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

Scaled data based on original data using

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P1211861

Luminaire Tested: **GKO-PB2A-835-U-T3**

Issue Date: 11/5/2025

Report Generated By 670245763

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P1211861 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 11/5/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GKO-PB2A-835-U-T3 |
| Description: | GEKKO WALL PACK 4000LM PACKAGE 80CRI 3500K FIXTURE w/ TYPE III DISTRIBUTION OPTIC |
| Light Source: | (20) 3500K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 3744.8 lumens |
| Efficiency: | N/A |
| Efficacy: | 141.3 lumens/watt |
| Luminous Opening: | Rectangular (W 0.67' x L: 0.33' x H: 0') |
| IES Classification: | Type III - Medium |
| BUG Rating: | B1 - U0 - G1 |

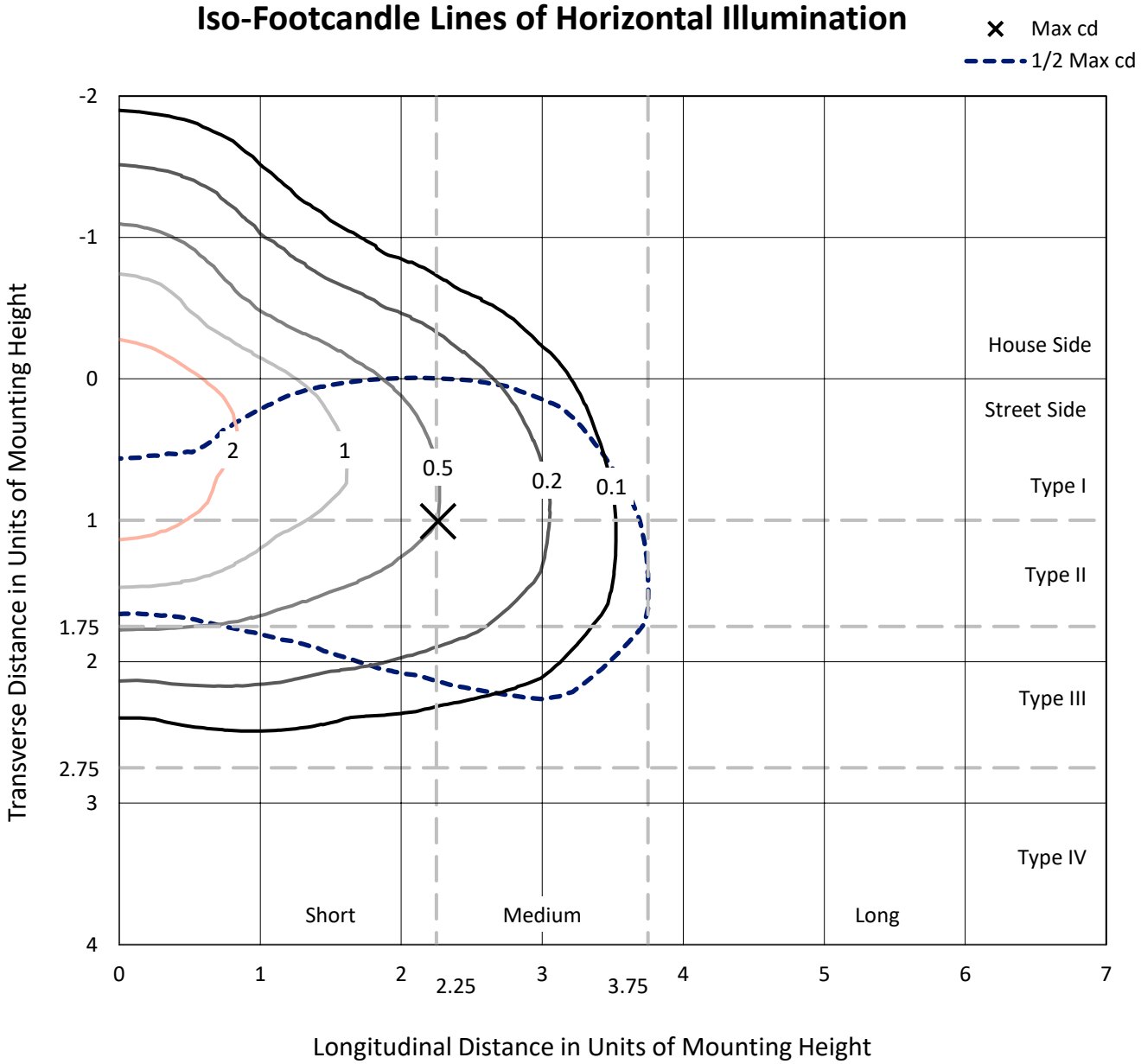
| | |
|---|---|
| Input Watts (W): | 26.5 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.97 |
| Total Harmonic Distortion (THDi): | 12% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°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: P1211861
CATALOG NUMBER: GKO-PB2A-835-U-T3

## Iso-Footcandle Lines of Horizontal Illumination



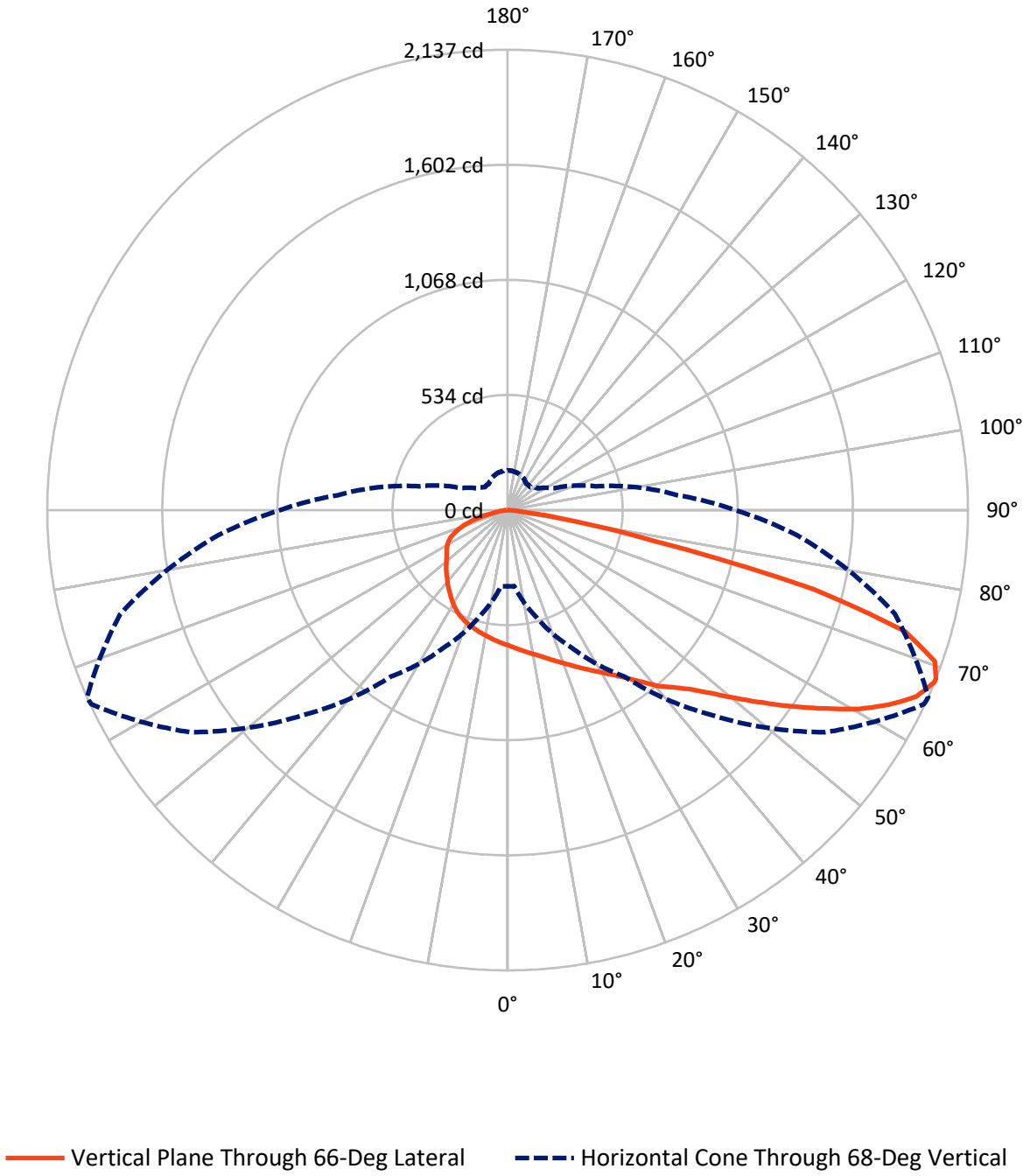

Based on 15 foot mounting height. Maximum calculated value = 3.2 fc
Type III - Medium - N/A

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

Scaled Data Report

REPORT NUMBER: P1211861
CATALOG NUMBER: GKO-PB2A-835-U-T3

## Luminous Intensity Polar Plot



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

Scaled Data Report

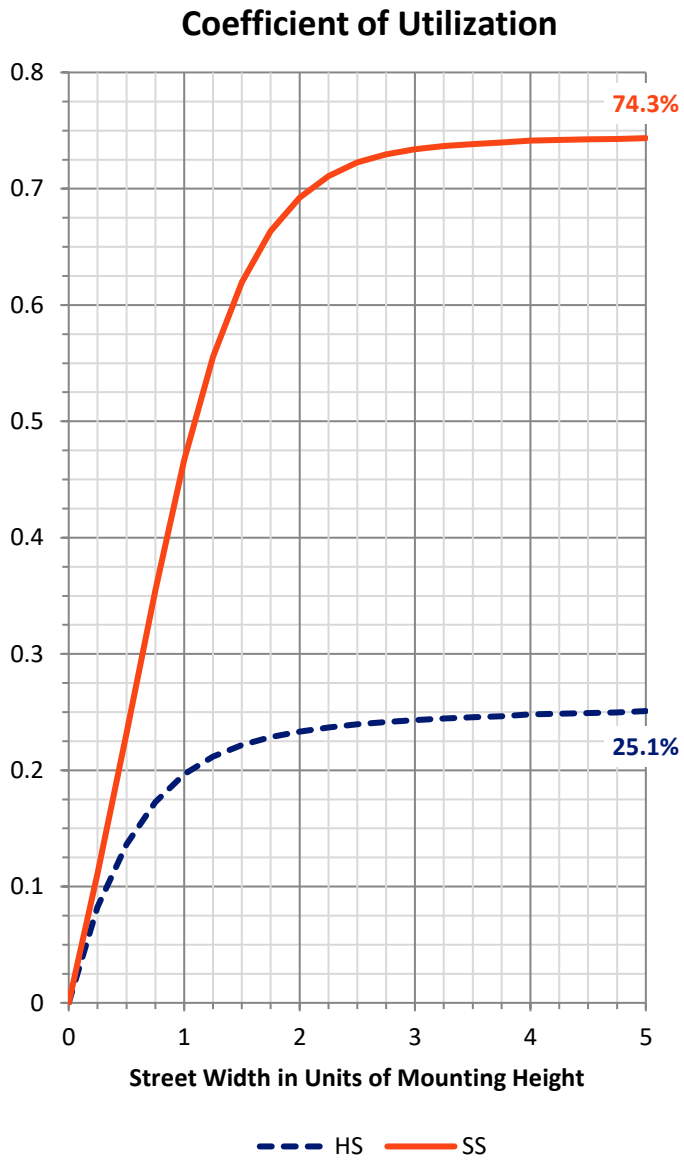
REPORT NUMBER: P1211861
CATALOG NUMBER: GKO-PB2A-835-U-T3

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 958.7 | 0.0 | 958.7 |
| | % Fixture | 25.6 | 0.0 | 25.6 |
| **Street Side** | Lumens | 2786.1 | 0.0 | 2786.1 |
| | % Fixture | 74.4 | 0.0 | 74.4 |
| **Total** | Lumens | 3744.8 | 0.0 | 3744.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 60.2 | 1.6 |
| 10°-20° | 181.1 | 4.8 |
| 20°-30° | 312.1 | 8.3 |
| 30°-40° | 484.1 | 12.9 |
| 40°-50° | 663.2 | 17.7 |
| 50°-60° | 791.2 | 21.1 |
| 60°-70° | 792.8 | 21.2 |
| 70°-80° | 419.5 | 11.2 |
| 80°-90° | 40.5 | 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° | 3744.8 | 100.0 |
| 0°-180° | 3744.8 | 100.0 |



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

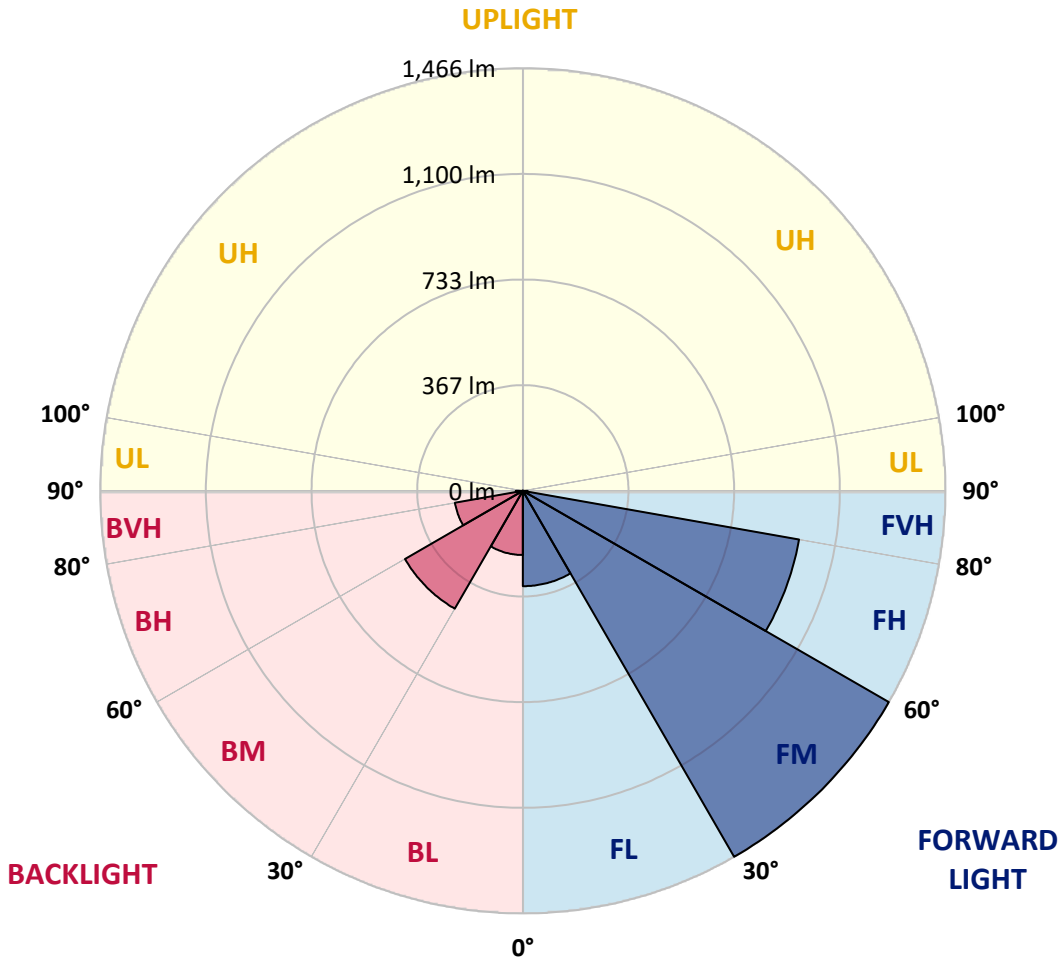
Scaled Data Report

REPORT NUMBER: P1211861
CATALOG NUMBER: GKO-PB2A-835-U-T3

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 330.8 | 8.8 | | | |
| FM | (30°-60°) | 1466.3 | 39.2 | | | |
| FH | (60°-80°) | 973.1 | 26.0 | | | G1/1800 |
| FVH | (80°-90°) | 15.9 | 0.4 | | | G1/100 |
| BL | (0°-30°) | 222.7 | 5.9 | B1/500 | | |
| BM | (30°-60°) | 472.3 | 12.6 | B1/1000 | | |
| BH | (60°-80°) | 239.2 | 6.4 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 24.6 | 0.7 | | | 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 III Medium



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

Scaled Data Report

REPORT NUMBER: P1211861
CATALOG NUMBER: GKO-PB2A-835-U-T3

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | *628.1* | 628.1 | 628.1 |
| 2.5° | 654.3 | 654.3 | 652.8 | 652.1 | 651.3 | 647.0 | 644.1 | 640.4 | *640.4* | 634.6 | 629.5 |
| 5° | 676.8 | 677.5 | 674.6 | 674.6 | 671.7 | 665.9 | 660.1 | 652.8 | *652.8* | 644.1 | 633.9 |
| 7.5° | 696.4 | 698.6 | 695.7 | 695.7 | 692.8 | 686.2 | 676.8 | 666.6 | *666.6* | 654.3 | 639.7 |
| 10° | 715.3 | 716.8 | 715.3 | 716.8 | 712.4 | 706.6 | 695.7 | 681.9 | *681.1* | 665.9 | 645.5 |
| 12.5° | 730.6 | 732.0 | 732.8 | 734.9 | 731.3 | 726.9 | 716.8 | 699.3 | *697.1* | 679.0 | 652.8 |
| 15° | 745.1 | 746.6 | 748.8 | 751.7 | 750.9 | 747.3 | 737.9 | 718.2 | *716.8* | 693.5 | 662.2 |
| 17.5° | 756.8 | 757.5 | 761.8 | 767.7 | 769.1 | 769.8 | 759.7 | 739.3 | *737.9* | 710.2 | 672.4 |
| 20° | 773.5 | 774.9 | 779.3 | 785.1 | 789.5 | 792.4 | 784.4 | 761.8 | *760.4* | 729.9 | 685.5 |
| 22.5° | 811.3 | 809.1 | 811.3 | 811.3 | 813.5 | 817.8 | 812.0 | 789.5 | *786.6* | 753.1 | 701.5 |
| 25° | 882.5 | 880.3 | 874.5 | 861.4 | 846.9 | 846.2 | 839.6 | 817.8 | *814.2* | 777.1 | 716.8 |
| 27.5° | 982.1 | 977.0 | 966.1 | 938.5 | 903.6 | 881.1 | 870.9 | 848.3 | *844.0* | 801.1 | 731.3 |
| 30° | 1087.5 | 1093.3 | 1075.2 | 1037.4 | 973.4 | 925.4 | 905.8 | 880.3 | *876.7* | 828.0 | 748.8 |
| 32.5° | 1210.4 | 1211.1 | 1192.9 | 1140.6 | 1057.7 | 981.4 | 947.9 | 916.7 | *913.8* | 859.3 | 772.0 |
| 35° | 1281.6 | 1284.5 | 1276.5 | 1227.8 | 1133.3 | 1043.2 | 998.8 | 961.0 | *958.8* | 898.5 | 801.1 |
| 37.5° | 1355.8 | 1362.3 | 1349.9 | 1296.1 | 1190.7 | 1100.6 | 1055.5 | 1014.1 | *1011.9* | 943.6 | 837.4 |
| 40° | 1465.5 | 1462.6 | 1449.5 | 1370.3 | 1244.5 | 1148.6 | 1111.5 | 1078.8 | *1073.7* | 998.8 | 874.5 |
| 42.5° | 1544.8 | 1552.0 | 1523.7 | 1434.3 | 1303.4 | 1196.6 | 1167.5 | 1130.4 | *1123.9* | 1032.3 | 896.3 |
| 45° | 1571.7 | 1565.1 | 1533.9 | 1468.4 | 1380.5 | 1240.2 | 1220.5 | 1192.2 | *1185.6* | 1091.1 | 939.2 |
| 47.5° | 1577.5 | 1565.8 | 1538.2 | 1488.8 | 1445.9 | 1296.9 | 1285.2 | 1278.7 | *1269.2* | 1165.3 | 990.8 |
| 50° | 1541.9 | 1533.9 | 1520.8 | 1496.1 | 1488.1 | 1349.9 | 1355.8 | 1379.7 | *1371.7* | 1245.3 | 1048.3 |
| 52.5° | 1461.2 | 1457.5 | 1469.2 | 1485.2 | 1464.1 | 1395.7 | 1439.4 | 1488.1 | *1485.2* | 1333.2 | 1110.0 |
| 55° | 1309.2 | 1309.2 | 1374.7 | 1430.6 | 1443.0 | 1425.5 | 1529.5 | 1613.1 | *1609.5* | 1432.1 | 1168.9 |
| 57.5° | 1170.4 | 1172.6 | 1227.1 | 1352.8 | 1405.2 | 1457.5 | 1629.8 | 1743.9 | *1738.1* | 1543.3 | 1230.7 |
| 60° | 995.2 | 995.2 | 1078.1 | 1235.8 | 1350.7 | 1482.2 | 1718.5 | 1870.4 | *1874.1* | 1650.9 | 1291.8 |
| 62.5° | 788.0 | 790.2 | 905.0 | 1090.4 | 1272.2 | 1486.6 | 1789.0 | 1989.7 | *1988.9* | 1748.3 | 1339.0 |
| 65° | 580.8 | 581.6 | 737.9 | 929.0 | 1154.4 | 1456.1 | 1827.5 | 2081.2 | *2085.6* | 1825.4 | 1366.7 |
| 67.5° | 377.3 | 384.6 | 543.0 | 753.8 | 987.9 | 1369.6 | 1807.2 | 2130.0 | *2135.0* | 1861.0 | 1357.9 |
| 68° | *353.3* | *354.7* | *514.0* | *705.9* | *942.8* | *1347.8* | *1797.7* | *2132.1* | *2136.5* | *1860.3* | *1349.2* |
| 70° | 229.0 | 229.0 | 367.8 | 551.0 | 752.4 | 1211.8 | 1715.6 | 2098.0 | *2103.1* | 1828.3 | 1286.0 |
| 72.5° | 123.6 | 125.8 | 210.1 | 333.7 | 514.0 | 937.8 | 1548.4 | 1919.9 | *1928.6* | 1653.1 | 1124.6 |
| 75° | 86.5 | 88.0 | 122.1 | 186.8 | 279.9 | 610.6 | 1210.4 | 1467.0 | *1465.5* | 1142.0 | 704.4 |
| 77.5° | 62.5 | 62.5 | 69.8 | 116.3 | 146.8 | 279.1 | 599.0 | 706.6 | *698.6* | 557.6 | 355.5 |
| 80° | 40.7 | 40.7 | 43.6 | 61.1 | 70.5 | 85.1 | 183.2 | 306.0 | *311.9* | 271.9 | 177.4 |
| 82.5° | 16.7 | 17.4 | 18.9 | 24.7 | 25.4 | 35.6 | 52.3 | 88.0 | *85.1* | 69.1 | 50.2 |
| 85° | 2.2 | 2.2 | 2.9 | 3.6 | 4.4 | 8.0 | 7.3 | 7.3 | *7.3* | 8.7 | 8.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 1.5 | 2.2 | *2.2* | 2.9 | 2.2 |
| 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

Scaled Data Report

REPORT NUMBER: P1211861
CATALOG NUMBER: GKO-PB2A-835-U-T3

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 | 628.1 |
| 2.5° | 628.1 | 628.1 | 623.7 | 619.4 | 615.0 | 611.4 | 606.3 | 602.6 | 603.4 | 605.5 | 604.8 |
| 5° | 631.7 | 628.1 | 619.4 | 609.9 | 602.6 | 596.1 | 586.6 | 581.6 | 580.8 | 582.3 | 581.6 |
| 7.5° | 633.9 | 628.1 | 615.0 | 600.5 | 588.8 | 580.1 | 567.0 | 561.9 | 559.7 | 560.5 | 560.5 |
| 10° | 638.3 | 628.8 | 610.6 | 590.3 | 575.7 | 563.4 | 549.6 | 542.3 | 540.1 | 540.1 | 539.4 |
| 12.5° | 643.3 | 630.3 | 606.3 | 581.6 | 562.7 | 548.1 | 532.1 | 524.1 | 521.9 | 521.9 | 521.2 |
| 15° | 648.4 | 632.4 | 601.9 | 572.1 | 550.3 | 532.9 | 517.6 | 508.1 | 505.2 | 505.2 | 506.7 |
| 17.5° | 655.0 | 634.6 | 597.5 | 563.4 | 537.2 | 517.6 | 501.6 | 492.1 | 488.5 | 490.7 | 492.1 |
| 20° | 661.5 | 639.0 | 593.2 | 553.9 | 524.1 | 503.8 | 487.8 | 478.3 | 474.7 | 478.3 | 479.1 |
| 22.5° | 671.0 | 642.6 | 588.1 | 543.0 | 511.0 | 488.5 | 474.0 | 465.2 | 463.1 | 466.7 | 469.6 |
| 25° | 680.4 | 647.0 | 581.6 | 531.4 | 494.3 | 472.5 | 460.9 | 454.3 | 455.1 | 460.2 | 463.1 |
| 27.5° | 690.6 | 650.6 | 575.0 | 516.9 | 476.1 | 455.8 | 447.1 | 445.6 | 448.5 | 454.3 | 458.0 |
| 30° | 703.0 | 655.7 | 566.3 | 500.1 | 455.8 | 437.6 | 434.0 | 438.3 | 443.4 | 449.3 | 452.9 |
| 32.5° | 718.9 | 662.2 | 557.6 | 481.2 | 434.7 | 418.0 | 423.8 | 433.3 | 439.1 | 444.9 | 448.5 |
| 35° | 741.5 | 675.3 | 552.5 | 462.3 | 412.2 | 401.3 | 414.4 | 429.6 | 434.0 | 437.6 | 442.0 |
| 37.5° | 767.7 | 692.8 | 550.3 | 444.9 | 391.8 | 386.7 | 404.9 | 423.1 | 424.5 | 426.0 | 430.4 |
| 40° | 793.1 | 705.9 | 544.5 | 426.0 | 370.7 | 370.7 | 393.3 | 410.7 | 410.0 | 407.8 | 410.7 |
| 42.5° | 803.3 | 704.4 | 527.8 | 407.8 | 354.0 | 354.7 | 375.1 | 391.8 | 387.5 | 387.5 | 391.8 |
| 45° | 832.4 | 716.0 | 515.4 | 393.3 | 338.8 | 335.8 | 351.8 | 364.9 | 372.2 | 381.6 | 386.0 |
| 47.5° | 869.4 | 732.0 | 506.0 | 376.6 | 324.2 | 314.8 | 323.5 | 345.3 | 357.7 | 367.8 | 371.5 |
| 50° | 908.0 | 750.2 | 497.2 | 359.1 | 309.7 | 290.8 | 295.1 | 319.1 | 330.0 | 335.1 | 337.3 |
| 52.5° | 947.2 | 766.9 | 490.7 | 344.6 | 293.0 | 262.4 | 271.9 | 294.4 | 302.4 | 305.3 | 306.8 |
| 55° | 982.1 | 780.7 | 484.9 | 332.2 | 274.1 | 239.9 | 247.2 | 270.4 | 276.2 | 279.1 | 281.3 |
| 57.5° | 1019.2 | 796.0 | 481.2 | 320.6 | 253.0 | 220.3 | 225.4 | 246.4 | 254.4 | 257.3 | 259.5 |
| 60° | 1051.9 | 810.5 | 478.3 | 308.2 | 233.3 | 202.8 | 205.7 | 226.1 | 234.8 | 236.3 | 238.4 |
| 62.5° | 1073.7 | 820.0 | 474.0 | 293.0 | 215.2 | 186.1 | 186.8 | 206.5 | 215.9 | 217.4 | 218.8 |
| 65° | 1079.5 | 817.8 | 460.9 | 272.6 | 197.0 | 169.4 | 169.4 | 188.3 | 198.5 | 203.5 | 205.7 |
| 67.5° | 1062.1 | 799.6 | 433.3 | 246.4 | 179.6 | 154.1 | 154.1 | 170.8 | 181.7 | 187.6 | 189.7 |
| 68° | *1056.3* | *791.6* | *424.5* | *239.9* | *175.2* | *150.5* | *150.5* | *167.9* | *178.1* | *183.2* | *184.6* |
| 70° | 1006.8 | 752.4 | 384.6 | 215.2 | 161.4 | 139.6 | 139.6 | 154.8 | 165.7 | 165.7 | 165.0 |
| 72.5° | 874.5 | 652.1 | 316.2 | 180.3 | 141.0 | 123.6 | 125.8 | 140.3 | 143.9 | 147.6 | 146.8 |
| 75° | 541.6 | 390.4 | 212.3 | 142.5 | 118.5 | 108.3 | 112.7 | 125.8 | 127.9 | 135.9 | 133.8 |
| 77.5° | 271.2 | 191.2 | 112.7 | 82.9 | 91.6 | 93.0 | 101.0 | 110.5 | 117.0 | 125.8 | 119.9 |
| 80° | 133.8 | 93.0 | 66.2 | 51.6 | 53.8 | 68.3 | 88.0 | 95.2 | 106.9 | 112.7 | 107.6 |
| 82.5° | 37.1 | 28.4 | 26.9 | 28.4 | 40.0 | 53.1 | 69.1 | 84.3 | 99.6 | 104.7 | 97.4 |
| 85° | 6.5 | 5.1 | 4.4 | 13.8 | 27.6 | 39.3 | 56.0 | 74.9 | 89.4 | 85.8 | 80.7 |
| 87.5° | 2.2 | 1.5 | 1.5 | 8.7 | 20.4 | 32.0 | 48.0 | 66.9 | 76.3 | 69.1 | 61.8 |
| 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: SP1-2511-595-3

Test Date: 01/09/2026

Luminaire Tested: GKO-PB1C-835-U-T4W

Data in this report applies to families of products including GKO-PB1C

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

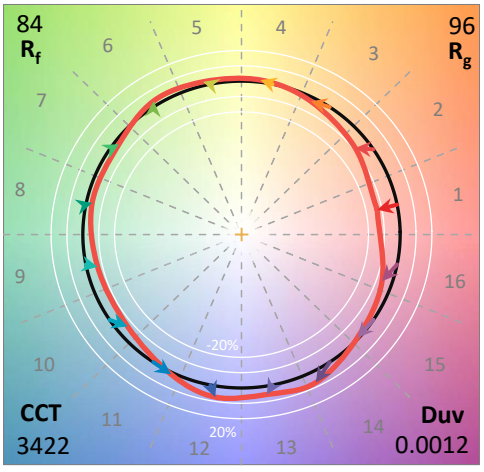
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2511-595-3 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 01/09/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGraw-Edison |
| Catalog Number: | **GKO-PB1C-835-U-T4W** |
| Description: | Gekko Wedge Wall Pack Fixture 1 SQ w/ T4W distribution |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3422 |
| CIE u': | 0.2372 |
| CIE v': | 0.5144 |
| Duv: | 0.0012 |
| CIE x: | 0.4111 |
| CIE y: | 0.3962 |
| CIE z: | 0.1928 |
| Peak Wavelength (nm): | 598 |
| Dominant Wavelength (nm): | 580 |
| Purity: | 42.28884 |
| Rf: | 83.9 |
| Rg: | 95.8 |

| | |
|---|---|
| CRI (Ra): | 81.5 |
| R1: | 79.2 |
| R2: | 88.7 |
| R3: | 96.3 |
| R4: | 80.3 |
| R5: | 79.7 |
| R6: | 85.6 |
| R7: | 83.5 |
| R8: | 58.4 |
| R9: | -1.4 |
| R10: | 74.4 |
| R11: | 79.7 |
| R12: | 66.0 |
| R13: | 81.3 |
| R14: | 98.3 |
| R15: | 71.2 |




## Test Conditions

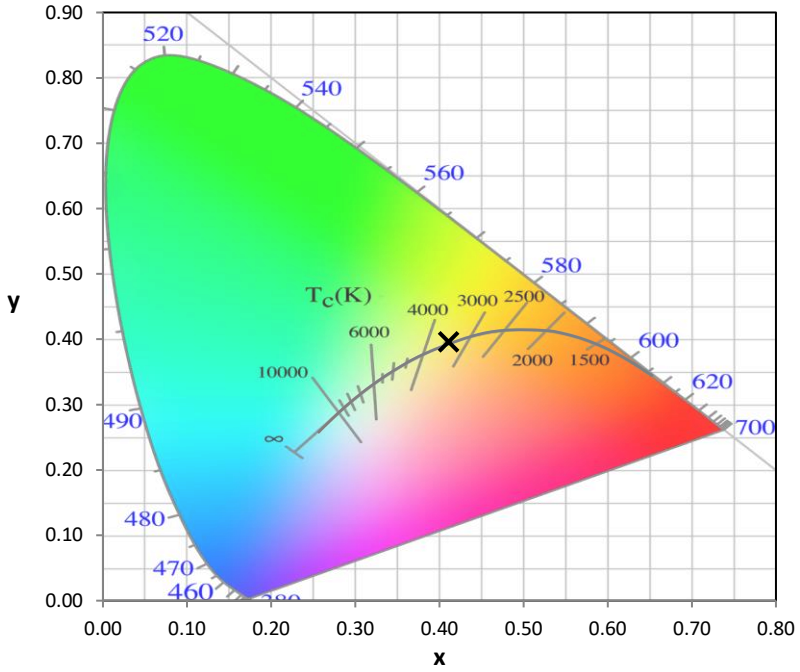
| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 25.1 |

REPORT NUMBER: SP1-2511-595-3

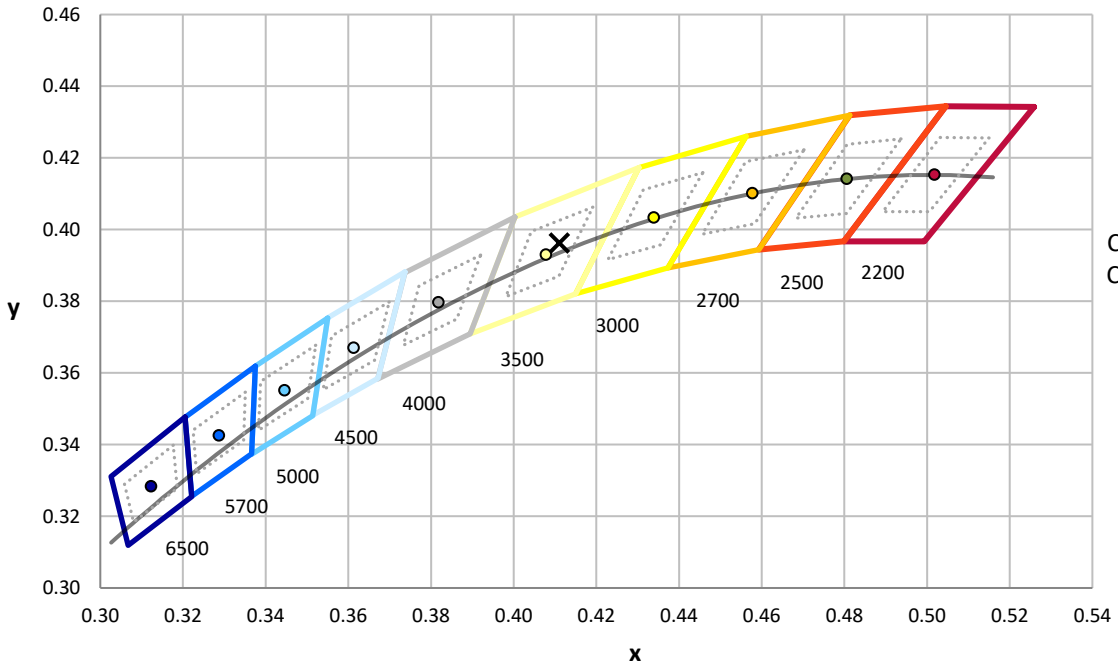
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 12/16/2025 | 6/16/2026 |
| Power Meter | XITRON INXT2011004 | 10/21/2025 | 10/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 10/21/2025 | 10/21/2026 |
| DC Power Source | AGILENT E3634A IN0208 | 10/21/2025 | 10/21/2026 |
| Sphere Thermometer | ONSET IN0085 | 10/21/2025 | 10/21/2026 |
| Room Thermometer | ONSET IN0046 | 10/21/2025 | 10/21/2026 |

REPORT NUMBER: SP1-2511-595-3

## CIE 1931 Chromaticity Diagram




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

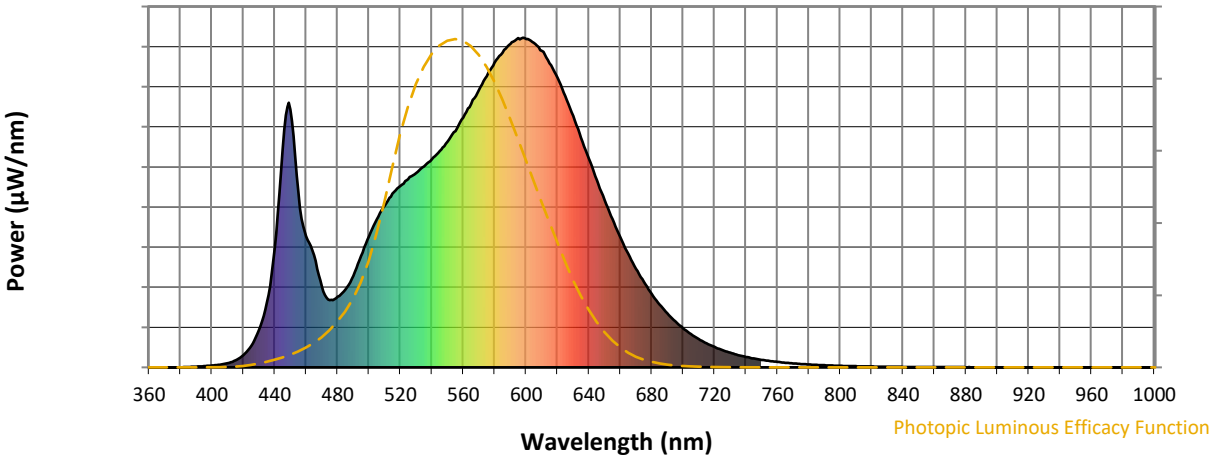



CCT = 3422K
CIE x = 0.4111
CIE y = 0.3962
Duv = 0.0012

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2511-595-3

## Photopic Flux vs. Wavelength

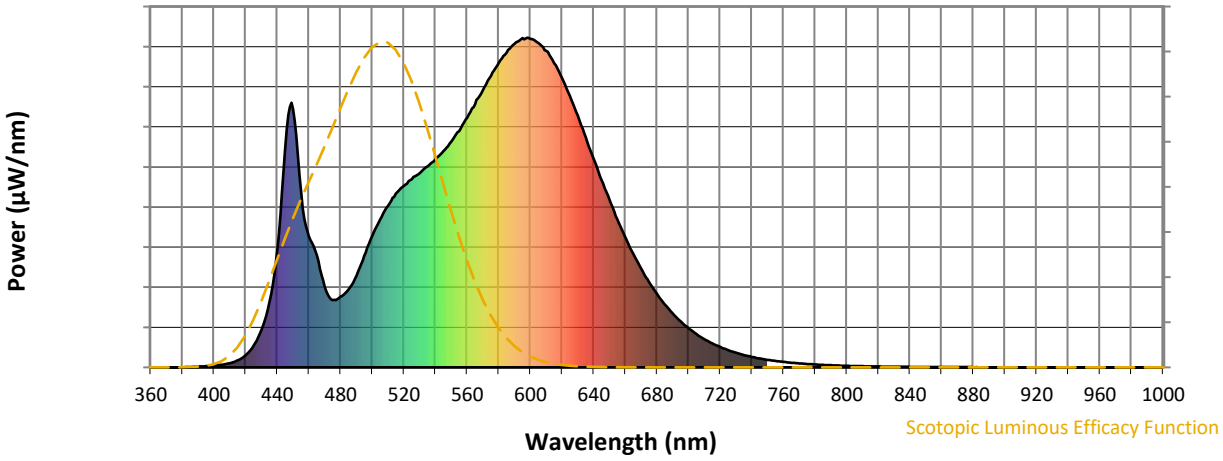



## Photopic Lumens: NR

| 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 | 278 | NR | 620 | 878 | NR | 750 | 23 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 338 | NR | 625 | 823 | NR | 755 | 20 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 398 | NR | 630 | 763 | NR | 760 | 17 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 448 | NR | 635 | 697 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 490 | NR | 640 | 633 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 527 | NR | 645 | 568 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 550 | NR | 650 | 508 | NR | 780 | 9 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 571 | NR | 655 | 450 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 589 | NR | 660 | 395 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 610 | NR | 665 | 345 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 631 | NR | 670 | 299 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 656 | NR | 675 | 259 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 37 | NR | 550 | 685 | NR | 680 | 223 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 65 | NR | 555 | 717 | NR | 685 | 191 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 114 | NR | 560 | 758 | NR | 690 | 164 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 198 | NR | 565 | 799 | NR | 695 | 139 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 359 | NR | 570 | 841 | NR | 700 | 118 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 663 | NR | 575 | 883 | NR | 705 | 101 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 782 | NR | 580 | 924 | NR | 710 | 86 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 533 | NR | 585 | 954 | NR | 715 | 73 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 398 | NR | 590 | 982 | NR | 720 | 62 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 341 | NR | 595 | 999 | NR | 725 | 52 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 244 | NR | 600 | 996 | NR | 730 | 44 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 204 | NR | 605 | 984 | NR | 735 | 37 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 214 | NR | 610 | 960 | NR | 740 | 32 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 236 | NR | 615 | 923 | NR | 745 | 27 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2511-595-3

## Scotopic Flux vs. Wavelength

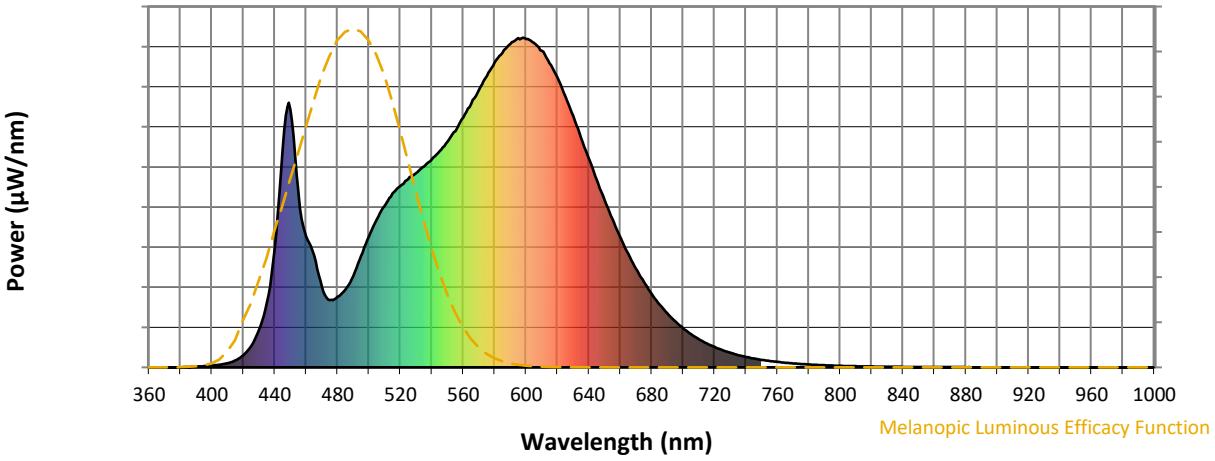



**Scotopic Lumens: NR** **S/P: 1.48**

| 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 | 278 | NR | 620 | 878 | NR | 750 | 23 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 338 | NR | 625 | 823 | NR | 755 | 20 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 398 | NR | 630 | 763 | NR | 760 | 17 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 448 | NR | 635 | 697 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 490 | NR | 640 | 633 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 527 | NR | 645 | 568 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 550 | NR | 650 | 508 | NR | 780 | 9 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 571 | NR | 655 | 450 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 589 | NR | 660 | 395 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 610 | NR | 665 | 345 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 631 | NR | 670 | 299 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 656 | NR | 675 | 259 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 37 | NR | 550 | 685 | NR | 680 | 223 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 65 | NR | 555 | 717 | NR | 685 | 191 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 114 | NR | 560 | 758 | NR | 690 | 164 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 198 | NR | 565 | 799 | NR | 695 | 139 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 359 | NR | 570 | 841 | NR | 700 | 118 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 663 | NR | 575 | 883 | NR | 705 | 101 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 782 | NR | 580 | 924 | NR | 710 | 86 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 533 | NR | 585 | 954 | NR | 715 | 73 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 398 | NR | 590 | 982 | NR | 720 | 62 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 341 | NR | 595 | 999 | NR | 725 | 52 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 244 | NR | 600 | 996 | NR | 730 | 44 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 204 | NR | 605 | 984 | NR | 735 | 37 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 214 | NR | 610 | 960 | NR | 740 | 32 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 236 | NR | 615 | 923 | NR | 745 | 27 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2511-595-3

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.92**

| 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 | 278 | NR | 620 | 878 | NR | 750 | 23 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 338 | NR | 625 | 823 | NR | 755 | 20 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 398 | NR | 630 | 763 | NR | 760 | 17 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 448 | NR | 635 | 697 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 490 | NR | 640 | 633 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 527 | NR | 645 | 568 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 550 | NR | 650 | 508 | NR | 780 | 9 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 571 | NR | 655 | 450 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 589 | NR | 660 | 395 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 610 | NR | 665 | 345 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 631 | NR | 670 | 299 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 656 | NR | 675 | 259 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 37 | NR | 550 | 685 | NR | 680 | 223 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 65 | NR | 555 | 717 | NR | 685 | 191 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 114 | NR | 560 | 758 | NR | 690 | 164 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 198 | NR | 565 | 799 | NR | 695 | 139 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 359 | NR | 570 | 841 | NR | 700 | 118 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 663 | NR | 575 | 883 | NR | 705 | 101 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 782 | NR | 580 | 924 | NR | 710 | 86 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 533 | NR | 585 | 954 | NR | 715 | 73 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 398 | NR | 590 | 982 | NR | 720 | 62 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 341 | NR | 595 | 999 | NR | 725 | 52 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 244 | NR | 600 | 996 | NR | 730 | 44 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 204 | NR | 605 | 984 | NR | 735 | 37 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 214 | NR | 610 | 960 | NR | 740 | 32 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 236 | NR | 615 | 923 | NR | 745 | 27 | NR | 875 | 1 | NR | | | |

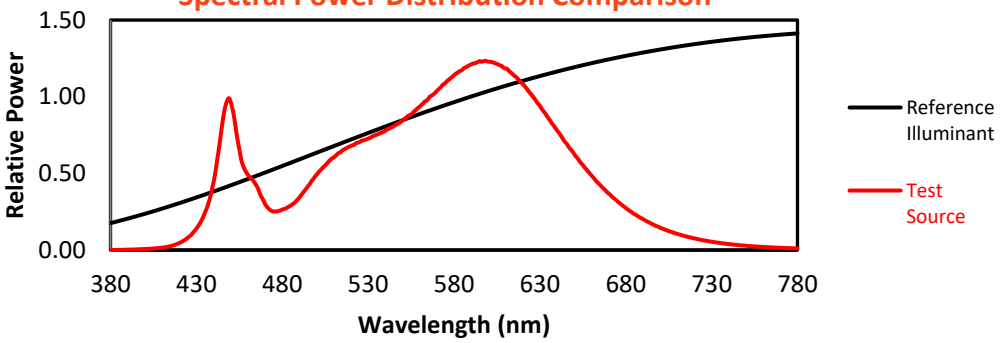
REPORT NUMBER: SP1-2511-595-3

# TM-30-18

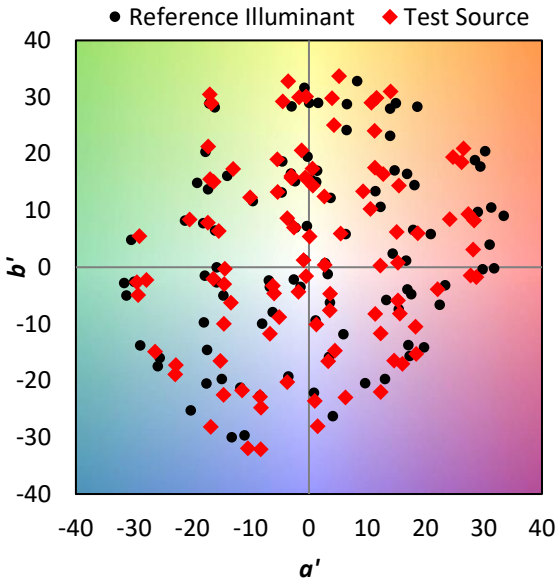
## Summary

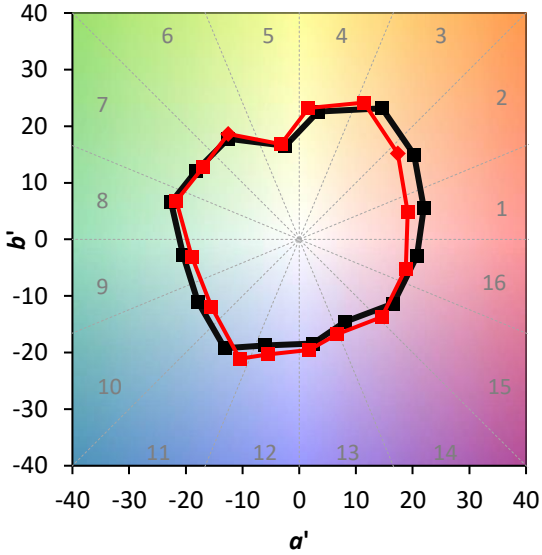
$R_f$ = 83.9
$R_g$ = 95.8
CIE $R_a$ = 81.5
$R_9$ = -1.4

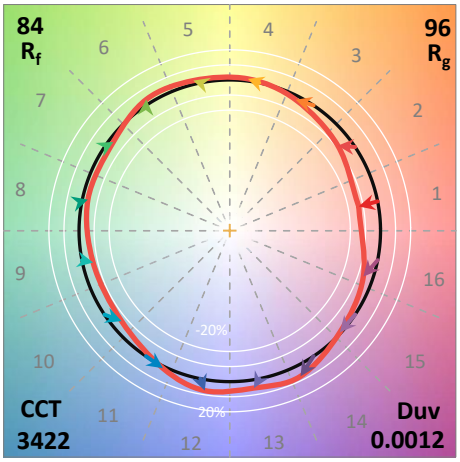
## Spectral Power Distribution Comparison

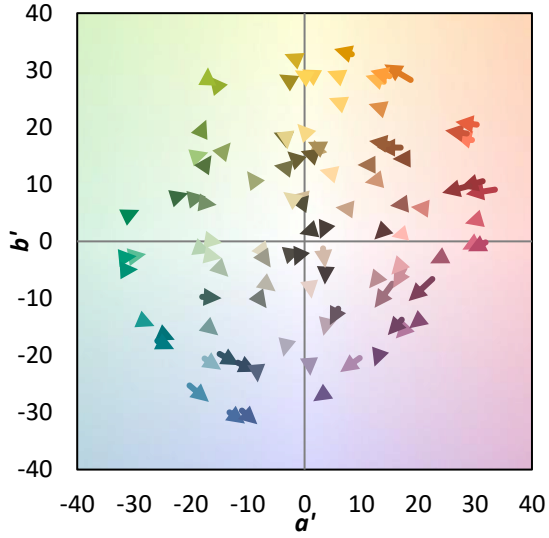



## Color Vector Graphics



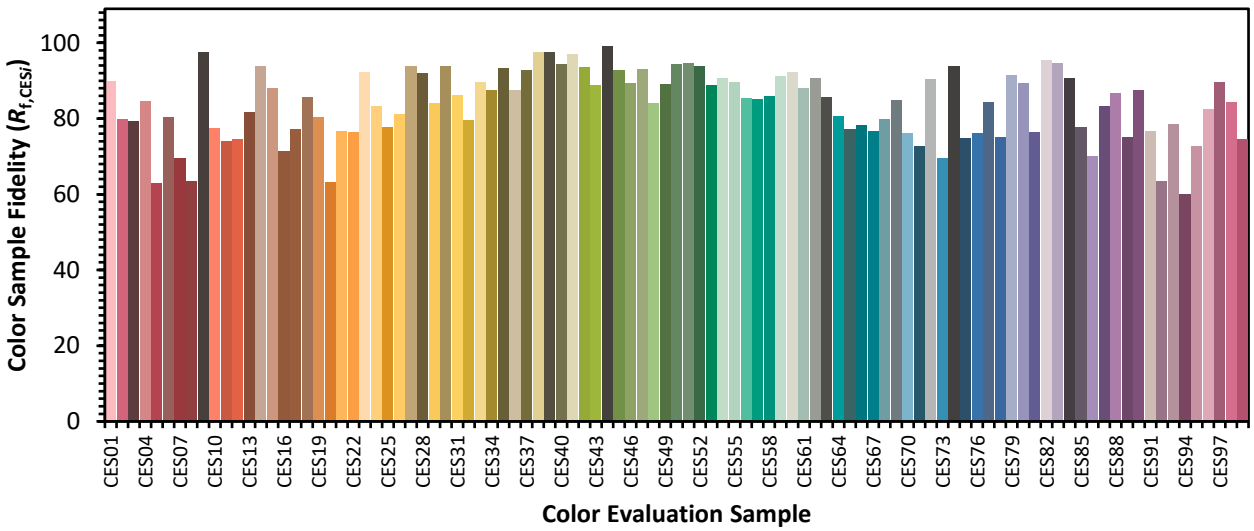



REPORT NUMBER: SP1-2511-595-3

# TM-30-18

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

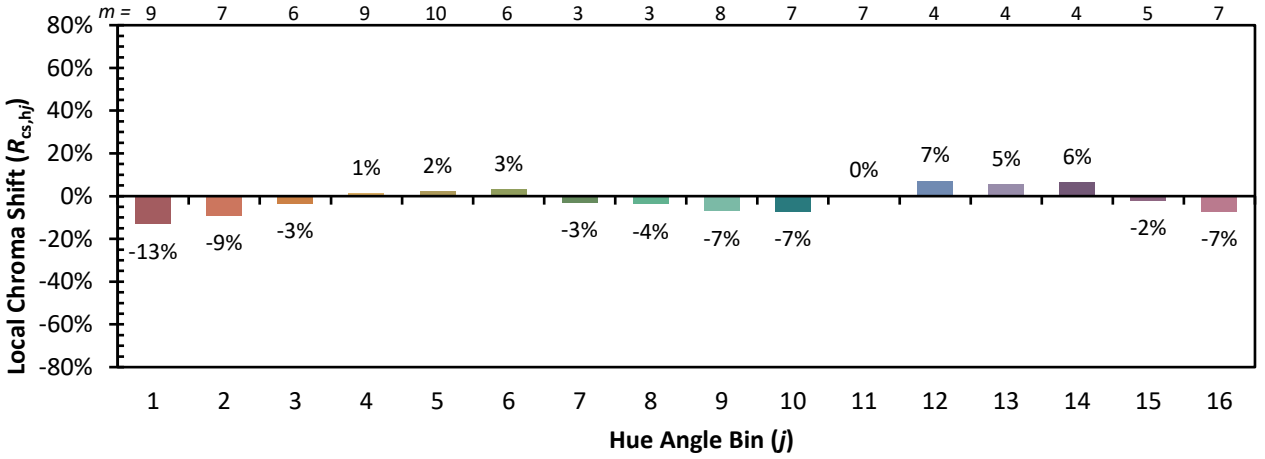
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 81 | CES51 = 95 | CES76 = 76 |
| CES02 = 62 | CES27 = 94 | CES52 = 94 | CES77 = 84 |
| CES03 = 31 | CES28 = 92 | CES53 = 89 | CES78 = 75 |
| CES04 = 70 | CES29 = 84 | CES54 = 91 | CES79 = 91 |
| CES05 = 49 | CES30 = 94 | CES55 = 90 | CES80 = 89 |
| CES06 = 51 | CES31 = 86 | CES56 = 85 | CES81 = 76 |
| CES07 = 41 | CES32 = 80 | CES57 = 85 | CES82 = 95 |
| CES08 = 40 | CES33 = 90 | CES58 = 86 | CES83 = 95 |
| CES09 = 29 | CES34 = 87 | CES59 = 91 | CES84 = 91 |
| CES10 = 75 | CES35 = 93 | CES60 = 92 | CES85 = 78 |
| CES11 = 58 | CES36 = 87 | CES61 = 88 | CES86 = 70 |
| CES12 = 64 | CES37 = 93 | CES62 = 91 | CES87 = 83 |
| CES13 = 43 | CES38 = 98 | CES63 = 86 | CES88 = 87 |
| CES14 = 74 | CES39 = 98 | CES64 = 81 | CES89 = 75 |
| CES15 = 71 | CES40 = 94 | CES65 = 77 | CES90 = 88 |
| CES16 = 47 | CES41 = 97 | CES66 = 78 | CES91 = 77 |
| CES17 = 50 | CES42 = 94 | CES67 = 77 | CES92 = 63 |
| CES18 = 56 | CES43 = 89 | CES68 = 80 | CES93 = 78 |
| CES19 = 72 | CES44 = 99 | CES69 = 85 | CES94 = 60 |
| CES20 = 66 | CES45 = 93 | CES70 = 76 | CES95 = 73 |
| CES21 = 86 | CES46 = 89 | CES71 = 73 | CES96 = 83 |
| CES22 = 78 | CES47 = 93 | CES72 = 90 | CES97 = 90 |
| CES23 = 92 | CES48 = 84 | CES73 = 70 | CES98 = 84 |
| CES24 = 91 | CES49 = 89 | CES74 = 94 | CES99 = 74 |
| CES25 = 72 | CES50 = 94 | CES75 = 75 | |

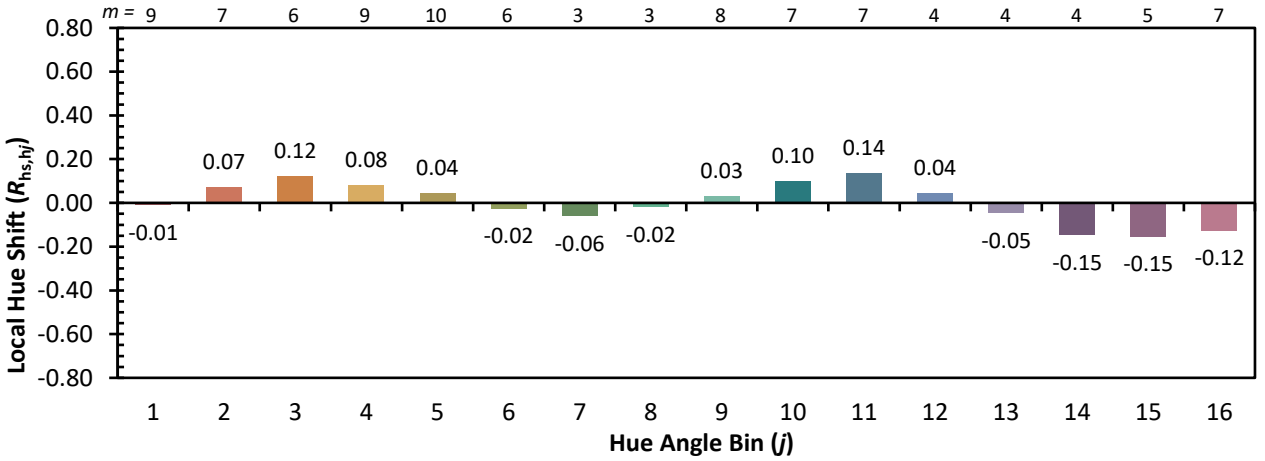


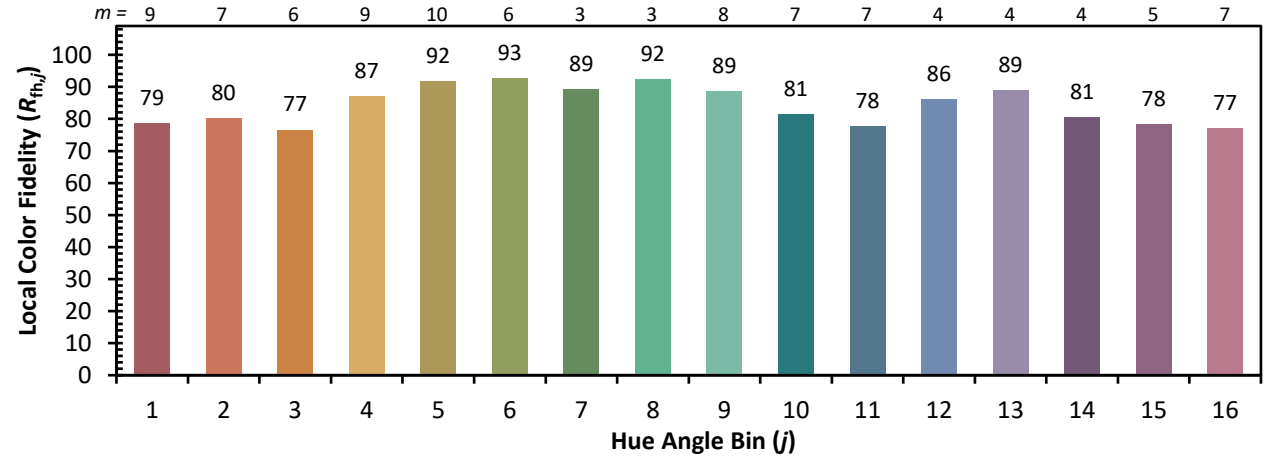
REPORT NUMBER: SP1-2511-595-3

**TM-30-18**

## Color Rendition by Hue-Angle Bin



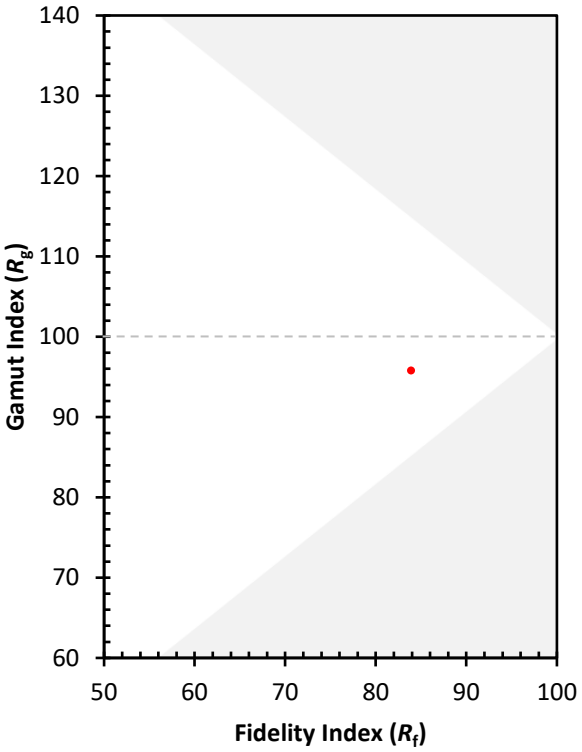



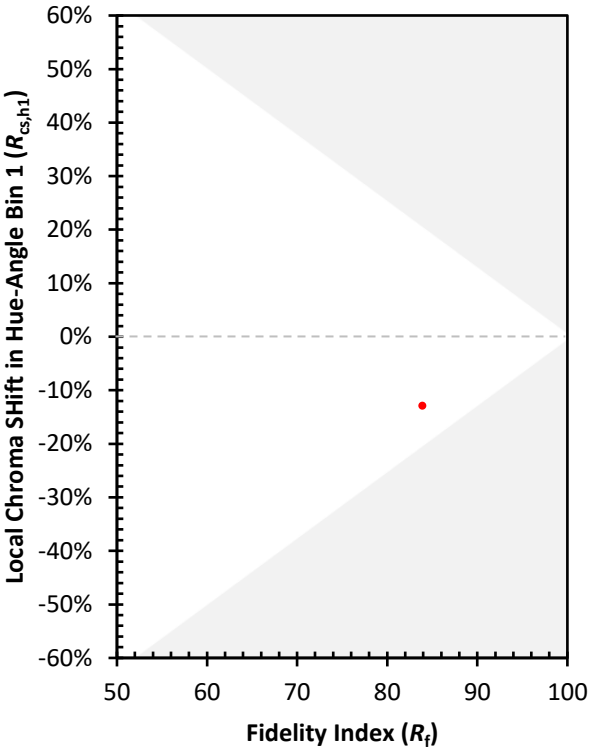



REPORT NUMBER: SP1-2511-595-3

## TM-30-18

### Measure Comparisons




(END OF REPORT)