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

Cooper Lighting Solutions Photometric Lab
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: P1460397

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

Issue Date: 06/09/2026

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1460397 |
| 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 |
| Description: | PREVAIL PETITE DISCRETE LED 1 SQUARE AT 950MA 70CRI 2700K FIXTURE w/ TYPE II ROADWAY DISTRIBUTION OPTIC |
| Light Source: | (10) 2700K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

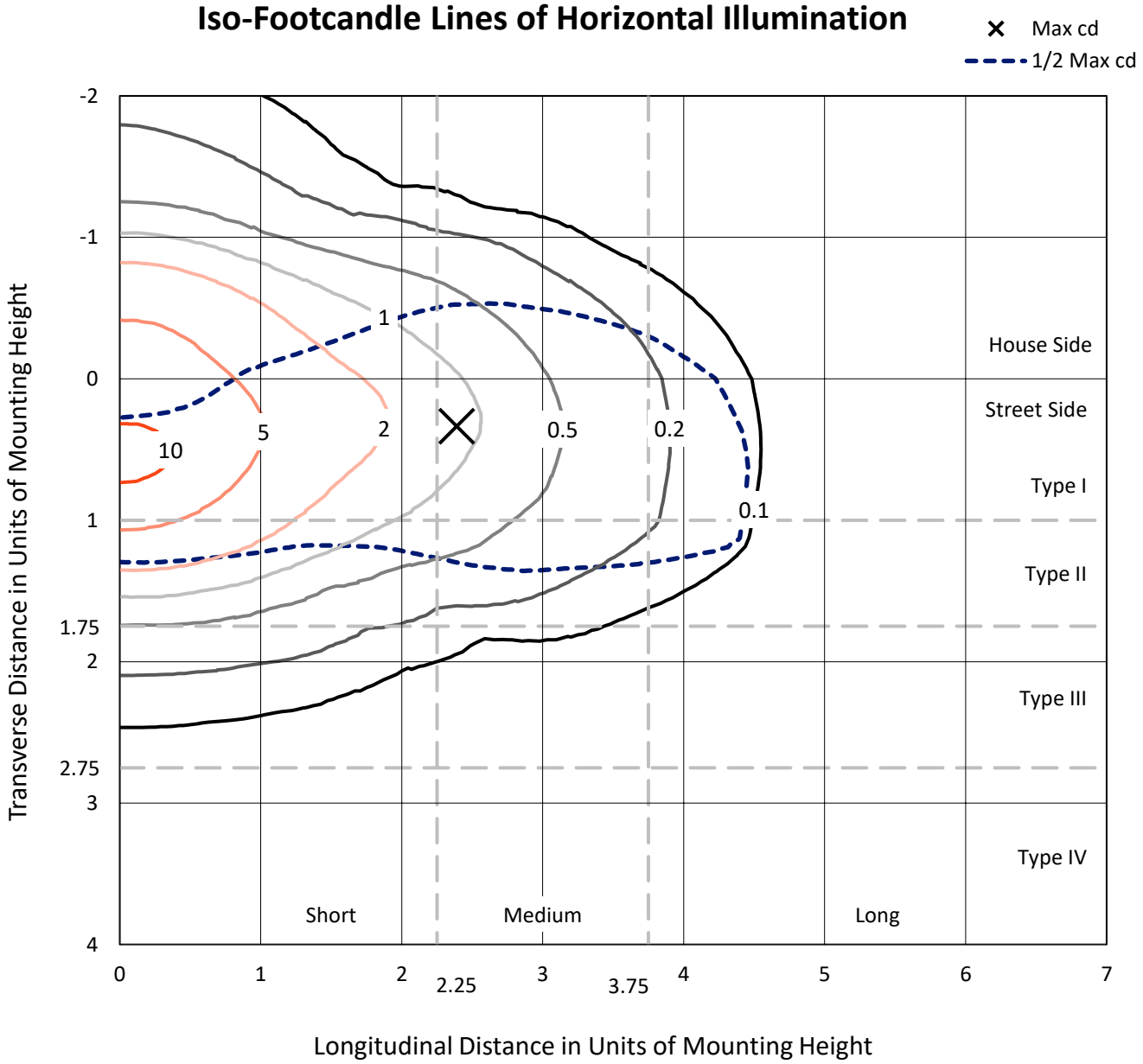
| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 4215.6 lumens |
| Efficiency: | N/A |
| Efficacy: | 128.1 lumens/watt |
| Luminous Opening: | Rectangular (W 0.33' x L: 0.33' x H: 0') |
| IES Classification: | Type II - Medium |
| BUG Rating: | B1 - U0 - G1 |
| Input Watts (W): | 32.9 |
| 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 |

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

Scaled Data Report

REPORT NUMBER: P1460397
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R

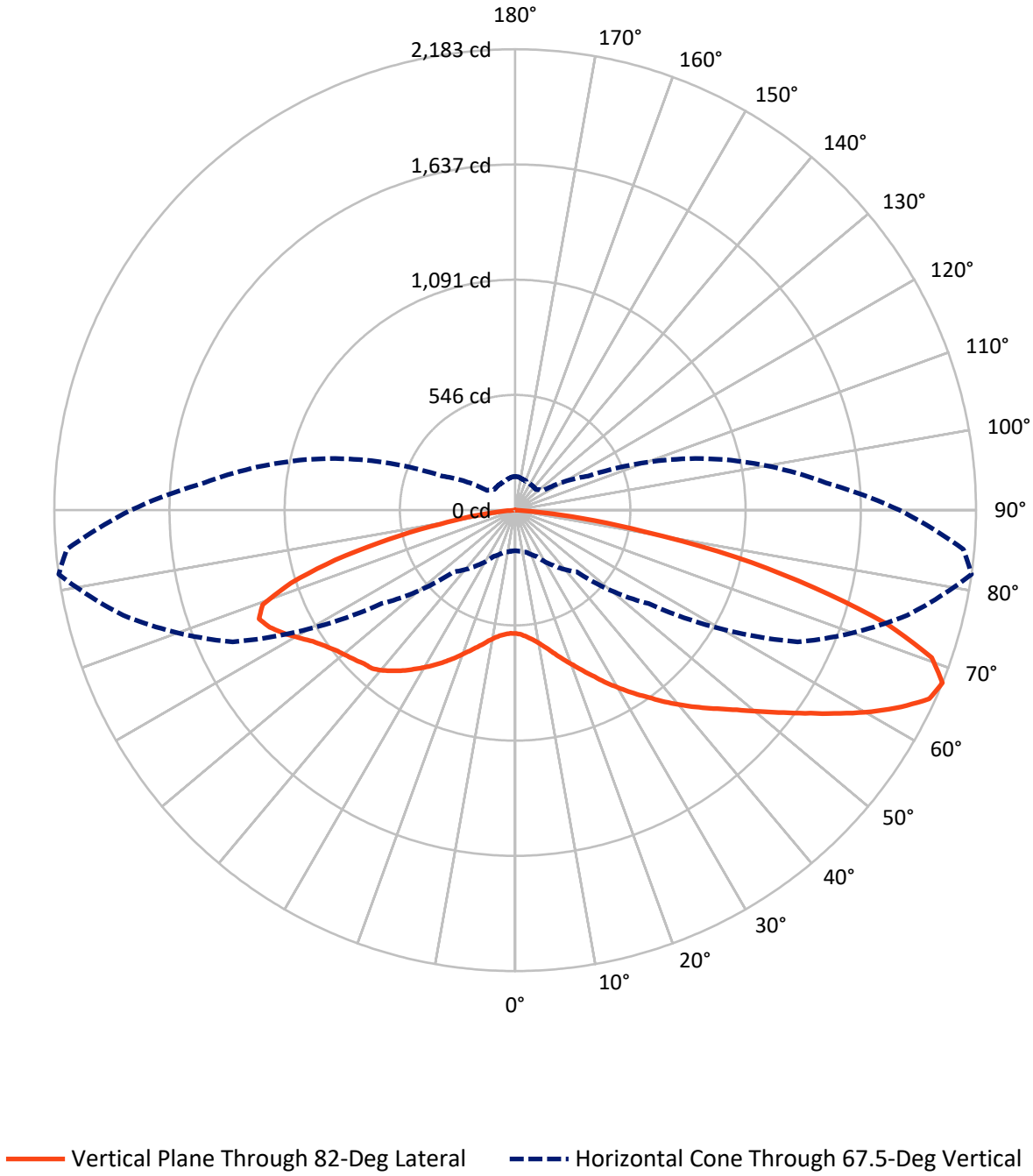
## Iso-Footcandle Lines of Horizontal Illumination




Based on 10 foot mounting height. Maximum calculated value = 11.5 fc
Type II - Medium - N/A

REPORT NUMBER: P1460397
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R

## Luminous Intensity Polar Plot



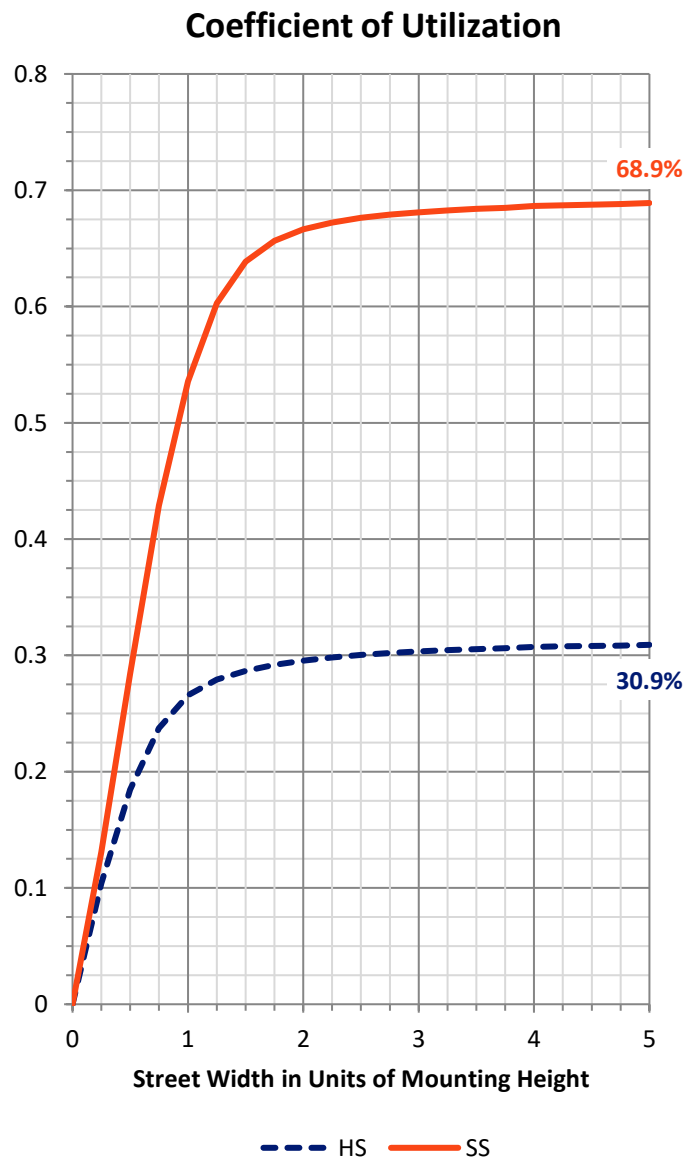
REPORT NUMBER: P1460397
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1309.3 | 0.0 | 1309.3 |
| | % Fixture | 31.1 | 0.0 | 31.1 |
| **Street Side** | Lumens | 2906.4 | 0.0 | 2906.4 |
| | % Fixture | 68.9 | 0.0 | 68.9 |
| **Total** | Lumens | 4215.6 | 0.0 | 4215.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 60.8 | 1.4 |
| 10°-20° | 221.7 | 5.3 |
| 20°-30° | 449.2 | 10.7 |
| 30°-40° | 703.1 | 16.7 |
| 40°-50° | 849.4 | 20.1 |
| 50°-60° | 800.2 | 19.0 |
| 60°-70° | 671.2 | 15.9 |
| 70°-80° | 403.7 | 9.6 |
| 80°-90° | 56.3 | 1.3 |
| 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°-90° | 4215.6 | 100.0 |
| 0°-180° | 4215.6 | 100.0 |

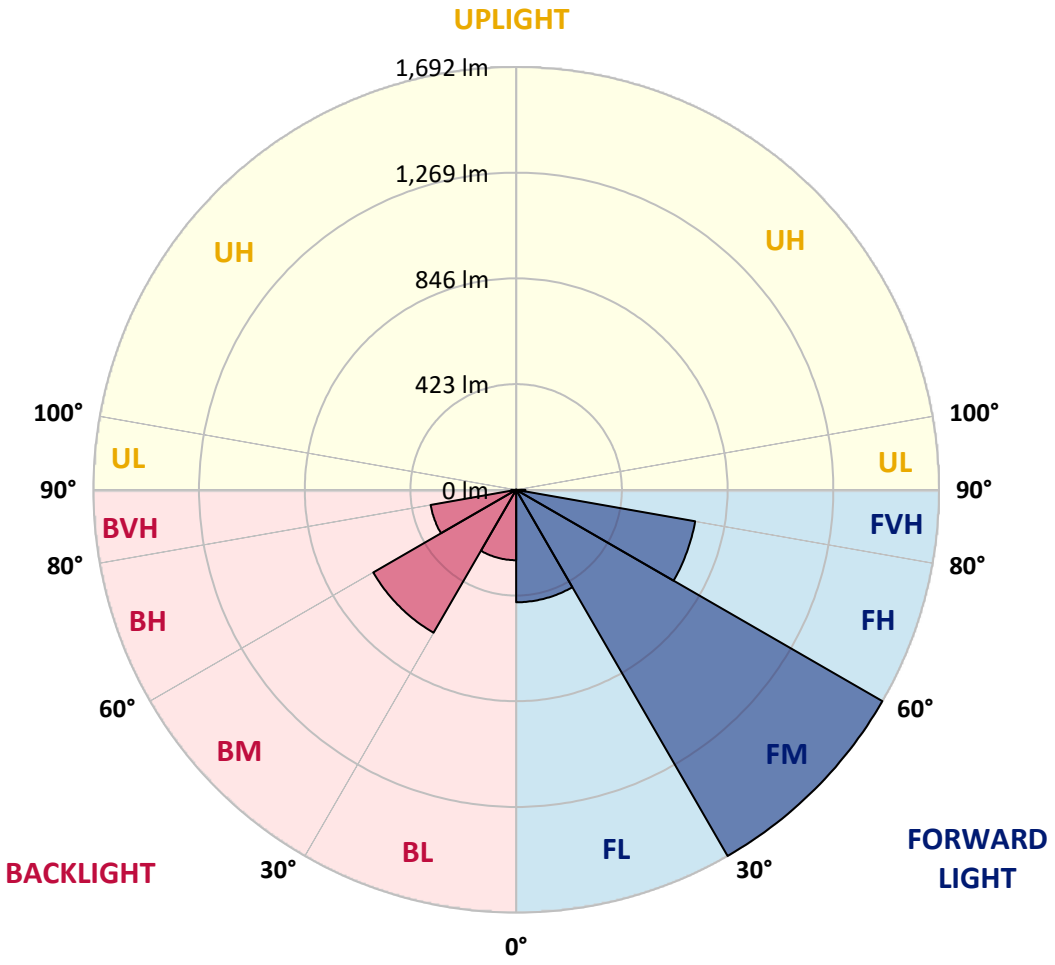


REPORT NUMBER: P1460397
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R

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

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 449.9 | 10.7 | | | |
| FM | (30°-60°) | 1692.2 | 40.1 | | | |
| FH | (60°-80°) | 727.3 | 17.3 | | | G1/1800 |
| FVH | (80°-90°) | 36.9 | 0.9 | | | G1/100 |
| BL | (0°-30°) | 281.8 | 6.7 | B1/500 | | |
| BM | (30°-60°) | 660.5 | 15.7 | B1/1000 | | |
| BH | (60°-80°) | 347.7 | 8.2 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 19.3 | 0.5 | | | G1/100 |
| 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 Medium



REPORT NUMBER: P1460397
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 82° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | *584.0* | 584.0 |
| 2.5° | 622.2 | 621.6 | 622.2 | 625.4 | 619.0 | 615.7 | 609.2 | 600.8 | 594.3 | *589.8* | 588.5 |
| 5° | 684.4 | 688.3 | 686.4 | 681.8 | 671.5 | 657.9 | 641.0 | 622.2 | 611.8 | *604.1* | 600.8 |
| 7.5° | 769.3 | 763.5 | 767.4 | 753.8 | 735.6 | 712.3 | 679.9 | 657.2 | 633.2 | *620.3* | 616.4 |
| 10° | 861.4 | 860.7 | 852.9 | 838.7 | 811.5 | 775.8 | 736.3 | 696.7 | 665.0 | *642.9* | 634.5 |
| 12.5° | 960.5 | 959.9 | 956.0 | 929.4 | 895.1 | 843.9 | 796.6 | 745.4 | 695.4 | *672.1* | 662.4 |
| 15° | 1058.4 | 1063.6 | 1056.5 | 1025.3 | 981.3 | 917.8 | 858.1 | 795.9 | 739.5 | *705.8* | 693.5 |
| 17.5° | 1163.4 | 1162.7 | 1149.1 | 1118.0 | 1067.5 | 1002.0 | 928.1 | 845.8 | 780.4 | *743.4* | 727.9 |
| 20° | 1260.0 | 1271.0 | 1254.1 | 1221.7 | 1158.9 | 1087.6 | 1001.4 | 906.7 | 827.7 | *782.9* | 766.1 |
| 22.5° | 1385.7 | 1384.4 | 1368.9 | 1319.6 | 1253.5 | 1167.9 | 1073.3 | 972.2 | 880.8 | *826.4* | 805.6 |
| 25° | 1517.3 | 1520.5 | 1499.1 | 1439.5 | 1348.1 | 1256.1 | 1147.2 | 1043.5 | 942.4 | *874.3* | 852.3 |
| 27.5° | 1656.6 | 1659.2 | 1632.0 | 1560.1 | 1464.8 | 1346.2 | 1232.7 | 1112.8 | 997.5 | *927.5* | 895.1 |
| 30° | 1773.9 | 1775.9 | 1749.3 | 1676.1 | 1566.5 | 1442.1 | 1304.7 | 1182.8 | 1053.9 | *979.3* | 945.6 |
| 32.5° | 1872.5 | 1867.3 | 1838.8 | 1771.3 | 1668.9 | 1535.4 | 1388.3 | 1249.6 | 1120.6 | *1034.4* | 996.8 |
| 35° | 1920.4 | 1926.2 | 1905.5 | 1843.9 | 1749.3 | 1622.9 | 1479.0 | 1328.7 | 1182.2 | *1088.9* | 1051.3 |
| 37.5° | 1919.8 | 1925.6 | 1918.5 | 1878.3 | 1799.9 | 1691.6 | 1555.5 | 1411.0 | 1259.3 | *1151.7* | 1105.7 |
| 40° | 1874.4 | 1882.2 | 1886.1 | 1865.3 | 1813.5 | 1736.3 | 1617.1 | 1484.2 | 1329.3 | *1214.0* | 1164.7 |
| 42.5° | 1788.8 | 1794.7 | 1807.0 | 1796.6 | 1788.2 | 1744.1 | 1665.1 | 1556.2 | 1400.6 | *1276.8* | 1220.4 |
| 45° | 1676.7 | 1680.6 | 1692.9 | 1703.9 | 1718.8 | 1714.3 | 1685.8 | 1620.3 | 1482.3 | *1341.6* | 1276.2 |
| 47.5° | 1519.2 | 1532.8 | 1562.6 | 1600.9 | 1627.5 | 1658.6 | 1678.7 | 1662.5 | 1558.1 | *1412.9* | 1340.3 |
| 50° | 1328.7 | 1327.4 | 1381.8 | 1444.7 | 1523.8 | 1570.4 | 1635.2 | 1691.0 | 1643.7 | *1497.8* | 1416.8 |
| 52.5° | 1049.3 | 1064.9 | 1133.6 | 1257.4 | 1388.3 | 1474.5 | 1567.2 | 1690.3 | 1724.7 | *1593.1* | 1505.0 |
| 55° | 777.1 | 812.8 | 898.3 | 1023.4 | 1207.5 | 1366.3 | 1482.9 | 1656.6 | 1799.2 | *1698.1* | 1602.8 |
| 57.5° | 565.2 | 565.2 | 656.6 | 775.8 | 999.4 | 1230.2 | 1403.9 | 1598.9 | 1855.0 | *1816.1* | 1718.2 |
| 60° | 411.6 | 409.0 | 475.1 | 577.5 | 756.4 | 1016.9 | 1324.8 | 1546.4 | 1902.9 | *1938.6* | 1843.3 |
| 62.5° | 302.7 | 300.7 | 335.7 | 421.3 | 560.6 | 792.7 | 1192.6 | 1521.8 | 1927.5 | *2052.0* | 1972.9 |
| 65° | 236.6 | 238.5 | 258.6 | 311.1 | 421.3 | 571.0 | 1007.2 | 1521.2 | 1930.8 | *2155.7* | 2081.2 |
| 67.5° | *191.8* | *194.4* | *206.1* | *241.8* | *321.5* | *412.9* | *771.3* | *1476.4* | *1923.0* | *2182.9* | *2131.7* |
| 70° | 162.0 | 162.7 | 173.7 | 199.0 | 243.7 | 310.5 | 542.5 | 1344.2 | 1882.2 | *2093.5* | 2055.2 |
| 72.5° | 134.2 | 136.1 | 147.8 | 164.0 | 196.4 | 239.2 | 364.3 | 1101.2 | 1743.5 | *1841.3* | 1812.2 |
| 75° | 110.2 | 108.9 | 118.0 | 138.1 | 159.4 | 186.7 | 256.7 | 781.0 | 1480.3 | *1460.9* | 1425.9 |
| 77.5° | 87.5 | 86.8 | 95.3 | 114.1 | 127.0 | 146.5 | 184.7 | 495.2 | 1088.2 | *1070.1* | 1042.2 |
| 80° | 62.9 | 59.6 | 64.8 | 82.3 | 95.9 | 108.9 | 127.7 | 264.4 | 639.1 | *620.9* | 630.0 |
| 82.5° | 36.3 | 36.3 | 38.2 | 51.9 | 61.6 | 70.6 | 81.7 | 140.6 | 305.9 | *315.6* | 304.6 |
| 85° | 8.4 | 9.1 | 10.4 | 13.0 | 18.1 | 25.9 | 29.8 | 45.4 | 76.5 | *82.3* | 81.7 |
| 87.5° | 0.6 | 0.6 | 0.6 | 1.3 | 1.3 | 1.3 | 1.3 | 1.9 | 2.6 | *2.6* | 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: P1460397
CATALOG NUMBER: PRV-P-PB1A-727-U-T2R

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 | 584.0 |
| 2.5° | 585.9 | 585.3 | 579.4 | 576.2 | 576.8 | 574.2 | 571.0 | 571.0 | 569.1 | 567.1 | 566.5 |
| 5° | 595.0 | 591.1 | 584.6 | 578.8 | 578.8 | 576.2 | 574.9 | 571.7 | 571.0 | 569.1 | 569.7 |
| 7.5° | 607.3 | 601.5 | 592.4 | 586.6 | 586.6 | 584.6 | 584.6 | 582.0 | 581.4 | 578.8 | 577.5 |
| 10° | 626.7 | 618.3 | 607.9 | 601.5 | 600.8 | 600.2 | 599.5 | 598.9 | 595.6 | 593.0 | 591.7 |
| 12.5° | 650.1 | 639.7 | 627.4 | 622.9 | 621.6 | 620.3 | 619.0 | 615.1 | 612.5 | 609.2 | 607.3 |
| 15° | 677.3 | 666.9 | 653.3 | 647.5 | 644.9 | 642.3 | 635.8 | 631.9 | 627.4 | 622.2 | 620.9 |
| 17.5° | 709.1 | 694.1 | 677.9 | 671.5 | 666.3 | 660.4 | 654.6 | 645.5 | 638.4 | 632.6 | 631.3 |
| 20° | 743.4 | 725.3 | 706.5 | 696.7 | 689.6 | 679.2 | 667.6 | 655.9 | 647.5 | 640.4 | 639.1 |
| 22.5° | 777.1 | 759.6 | 736.9 | 723.3 | 709.1 | 692.9 | 674.7 | 659.2 | 648.8 | 641.7 | 640.4 |
| 25° | 816.6 | 794.6 | 766.1 | 744.7 | 724.0 | 701.3 | 676.7 | 656.6 | 642.9 | 635.8 | 633.2 |
| 27.5° | 858.8 | 830.9 | 792.7 | 765.4 | 735.0 | 700.6 | 667.6 | 644.9 | 628.0 | 618.3 | 617.0 |
| 30° | 899.6 | 867.2 | 819.9 | 777.1 | 737.6 | 692.9 | 651.4 | 621.6 | 601.5 | 588.5 | 587.2 |
| 32.5° | 947.6 | 905.4 | 841.3 | 788.1 | 735.0 | 679.9 | 628.0 | 591.7 | 568.4 | 555.4 | 555.4 |
| 35° | 994.2 | 945.6 | 864.6 | 796.6 | 727.9 | 659.2 | 599.5 | 557.4 | 530.2 | 515.3 | 514.0 |
| 37.5° | 1042.2 | 983.2 | 882.1 | 797.2 | 714.9 | 631.3 | 565.8 | 520.5 | 491.3 | 473.8 | 470.5 |
| 40° | 1092.1 | 1022.1 | 895.1 | 791.4 | 694.1 | 599.5 | 529.5 | 479.6 | 440.1 | 417.4 | 412.2 |
| 42.5° | 1136.2 | 1055.8 | 902.2 | 783.6 | 668.9 | 563.2 | 486.1 | 425.8 | 383.7 | 363.0 | 359.1 |
| 45° | 1173.8 | 1072.7 | 897.7 | 768.0 | 636.5 | 522.4 | 430.4 | 368.1 | 332.5 | 311.8 | 307.2 |
| 47.5° | 1219.8 | 1099.9 | 894.4 | 750.5 | 598.2 | 470.5 | 370.7 | 312.4 | 281.3 | 265.7 | 264.4 |
| 50° | 1272.9 | 1127.1 | 892.5 | 727.9 | 552.2 | 409.6 | 311.8 | 260.5 | 235.9 | 223.6 | 222.3 |
| 52.5° | 1328.7 | 1156.3 | 893.8 | 700.0 | 495.8 | 341.6 | 259.3 | 220.4 | 199.6 | 193.1 | 191.8 |
| 55° | 1405.8 | 1195.8 | 899.0 | 663.7 | 431.7 | 281.9 | 218.4 | 189.3 | 177.6 | 174.3 | 174.3 |
| 57.5° | 1488.1 | 1241.2 | 908.7 | 620.3 | 365.5 | 229.4 | 186.7 | 172.4 | 170.5 | 171.1 | 171.8 |
| 60° | 1590.5 | 1304.0 | 922.9 | 573.6 | 300.1 | 191.8 | 168.5 | 165.3 | 167.2 | 173.1 | 174.3 |
| 62.5° | 1689.0 | 1367.6 | 947.6 | 519.8 | 241.1 | 165.3 | 158.8 | 159.4 | 162.0 | 169.8 | 170.5 |
| 65° | 1780.4 | 1427.8 | 962.5 | 456.3 | 198.3 | 150.4 | 151.7 | 151.7 | 158.1 | 169.2 | 169.8 |
| 67.5° | *1820.0* | *1478.4* | *942.4* | *381.1* | *162.7* | *138.7* | *141.3* | *143.9* | *149.7* | *158.1* | *159.4* |
| 70° | 1781.7 | 1463.5 | 839.3 | 291.0 | 135.5 | 127.0 | 129.0 | 131.6 | 138.7 | 147.1 | 151.0 |
| 72.5° | 1598.3 | 1317.7 | 644.9 | 208.7 | 116.0 | 113.4 | 115.4 | 119.9 | 125.1 | 134.8 | 140.6 |
| 75° | 1312.5 | 1070.7 | 453.7 | 141.9 | 99.8 | 98.5 | 103.7 | 106.9 | 104.3 | 106.3 | 109.5 |
| 77.5° | 956.0 | 757.0 | 276.8 | 105.6 | 83.0 | 84.9 | 87.5 | 83.6 | 71.9 | 62.2 | 65.5 |
| 80° | 596.3 | 445.3 | 160.1 | 78.4 | 64.2 | 62.9 | 61.6 | 55.7 | 40.8 | 27.9 | 12.3 |
| 82.5° | 306.6 | 232.7 | 100.5 | 55.1 | 40.2 | 38.2 | 38.2 | 29.8 | 20.7 | 8.4 | 0.0 |
| 85° | 73.2 | 66.1 | 39.5 | 22.7 | 14.9 | 14.3 | 9.7 | 3.9 | 1.3 | 0.0 | 0.0 |
| 87.5° | 2.6 | 2.6 | 1.9 | 1.3 | 1.3 | 0.6 | 0.6 | 0.6 | 0.6 | 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

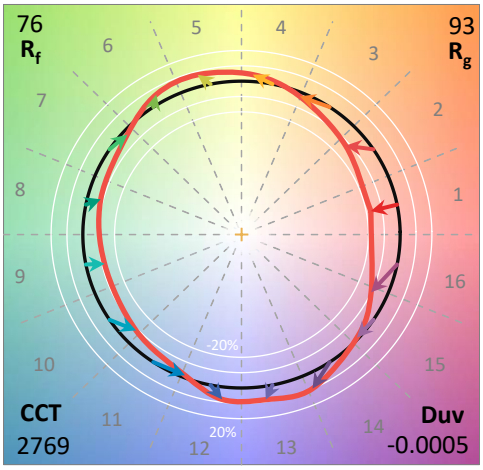
Report Generated By FNC07603 / LDUCLS01DT447
Version: v7.04

## 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 | | | | | | |



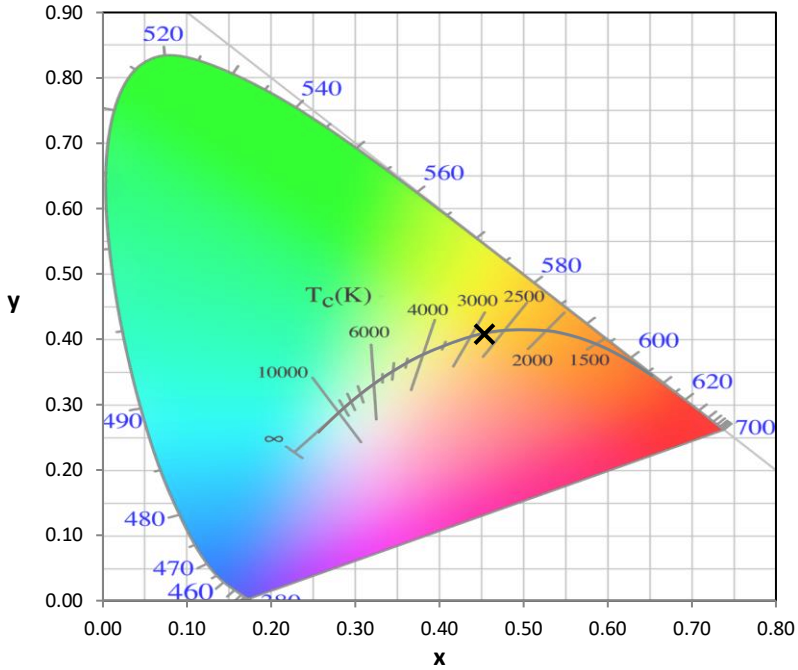

## Test Conditions

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

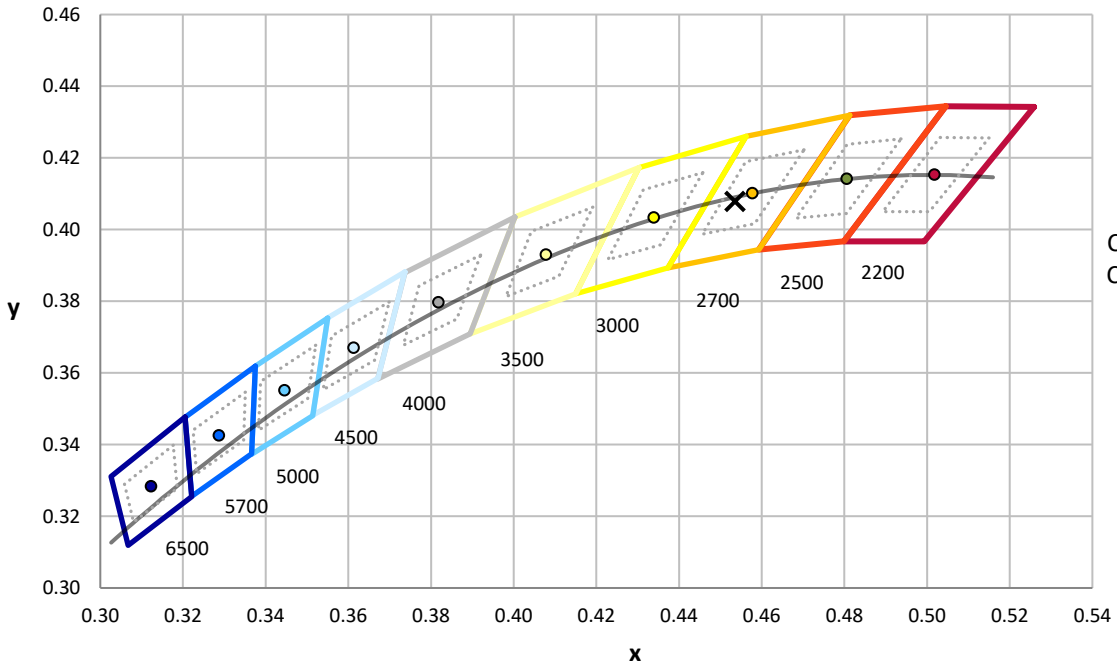
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN2187 | 1/6/2025 | 7/6/2025 |
| Power Meter | INXT2011002 | 1/21/2025 | 1/21/2026 |
| AC Power Source | IN0458 | 10/22/2024 | 10/22/2025 |
| DC Power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

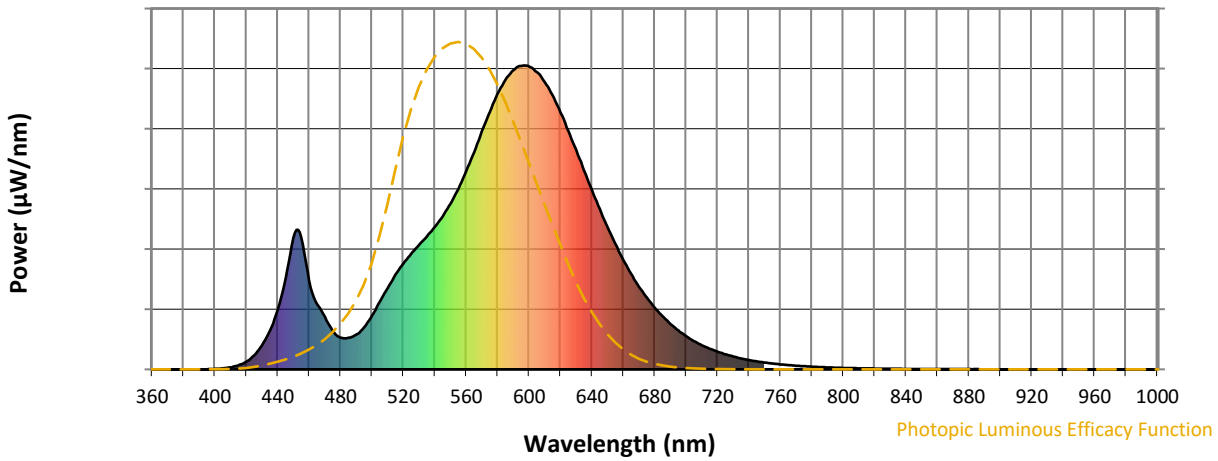



CCT = 2769K
CIE x = 0.4535
CIE y = 0.4078
Duv = -0.0005

Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP2-2501-321-3

## Photopic Flux vs. Wavelength

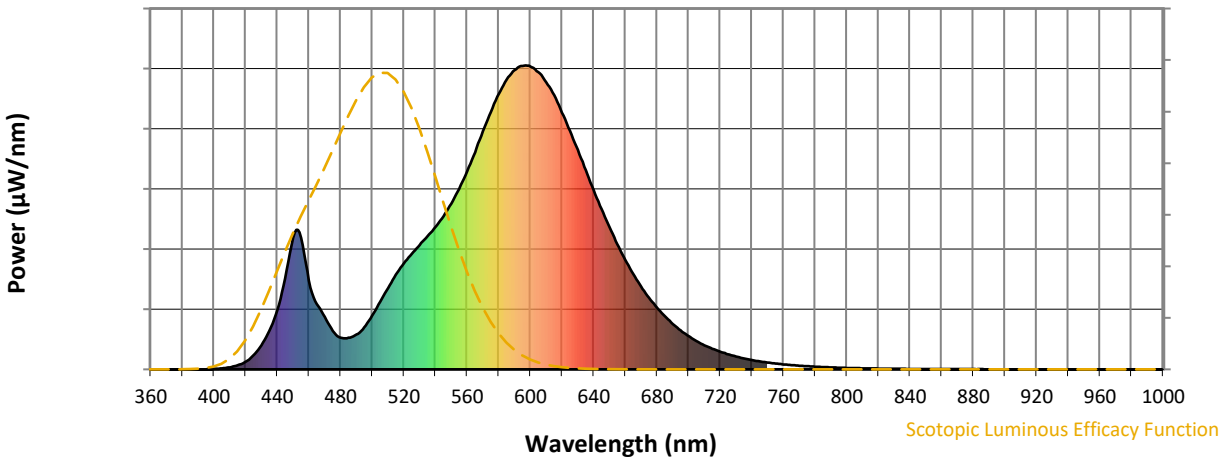



**Photopic Lumens: NR**

| 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 | | | |

REPORT NUMBER: SP2-2501-321-3

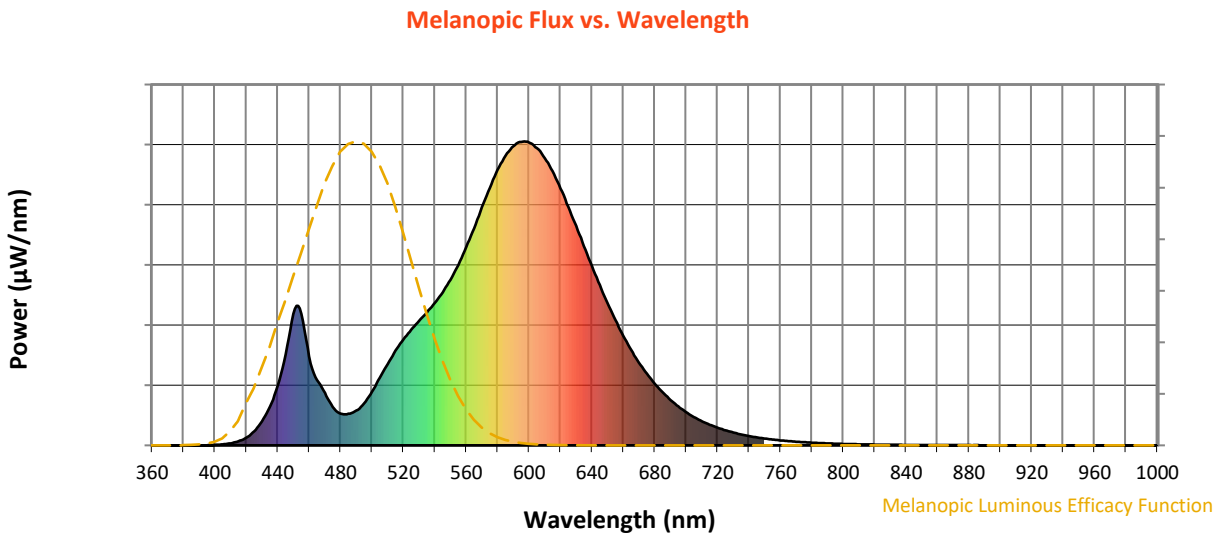
## Scotopic Flux vs. Wavelength




**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 | | | |

REPORT NUMBER: SP2-2501-321-3




**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 | | | |

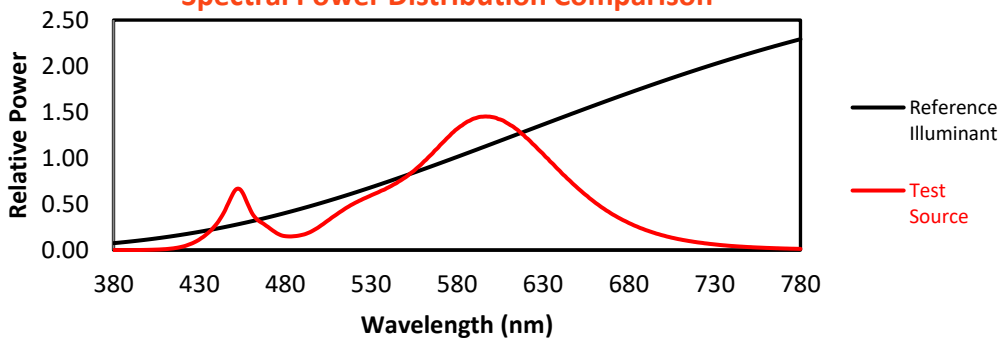
REPORT NUMBER: SP2-2501-321-3

# TM-30-18

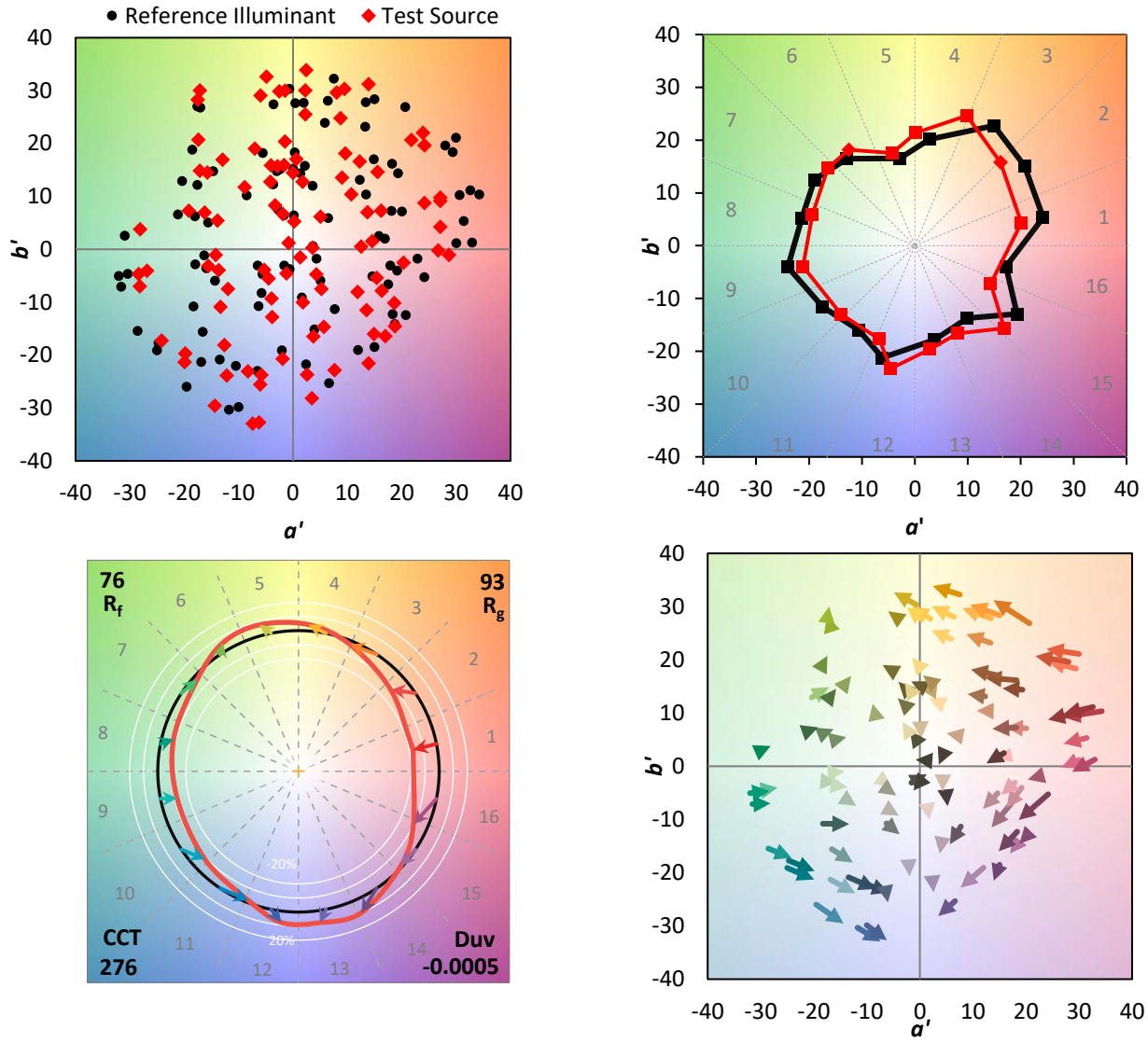
## Summary

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

## Spectral Power Distribution Comparison

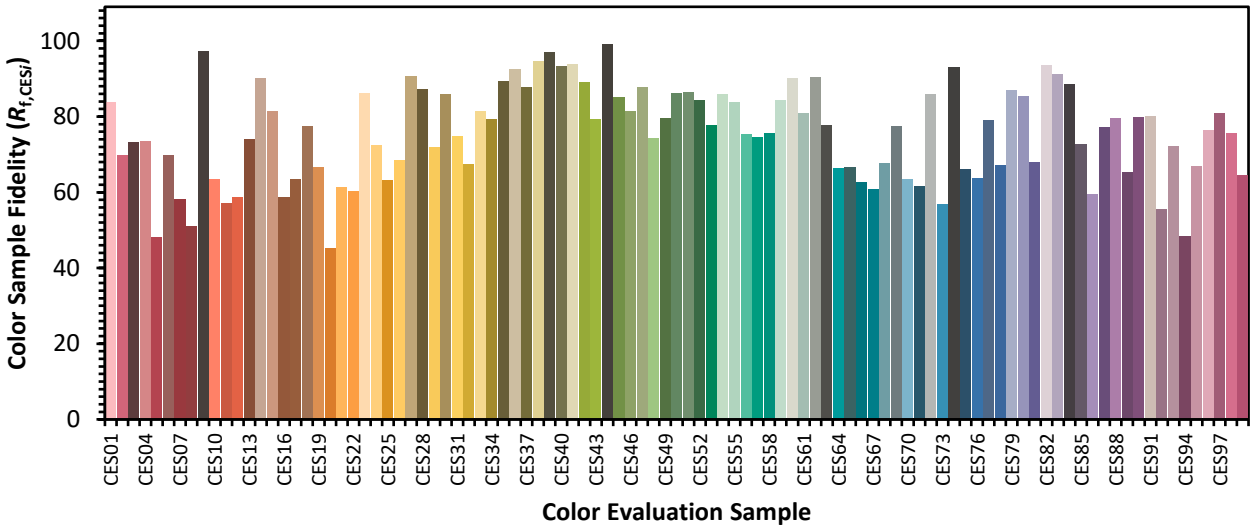



## Color Vector Graphics

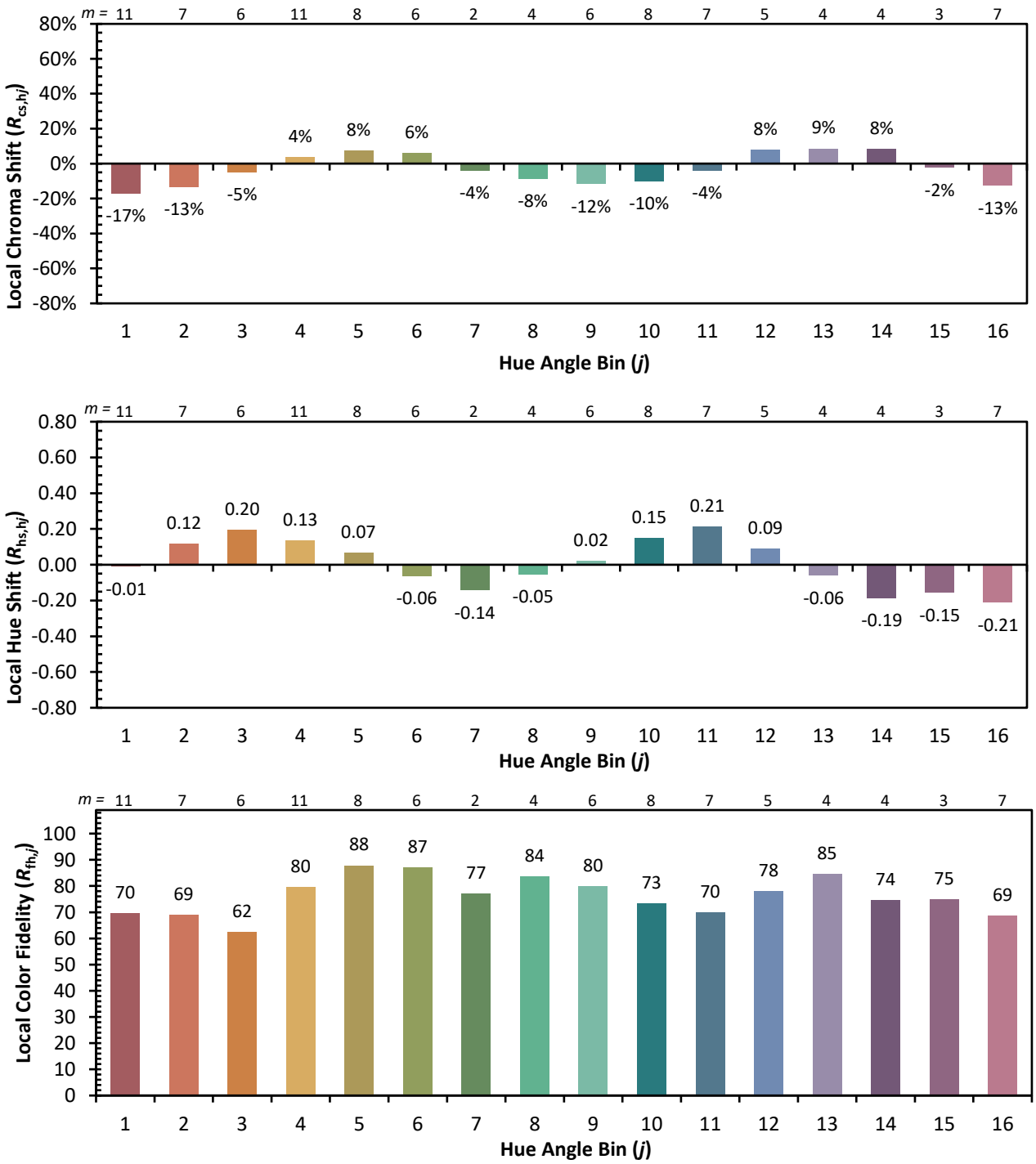


**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| 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 | |

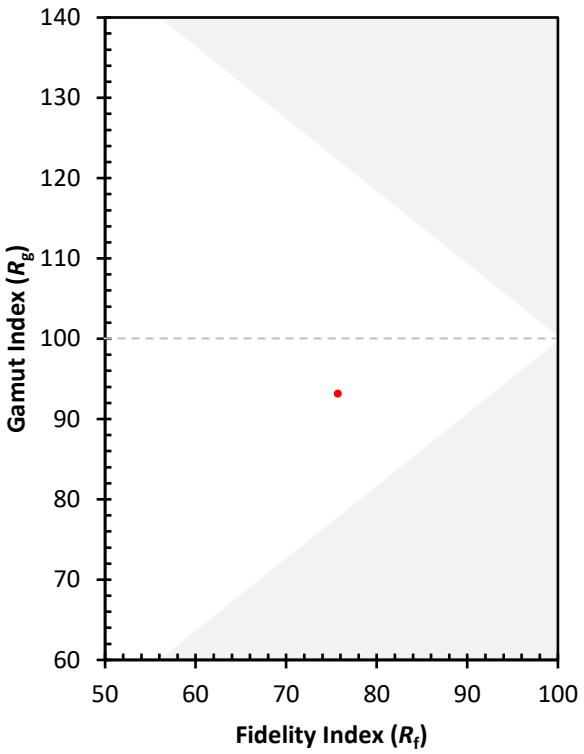


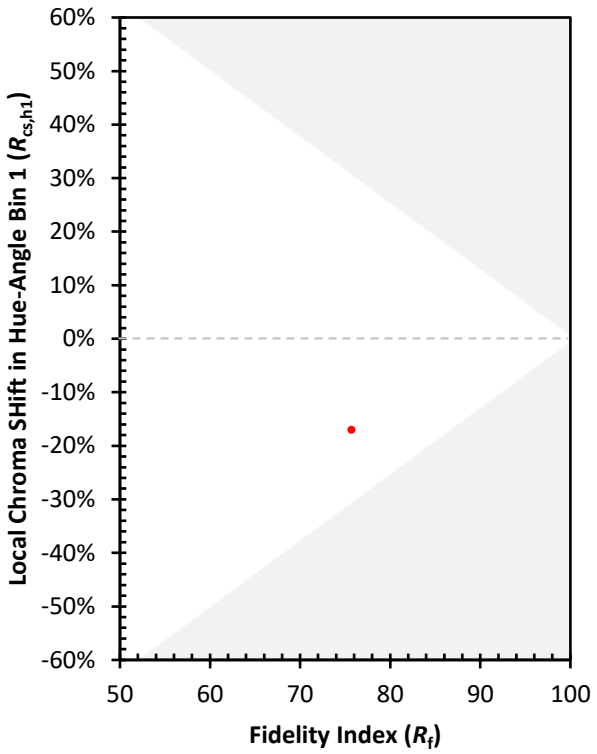
## Color Rendition by Hue-Angle Bin



## TM-30-18

### Measure Comparisons




(END OF REPORT)