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

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1121 Highway 74 South
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: P1460293

Luminaire Tested: PRV-P-PB1A-727-U-T2R-HSS

Issue Date: 06/09/2026

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1460293 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 6/9/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | LUMARK |
| Catalog Number: | PRV-P-PB1A-727-U-T2R-HSS |
| Description: | PREVAIL PETITE DISCRETE LED 1 SQUARE AT 950MA 70CRI 2700K FIXTURE w/ TYPE II ROADWAY DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD |
| Light Source: | (10) 2700K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 2965.6 lumens |
| Efficiency: | N/A |
| Efficacy: | 90.1 lumens/watt |
| Luminous Opening: | Rectangular (W 0.33' x L: 0.33' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B1 - U0 - G1 |
| Input Watts (W): | 32.9 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.97 |
| Total Harmonic Distortion (THDi): | 10.0% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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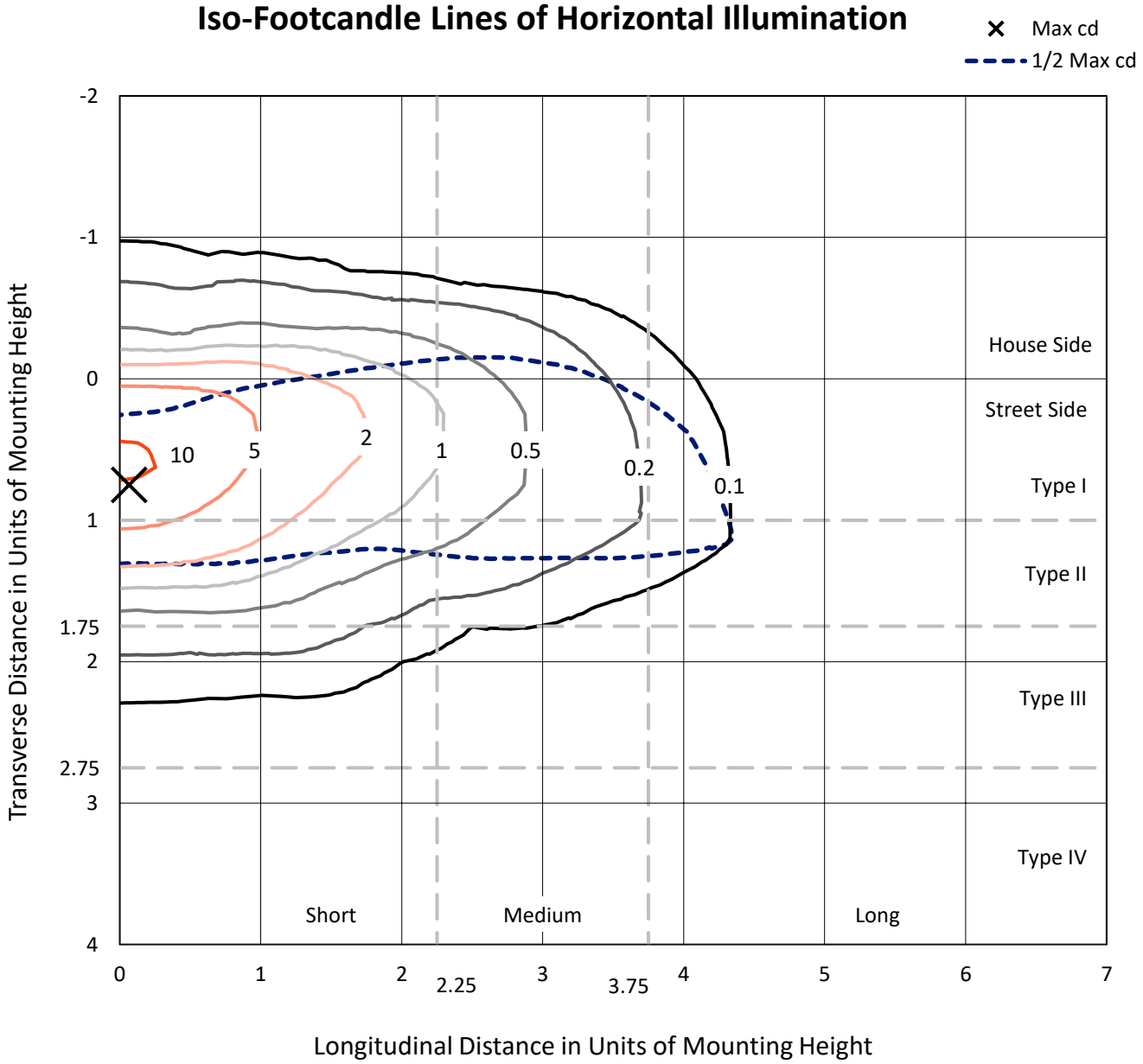
Scaled Data Report

REPORT NUMBER: P1460293
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R-HSS

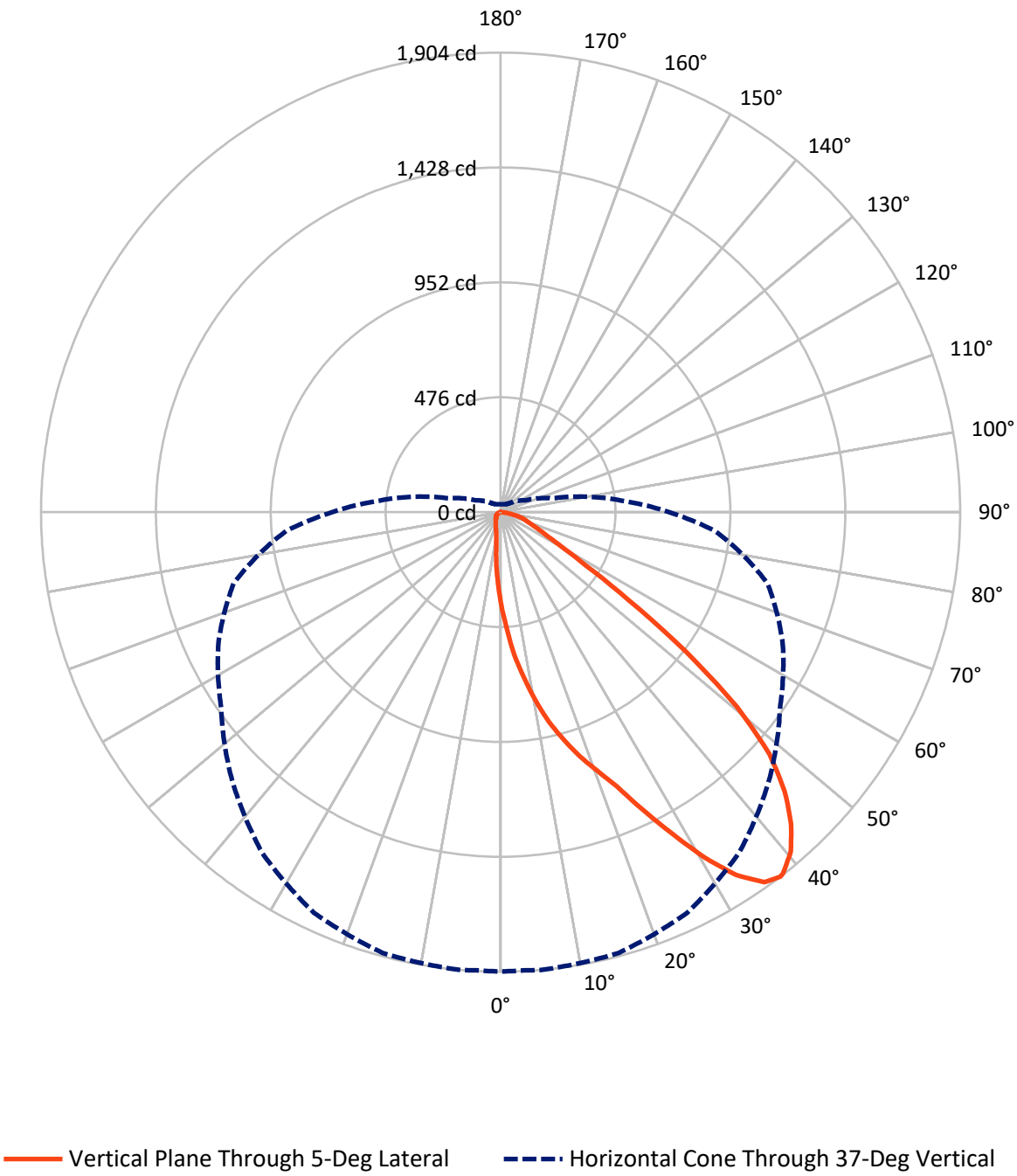
## Iso-Footcandle Lines of Horizontal Illumination




Based on 10 foot mounting height. Maximum calculated value = 10.8 fc
Type II - Short - N/A

REPORT NUMBER: P1460293
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R-HSS

## Luminous Intensity Polar Plot



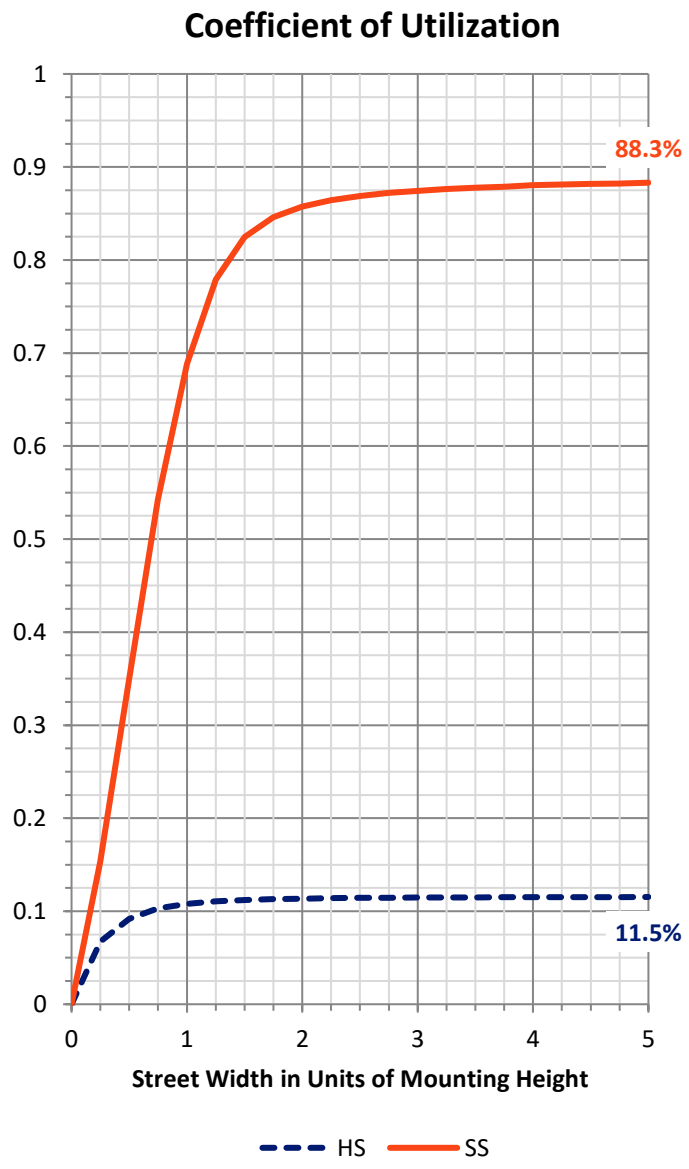
REPORT NUMBER: P1460293
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 344.4 | 0.0 | 344.4 |
| | % Fixture | 11.6 | 0.0 | 11.6 |
| **Street Side** | Lumens | 2621.2 | 0.0 | 2621.2 |
| | % Fixture | 88.4 | 0.0 | 88.4 |
| **Total** | Lumens | 2965.6 | 0.0 | 2965.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 38.9 | 1.3 |
| 10°-20° | 137.3 | 4.6 |
| 20°-30° | 284.4 | 9.6 |
| 30°-40° | 494.5 | 16.7 |
| 40°-50° | 645.7 | 21.8 |
| 50°-60° | 609.8 | 20.6 |
| 60°-70° | 463.8 | 15.6 |
| 70°-80° | 258.8 | 8.7 |
| 80°-90° | 32.4 | 1.1 |
| 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° | 2965.6 | 100.0 |
| 0°-180° | 2965.6 | 100.0 |



REPORT NUMBER: P1460293
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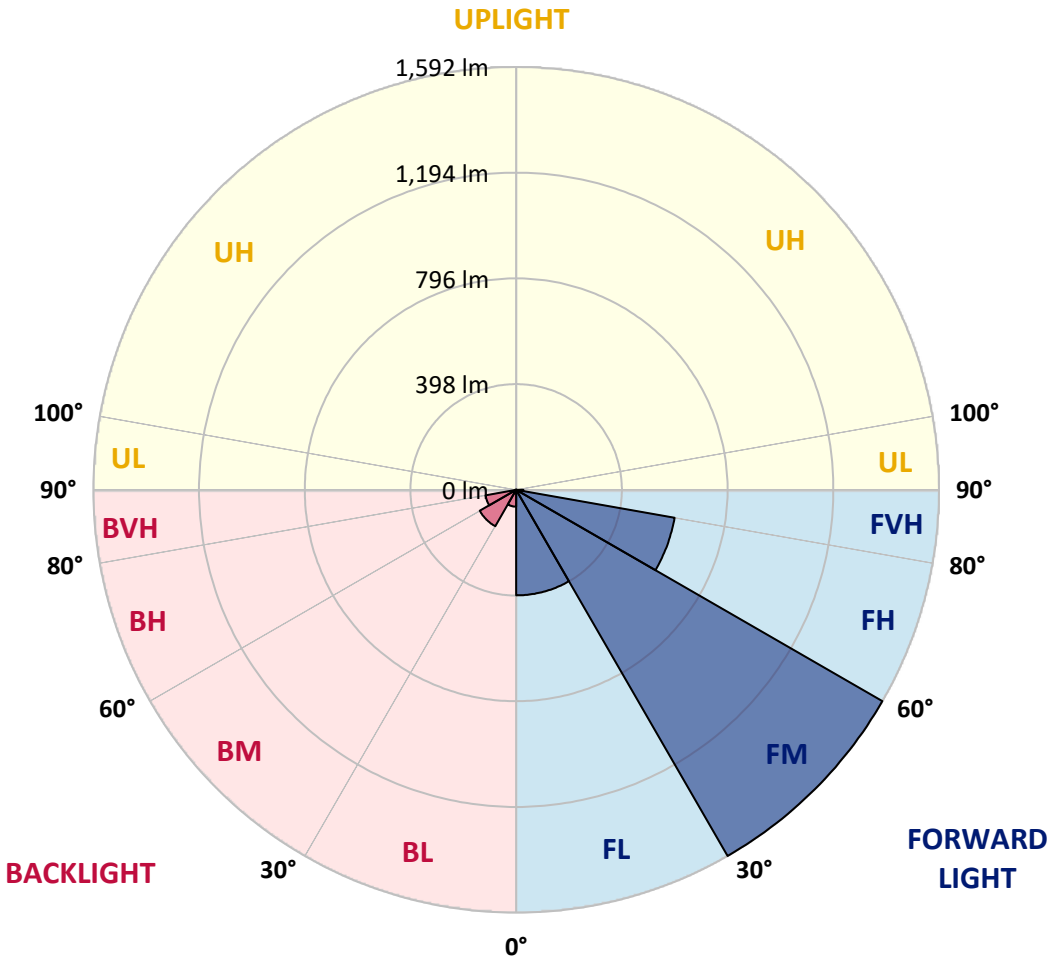
**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 397.3 | 13.4 | | | |
| FM | (30°-60°) | 1591.6 | 53.7 | | | |
| FH | (60°-80°) | 605.4 | 20.4 | | | G0/660 |
| FVH | (80°-90°) | 26.9 | 0.9 | | | G1/100 |
| BL | (0°-30°) | 63.4 | 2.1 | B0/110 | | |
| BM | (30°-60°) | 158.4 | 5.3 | B0/220 | | |
| BH | (60°-80°) | 117.1 | 4.0 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 5.5 | 0.2 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G1**
Type II Short



REPORT NUMBER: P1460293
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R-HSS

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 3° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 385.7 | 385.7 | *385.7* | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 |
| 2.5° | 488.1 | 479.6 | *480.9* | 484.8 | 480.3 | 469.9 | 455.7 | 444.6 | 429.1 | 412.9 | 396.0 |
| 5° | 587.2 | 589.8 | *593.1* | 590.5 | 576.9 | 563.9 | 535.4 | 510.8 | 475.8 | 440.8 | 407.7 |
| 7.5° | 688.3 | 686.4 | *690.3* | 687.7 | 670.8 | 647.5 | 611.2 | 571.7 | 524.4 | 472.5 | 421.3 |
| 10° | 792.7 | 788.8 | *792.7* | 783.6 | 767.4 | 735.0 | 690.9 | 643.0 | 582.1 | 507.5 | 440.8 |
| 12.5° | 887.3 | 888.6 | *891.2* | 883.4 | 856.9 | 821.2 | 768.7 | 709.7 | 635.8 | 552.2 | 458.9 |
| 15° | 976.1 | 978.7 | *978.1* | 972.9 | 948.3 | 907.4 | 849.1 | 779.1 | 694.8 | 597.0 | 484.2 |
| 17.5° | 1061.7 | 1063.0 | *1063.6* | 1055.9 | 1033.2 | 987.2 | 926.2 | 845.9 | 754.5 | 646.2 | 514.0 |
| 20° | 1147.2 | 1142.1 | *1144.0* | 1134.9 | 1106.4 | 1063.6 | 1000.1 | 921.7 | 817.3 | 700.0 | 547.0 |
| 22.5° | 1228.9 | 1230.2 | *1233.5* | 1219.2 | 1187.4 | 1137.5 | 1069.5 | 987.8 | 883.4 | 759.0 | 585.9 |
| 25° | 1357.3 | 1355.3 | *1363.7* | 1339.1 | 1278.2 | 1212.7 | 1144.0 | 1063.6 | 954.1 | 820.6 | 631.3 |
| 27.5° | 1507.0 | 1505.0 | *1504.4* | 1479.8 | 1402.6 | 1308.0 | 1216.0 | 1127.2 | 1025.4 | 887.3 | 679.3 |
| 30° | 1665.8 | 1664.5 | *1656.7* | 1623.6 | 1529.0 | 1413.6 | 1297.0 | 1194.6 | 1094.1 | 948.3 | 729.2 |
| 32.5° | 1795.4 | 1790.9 | *1792.8* | 1760.4 | 1661.2 | 1526.4 | 1390.3 | 1267.2 | 1159.6 | 1018.3 | 783.0 |
| 35° | 1884.9 | 1880.3 | *1882.9* | 1855.7 | 1771.4 | 1648.3 | 1488.2 | 1339.8 | 1228.3 | 1091.5 | 840.0 |
| 37° | *1903.0* | *1900.4* | *1903.7* | *1890.0* | *1830.4* | *1722.2* | *1572.4* | *1413.0* | *1289.8* | *1145.3* | *890.6* |
| 37.5° | 1899.8 | 1897.2 | *1900.4* | 1890.7 | 1836.9 | 1728.0 | 1582.2 | 1426.6 | 1304.8 | 1162.8 | 901.6 |
| 40° | 1846.6 | 1844.7 | *1850.5* | 1857.0 | 1834.3 | 1777.9 | 1659.9 | 1507.6 | 1384.5 | 1241.9 | 965.8 |
| 42.5° | 1758.5 | 1761.7 | *1764.9* | 1779.9 | 1775.3 | 1759.1 | 1697.5 | 1577.6 | 1455.8 | 1319.7 | 1021.5 |
| 45° | 1643.7 | 1641.8 | *1650.2* | 1670.3 | 1678.1 | 1686.5 | 1688.5 | 1623.6 | 1527.1 | 1398.1 | 1077.9 |
| 47.5° | 1499.8 | 1502.4 | *1498.6* | 1531.6 | 1562.7 | 1595.8 | 1632.1 | 1632.7 | 1580.2 | 1484.3 | 1144.0 |
| 50° | 1269.8 | 1258.1 | *1269.1* | 1338.5 | 1428.6 | 1491.4 | 1540.7 | 1601.6 | 1620.4 | 1572.4 | 1212.7 |
| 52.5° | 959.9 | 960.6 | *962.5* | 1070.8 | 1217.9 | 1363.1 | 1448.0 | 1536.8 | 1629.5 | 1649.6 | 1289.8 |
| 55° | 667.6 | 645.6 | *643.0* | 774.6 | 975.5 | 1190.7 | 1341.0 | 1449.3 | 1603.6 | 1721.5 | 1370.9 |
| 57.5° | 412.2 | 401.9 | *411.6* | 506.2 | 737.0 | 963.8 | 1191.3 | 1369.6 | 1554.9 | 1775.3 | 1457.7 |
| 60° | 279.4 | 282.0 | *287.1* | 342.2 | 515.3 | 740.2 | 996.9 | 1286.0 | 1501.8 | 1809.7 | 1538.7 |
| 62.5° | 213.2 | 213.9 | *215.2* | 242.4 | 358.4 | 539.9 | 761.6 | 1130.4 | 1464.8 | 1792.8 | 1585.4 |
| 65° | 172.4 | 173.7 | *174.4* | 188.0 | 250.2 | 400.6 | 547.7 | 906.1 | 1416.2 | 1714.4 | 1598.4 |
| 67.5° | 143.2 | 141.9 | *143.2* | 155.6 | 191.9 | 302.0 | 394.7 | 657.2 | 1308.6 | 1643.7 | 1572.4 |
| 70° | 118.6 | 118.6 | *118.6* | 131.6 | 156.9 | 234.0 | 286.5 | 444.6 | 1109.0 | 1591.2 | 1487.5 |
| 72.5° | 101.8 | 101.8 | *102.4* | 111.5 | 132.2 | 184.7 | 216.5 | 294.3 | 862.7 | 1492.1 | 1311.9 |
| 75° | 84.3 | 84.3 | *84.9* | 94.0 | 111.5 | 144.5 | 167.9 | 206.1 | 601.5 | 1284.0 | 1061.0 |
| 77.5° | 60.3 | 60.3 | *59.6* | 71.9 | 88.8 | 106.3 | 123.2 | 145.2 | 371.4 | 953.4 | 796.6 |
| 80° | 34.4 | 36.3 | *36.9* | 42.1 | 62.2 | 75.2 | 84.9 | 98.5 | 195.1 | 549.0 | 460.2 |
| 82.5° | 16.9 | 20.1 | *20.1* | 26.6 | 37.6 | 45.4 | 51.2 | 59.6 | 86.9 | 222.3 | 201.6 |
| 85° | 6.5 | 7.1 | *8.4* | 9.7 | 13.6 | 18.1 | 21.4 | 22.0 | 27.2 | 55.7 | 54.4 |
| 87.5° | 0.6 | 0.6 | *0.6* | 1.3 | 1.9 | 3.2 | 3.2 | 3.2 | 4.5 | 3.9 | 2.6 |
| 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: P1460293
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 | 385.7 |
| 2.5° | 388.2 | 379.8 | 364.3 | 348.7 | 335.1 | 322.8 | 314.4 | 303.3 | 298.8 | 294.9 | 293.0 |
| 5° | 390.2 | 374.6 | 344.2 | 314.4 | 289.1 | 267.0 | 246.3 | 236.6 | 222.3 | 219.1 | 215.2 |
| 7.5° | 395.4 | 371.4 | 325.4 | 282.6 | 244.4 | 211.3 | 184.1 | 165.9 | 151.7 | 144.5 | 145.8 |
| 10° | 404.5 | 372.0 | 307.9 | 249.5 | 201.6 | 161.4 | 130.9 | 116.0 | 106.9 | 103.1 | 103.7 |
| 12.5° | 413.5 | 372.0 | 293.0 | 221.7 | 162.7 | 121.2 | 101.8 | 92.7 | 88.8 | 86.2 | 85.6 |
| 15° | 427.8 | 375.3 | 278.7 | 191.2 | 128.3 | 98.5 | 85.6 | 79.7 | 76.5 | 74.5 | 75.2 |
| 17.5° | 444.0 | 379.2 | 265.1 | 163.3 | 105.0 | 84.9 | 76.5 | 71.3 | 68.1 | 66.8 | 66.1 |
| 20° | 462.1 | 387.6 | 250.8 | 138.7 | 90.1 | 75.8 | 68.7 | 64.2 | 60.3 | 59.6 | 59.6 |
| 22.5° | 486.8 | 398.0 | 239.2 | 121.2 | 80.4 | 68.7 | 62.2 | 58.3 | 55.1 | 53.8 | 53.8 |
| 25° | 516.6 | 412.2 | 231.4 | 108.2 | 73.9 | 62.9 | 56.4 | 52.5 | 49.9 | 48.6 | 48.6 |
| 27.5° | 550.3 | 431.0 | 225.6 | 102.4 | 70.0 | 58.3 | 52.5 | 48.6 | 46.0 | 44.7 | 44.7 |
| 30° | 585.3 | 452.4 | 221.7 | 101.8 | 68.7 | 54.4 | 48.6 | 44.7 | 42.1 | 40.8 | 40.8 |
| 32.5° | 623.5 | 473.8 | 221.0 | 105.0 | 70.6 | 51.9 | 45.4 | 41.5 | 38.9 | 36.9 | 37.6 |
| 35° | 661.1 | 497.1 | 221.0 | 110.2 | 74.5 | 51.2 | 42.1 | 38.2 | 35.6 | 34.4 | 34.4 |
| 37° | *696.8* | *516.6* | *219.7* | *114.7* | *78.4* | *51.2* | *40.2* | *36.3* | *33.7* | *32.4* | *32.4* |
| 37.5° | 703.9 | 521.1 | 219.1 | 115.4 | 79.1 | 51.9 | 39.5 | 35.6 | 33.1 | 32.4 | 31.8 |
| 40° | 750.6 | 549.0 | 219.7 | 118.6 | 82.3 | 51.9 | 36.9 | 33.1 | 31.1 | 29.8 | 29.8 |
| 42.5° | 794.0 | 574.3 | 221.7 | 120.6 | 83.6 | 51.2 | 34.4 | 31.1 | 29.2 | 27.9 | 27.9 |
| 45° | 827.1 | 589.2 | 220.4 | 120.6 | 83.0 | 49.3 | 32.4 | 29.2 | 27.9 | 26.6 | 26.6 |
| 47.5° | 867.2 | 609.9 | 219.1 | 120.6 | 79.7 | 46.7 | 30.5 | 27.9 | 26.6 | 25.3 | 25.3 |
| 50° | 908.1 | 634.6 | 222.3 | 119.9 | 73.9 | 42.8 | 28.5 | 26.6 | 25.3 | 24.6 | 24.0 |
| 52.5° | 956.0 | 660.5 | 226.2 | 118.6 | 68.1 | 38.2 | 27.2 | 25.3 | 24.0 | 22.7 | 22.7 |
| 55° | 1009.8 | 687.7 | 232.7 | 115.4 | 60.3 | 33.7 | 25.9 | 24.6 | 22.0 | 20.7 | 20.7 |
| 57.5° | 1066.9 | 717.5 | 238.5 | 108.2 | 52.5 | 29.8 | 25.3 | 22.7 | 19.4 | 16.9 | 16.9 |
| 60° | 1125.2 | 755.1 | 242.4 | 94.6 | 45.4 | 27.2 | 24.0 | 20.7 | 16.2 | 14.3 | 14.3 |
| 62.5° | 1168.6 | 794.6 | 243.1 | 70.0 | 37.6 | 25.3 | 22.7 | 18.1 | 14.3 | 13.0 | 12.3 |
| 65° | 1200.4 | 828.4 | 234.0 | 48.0 | 30.5 | 23.3 | 21.4 | 16.2 | 12.3 | 10.4 | 10.4 |
| 67.5° | 1203.0 | 847.8 | 207.4 | 33.1 | 25.3 | 22.0 | 19.4 | 14.3 | 7.8 | 6.5 | 5.8 |
| 70° | 1164.1 | 826.4 | 158.8 | 27.2 | 22.0 | 19.4 | 15.6 | 10.4 | 6.5 | 5.2 | 5.2 |
| 72.5° | 1044.8 | 741.5 | 102.4 | 24.0 | 19.4 | 16.9 | 13.6 | 9.1 | 5.8 | 3.9 | 3.9 |
| 75° | 854.3 | 600.8 | 67.4 | 21.4 | 16.2 | 13.6 | 11.0 | 7.1 | 4.5 | 2.6 | 2.6 |
| 77.5° | 632.6 | 396.0 | 43.4 | 18.1 | 13.0 | 11.0 | 8.4 | 5.2 | 3.2 | 1.9 | 1.3 |
| 80° | 372.0 | 219.1 | 27.9 | 14.3 | 10.4 | 8.4 | 5.8 | 3.2 | 1.9 | 0.6 | 0.6 |
| 82.5° | 164.0 | 88.8 | 17.5 | 9.7 | 5.8 | 5.2 | 2.6 | 1.3 | 0.6 | 0.0 | 0.0 |
| 85° | 40.2 | 20.1 | 6.5 | 2.6 | 1.9 | 1.3 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 |
| 87.5° | 2.6 | 2.6 | 1.9 | 1.9 | 1.3 | 1.3 | 0.6 | 0.6 | 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
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

McGraw-Edison

Report Number: SP2-2501-321-3

Test Date: 04/09/2025

Luminaire Tested: GKO-PB1E-727-U-T4W

Data in this report applies to families of products including GKO-PB1E-727-U-T4W

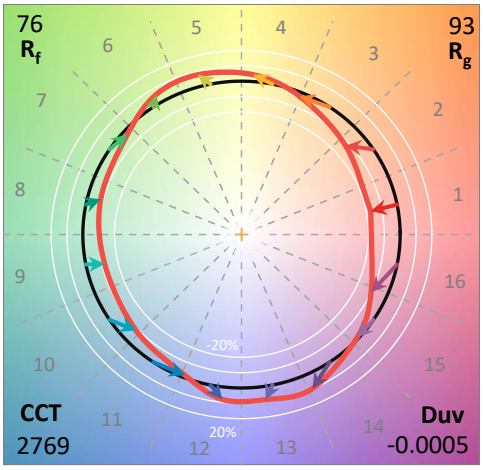
Report Generated By FNC07603 / LDUCLS01DT447
Version: v7.04

## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP2-2501-321-3 |
| 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-727-U-T4W** |
| Description: | Gekko Wedge Wall Pack Fixture 1 SQ w/ T4W distribution |

## Spectral Parameters

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CCT (K): | 2769 | CRI (Ra): | | 71.7 | | | |
| CIE u': | 0.2596 | R1: | | 68.0 | R9: | | -34.5 |
| CIE v': | 0.5253 | R2: | | 84.0 | R10: | | 64.3 |
| Duv: | -0.0005 | R3: | | 94.6 | R11: | | 60.9 |
| CIE x: | 0.4535 | R4: | | 65.9 | R12: | | 54.4 |
| CIE y: | 0.4078 | R5: | | 67.3 | R13: | | 71.2 |
| CIE z: | 0.1387 | R6: | | 78.7 | R14: | | 97.6 |
| Peak Wavelength (nm): | 597 | R7: | | 75.2 | R15: | | 59.5 |
| Dominant Wavelength (nm): | 584 | R8: | | 39.8 | | | |
| Purity: | 58.54014 | | | | | | |
| Rf: | 75.7 | | | | | | |
| Rg: | 93.2 | | | | | | |



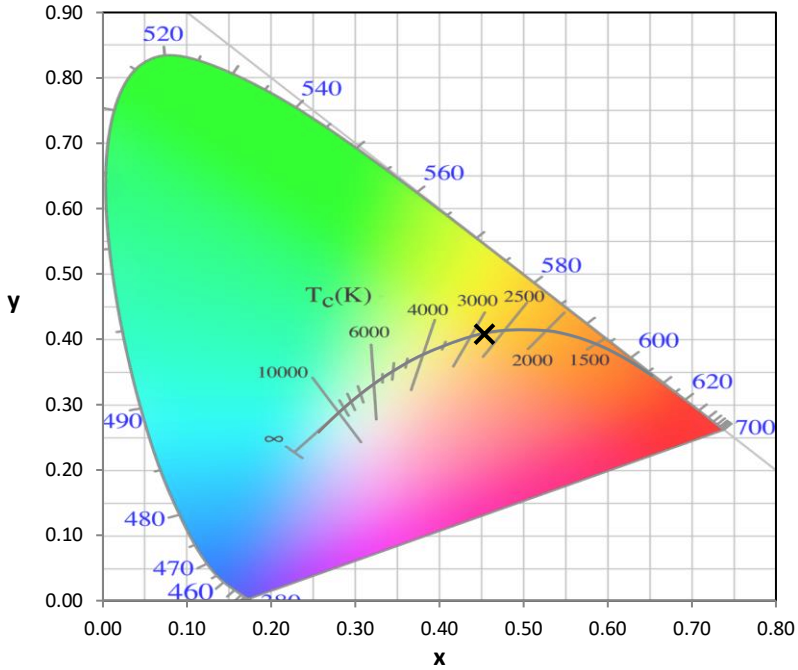

## Test Conditions

| | |
|---|---|
| Stabilization Time: | 36M |
| Operation Time: | 1H 36M |
| Sphere Temperature (°C): | 25.0 |

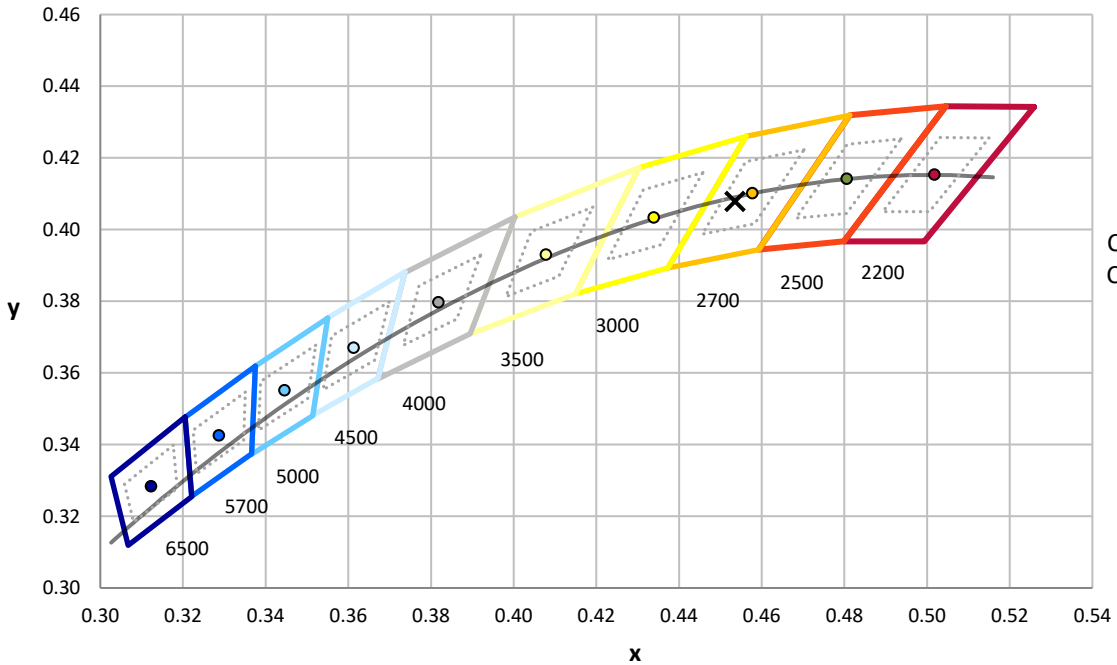
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN2187 | 1/6/2025 | 7/6/2025 |
| Power Meter | INXT2011002 | 1/21/2025 | 1/21/2026 |
| AC Power Source | IN0458 | 10/22/2024 | 10/22/2025 |
| DC Power 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: SP2-2501-321-3

**CIE 1931 Chromaticity Diagram**




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




CCT = 2769K
CIE x = 0.4535
CIE y = 0.4078
Duv = -0.0005

Point lies inside the ANSI 2700K 4-step quadrangle

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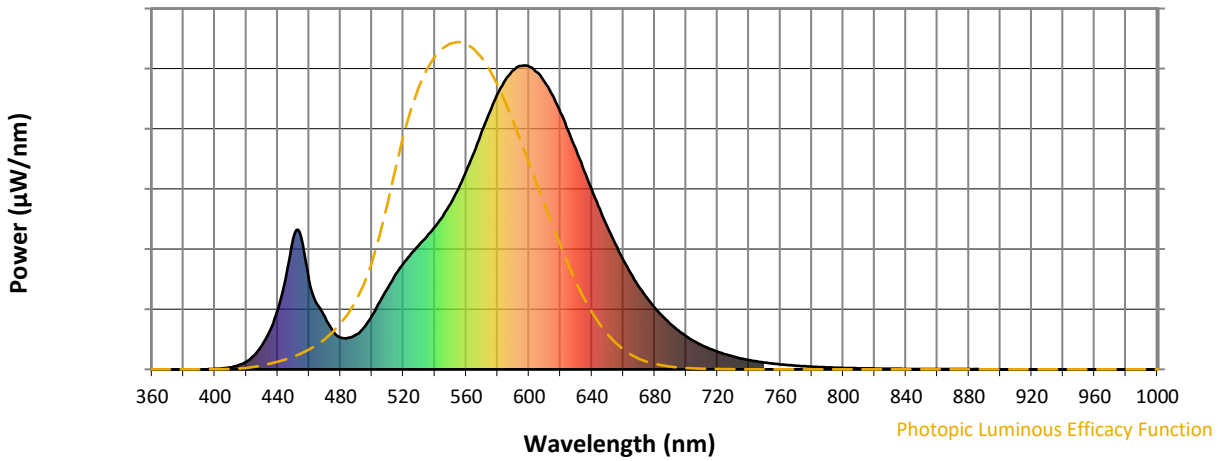
## Photopic Flux vs. Wavelength




**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 | 844 | NR | 750 | 22 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 138 | NR | 625 | 785 | NR | 755 | 19 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 176 | NR | 630 | 722 | NR | 760 | 16 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 222 | NR | 635 | 655 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 591 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 311 | NR | 645 | 527 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 348 | NR | 650 | 467 | NR | 780 | 9 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 381 | NR | 655 | 412 | NR | 785 | 8 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 410 | NR | 660 | 360 | NR | 790 | 7 | NR | 920 | 0 | NR |
| 405 | 4 | NR | 535 | 438 | NR | 665 | 314 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 7 | NR | 540 | 469 | NR | 670 | 272 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 13 | NR | 545 | 503 | NR | 675 | 236 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 25 | NR | 550 | 544 | NR | 680 | 203 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 46 | NR | 555 | 594 | NR | 685 | 175 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 79 | NR | 560 | 652 | NR | 690 | 149 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 128 | NR | 565 | 714 | NR | 695 | 128 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 196 | NR | 570 | 783 | NR | 700 | 109 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 299 | NR | 575 | 847 | NR | 705 | 93 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 433 | NR | 580 | 906 | NR | 710 | 80 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 433 | NR | 585 | 953 | NR | 715 | 68 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 293 | NR | 590 | 985 | NR | 720 | 58 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 215 | NR | 595 | 998 | NR | 725 | 50 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 173 | NR | 600 | 997 | NR | 730 | 42 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 127 | NR | 605 | 978 | NR | 735 | 36 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 104 | NR | 610 | 945 | NR | 740 | 30 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 104 | NR | 615 | 902 | NR | 745 | 26 | NR | 875 | 1 | NR | | | |

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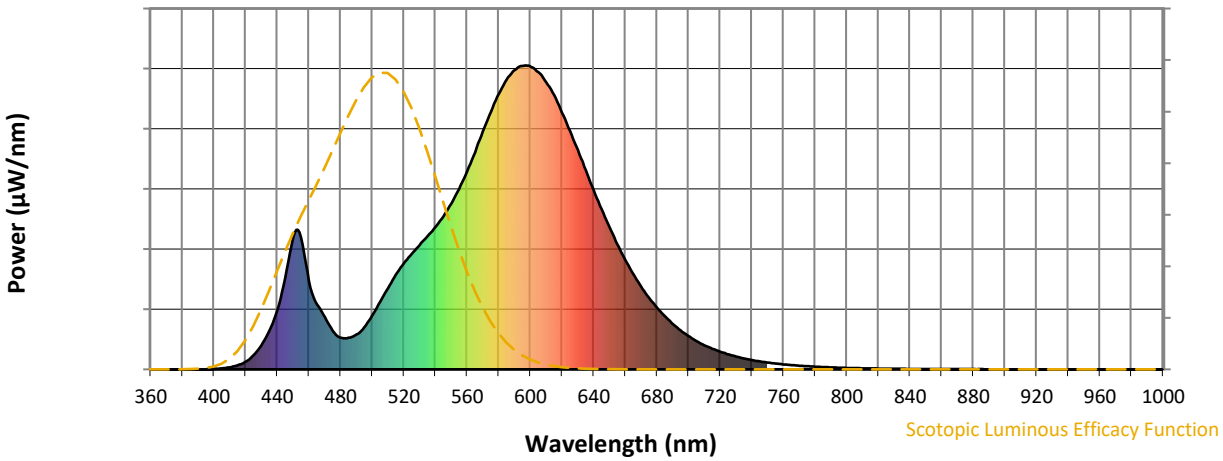
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.14**

| 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 | 844 | NR | 750 | 22 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 138 | NR | 625 | 785 | NR | 755 | 19 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 176 | NR | 630 | 722 | NR | 760 | 16 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 222 | NR | 635 | 655 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 591 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 311 | NR | 645 | 527 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 348 | NR | 650 | 467 | NR | 780 | 9 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 381 | NR | 655 | 412 | NR | 785 | 8 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 410 | NR | 660 | 360 | NR | 790 | 7 | NR | 920 | 0 | NR |
| 405 | 4 | NR | 535 | 438 | NR | 665 | 314 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 7 | NR | 540 | 469 | NR | 670 | 272 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 13 | NR | 545 | 503 | NR | 675 | 236 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 25 | NR | 550 | 544 | NR | 680 | 203 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 46 | NR | 555 | 594 | NR | 685 | 175 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 79 | NR | 560 | 652 | NR | 690 | 149 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 128 | NR | 565 | 714 | NR | 695 | 128 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 196 | NR | 570 | 783 | NR | 700 | 109 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 299 | NR | 575 | 847 | NR | 705 | 93 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 433 | NR | 580 | 906 | NR | 710 | 80 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 433 | NR | 585 | 953 | NR | 715 | 68 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 293 | NR | 590 | 985 | NR | 720 | 58 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 215 | NR | 595 | 998 | NR | 725 | 50 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 173 | NR | 600 | 997 | NR | 730 | 42 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 127 | NR | 605 | 978 | NR | 735 | 36 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 104 | NR | 610 | 945 | NR | 740 | 30 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 104 | NR | 615 | 902 | NR | 745 | 26 | NR | 875 | 1 | NR | | | |

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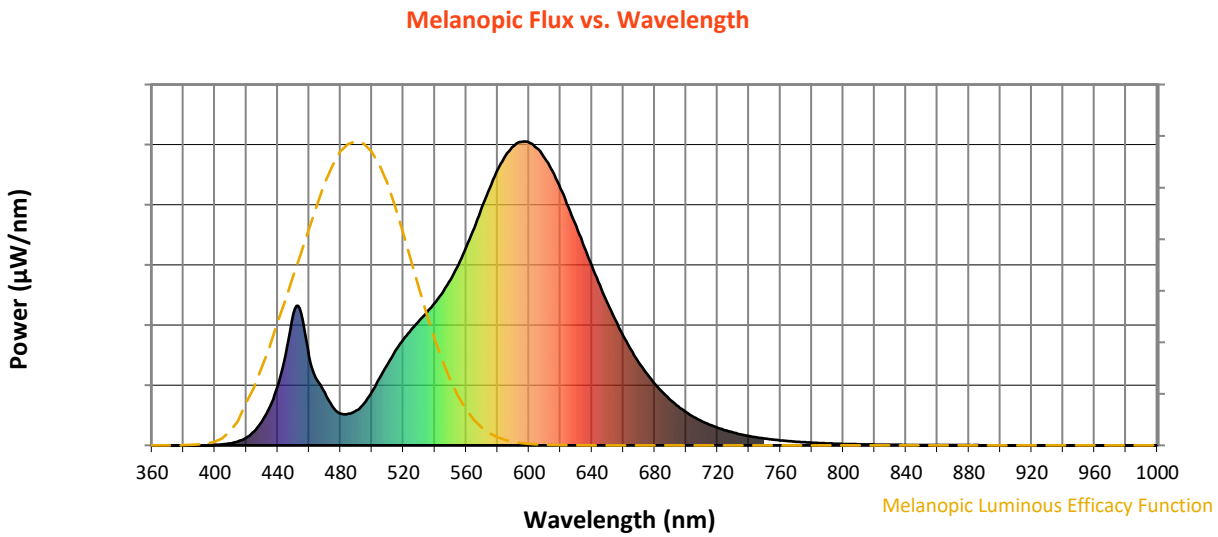


**Melanopic Lumens: NR** **M/P: 2.08**

| 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 | 844 | NR | 750 | 22 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 138 | NR | 625 | 785 | NR | 755 | 19 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 176 | NR | 630 | 722 | NR | 760 | 16 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 222 | NR | 635 | 655 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 591 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 311 | NR | 645 | 527 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 348 | NR | 650 | 467 | NR | 780 | 9 | NR | 910 | 0 | NR |
| 395 | 0 | NR | 525 | 381 | NR | 655 | 412 | NR | 785 | 8 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 410 | NR | 660 | 360 | NR | 790 | 7 | NR | 920 | 0 | NR |
| 405 | 4 | NR | 535 | 438 | NR | 665 | 314 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 7 | NR | 540 | 469 | NR | 670 | 272 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 13 | NR | 545 | 503 | NR | 675 | 236 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 25 | NR | 550 | 544 | NR | 680 | 203 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 46 | NR | 555 | 594 | NR | 685 | 175 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 79 | NR | 560 | 652 | NR | 690 | 149 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 128 | NR | 565 | 714 | NR | 695 | 128 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 196 | NR | 570 | 783 | NR | 700 | 109 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 299 | NR | 575 | 847 | NR | 705 | 93 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 433 | NR | 580 | 906 | NR | 710 | 80 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 433 | NR | 585 | 953 | NR | 715 | 68 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 293 | NR | 590 | 985 | NR | 720 | 58 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 215 | NR | 595 | 998 | NR | 725 | 50 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 173 | NR | 600 | 997 | NR | 730 | 42 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 127 | NR | 605 | 978 | NR | 735 | 36 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 104 | NR | 610 | 945 | NR | 740 | 30 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 104 | NR | 615 | 902 | NR | 745 | 26 | NR | 875 | 1 | NR | | | |

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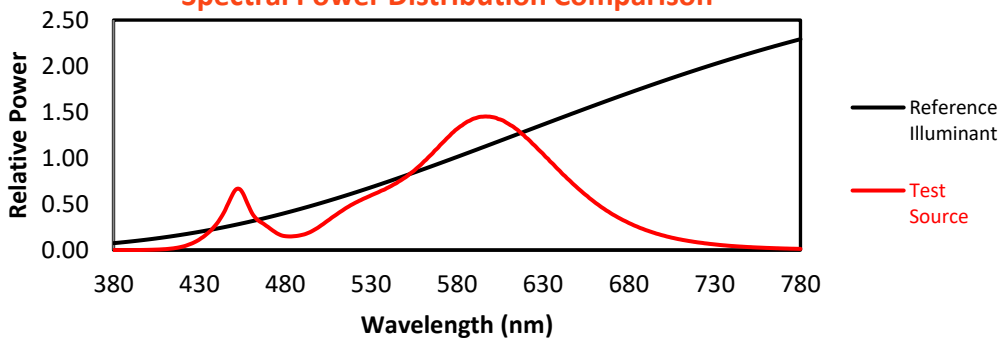
# TM-30-18

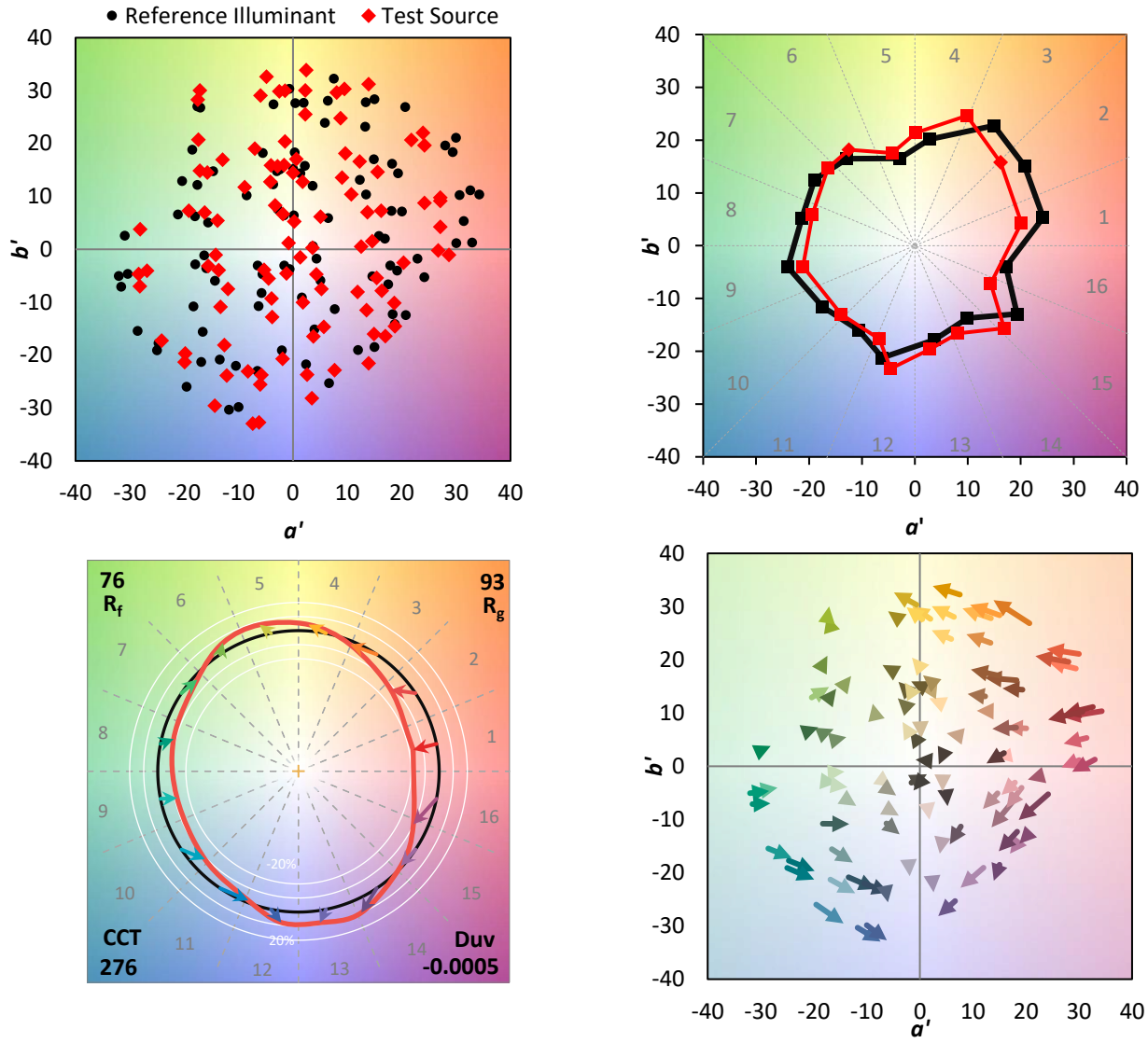
## Summary

$R_f$ = 75.7
$R_g$ = 93.2
CIE $R_a$ = 71.7
$R_9$ = -34.5

## Spectral Power Distribution Comparison

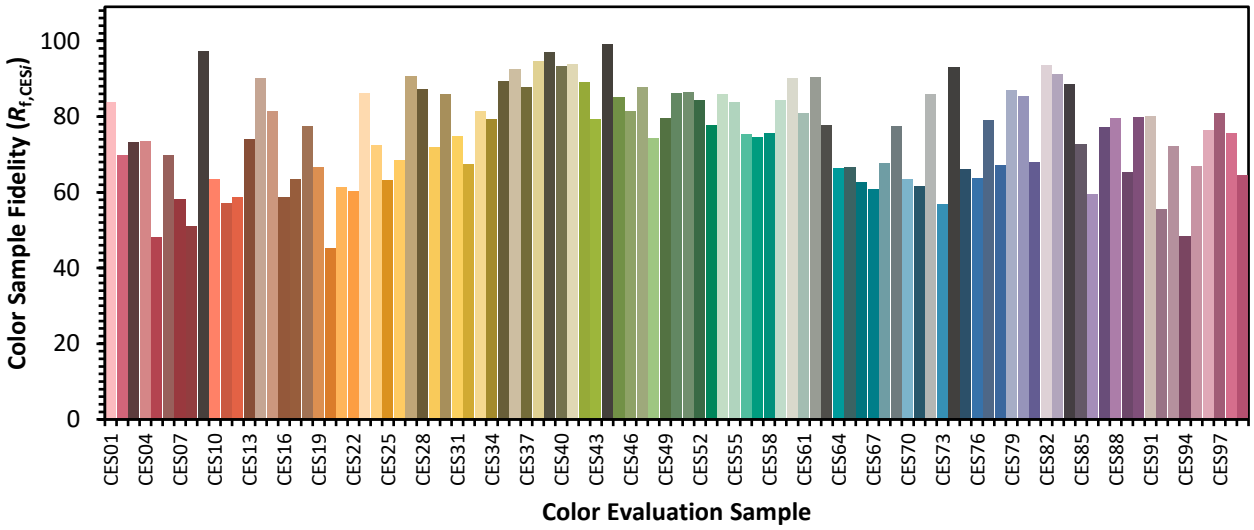



## Color Vector Graphics

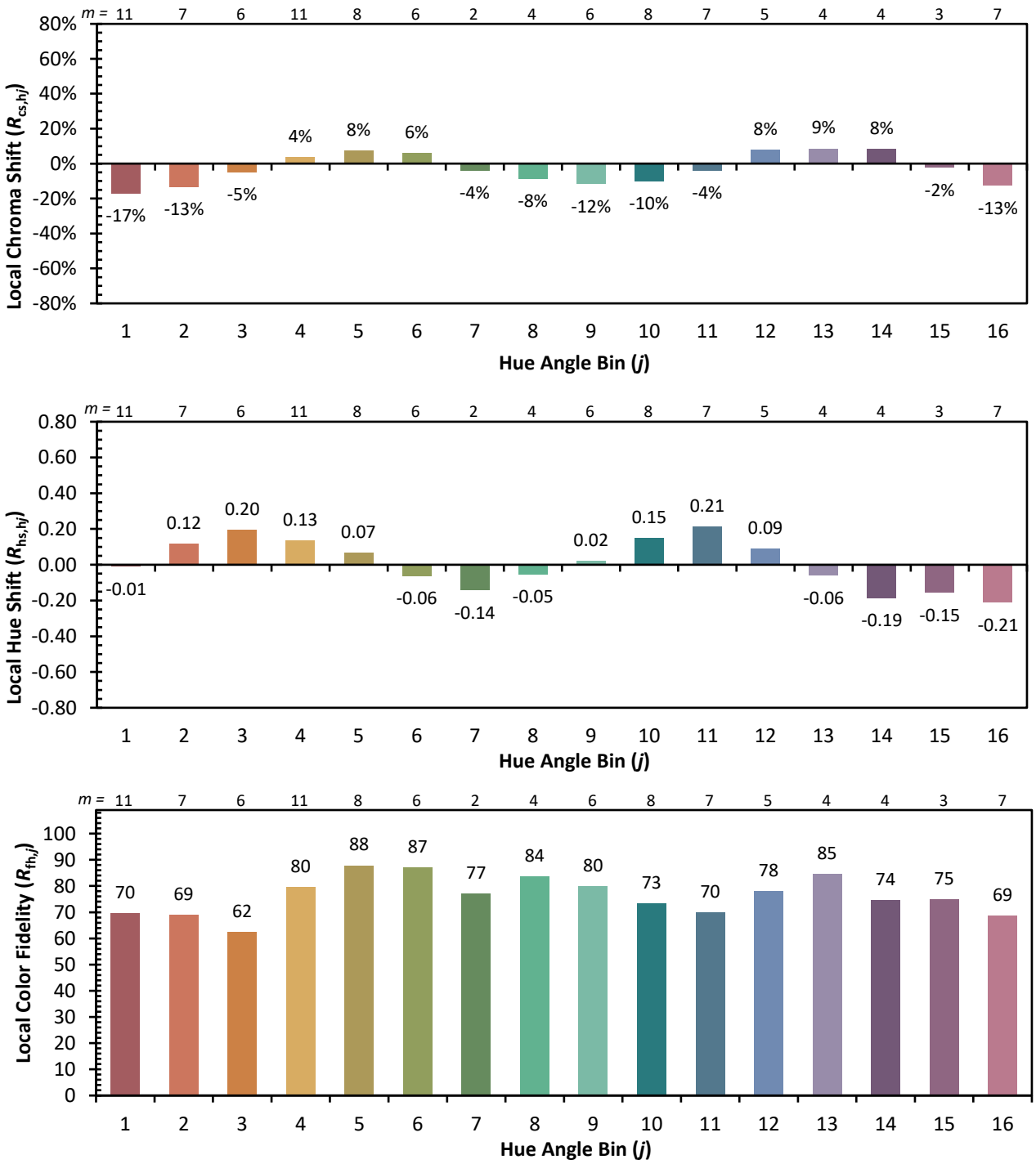


**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 68 | CES51 = 87 | CES76 = 64 |
| CES02 = 63 | CES27 = 91 | CES52 = 84 | CES77 = 79 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 67 |
| CES04 = 71 | CES29 = 72 | CES54 = 86 | CES79 = 87 |
| CES05 = 50 | CES30 = 86 | CES55 = 84 | CES80 = 85 |
| CES06 = 52 | CES31 = 75 | CES56 = 75 | CES81 = 68 |
| CES07 = 42 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 41 | CES33 = 81 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 79 | CES59 = 84 | CES84 = 89 |
| CES10 = 77 | CES35 = 89 | CES60 = 90 | CES85 = 73 |
| CES11 = 60 | CES36 = 92 | CES61 = 81 | CES86 = 59 |
| CES12 = 66 | CES37 = 88 | CES62 = 90 | CES87 = 77 |
| CES13 = 43 | CES38 = 95 | CES63 = 78 | CES88 = 79 |
| CES14 = 74 | CES39 = 97 | CES64 = 66 | CES89 = 65 |
| CES15 = 72 | CES40 = 93 | CES65 = 67 | CES90 = 80 |
| CES16 = 48 | CES41 = 94 | CES66 = 63 | CES91 = 80 |
| CES17 = 50 | CES42 = 89 | CES67 = 61 | CES92 = 55 |
| CES18 = 57 | CES43 = 79 | CES68 = 68 | CES93 = 72 |
| CES19 = 73 | CES44 = 99 | CES69 = 77 | CES94 = 48 |
| CES20 = 67 | CES45 = 85 | CES70 = 63 | CES95 = 67 |
| CES21 = 87 | CES46 = 81 | CES71 = 62 | CES96 = 76 |
| CES22 = 80 | CES47 = 88 | CES72 = 86 | CES97 = 81 |
| CES23 = 92 | CES48 = 74 | CES73 = 57 | CES98 = 76 |
| CES24 = 91 | CES49 = 80 | CES74 = 93 | CES99 = 64 |
| CES25 = 73 | CES50 = 86 | CES75 = 66 | |

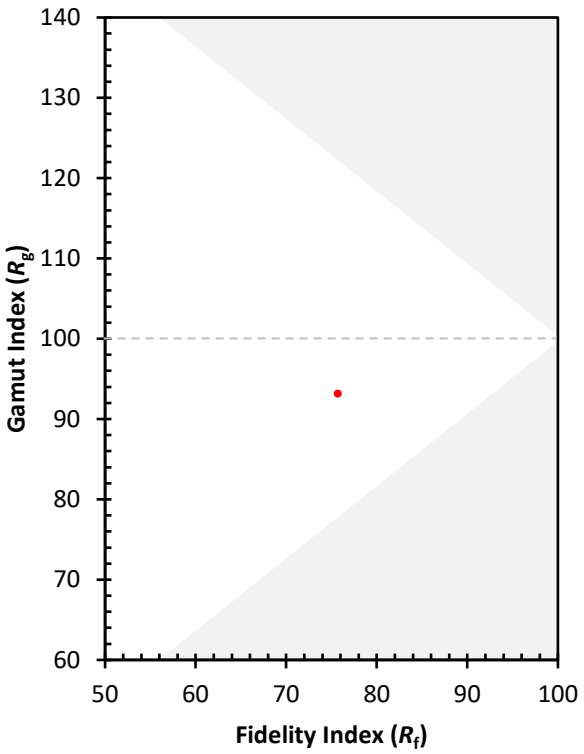


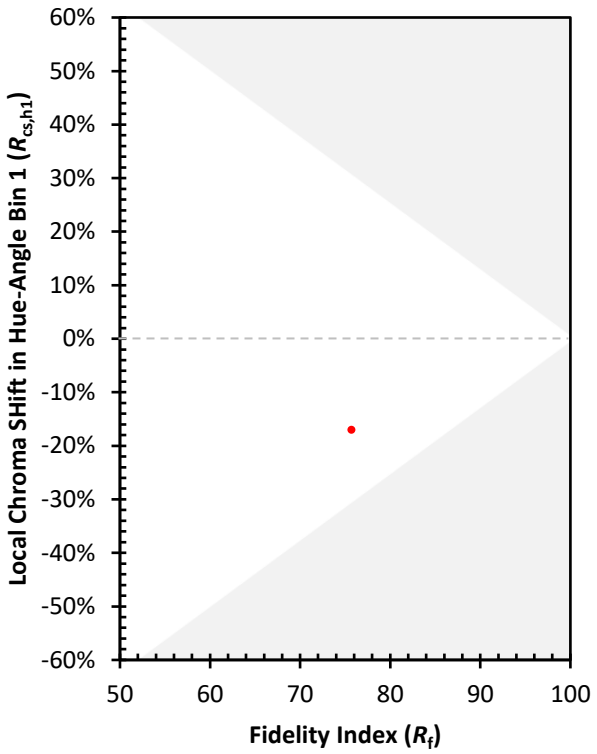
## Color Rendition by Hue-Angle Bin



## TM-30-18

### Measure Comparisons




(END OF REPORT)