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

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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: McGRAW-EDISON

Report Number: P1201209

Luminaire Tested: GWC-SB1A-760-U-T4FT

Issue Date: 10/30/2025

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1201209 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-24) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 3/14/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GWC-SB1A-760-U-T4FT |
| Description: | GALLEON WALL LUMINAIRE |
| | (1) 70 CRI, 5700K, 350mA LIGHTSQUARE WITH 26 LEDS AND TYPE IV FORWARD THROW OPT |
| Light Source: | - |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 4715 lumens |
| Efficiency: | N/A |
| Efficacy: | 152.6 lumens/watt |
| Luminous Opening: | Rectangular (W 0.5' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 30.9 |
| Input Voltage (V): | 120.0 |
| Input Current (Ain): | 0.263 |
| Voltage Rise (V): | NR |
| Power Factor: | 0.995 |
| Total Harmonic Distortion (THDi): | 6.356 |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

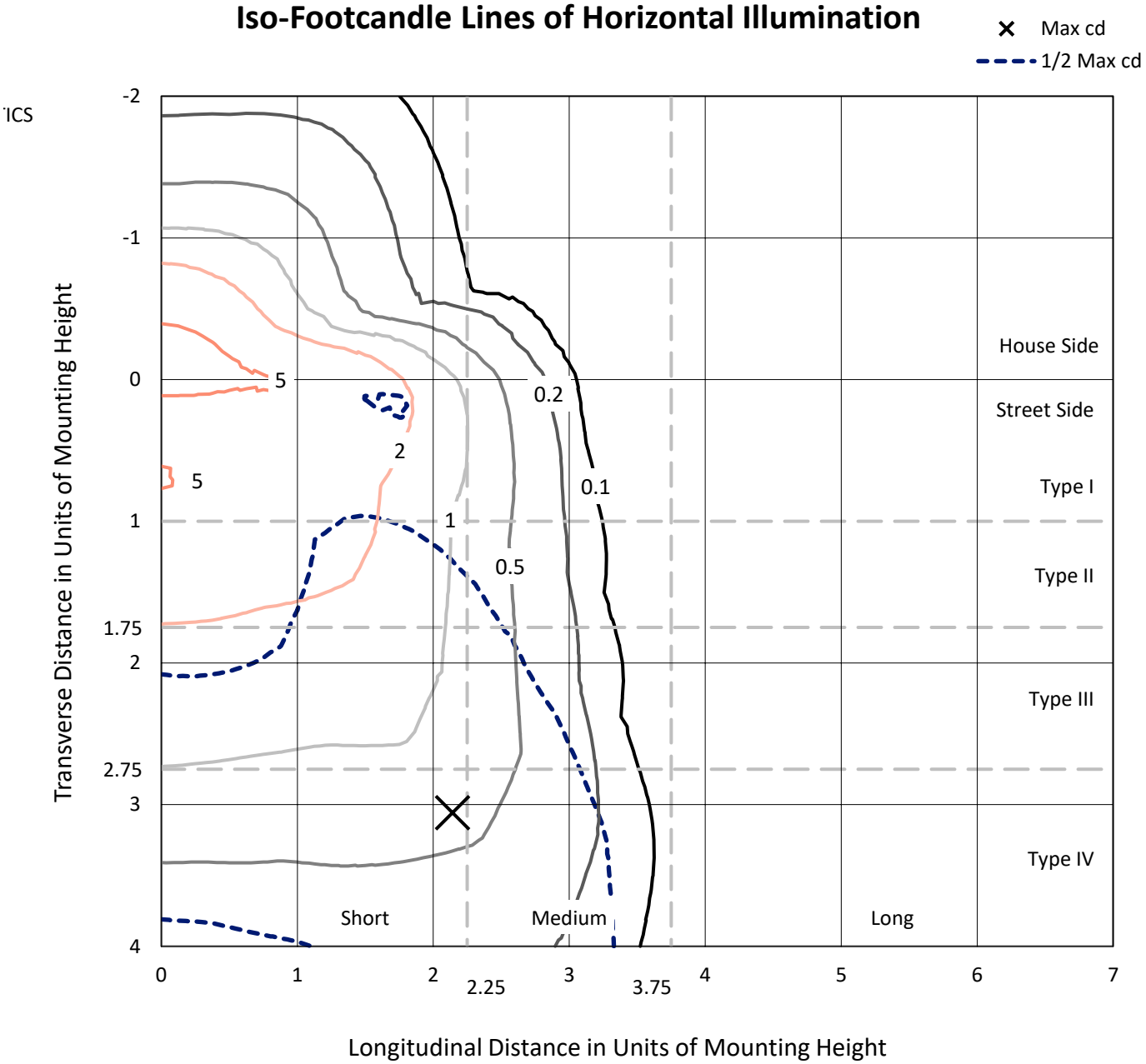


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Scaled Data Report

REPORT NUMBER: P1201209
CATALOG NUMBER: GWC-SB1A-760-U-T4FT

## Iso-Footcandle Lines of Horizontal Illumination



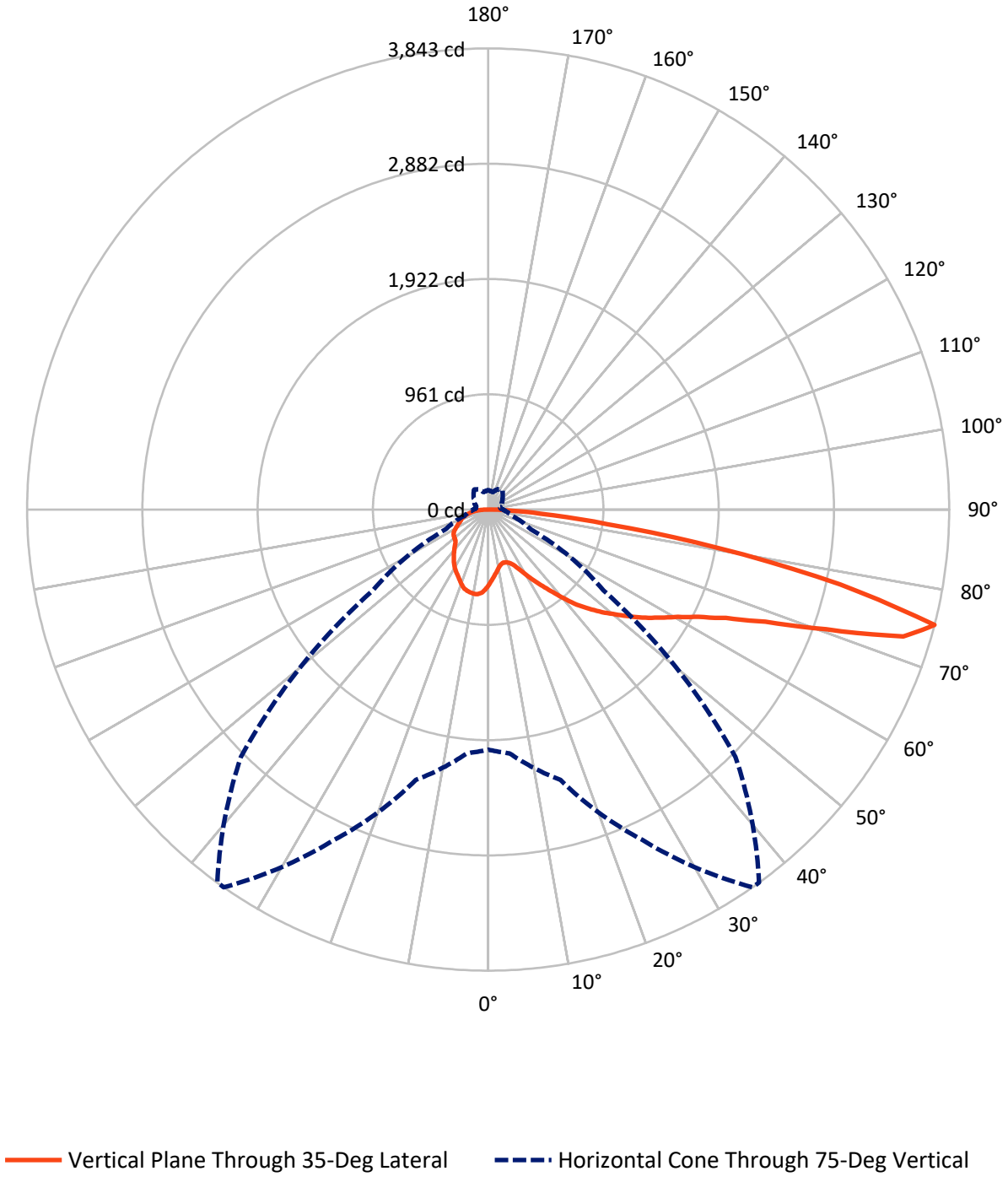

Based on 10 foot mounting height. Maximum calculated value = 5.2 fc
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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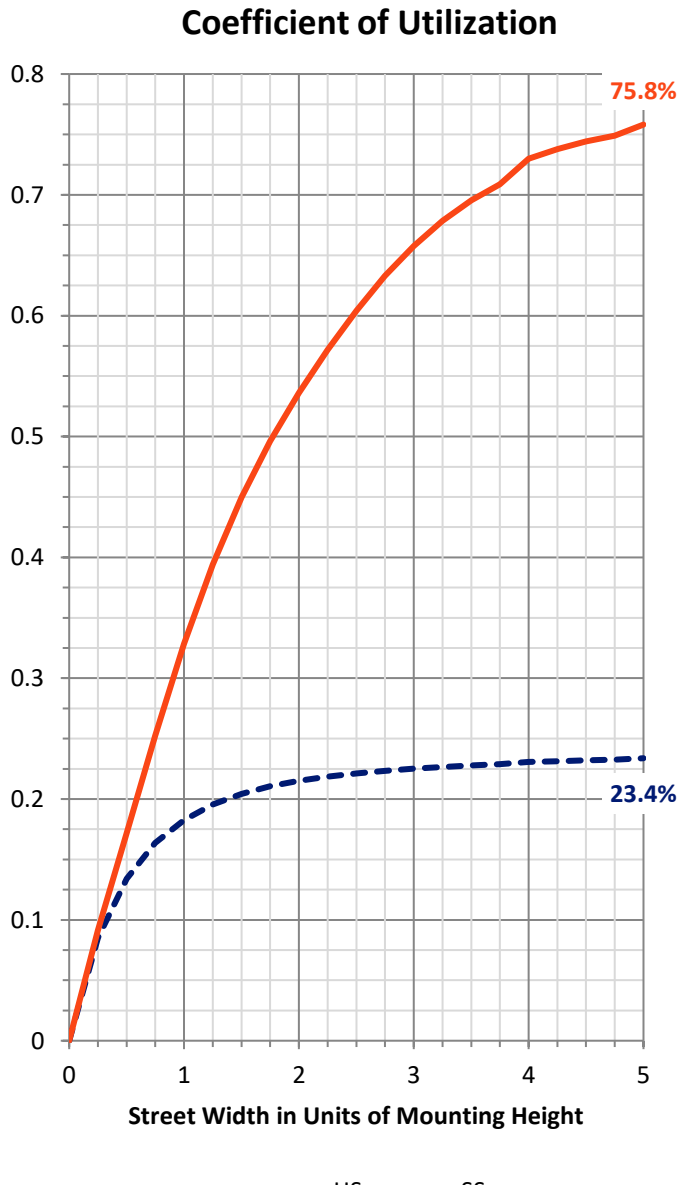
REPORT NUMBER: P1201209
CATALOG NUMBER: GWC-SB1A-760-U-T4FT

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1122.0 | 0.0 | 1122.0 |
| | % Fixture | 23.8 | 0.0 | 23.8 |
| **Street Side** | Lumens | 3592.9 | 0.0 | 3592.9 |
| | % Fixture | 76.2 | 0.0 | 76.2 |
| **Total** | Lumens | 4715.0 | 0.0 | 4715.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 59.5 | 1.3 |
| 10°-20° | 171.6 | 3.6 |
| 20°-30° | 288.1 | 6.1 |
| 30°-40° | 447.8 | 9.5 |
| 40°-50° | 664.7 | 14.1 |
| 50°-60° | 917.6 | 19.5 |
| 60°-70° | 1113.3 | 23.6 |
| 70°-80° | 920.0 | 19.5 |
| 80°-90° | 132.3 | 2.8 |
| 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° | 4715.0 | 100.0 |
| 0°-180° | 4715.0 | 100.0 |



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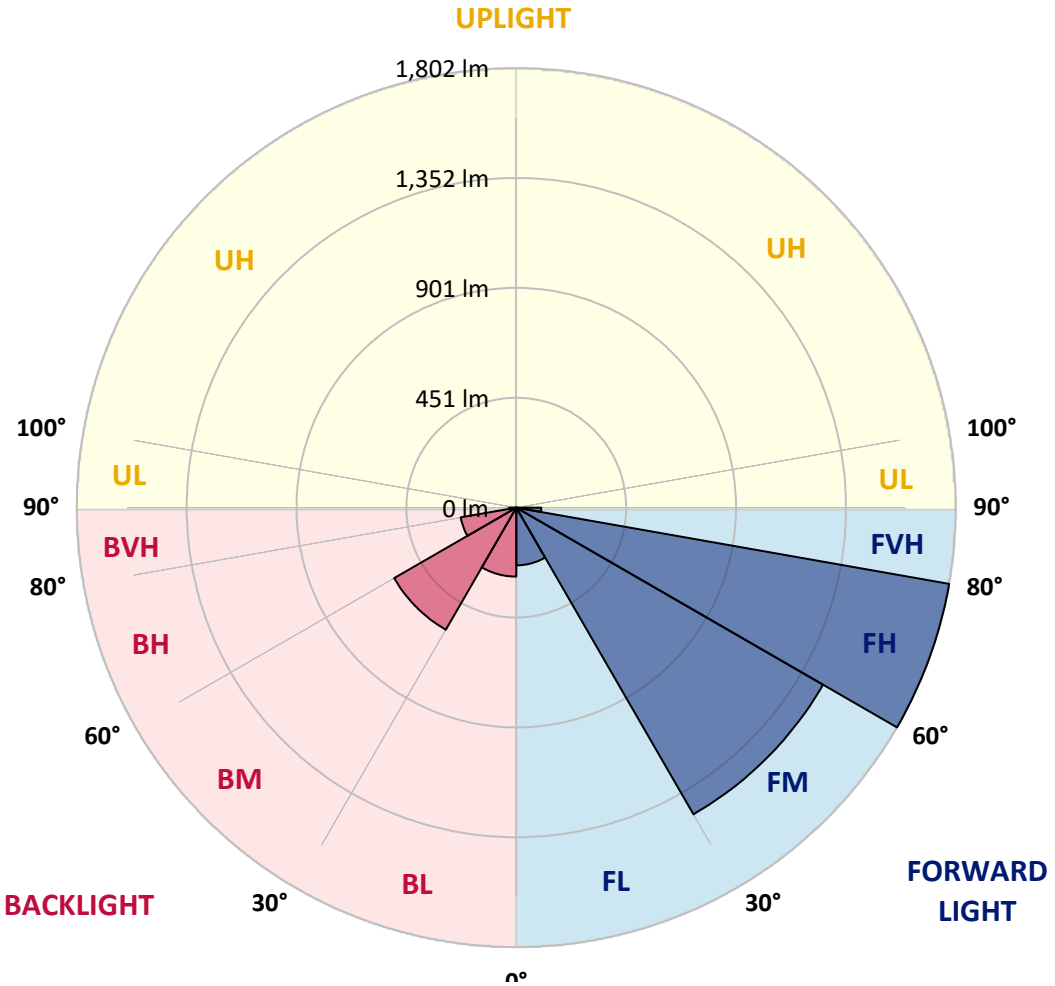
Scaled Data Report

REPORT NUMBER: P1201209
CATALOG NUMBER: GWC-SB1A-760-U-T4FT

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 236.4 | 5.0 | | | |
| FM | (30°-60°) | 1452.0 | 30.8 | | | |
| FH | (60°-80°) | 1802.0 | 38.2 | | | G2/5000 |
| FVH | (80°-90°) | 102.5 | 2.2 | | | G2/225 |
| BL | (0°-30°) | 282.8 | 6.0 | B1/500 | | |
| BM | (30°-60°) | 578.2 | 12.3 | B1/1000 | | |
| BH | (60°-80°) | 231.3 | 4.9 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 29.8 | 0.6 | | | G1/100 |
| 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



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 |
| 2.5° | 579.4 | 582.9 | 584.5 | 583.7 | 587.5 | 587.0 | 592.4 | 599.0 | 608.2 | 617.1 | 630.1 |
| 5° | 534.8 | 538.6 | 541.9 | 545.0 | 552.3 | 554.6 | 563.1 | 575.8 | 592.6 | 609.7 | 631.1 |
| 7.5° | 493.2 | 496.5 | 501.6 | 507.2 | 519.7 | 522.0 | 536.0 | 555.9 | 579.4 | 604.3 | 633.9 |
| 10° | 459.3 | 462.6 | 468.0 | 474.4 | 489.9 | 492.7 | 510.5 | 537.1 | 567.6 | 599.2 | 637.0 |
| 12.5° | 444.8 | 445.8 | 448.9 | 455.2 | 468.7 | 470.5 | 490.2 | 520.5 | 556.2 | 595.4 | 641.6 |
| 15° | 444.0 | 446.1 | 446.3 | 449.6 | 460.8 | 461.6 | 479.7 | 509.8 | 549.0 | 594.7 | 648.4 |
| 17.5° | 451.7 | 453.2 | 450.9 | 452.9 | 462.4 | 463.6 | 477.9 | 504.7 | 546.7 | 598.0 | 660.2 |
| 20° | 472.1 | 473.3 | 466.5 | 463.6 | 470.5 | 471.5 | 485.6 | 508.0 | 549.0 | 604.9 | 676.2 |
| 22.5° | 515.4 | 516.2 | 499.3 | 487.9 | 488.4 | 488.9 | 501.1 | 521.5 | 558.0 | 617.3 | 696.6 |
| 25° | 582.9 | 582.4 | 555.7 | 533.5 | 520.7 | 517.9 | 526.1 | 543.4 | 573.0 | 633.9 | 722.9 |
| 27.5° | 662.0 | 658.1 | 631.4 | 598.2 | 570.4 | 566.4 | 564.6 | 572.0 | 594.4 | 655.8 | 755.0 |
| 30° | 751.2 | 747.6 | 718.8 | 675.5 | 637.0 | 630.3 | 613.5 | 609.7 | 626.3 | 685.7 | 799.6 |
| 32.5° | 849.0 | 846.7 | 812.3 | 759.8 | 708.3 | 700.7 | 672.4 | 662.2 | 675.2 | 730.8 | 861.8 |
| 35° | 931.1 | 929.1 | 900.5 | 846.5 | 783.5 | 774.1 | 745.3 | 733.8 | 740.5 | 788.6 | 943.1 |
| 37.5° | 1005.3 | 1004.3 | 979.8 | 937.2 | 872.2 | 860.8 | 828.4 | 824.6 | 823.3 | 864.8 | 1041.7 |
| 40° | 1074.1 | 1071.6 | 1046.1 | 1023.6 | 975.5 | 965.0 | 936.5 | 933.2 | 923.5 | 958.6 | 1153.4 |
| 42.5° | 1150.3 | 1143.7 | 1106.7 | 1096.3 | 1083.3 | 1074.6 | 1057.5 | 1058.1 | 1036.6 | 1064.4 | 1271.6 |
| 45° | 1212.5 | 1208.7 | 1170.7 | 1164.6 | 1178.6 | 1175.0 | 1189.8 | 1193.7 | 1152.1 | 1175.3 | 1394.5 |
| 47.5° | 1279.3 | 1275.7 | 1243.6 | 1239.3 | 1277.3 | 1278.3 | 1330.5 | 1331.8 | 1264.8 | 1290.5 | 1517.6 |
| 50° | 1361.6 | 1356.5 | 1324.7 | 1330.0 | 1372.6 | 1376.4 | 1472.0 | 1463.3 | 1368.5 | 1407.5 | 1639.7 |
| 52.5° | 1415.9 | 1419.0 | 1412.1 | 1420.8 | 1478.9 | 1482.4 | 1611.2 | 1589.0 | 1471.2 | 1523.0 | 1759.5 |
| 55° | 1455.9 | 1462.1 | 1483.5 | 1503.3 | 1591.0 | 1594.6 | 1742.4 | 1708.5 | 1556.4 | 1630.0 | 1872.2 |
| 57.5° | 1507.4 | 1498.8 | 1538.8 | 1577.5 | 1697.6 | 1707.0 | 1870.1 | 1823.7 | 1631.8 | 1722.3 | 1949.4 |
| 60° | 1581.3 | 1575.2 | 1606.3 | 1663.7 | 1816.9 | 1831.9 | 2005.2 | 1927.5 | 1687.1 | 1795.5 | 1964.4 |
| 62.5° | 1731.2 | 1715.9 | 1720.8 | 1771.5 | 1967.2 | 1987.1 | 2157.7 | 2018.0 | 1714.6 | 1824.0 | 1883.9 |
| 65° | 1955.3 | 1929.0 | 1904.5 | 1939.7 | 2179.1 | 2198.7 | 2329.7 | 2089.1 | 1704.5 | 1768.7 | 1670.0 |
| 67.5° | 2237.4 | 2211.4 | 2181.4 | 2214.5 | 2491.0 | 2506.6 | 2542.0 | 2129.1 | 1624.2 | 1555.6 | 1292.0 |
| 70° | 2470.1 | 2460.5 | 2496.4 | 2632.8 | 2989.4 | 2989.9 | 2814.2 | 2096.0 | 1404.2 | 1102.9 | 747.6 |
| 72.5° | 2439.3 | 2433.4 | 2622.8 | 3044.4 | 3617.4 | 3603.9 | 3071.9 | 1845.2 | 945.9 | 497.5 | 280.1 |
| 75° | 2001.1 | 2039.1 | 2332.5 | 3037.0 | 3843.0 | 3841.2 | 2914.2 | 1173.0 | 391.3 | 206.2 | 144.8 |
| 77.5° | 1073.1 | 1133.2 | 1514.3 | 2242.3 | 3000.1 | 3045.2 | 2048.8 | 410.4 | 168.0 | 132.0 | 100.2 |
| 80° | 350.0 | 402.5 | 603.6 | 1141.7 | 1949.4 | 1941.0 | 878.1 | 161.1 | 115.0 | 93.5 | 69.3 |
| 82.5° | 148.6 | 154.7 | 269.7 | 539.1 | 1000.4 | 984.9 | 279.6 | 92.5 | 80.8 | 64.0 | 42.8 |
| 85° | 58.1 | 65.0 | 119.0 | 249.3 | 433.3 | 423.9 | 100.9 | 45.9 | 51.7 | 41.8 | 25.5 |
| 87.5° | 19.1 | 23.2 | 42.6 | 85.4 | 134.8 | 130.0 | 24.7 | 15.8 | 22.4 | 19.1 | 9.2 |
| 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: P1201209
CATALOG NUMBER: GWC-SB1A-760-U-T4FT

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 | 628.3 |
| 2.5° | 633.7 | 637.7 | 642.6 | 649.7 | 655.8 | 660.9 | 666.3 | 669.6 | 670.9 | 674.7 | 674.4 |
| 5° | 638.2 | 647.2 | 659.1 | 670.9 | 682.3 | 689.2 | 695.3 | 698.4 | 701.2 | 703.2 | 703.8 |
| 7.5° | 645.9 | 657.4 | 676.2 | 691.5 | 701.2 | 706.8 | 710.9 | 709.9 | 710.9 | 711.4 | 712.2 |
| 10° | 652.5 | 668.6 | 691.0 | 705.5 | 712.9 | 713.2 | 712.2 | 708.6 | 706.8 | 707.1 | 707.6 |
| 12.5° | 660.4 | 678.3 | 702.5 | 714.7 | 716.8 | 711.1 | 706.8 | 700.7 | 698.4 | 697.4 | 696.9 |
| 15° | 671.1 | 691.5 | 715.0 | 719.6 | 714.5 | 707.3 | 699.9 | 690.0 | 684.9 | 680.8 | 682.1 |
| 17.5° | 684.1 | 706.6 | 724.7 | 721.3 | 710.4 | 698.7 | 686.7 | 671.6 | 661.2 | 656.9 | 657.1 |
| 20° | 702.2 | 722.4 | 732.0 | 717.5 | 700.9 | 683.1 | 662.7 | 644.4 | 634.7 | 630.3 | 629.8 |
| 22.5° | 724.1 | 743.5 | 739.2 | 710.9 | 687.4 | 658.9 | 633.4 | 619.9 | 615.1 | 612.0 | 612.5 |
| 25° | 750.4 | 767.0 | 744.3 | 701.2 | 665.3 | 626.8 | 607.1 | 602.8 | 600.5 | 598.2 | 598.2 |
| 27.5° | 784.6 | 793.5 | 748.1 | 686.9 | 630.6 | 592.6 | 585.5 | 586.2 | 585.5 | 581.7 | 582.4 |
| 30° | 829.7 | 827.9 | 751.7 | 663.7 | 590.8 | 561.8 | 562.3 | 565.6 | 566.1 | 563.6 | 564.8 |
| 32.5° | 889.1 | 871.0 | 753.5 | 633.7 | 552.9 | 534.8 | 535.3 | 538.8 | 541.4 | 537.1 | 539.1 |
| 35° | 960.9 | 921.2 | 750.7 | 595.9 | 523.5 | 509.0 | 505.2 | 506.2 | 507.0 | 502.9 | 505.7 |
| 37.5° | 1044.8 | 977.5 | 738.2 | 554.1 | 499.3 | 483.8 | 475.6 | 468.7 | 464.7 | 460.8 | 463.4 |
| 40° | 1136.8 | 1038.9 | 715.2 | 513.3 | 472.3 | 457.0 | 444.8 | 431.8 | 418.0 | 412.9 | 415.2 |
| 42.5° | 1233.2 | 1102.1 | 687.4 | 474.4 | 441.2 | 428.7 | 415.7 | 396.9 | 376.2 | 365.8 | 367.0 |
| 45° | 1333.1 | 1166.9 | 660.2 | 435.9 | 409.4 | 404.0 | 389.0 | 366.3 | 343.8 | 330.6 | 329.6 |
| 47.5° | 1431.0 | 1228.1 | 620.1 | 397.1 | 379.5 | 385.4 | 373.7 | 352.8 | 327.8 | 306.9 | 304.6 |
| 50° | 1524.5 | 1285.4 | 554.6 | 357.9 | 355.3 | 379.8 | 368.6 | 338.5 | 309.9 | 283.2 | 280.9 |
| 52.5° | 1617.3 | 1331.8 | 470.8 | 322.2 | 342.3 | 378.3 | 361.9 | 328.8 | 293.9 | 265.9 | 262.8 |
| 55° | 1696.0 | 1355.8 | 390.0 | 291.6 | 323.5 | 365.3 | 354.0 | 317.3 | 271.2 | 241.4 | 238.8 |
| 57.5° | 1740.9 | 1336.4 | 322.7 | 261.5 | 297.5 | 343.8 | 340.5 | 292.9 | 244.2 | 221.2 | 218.2 |
| 60° | 1721.5 | 1257.9 | 267.6 | 235.3 | 272.7 | 320.7 | 317.1 | 268.7 | 223.5 | 201.9 | 198.8 |
| 62.5° | 1614.7 | 1108.3 | 224.0 | 212.3 | 250.3 | 296.9 | 293.6 | 250.0 | 207.7 | 186.8 | 183.5 |
| 65° | 1399.6 | 901.5 | 190.1 | 193.2 | 227.6 | 268.4 | 273.2 | 234.5 | 195.2 | 174.9 | 171.5 |
| 67.5° | 1067.5 | 653.0 | 163.6 | 176.6 | 205.4 | 240.4 | 254.4 | 223.3 | 184.8 | 165.4 | 162.4 |
| 70° | 608.4 | 370.9 | 141.2 | 160.6 | 185.8 | 214.4 | 239.9 | 214.4 | 173.6 | 157.5 | 155.5 |
| 72.5° | 230.7 | 170.3 | 122.1 | 144.5 | 167.0 | 192.4 | 223.8 | 200.3 | 160.6 | 148.6 | 146.6 |
| 75° | *123.1* | *103.7* | *102.7* | *125.7* | *145.3* | *171.0* | *203.7* | *186.6* | *150.9* | *157.0* | *162.1* |
| 77.5° | 83.9 | 73.4 | 85.9 | 107.6 | 121.6 | 147.3 | 182.2 | 165.7 | 130.8 | 130.2 | 120.1 |
| 80° | 58.1 | 52.0 | 69.8 | 86.7 | 94.1 | 123.9 | 159.1 | 142.2 | 106.5 | 99.4 | 95.1 |
| 82.5° | 34.9 | 33.9 | 52.3 | 64.7 | 66.5 | 95.6 | 131.8 | 119.3 | 87.2 | 76.0 | 76.5 |
| 85° | 19.1 | 20.1 | 33.4 | 38.0 | 38.7 | 66.8 | 103.2 | 92.3 | 67.0 | 56.3 | 56.8 |
| 87.5° | 5.4 | 6.9 | 12.2 | 15.0 | 18.6 | 34.7 | 61.4 | 54.8 | 33.6 | 23.4 | 23.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |


HS
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Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.13

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## Test Information

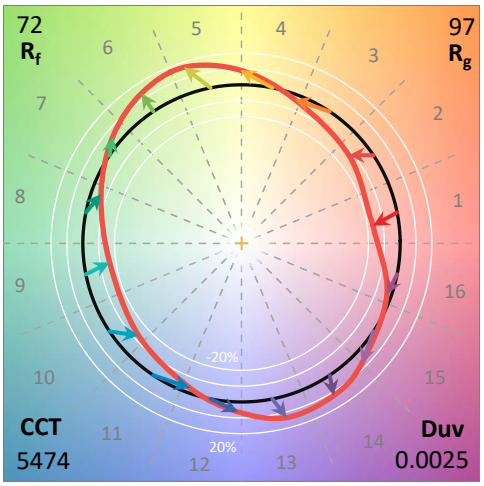
| | |
|---|---|
| Test Method: | LM-79-2008 |
| Report Number: | SP1-1908-441-9-R4 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/28/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | **SA1C-760-U-5WQ** |
| Description: | McGRAW EDISON ROADWAY AND AREA LUMINAIRE |

***THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.***TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 5474 | CRI (Ra): | 71.7 | | |
| CIE u': | 0.2052 | R1: | 70.6 | R9: | -27.1 |
| CIE v': | 0.4804 | R2: | 74.6 | R10: | 40.8 |
| Duv: | 0.0025 | R3: | 78.3 | R11: | 74.6 |
| CIE x: | 0.3330 | R4: | 73.8 | R12: | 50.4 |
| CIE y: | 0.3466 | R5: | 72.4 | R13: | 70.0 |
| CIE z: | 0.3204 | R6: | 67.5 | R14: | 87.8 |
| Peak Wavelength (nm): | 442 | R7: | 77.5 | | |
| Dominant Wavelength (nm): | 554 | R8: | 58.9 | | |
| Purity: | 4.1 | | | | |

| | |
|---|---|
| Rf: | 72.1 |
| Rg: | 97.2 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 240M |
| Operation Time: | 12H |
| Room Temperature (°C) / RH%: | 24.6/31% |
| Sphere Temperature (°C): | 25.9 |

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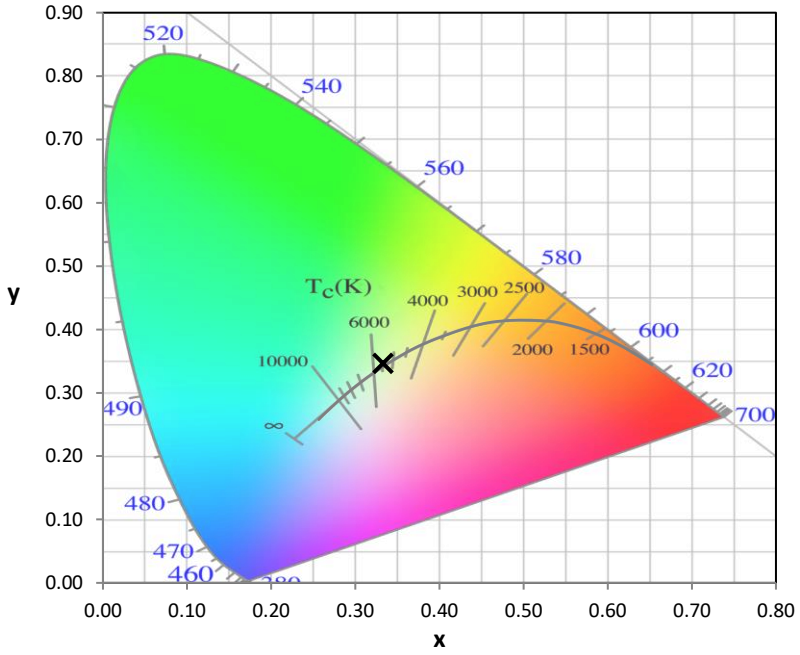
REPORT NUMBER: SP1-1908-441-9-R4

| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

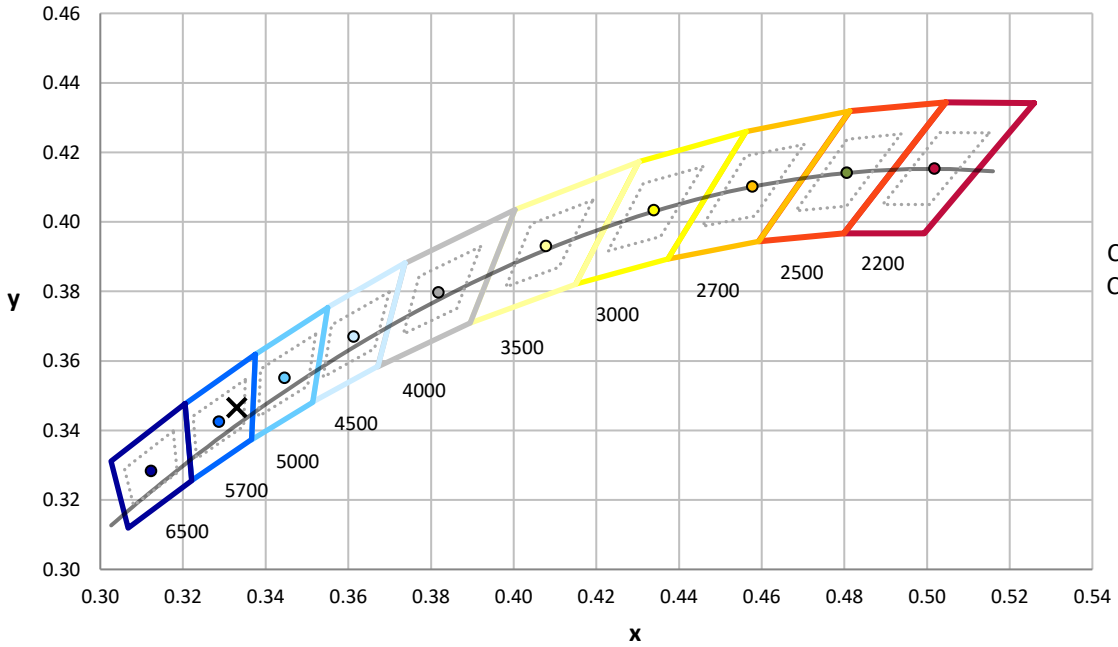
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

REPORT NUMBER: SP1-1908-441-9-R4

## CIE 1931 Chromaticity Diagram




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



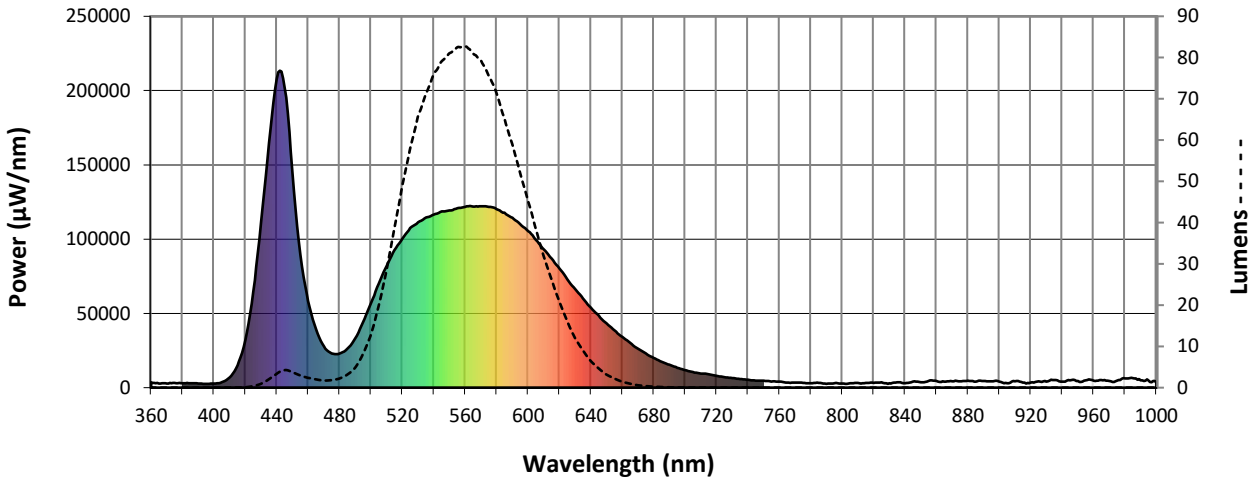

CCT = 5474K
CIE x = 0.3330
CIE y = 0.3466
Duv = 0.0025

Point lies inside the ANSI 5700K 4-step quadrangle

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## Photopic Flux vs. Wavelength



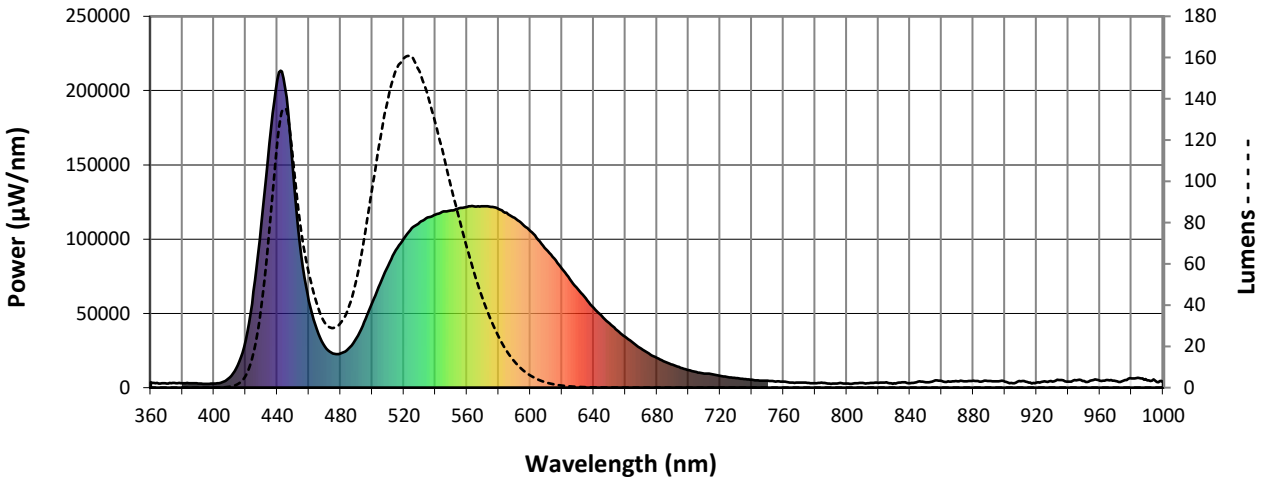

**Photopic Lumens: 7459.9**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 3540 | 0.0 | 490 | 33363 | 4.7 | 620 | 80193 | 20.9 | 750 | 4663 | 0.0 | 880 | 4678 | 0.0 |
| 365 | 2862 | 0.0 | 495 | 44177 | 8.0 | 625 | 73091 | 16.1 | 755 | 4147 | 0.0 | 885 | 4128 | 0.0 |
| 370 | 2865 | 0.0 | 500 | 57019 | 12.6 | 630 | 66269 | 12.0 | 760 | 4040 | 0.0 | 890 | 4504 | 0.0 |
| 375 | 3254 | 0.0 | 505 | 70030 | 19.6 | 635 | 60012 | 9.0 | 765 | 3474 | 0.0 | 895 | 4371 | 0.0 |
| 380 | 3076 | 0.0 | 510 | 81972 | 28.2 | 640 | 53914 | 6.4 | 770 | 3469 | 0.0 | 900 | 4082 | 0.0 |
| 385 | 2904 | 0.0 | 515 | 92590 | 38.4 | 645 | 48385 | 4.7 | 775 | 3181 | 0.0 | 905 | 2982 | 0.0 |
| 390 | 2689 | 0.0 | 520 | 100305 | 48.6 | 650 | 43219 | 3.2 | 780 | 2969 | 0.0 | 910 | 4351 | 0.0 |
| 395 | 2619 | 0.0 | 525 | 107452 | 57.7 | 655 | 38562 | 2.2 | 785 | 3132 | 0.0 | 915 | 3365 | 0.0 |
| 400 | 2679 | 0.0 | 530 | 111373 | 65.6 | 660 | 34110 | 1.4 | 790 | 2507 | 0.0 | 920 | 3430 | 0.0 |
| 405 | 3515 | 0.0 | 535 | 114505 | 71.0 | 665 | 30085 | 1.0 | 795 | 2968 | 0.0 | 925 | 4264 | 0.0 |
| 410 | 6934 | 0.0 | 540 | 116408 | 75.8 | 670 | 26205 | 0.6 | 800 | 2758 | 0.0 | 930 | 4095 | 0.0 |
| 415 | 14943 | 0.0 | 545 | 118700 | 79.0 | 675 | 22906 | 0.4 | 805 | 2872 | 0.0 | 935 | 5048 | 0.0 |
| 420 | 31939 | 0.1 | 550 | 119209 | 81.0 | 680 | 20058 | 0.2 | 810 | 3094 | 0.0 | 940 | 4074 | 0.0 |
| 425 | 64701 | 0.3 | 555 | 120742 | 82.5 | 685 | 17413 | 0.1 | 815 | 3222 | 0.0 | 945 | 4949 | 0.0 |
| 430 | 110939 | 0.9 | 560 | 121594 | 82.6 | 690 | 15447 | 0.1 | 820 | 3238 | 0.0 | 950 | 4387 | 0.0 |
| 435 | 164597 | 1.9 | 565 | 121913 | 81.1 | 695 | 13398 | 0.1 | 825 | 3524 | 0.0 | 955 | 4978 | 0.0 |
| 440 | 207696 | 3.3 | 570 | 122147 | 79.4 | 700 | 11777 | 0.0 | 830 | 2921 | 0.0 | 960 | 4706 | 0.0 |
| 445 | 201830 | 4.2 | 575 | 121605 | 75.7 | 705 | 10412 | 0.0 | 835 | 3595 | 0.0 | 965 | 5083 | 0.0 |
| 450 | 145410 | 3.8 | 580 | 120248 | 71.5 | 710 | 9544 | 0.0 | 840 | 3016 | 0.0 | 970 | 4522 | 0.0 |
| 455 | 89594 | 3.0 | 585 | 117717 | 65.4 | 715 | 8940 | 0.0 | 845 | 4032 | 0.0 | 975 | 4740 | 0.0 |
| 460 | 58321 | 2.4 | 590 | 114359 | 59.1 | 720 | 7897 | 0.0 | 850 | 3579 | 0.0 | 980 | 6122 | 0.0 |
| 465 | 39318 | 2.0 | 595 | 109974 | 52.1 | 725 | 7045 | 0.0 | 855 | 4571 | 0.0 | 985 | 6450 | 0.0 |
| 470 | 27693 | 1.7 | 600 | 105269 | 45.4 | 730 | 6483 | 0.0 | 860 | 4485 | 0.0 | 990 | 4875 | 0.0 |
| 475 | 23081 | 1.8 | 605 | 99453 | 38.5 | 735 | 5838 | 0.0 | 865 | 3978 | 0.0 | 995 | 4764 | 0.0 |
| 480 | 23002 | 2.2 | 610 | 92921 | 31.9 | 740 | 5261 | 0.0 | 870 | 4298 | 0.0 | 1000 | 3640 | 0.0 |
| 485 | 26201 | 3.1 | 615 | 86989 | 26.3 | 745 | 4760 | 0.0 | 875 | 4356 | 0.0 | | | |

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## Scotopic Flux vs. Wavelength



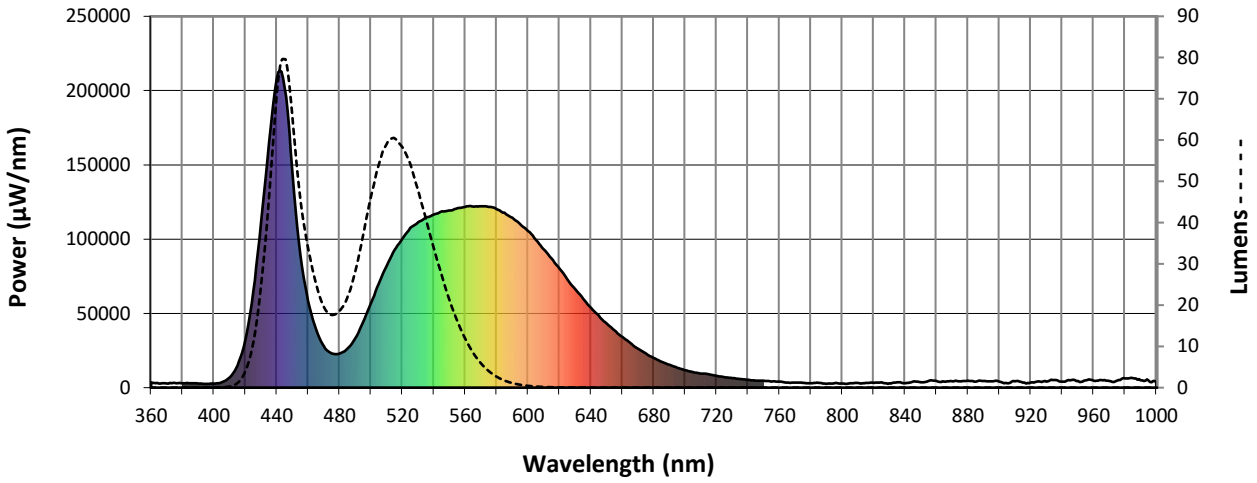

**Scotopic Lumens: 13759.3** **S/P: 1.85**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 3540 | 0.0 | 490 | 33363 | 27.8 | 620 | 80193 | 0.1 | 750 | 4663 | 0.0 | 880 | 4678 | 0.0 |
| 365 | 2862 | 0.0 | 495 | 44177 | 36.5 | 625 | 73091 | 0.0 | 755 | 4147 | 0.0 | 885 | 4128 | 0.0 |
| 370 | 2865 | 0.0 | 500 | 57019 | 45.8 | 630 | 66269 | 0.0 | 760 | 4040 | 0.0 | 890 | 4504 | 0.0 |
| 375 | 3254 | 0.0 | 505 | 70030 | 53.7 | 635 | 60012 | 0.0 | 765 | 3474 | 0.0 | 895 | 4371 | 0.0 |
| 380 | 3076 | 0.0 | 510 | 81972 | 58.9 | 640 | 53914 | 0.0 | 770 | 3469 | 0.0 | 900 | 4082 | 0.0 |
| 385 | 2904 | 0.0 | 515 | 92590 | 60.5 | 645 | 48385 | 0.0 | 775 | 3181 | 0.0 | 905 | 2982 | 0.0 |
| 390 | 2689 | 0.0 | 520 | 100305 | 58.4 | 650 | 43219 | 0.0 | 780 | 2969 | 0.0 | 910 | 4351 | 0.0 |
| 395 | 2619 | 0.0 | 525 | 107452 | 54.5 | 655 | 38562 | 0.0 | 785 | 3132 | 0.0 | 915 | 3365 | 0.0 |
| 400 | 2679 | 0.0 | 530 | 111373 | 48.1 | 660 | 34110 | 0.0 | 790 | 2507 | 0.0 | 920 | 3430 | 0.0 |
| 405 | 3515 | 0.1 | 535 | 114505 | 41.2 | 665 | 30085 | 0.0 | 795 | 2968 | 0.0 | 925 | 4264 | 0.0 |
| 410 | 6934 | 0.3 | 540 | 116408 | 34.1 | 670 | 26205 | 0.0 | 800 | 2758 | 0.0 | 930 | 4095 | 0.0 |
| 415 | 14943 | 1.0 | 545 | 118700 | 27.6 | 675 | 22906 | 0.0 | 805 | 2872 | 0.0 | 935 | 5048 | 0.0 |
| 420 | 31939 | 3.6 | 550 | 119209 | 21.4 | 680 | 20058 | 0.0 | 810 | 3094 | 0.0 | 940 | 4074 | 0.0 |
| 425 | 64701 | 10.1 | 555 | 120742 | 16.3 | 685 | 17413 | 0.0 | 815 | 3222 | 0.0 | 945 | 4949 | 0.0 |
| 430 | 110939 | 23.4 | 560 | 121594 | 12.0 | 690 | 15447 | 0.0 | 820 | 3238 | 0.0 | 950 | 4387 | 0.0 |
| 435 | 164597 | 43.9 | 565 | 121913 | 8.6 | 695 | 13398 | 0.0 | 825 | 3524 | 0.0 | 955 | 4978 | 0.0 |
| 440 | 207696 | 69.4 | 570 | 122147 | 6.0 | 700 | 11777 | 0.0 | 830 | 2921 | 0.0 | 960 | 4706 | 0.0 |
| 445 | 201830 | 79.6 | 575 | 121605 | 4.0 | 705 | 10412 | 0.0 | 835 | 3595 | 0.0 | 965 | 5083 | 0.0 |
| 450 | 145410 | 67.0 | 580 | 120248 | 2.7 | 710 | 9544 | 0.0 | 840 | 3016 | 0.0 | 970 | 4522 | 0.0 |
| 455 | 89594 | 46.9 | 585 | 117717 | 1.7 | 715 | 8940 | 0.0 | 845 | 4032 | 0.0 | 975 | 4740 | 0.0 |
| 460 | 58321 | 34.4 | 590 | 114359 | 1.1 | 720 | 7897 | 0.0 | 850 | 3579 | 0.0 | 980 | 6122 | 0.0 |
| 465 | 39318 | 25.7 | 595 | 109974 | 0.7 | 725 | 7045 | 0.0 | 855 | 4571 | 0.0 | 985 | 6450 | 0.0 |
| 470 | 27693 | 19.8 | 600 | 105269 | 0.4 | 730 | 6483 | 0.0 | 860 | 4485 | 0.0 | 990 | 4875 | 0.0 |
| 475 | 23081 | 17.6 | 605 | 99453 | 0.3 | 735 | 5838 | 0.0 | 865 | 3978 | 0.0 | 995 | 4764 | 0.0 |
| 480 | 23002 | 18.5 | 610 | 92921 | 0.2 | 740 | 5261 | 0.0 | 870 | 4298 | 0.0 | 1000 | 3640 | 0.0 |
| 485 | 26201 | 21.6 | 615 | 86989 | 0.1 | 745 | 4760 | 0.0 | 875 | 4356 | 0.0 | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: 5527.6** **M/P: 0.74**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 3540 | 0.0 | 490 | 33363 | 51.4 | 620 | 80193 | 1.0 | 750 | 4663 | 0.0 | 880 | 4678 | 0.0 |
| 365 | 2862 | 0.0 | 495 | 44177 | 71.4 | 625 | 73091 | 0.6 | 755 | 4147 | 0.0 | 885 | 4128 | 0.0 |
| 370 | 2865 | 0.0 | 500 | 57019 | 95.4 | 630 | 66269 | 0.4 | 760 | 4040 | 0.0 | 890 | 4504 | 0.0 |
| 375 | 3254 | 0.0 | 505 | 70030 | 119.1 | 635 | 60012 | 0.2 | 765 | 3474 | 0.0 | 895 | 4371 | 0.0 |
| 380 | 3076 | 0.0 | 510 | 81972 | 138.9 | 640 | 53914 | 0.1 | 770 | 3469 | 0.0 | 900 | 4082 | 0.0 |
| 385 | 2904 | 0.0 | 515 | 92590 | 153.5 | 645 | 48385 | 0.1 | 775 | 3181 | 0.0 | 905 | 2982 | 0.0 |
| 390 | 2689 | 0.0 | 520 | 100305 | 159.4 | 650 | 43219 | 0.0 | 780 | 2969 | 0.0 | 910 | 4351 | 0.0 |
| 395 | 2619 | 0.0 | 525 | 107452 | 160.7 | 655 | 38562 | 0.0 | 785 | 3132 | 0.0 | 915 | 3365 | 0.0 |
| 400 | 2679 | 0.0 | 530 | 111373 | 153.5 | 660 | 34110 | 0.0 | 790 | 2507 | 0.0 | 920 | 3430 | 0.0 |
| 405 | 3515 | 0.1 | 535 | 114505 | 142.7 | 665 | 30085 | 0.0 | 795 | 2968 | 0.0 | 925 | 4264 | 0.0 |
| 410 | 6934 | 0.4 | 540 | 116408 | 128.6 | 670 | 26205 | 0.0 | 800 | 2758 | 0.0 | 930 | 4095 | 0.0 |
| 415 | 14943 | 1.5 | 545 | 118700 | 113.8 | 675 | 22906 | 0.0 | 805 | 2872 | 0.0 | 935 | 5048 | 0.0 |
| 420 | 31939 | 5.3 | 550 | 119209 | 97.5 | 680 | 20058 | 0.0 | 810 | 3094 | 0.0 | 940 | 4074 | 0.0 |
| 425 | 64701 | 15.8 | 555 | 120742 | 82.5 | 685 | 17413 | 0.0 | 815 | 3222 | 0.0 | 945 | 4949 | 0.0 |
| 430 | 110939 | 37.8 | 560 | 121594 | 68.0 | 690 | 15447 | 0.0 | 820 | 3238 | 0.0 | 950 | 4387 | 0.0 |
| 435 | 164597 | 73.6 | 565 | 121913 | 54.7 | 695 | 13398 | 0.0 | 825 | 3524 | 0.0 | 955 | 4978 | 0.0 |
| 440 | 207696 | 116.1 | 570 | 122147 | 43.1 | 700 | 11777 | 0.0 | 830 | 2921 | 0.0 | 960 | 4706 | 0.0 |
| 445 | 201830 | 135.1 | 575 | 121605 | 33.1 | 705 | 10412 | 0.0 | 835 | 3595 | 0.0 | 965 | 5083 | 0.0 |
| 450 | 145410 | 112.7 | 580 | 120248 | 24.8 | 710 | 9544 | 0.0 | 840 | 3016 | 0.0 | 970 | 4522 | 0.0 |
| 455 | 89594 | 78.3 | 585 | 117717 | 18.0 | 715 | 8940 | 0.0 | 845 | 4032 | 0.0 | 975 | 4740 | 0.0 |
| 460 | 58321 | 56.3 | 590 | 114359 | 12.7 | 720 | 7897 | 0.0 | 850 | 3579 | 0.0 | 980 | 6122 | 0.0 |
| 465 | 39318 | 41.5 | 595 | 109974 | 8.8 | 725 | 7045 | 0.0 | 855 | 4571 | 0.0 | 985 | 6450 | 0.0 |
| 470 | 27693 | 31.9 | 600 | 105269 | 5.9 | 730 | 6483 | 0.0 | 860 | 4485 | 0.0 | 990 | 4875 | 0.0 |
| 475 | 23081 | 28.9 | 605 | 99453 | 3.9 | 735 | 5838 | 0.0 | 865 | 3978 | 0.0 | 995 | 4764 | 0.0 |
| 480 | 23002 | 31.1 | 610 | 92921 | 2.5 | 740 | 5261 | 0.0 | 870 | 4298 | 0.0 | 1000 | 3640 | 0.0 |
| 485 | 26201 | 38.0 | 615 | 86989 | 1.6 | 745 | 4760 | 0.0 | 875 | 4356 | 0.0 | | | |

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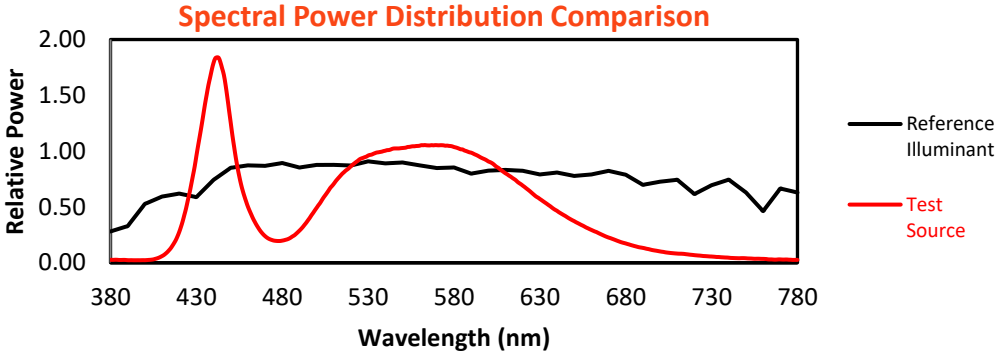
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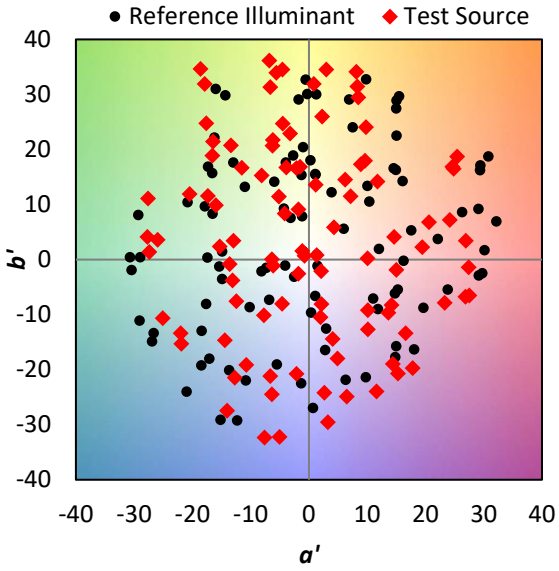
## Summary

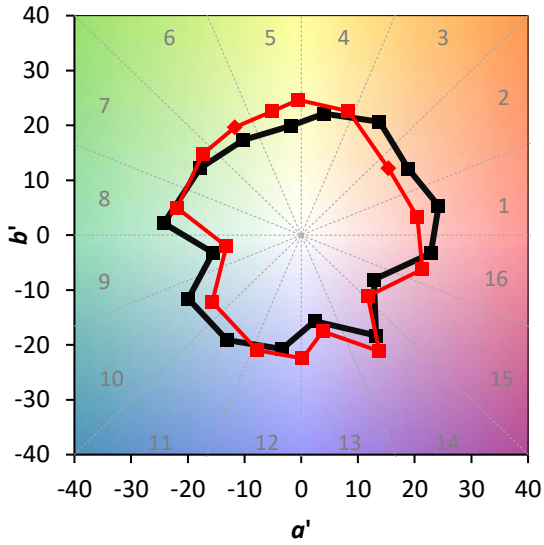
$R_f$ = 72.1
$R_g$ = 97.2
CIE $R_a$ = 71.7
$R_9$ = -27.1

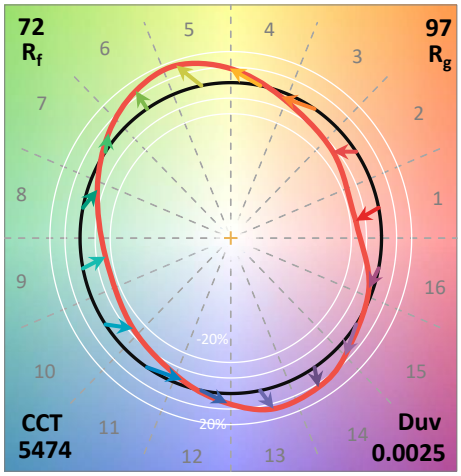
## Spectral Power Distribution Comparison

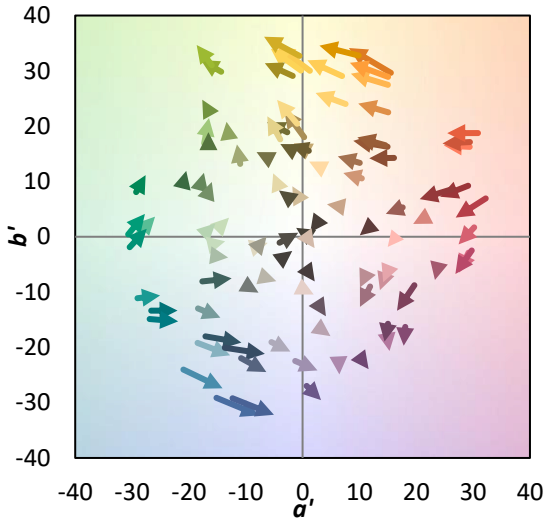



## Color Vector Graphics



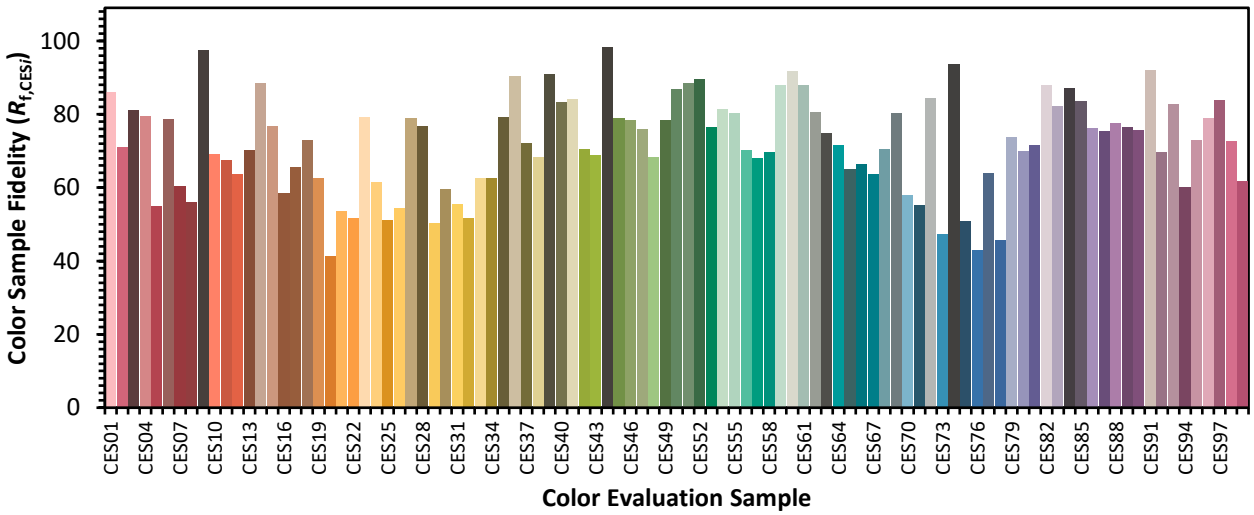
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## Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 54 | CES51 = 88 | CES76 = 43 |
| CES02 = 59 | CES27 = 79 | CES52 = 90 | CES77 = 64 |
| CES03 = 30 | CES28 = 77 | CES53 = 77 | CES78 = 46 |
| CES04 = 69 | CES29 = 50 | CES54 = 81 | CES79 = 74 |
| CES05 = 46 | CES30 = 59 | CES55 = 80 | CES80 = 70 |
| CES06 = 50 | CES31 = 55 | CES56 = 70 | CES81 = 71 |
| CES07 = 38 | CES32 = 52 | CES57 = 68 | CES82 = 88 |
| CES08 = 38 | CES33 = 63 | CES58 = 70 | CES83 = 82 |
| CES09 = 29 | CES34 = 63 | CES59 = 88 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 92 | CES85 = 84 |
| CES11 = 55 | CES36 = 90 | CES61 = 88 | CES86 = 76 |
| CES12 = 61 | CES37 = 72 | CES62 = 81 | CES87 = 75 |
| CES13 = 41 | CES38 = 68 | CES63 = 75 | CES88 = 77 |
| CES14 = 74 | CES39 = 91 | CES64 = 72 | CES89 = 76 |
| CES15 = 70 | CES40 = 83 | CES65 = 65 | CES90 = 76 |
| CES16 = 46 | CES41 = 84 | CES66 = 66 | CES91 = 92 |
| CES17 = 48 | CES42 = 70 | CES67 = 64 | CES92 = 70 |
| CES18 = 55 | CES43 = 69 | CES68 = 71 | CES93 = 83 |
| CES19 = 70 | CES44 = 98 | CES69 = 80 | CES94 = 60 |
| CES20 = 64 | CES45 = 79 | CES70 = 58 | CES95 = 73 |
| CES21 = 85 | CES46 = 78 | CES71 = 55 | CES96 = 79 |
| CES22 = 77 | CES47 = 76 | CES72 = 84 | CES97 = 84 |
| CES23 = 91 | CES48 = 68 | CES73 = 47 | CES98 = 73 |
| CES24 = 90 | CES49 = 78 | CES74 = 94 | CES99 = 62 |
| CES25 = 71 | CES50 = 87 | CES75 = 51 | |

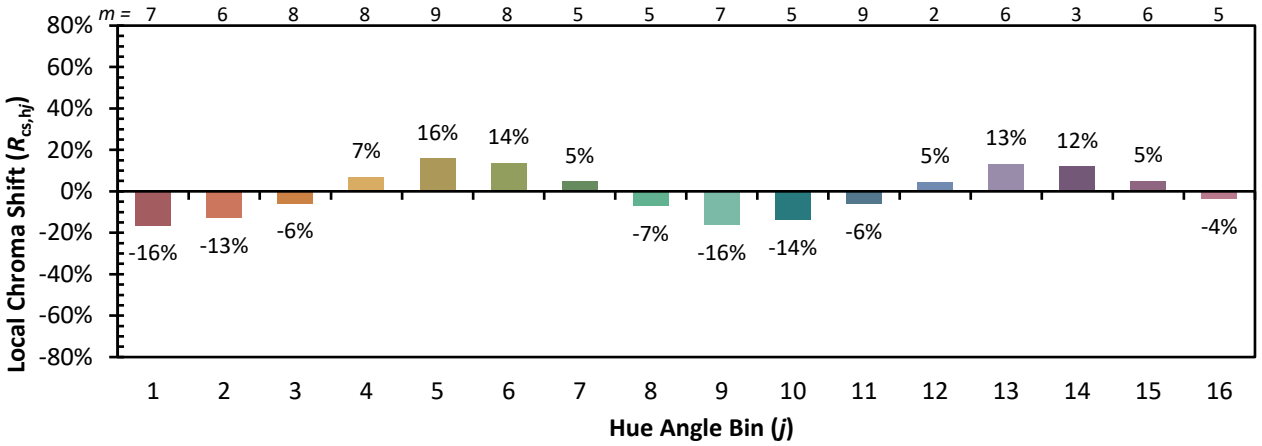


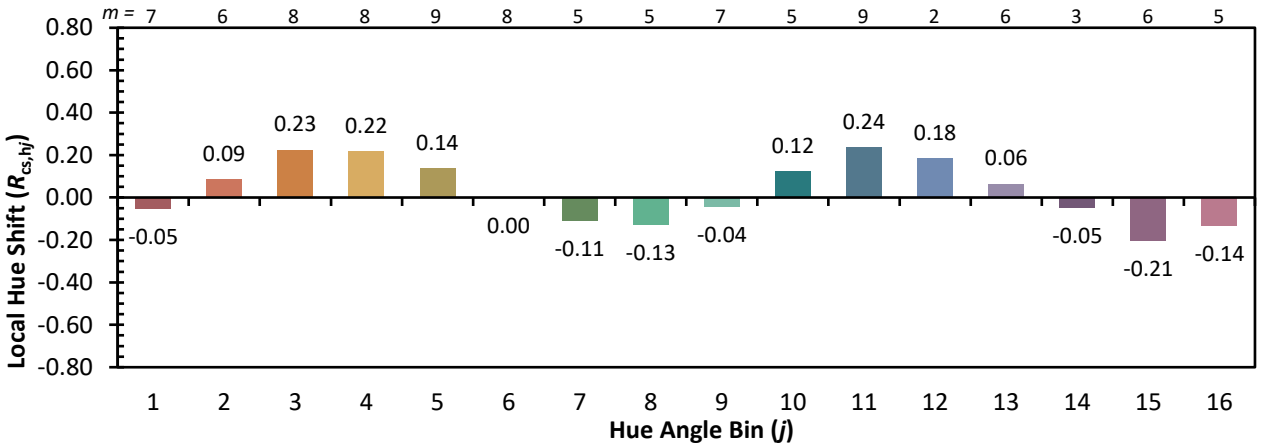
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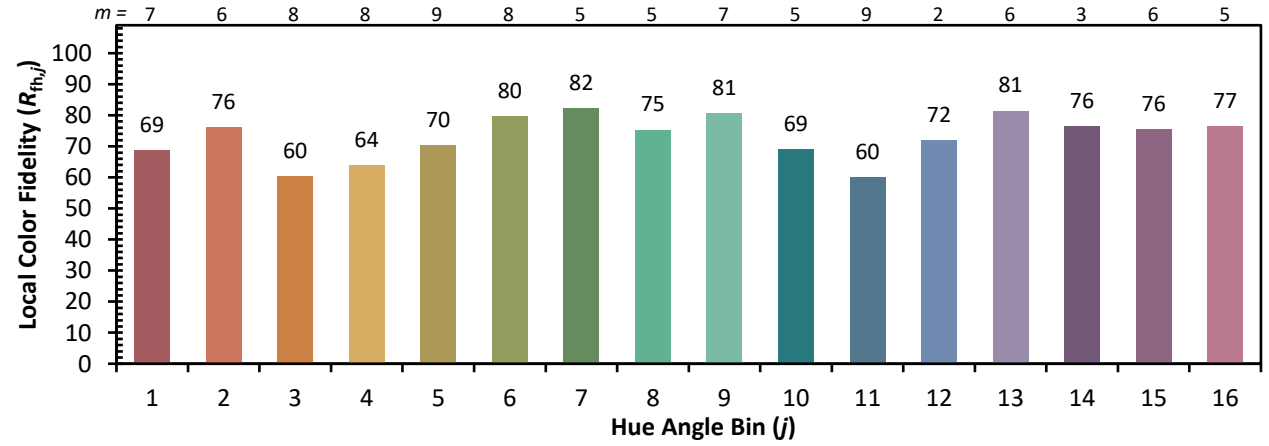
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## Color Rendition by Hue-Angle Bin



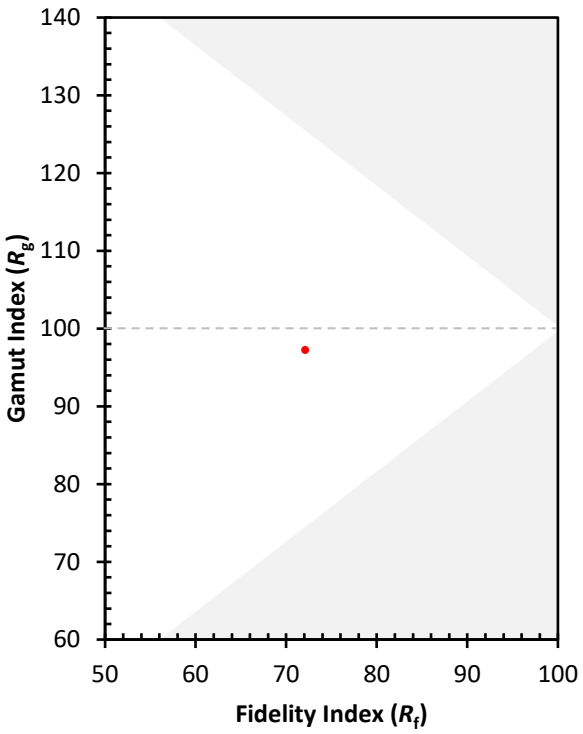



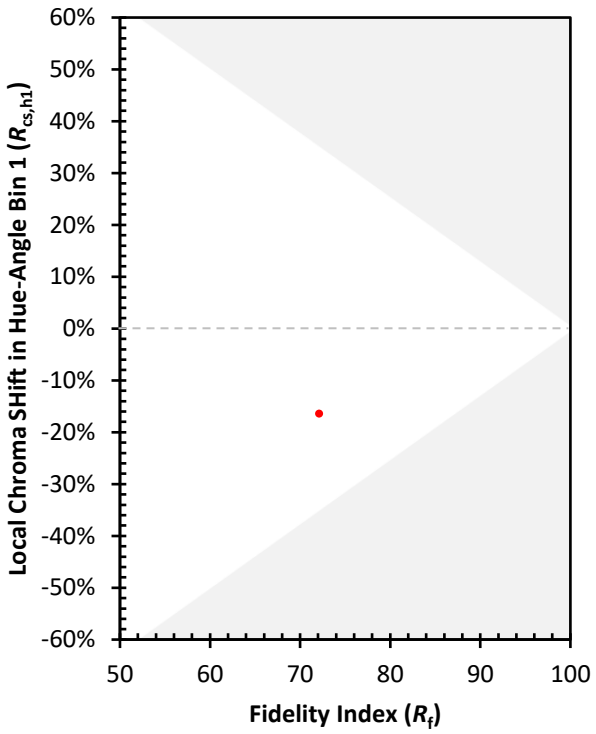
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### Measure Comparisons




(END OF REPORT)