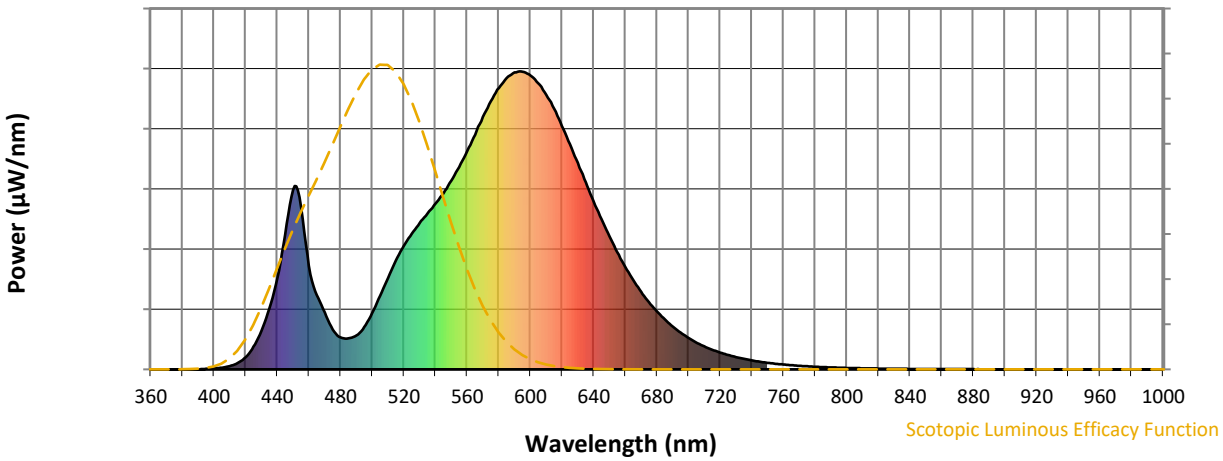



**Photopic Lumens: NR**

| 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 | 114 | NR | 620 | 817 | NR | 750 | 22 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 141 | NR | 625 | 756 | NR | 755 | 19 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 189 | NR | 630 | 693 | NR | 760 | 16 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 247 | NR | 635 | 628 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 307 | NR | 640 | 564 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 366 | NR | 645 | 504 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 415 | NR | 650 | 446 | NR | 780 | 9 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 455 | NR | 655 | 393 | NR | 785 | 8 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 491 | NR | 660 | 344 | NR | 790 | 7 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 523 | NR | 665 | 300 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 556 | NR | 670 | 260 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 591 | NR | 675 | 226 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 41 | NR | 550 | 632 | NR | 680 | 195 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 76 | NR | 555 | 679 | NR | 685 | 167 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 129 | NR | 560 | 732 | NR | 690 | 144 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 205 | NR | 565 | 787 | NR | 695 | 123 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 307 | NR | 570 | 847 | NR | 700 | 105 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 451 | NR | 575 | 900 | NR | 705 | 90 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 603 | NR | 580 | 944 | NR | 710 | 77 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 544 | NR | 585 | 977 | NR | 715 | 66 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 348 | NR | 590 | 997 | NR | 720 | 56 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 249 | NR | 595 | 998 | NR | 725 | 48 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 191 | NR | 600 | 986 | NR | 730 | 41 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 133 | NR | 605 | 960 | NR | 735 | 35 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 107 | NR | 610 | 921 | NR | 740 | 30 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 104 | NR | 615 | 874 | NR | 745 | 26 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP2-2501-321-4

## Scotopic Flux vs. Wavelength

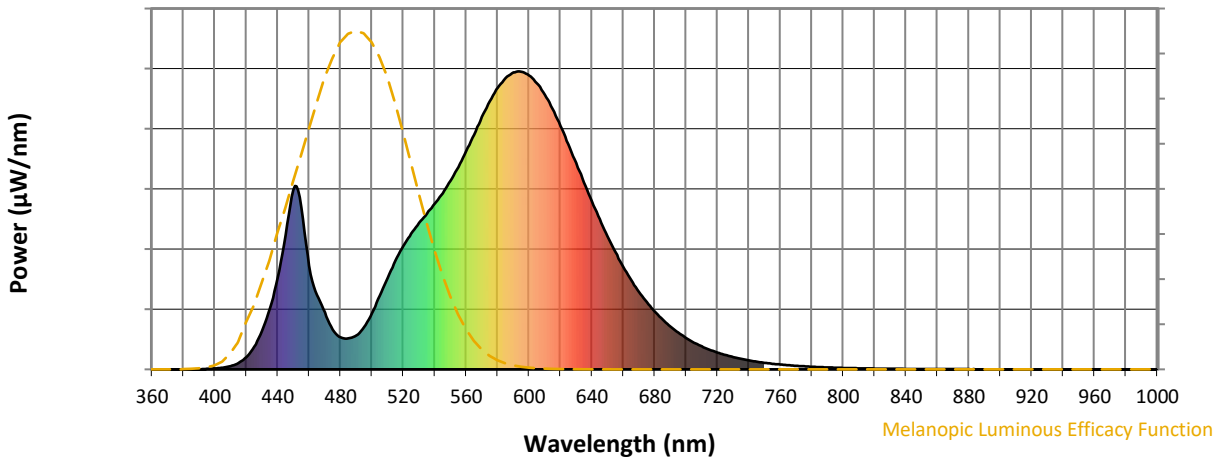



**Scotopic Lumens: NR** **S/P: 1.24**

| 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 | 114 | NR | 620 | 817 | NR | 750 | 22 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 141 | NR | 625 | 756 | NR | 755 | 19 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 189 | NR | 630 | 693 | NR | 760 | 16 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 247 | NR | 635 | 628 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 307 | NR | 640 | 564 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 366 | NR | 645 | 504 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 415 | NR | 650 | 446 | NR | 780 | 9 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 455 | NR | 655 | 393 | NR | 785 | 8 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 491 | NR | 660 | 344 | NR | 790 | 7 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 523 | NR | 665 | 300 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 556 | NR | 670 | 260 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 591 | NR | 675 | 226 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 41 | NR | 550 | 632 | NR | 680 | 195 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 76 | NR | 555 | 679 | NR | 685 | 167 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 129 | NR | 560 | 732 | NR | 690 | 144 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 205 | NR | 565 | 787 | NR | 695 | 123 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 307 | NR | 570 | 847 | NR | 700 | 105 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 451 | NR | 575 | 900 | NR | 705 | 90 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 603 | NR | 580 | 944 | NR | 710 | 77 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 544 | NR | 585 | 977 | NR | 715 | 66 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 348 | NR | 590 | 997 | NR | 720 | 56 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 249 | NR | 595 | 998 | NR | 725 | 48 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 191 | NR | 600 | 986 | NR | 730 | 41 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 133 | NR | 605 | 960 | NR | 735 | 35 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 107 | NR | 610 | 921 | NR | 740 | 30 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 104 | NR | 615 | 874 | NR | 745 | 26 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP2-2501-321-4

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.3**

| 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 | 114 | NR | 620 | 817 | NR | 750 | 22 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 141 | NR | 625 | 756 | NR | 755 | 19 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 189 | NR | 630 | 693 | NR | 760 | 16 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 247 | NR | 635 | 628 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 307 | NR | 640 | 564 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 366 | NR | 645 | 504 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 415 | NR | 650 | 446 | NR | 780 | 9 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 455 | NR | 655 | 393 | NR | 785 | 8 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 491 | NR | 660 | 344 | NR | 790 | 7 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 523 | NR | 665 | 300 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 556 | NR | 670 | 260 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 591 | NR | 675 | 226 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 41 | NR | 550 | 632 | NR | 680 | 195 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 76 | NR | 555 | 679 | NR | 685 | 167 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 129 | NR | 560 | 732 | NR | 690 | 144 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 205 | NR | 565 | 787 | NR | 695 | 123 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 307 | NR | 570 | 847 | NR | 700 | 105 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 451 | NR | 575 | 900 | NR | 705 | 90 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 603 | NR | 580 | 944 | NR | 710 | 77 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 544 | NR | 585 | 977 | NR | 715 | 66 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 348 | NR | 590 | 997 | NR | 720 | 56 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 249 | NR | 595 | 998 | NR | 725 | 48 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 191 | NR | 600 | 986 | NR | 730 | 41 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 133 | NR | 605 | 960 | NR | 735 | 35 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 107 | NR | 610 | 921 | NR | 740 | 30 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 104 | NR | 615 | 874 | NR | 745 | 26 | NR | 875 | 1 | NR | | | |

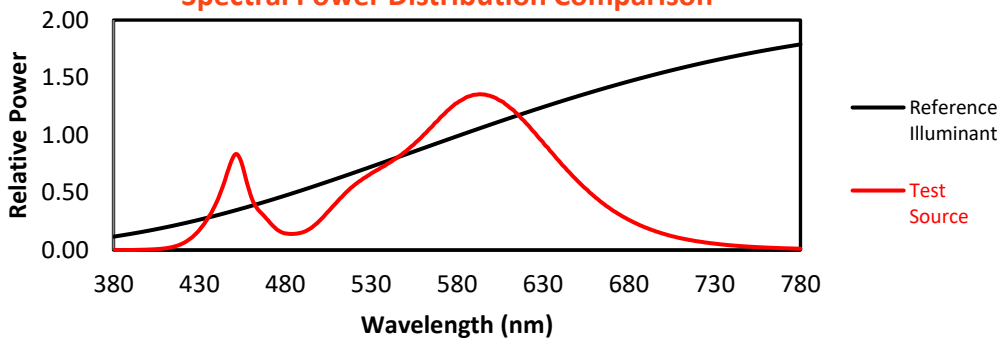
REPORT NUMBER: SP2-2501-321-4

# TM-30-18

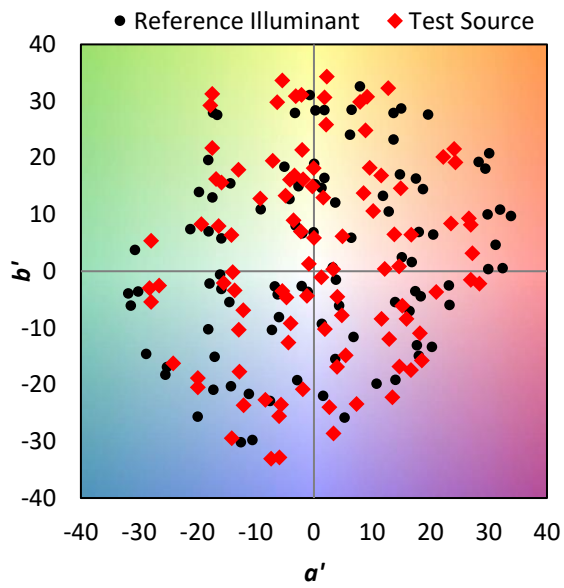
## Summary

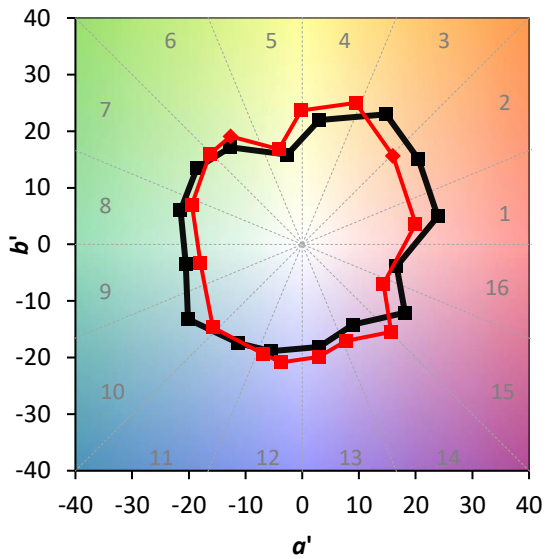
$R_f$ = 74.7
$R_g$ = 94.2
CIE $R_a$ = 71.7
$R_9$ = -33.9

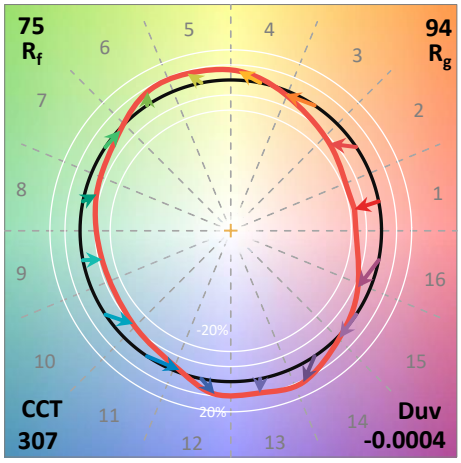
## Spectral Power Distribution Comparison

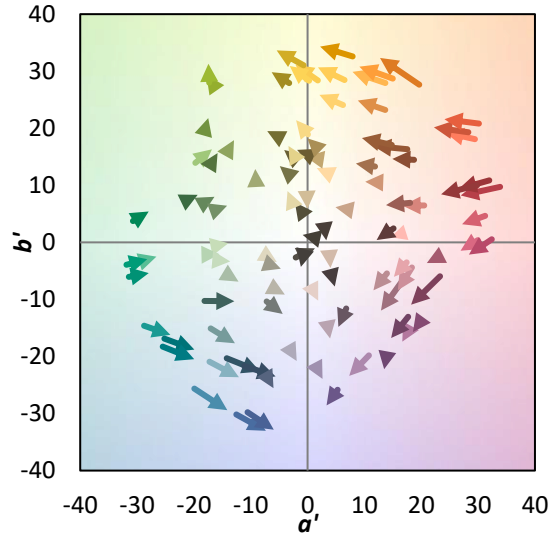



## Color Vector Graphics



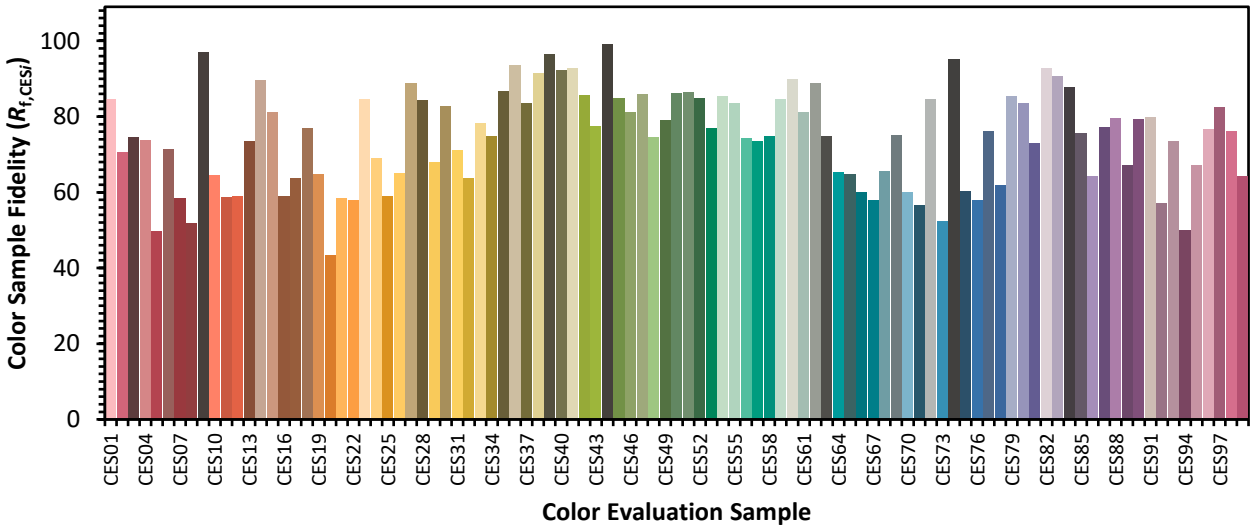



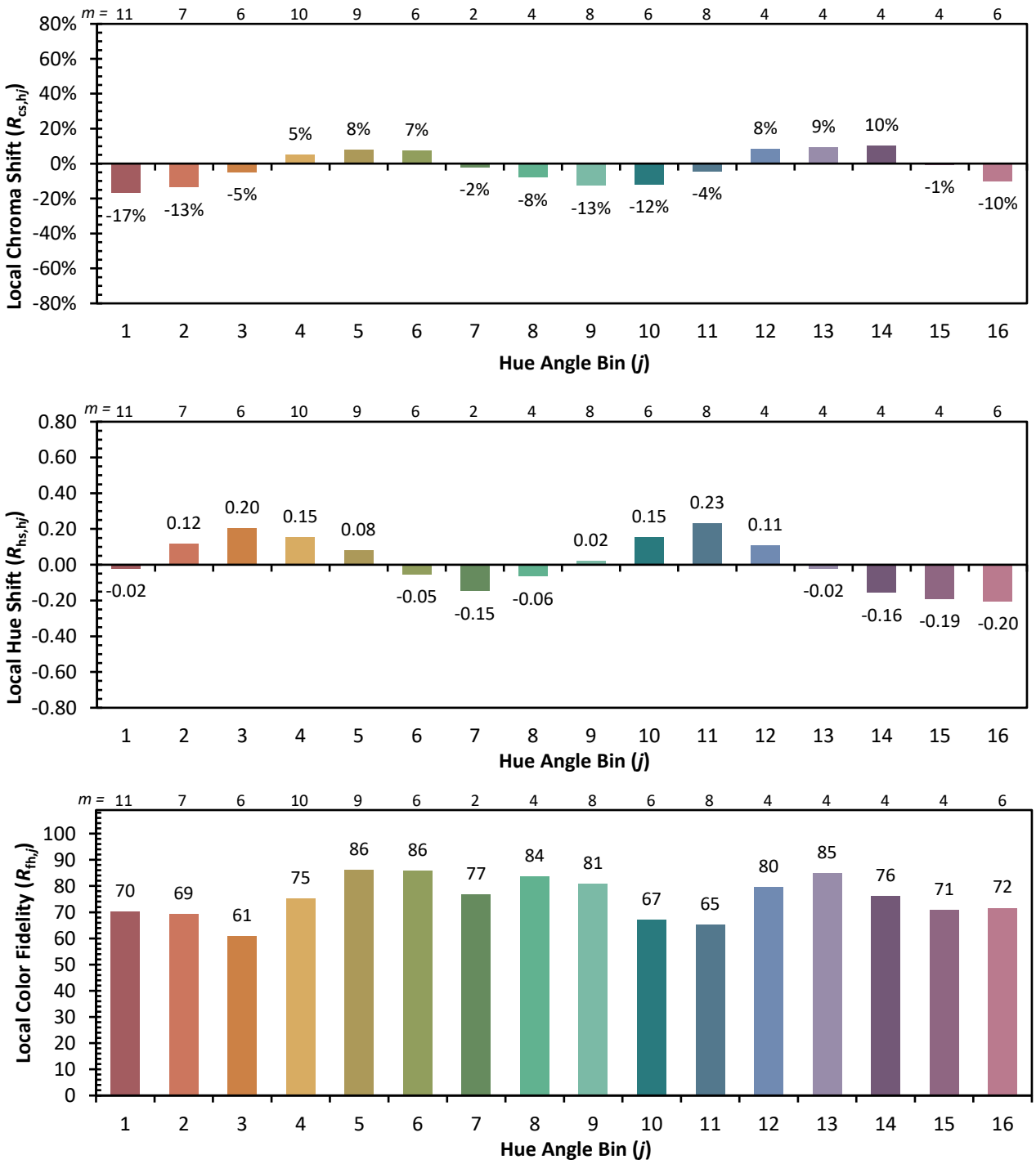



**Individual Sample Fidelity Index ($R_{f,i}$)**

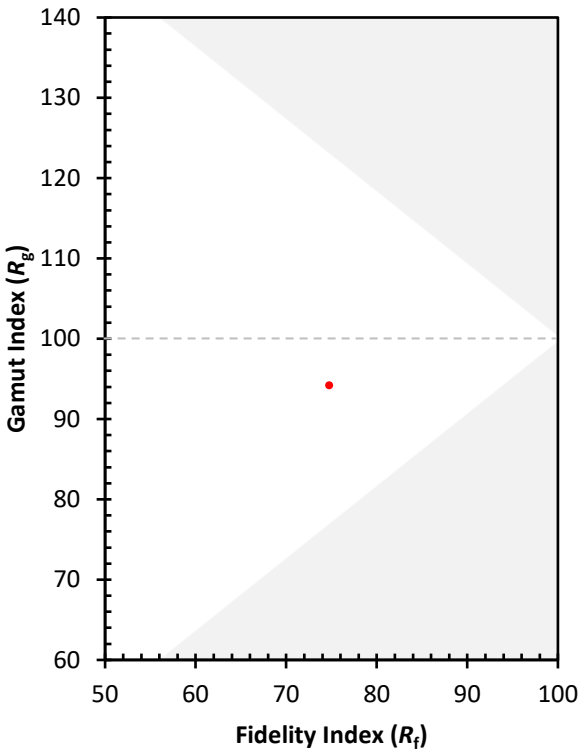
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 65 | CES51 = 86 | CES76 = 58 |
| CES02 = 62 | CES27 = 89 | CES52 = 85 | CES77 = 76 |
| CES03 = 31 | CES28 = 84 | CES53 = 77 | CES78 = 62 |
| CES04 = 71 | CES29 = 68 | CES54 = 85 | CES79 = 85 |
| CES05 = 49 | CES30 = 83 | CES55 = 84 | CES80 = 84 |
| CES06 = 51 | CES31 = 71 | CES56 = 74 | CES81 = 73 |
| CES07 = 41 | CES32 = 64 | CES57 = 74 | CES82 = 93 |
| CES08 = 40 | CES33 = 78 | CES58 = 75 | CES83 = 91 |
| CES09 = 29 | CES34 = 75 | CES59 = 85 | CES84 = 88 |
| CES10 = 76 | CES35 = 87 | CES60 = 90 | CES85 = 76 |
| CES11 = 59 | CES36 = 94 | CES61 = 81 | CES86 = 64 |
| CES12 = 65 | CES37 = 84 | CES62 = 89 | CES87 = 77 |
| CES13 = 43 | CES38 = 92 | CES63 = 75 | CES88 = 80 |
| CES14 = 74 | CES39 = 96 | CES64 = 65 | CES89 = 67 |
| CES15 = 71 | CES40 = 92 | CES65 = 65 | CES90 = 79 |
| CES16 = 47 | CES41 = 93 | CES66 = 60 | CES91 = 80 |
| CES17 = 50 | CES42 = 86 | CES67 = 58 | CES92 = 57 |
| CES18 = 56 | CES43 = 78 | CES68 = 66 | CES93 = 74 |
| CES19 = 73 | CES44 = 99 | CES69 = 75 | CES94 = 50 |
| CES20 = 66 | CES45 = 85 | CES70 = 60 | CES95 = 67 |
| CES21 = 87 | CES46 = 81 | CES71 = 57 | CES96 = 77 |
| CES22 = 79 | CES47 = 86 | CES72 = 85 | CES97 = 83 |
| CES23 = 92 | CES48 = 75 | CES73 = 52 | CES98 = 76 |
| CES24 = 91 | CES49 = 79 | CES74 = 95 | CES99 = 64 |
| CES25 = 73 | CES50 = 86 | CES75 = 60 | |

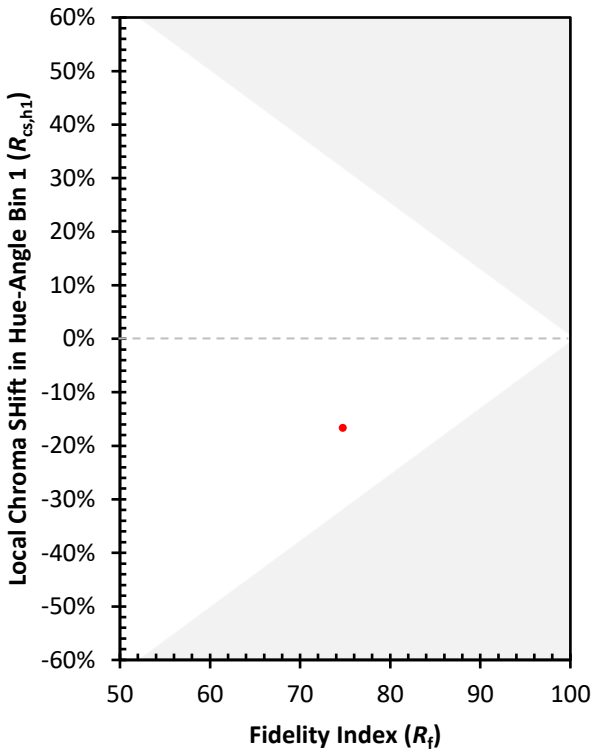


## Color Rendition by Hue-Angle Bin



## Measure Comparisons




(END OF REPORT)