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: P977129

Luminaire Tested: **GKO-PB1F-740-U-T3**

Issue Date: 03/19/2025

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: | P977129 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 03/19/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GKO-PB1F-740-U-T3 |
| Description: | GEKKO WALL PACK 6500LM PACKAGE 70CRI 4000K FIXTURE w/ TYPE III DISTRIBUTION OPTIC |
| Light Source: | (10) 4000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 6650.4 lumens |
| Efficiency: | N/A |
| Efficacy: | 122.0 lumens/watt |
| Luminous Opening: | Rectangular (W 0.33' x L: 0.33' x H: 0') |
| IES Classification: | Type III - Medium |
| BUG Rating: | B1 - U0 - G1 |

| | |
|---|---|
| Input Watts (W): | 54.5 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.99 |
| Total Harmonic Distortion (THDi): | 5.7% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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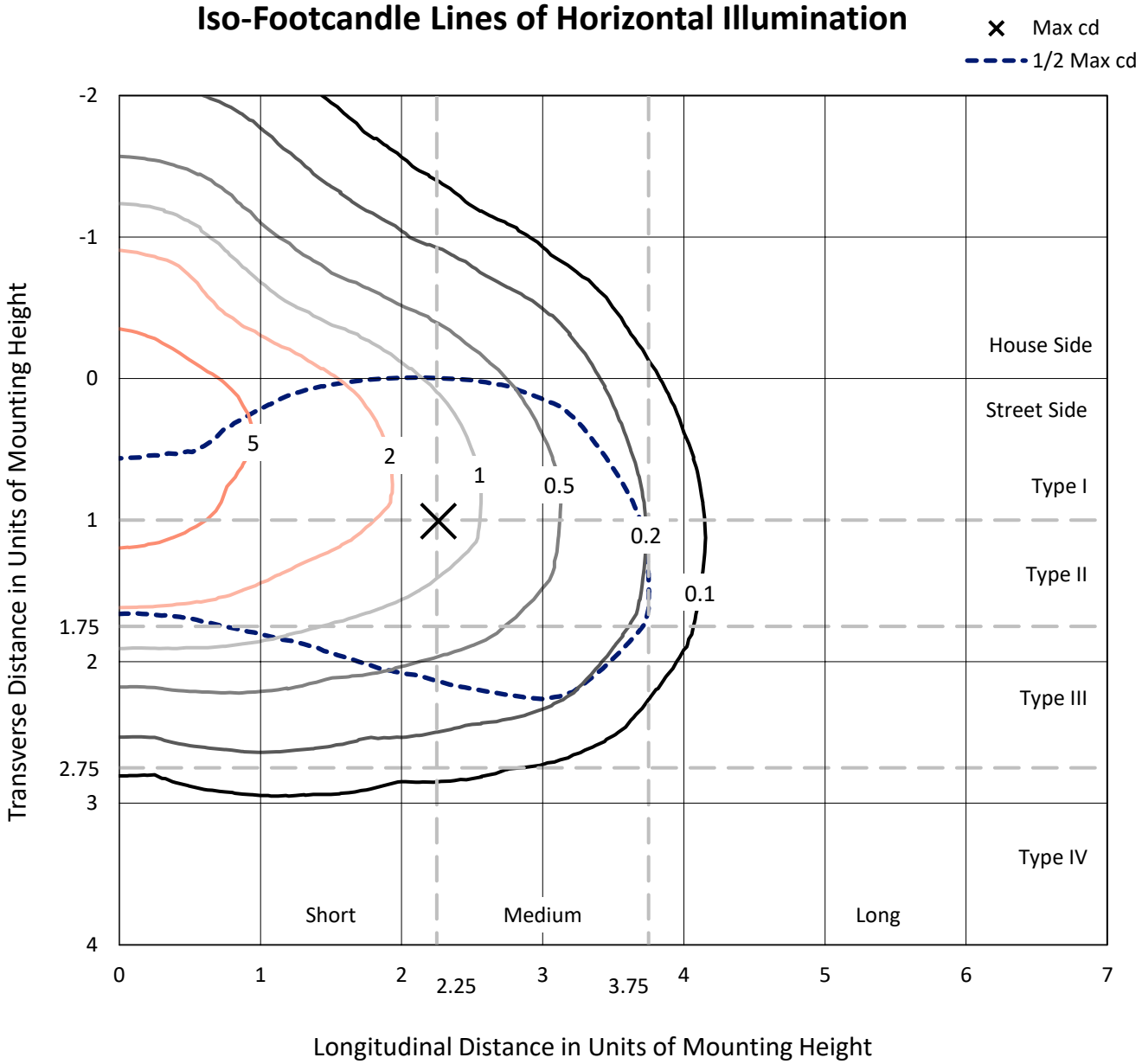
Scaled Data Report

REPORT NUMBER: P977129
CATALOG NUMBER: GKO-PB1F-740-U-T3

## Iso-Footcandle Lines of Horizontal Illumination




Based on 12 foot mounting height. Maximum calculated value = 8.9 fc
Type III - Medium - N/A

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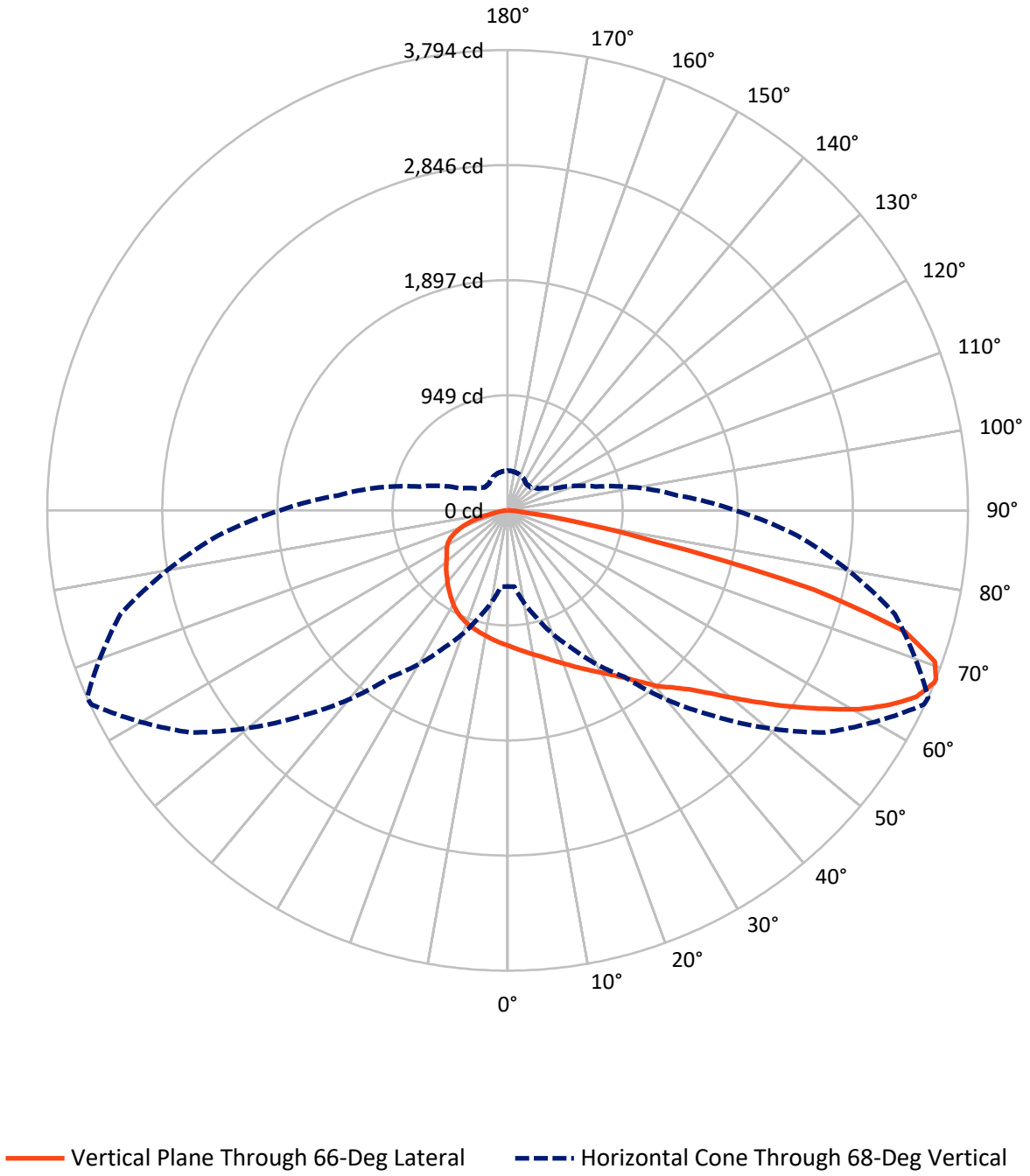
## Luminous Intensity Polar Plot



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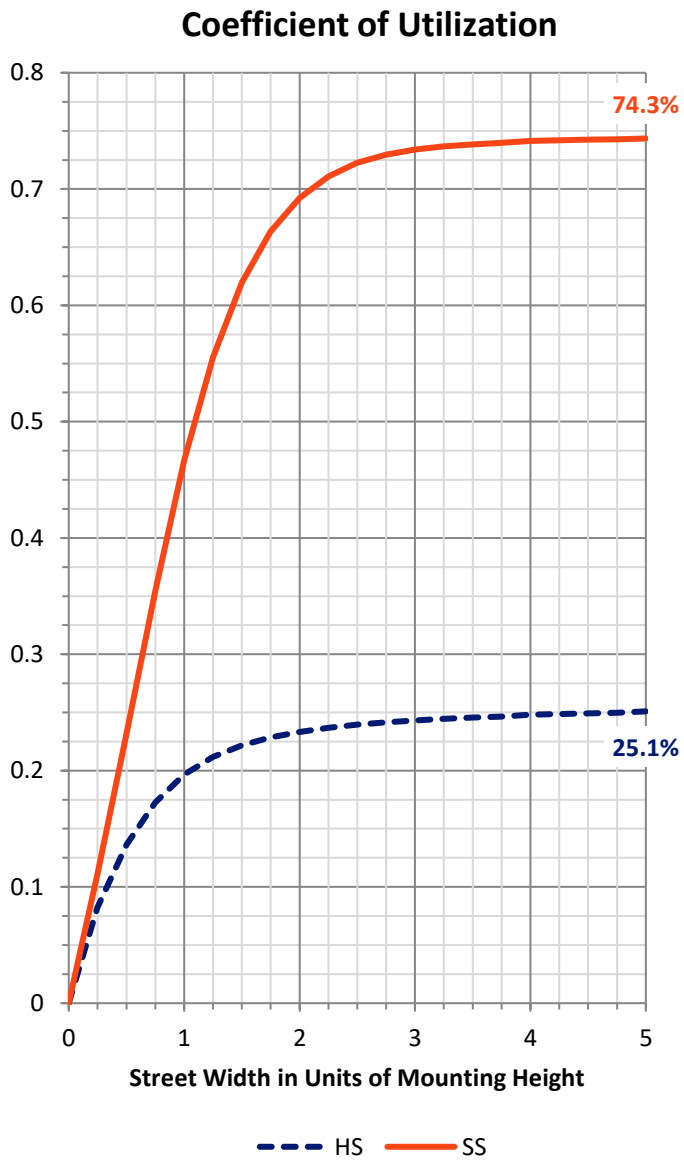
REPORT NUMBER: P977129
CATALOG NUMBER: GKO-PB1F-740-U-T3

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1702.6 | 0.0 | 1702.6 |
| | % Fixture | 25.6 | 0.0 | 25.6 |
| **Street Side** | Lumens | 4947.8 | 0.0 | 4947.8 |
| | % Fixture | 74.4 | 0.0 | 74.4 |
| **Total** | Lumens | 6650.4 | 0.0 | 6650.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 107.0 | 1.6 |
| 10°-20° | 321.6 | 4.8 |
| 20°-30° | 554.3 | 8.3 |
| 30°-40° | 859.8 | 12.9 |
| 40°-50° | 1177.8 | 17.7 |
| 50°-60° | 1405.1 | 21.1 |
| 60°-70° | 1407.9 | 21.2 |
| 70°-80° | 745.0 | 11.2 |
| 80°-90° | 71.9 | 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° | 6650.4 | 100.0 |
| 0°-180° | 6650.4 | 100.0 |



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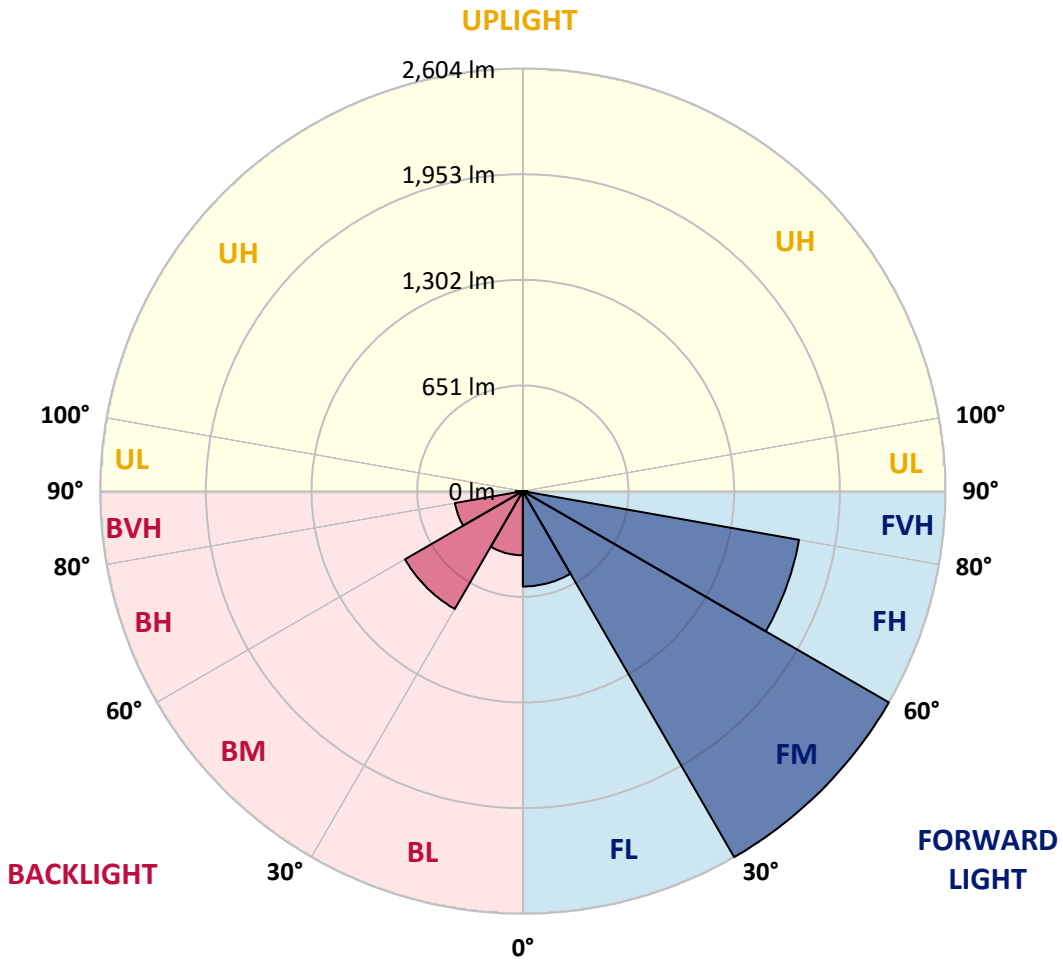
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 587.4 | 8.8 | | | |
| FM | (30°-60°) | 2604.0 | 39.2 | | | |
| FH | (60°-80°) | 1728.2 | 26.0 | | | G1/1800 |
| FVH | (80°-90°) | 28.3 | 0.4 | | | G1/100 |
| BL | (0°-30°) | 395.5 | 5.9 | B1/500 | | |
| BM | (30°-60°) | 838.7 | 12.6 | B1/1000 | | |
| BH | (60°-80°) | 424.8 | 6.4 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 43.6 | 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



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Scaled Data Report

REPORT NUMBER: P977129
CATALOG NUMBER: GKO-PB1F-740-U-T3

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | *1115.4* | 1115.4 | 1115.4 |
| 2.5° | 1161.9 | 1161.9 | 1159.3 | 1158.0 | 1156.7 | 1149.0 | 1143.8 | 1137.4 | *1137.4* | 1127.0 | 1118.0 |
| 5° | 1201.9 | 1203.2 | 1198.0 | 1198.0 | 1192.9 | 1182.6 | 1172.2 | 1159.3 | *1159.3* | 1143.8 | 1125.8 |
| 7.5° | 1236.8 | 1240.7 | 1235.5 | 1235.5 | 1230.3 | 1218.7 | 1201.9 | 1183.8 | *1183.8* | 1161.9 | 1136.1 |
| 10° | 1270.3 | 1272.9 | 1270.3 | 1272.9 | 1265.2 | 1254.9 | 1235.5 | 1211.0 | *1209.7* | 1182.6 | 1146.4 |
| 12.5° | 1297.5 | 1300.0 | 1301.3 | 1305.2 | 1298.7 | 1291.0 | 1272.9 | 1241.9 | *1238.1* | 1205.8 | 1159.3 |
| 15° | 1323.3 | 1325.9 | 1329.7 | 1334.9 | 1333.6 | 1327.1 | 1310.4 | 1275.5 | *1272.9* | 1231.6 | 1176.1 |
| 17.5° | 1343.9 | 1345.2 | 1353.0 | 1363.3 | 1365.9 | 1367.2 | 1349.1 | 1312.9 | *1310.4* | 1261.3 | 1194.2 |
| 20° | 1373.6 | 1376.2 | 1384.0 | 1394.3 | 1402.0 | 1407.2 | 1393.0 | 1353.0 | *1350.4* | 1296.2 | 1217.4 |
| 22.5° | 1440.8 | 1436.9 | 1440.8 | 1440.8 | 1444.6 | 1452.4 | 1442.0 | 1402.0 | *1396.9* | 1337.5 | 1245.8 |
| 25° | 1567.3 | 1563.4 | 1553.1 | 1529.8 | 1504.0 | 1502.7 | 1491.1 | 1452.4 | *1445.9* | 1380.1 | 1272.9 |
| 27.5° | 1744.1 | 1735.1 | 1715.7 | 1666.7 | 1604.7 | 1564.7 | 1546.6 | 1506.6 | *1498.9* | 1422.7 | 1298.7 |
| 30° | 1931.3 | 1941.7 | 1909.4 | 1842.3 | 1728.7 | 1643.4 | 1608.6 | 1563.4 | *1556.9* | 1470.5 | 1329.7 |
| 32.5° | 2149.5 | 2150.8 | 2118.5 | 2025.6 | 1878.4 | 1742.9 | 1683.5 | 1628.0 | *1622.8* | 1526.0 | 1371.0 |
| 35° | 2276.0 | 2281.2 | 2267.0 | 2180.5 | 2012.7 | 1852.6 | 1773.8 | 1706.7 | *1702.8* | 1595.7 | 1422.7 |
| 37.5° | 2407.7 | 2419.3 | 2397.4 | 2301.9 | 2114.7 | 1954.6 | 1874.5 | 1800.9 | *1797.1* | 1675.7 | 1487.2 |
| 40° | 2602.7 | 2597.5 | 2574.3 | 2433.5 | 2210.2 | 2039.8 | 1973.9 | 1915.8 | *1906.8* | 1773.8 | 1553.1 |
| 42.5° | 2743.4 | 2756.3 | 2705.9 | 2547.1 | 2314.8 | 2125.0 | 2073.3 | 2007.5 | *1995.9* | 1833.2 | 1591.8 |
| 45° | 2791.1 | 2779.5 | 2724.0 | 2607.8 | 2451.6 | 2202.4 | 2167.6 | 2117.2 | *2105.6* | 1937.8 | 1668.0 |
| 47.5° | 2801.5 | 2780.8 | 2731.8 | 2644.0 | 2567.8 | 2303.1 | 2282.5 | 2270.9 | *2254.1* | 2069.5 | 1759.6 |
| 50° | 2738.2 | 2724.0 | 2700.8 | 2656.9 | 2642.7 | 2397.4 | 2407.7 | 2450.3 | *2436.1* | 2211.5 | 1861.6 |
| 52.5° | 2594.9 | 2588.5 | 2609.1 | 2637.5 | 2600.1 | 2478.7 | 2556.2 | 2642.7 | *2637.5* | 2367.7 | 1971.4 |
| 55° | 2325.1 | 2325.1 | 2441.3 | 2540.7 | 2562.6 | 2531.7 | 2716.3 | 2864.7 | *2858.3* | 2543.3 | 2075.9 |
| 57.5° | 2078.5 | 2082.4 | 2179.2 | 2402.6 | 2495.5 | 2588.5 | 2894.4 | 3097.1 | *3086.8* | 2740.8 | 2185.7 |
| 60° | 1767.4 | 1767.4 | 1914.6 | 2194.7 | 2398.7 | 2632.4 | 3051.9 | 3321.7 | *3328.2* | 2931.9 | 2294.1 |
| 62.5° | 1399.4 | 1403.3 | 1607.3 | 1936.5 | 2259.3 | 2640.1 | 3177.2 | 3533.5 | *3532.2* | 3104.9 | 2378.0 |
| 65° | 1031.5 | 1032.8 | 1310.4 | 1649.9 | 2050.1 | 2585.9 | 3245.6 | 3696.1 | *3703.9* | 3241.7 | 2427.1 |
| 67.5° | 670.0 | 682.9 | 964.4 | 1338.8 | 1754.5 | 2432.2 | 3209.4 | 3782.6 | *3791.7* | 3305.0 | 2411.6 |
| 68° | *627.4* | *630.0* | *912.7* | *1253.6* | *1674.4* | *2393.5* | *3192.6* | *3786.5* | *3794.3* | *3303.7* | *2396.1* |
| 70° | 406.7 | 406.7 | 653.2 | 978.6 | 1336.2 | 2152.1 | 3046.8 | 3725.8 | *3734.9* | 3246.9 | 2283.8 |
| 72.5° | 219.5 | 223.3 | 373.1 | 592.6 | 912.7 | 1665.4 | 2749.8 | 3409.5 | *3425.0* | 2935.7 | 1997.2 |
| 75° | 153.6 | 156.2 | 216.9 | 331.8 | 497.0 | 1084.4 | 2149.5 | 2605.2 | *2602.7* | 2028.2 | 1251.0 |
| 77.5° | 111.0 | 111.0 | 123.9 | 206.6 | 260.8 | 495.7 | 1063.8 | 1254.9 | *1240.7* | 990.2 | 631.3 |
| 80° | 72.3 | 72.3 | 77.5 | 108.4 | 125.2 | 151.0 | 325.3 | 543.5 | *553.8* | 482.8 | 315.0 |
| 82.5° | 29.7 | 31.0 | 33.6 | 43.9 | 45.2 | 63.3 | 93.0 | 156.2 | *151.0* | 122.6 | 89.1 |
| 85° | 3.9 | 3.9 | 5.2 | 6.5 | 7.7 | 14.2 | 12.9 | 12.9 | *12.9* | 15.5 | 14.2 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 2.6 | 3.9 | *3.9* | 5.2 | 3.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.0 |

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Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P977129
CATALOG NUMBER: GKO-PB1F-740-U-T3

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 | 1115.4 |
| 2.5° | 1115.4 | 1115.4 | 1107.7 | 1099.9 | 1092.2 | 1085.7 | 1076.7 | 1070.2 | 1071.5 | 1075.4 | 1074.1 |
| 5° | 1121.9 | 1115.4 | 1099.9 | 1083.2 | 1070.2 | 1058.6 | 1041.8 | 1032.8 | 1031.5 | 1034.1 | 1032.8 |
| 7.5° | 1125.8 | 1115.4 | 1092.2 | 1066.4 | 1045.7 | 1030.2 | 1007.0 | 997.9 | 994.1 | 995.4 | 995.4 |
| 10° | 1133.5 | 1116.7 | 1084.4 | 1048.3 | 1022.5 | 1000.5 | 976.0 | 963.1 | 959.2 | 959.2 | 957.9 |
| 12.5° | 1142.5 | 1119.3 | 1076.7 | 1032.8 | 999.2 | 973.4 | 945.0 | 930.8 | 926.9 | 926.9 | 925.6 |
| 15° | 1151.6 | 1123.2 | 1068.9 | 1016.0 | 977.3 | 946.3 | 919.2 | 902.4 | 897.2 | 897.2 | 899.8 |
| 17.5° | 1163.2 | 1127.0 | 1061.2 | 1000.5 | 954.1 | 919.2 | 890.8 | 874.0 | 867.6 | 871.4 | 874.0 |
| 20° | 1174.8 | 1134.8 | 1053.5 | 983.7 | 930.8 | 894.7 | 866.3 | 849.5 | 843.0 | 849.5 | 850.8 |
| 22.5° | 1191.6 | 1141.2 | 1044.4 | 964.4 | 907.6 | 867.6 | 841.7 | 826.2 | 822.4 | 828.8 | 834.0 |
| 25° | 1208.4 | 1149.0 | 1032.8 | 943.7 | 877.9 | 839.2 | 818.5 | 806.9 | 808.2 | 817.2 | 822.4 |
| 27.5° | 1226.5 | 1155.4 | 1021.2 | 917.9 | 845.6 | 809.5 | 794.0 | 791.4 | 796.5 | 806.9 | 813.3 |
| 30° | 1248.4 | 1164.5 | 1005.7 | 888.2 | 809.5 | 777.2 | 770.7 | 778.5 | 787.5 | 797.8 | 804.3 |
| 32.5° | 1276.8 | 1176.1 | 990.2 | 854.6 | 772.0 | 742.3 | 752.7 | 769.4 | 779.8 | 790.1 | 796.5 |
| 35° | 1316.8 | 1199.3 | 981.2 | 821.1 | 732.0 | 712.6 | 735.9 | 763.0 | 770.7 | 777.2 | 784.9 |
| 37.5° | 1363.3 | 1230.3 | 977.3 | 790.1 | 695.8 | 686.8 | 719.1 | 751.4 | 753.9 | 756.5 | 764.3 |
| 40° | 1408.5 | 1253.6 | 967.0 | 756.5 | 658.4 | 658.4 | 698.4 | 729.4 | 728.1 | 724.3 | 729.4 |
| 42.5° | 1426.6 | 1251.0 | 937.3 | 724.3 | 628.7 | 630.0 | 666.2 | 695.8 | 688.1 | 688.1 | 695.8 |
| 45° | 1478.2 | 1271.6 | 915.3 | 698.4 | 601.6 | 596.4 | 624.8 | 648.1 | 661.0 | 677.8 | 685.5 |
| 47.5° | 1544.0 | 1300.0 | 898.5 | 668.7 | 575.8 | 559.0 | 574.5 | 613.2 | 635.2 | 653.2 | 659.7 |
| 50° | 1612.5 | 1332.3 | 883.0 | 637.8 | 550.0 | 516.4 | 524.1 | 566.7 | 586.1 | 595.2 | 599.0 |
| 52.5° | 1682.2 | 1362.0 | 871.4 | 611.9 | 520.3 | 466.1 | 482.8 | 522.9 | 537.1 | 542.2 | 544.8 |
| 55° | 1744.1 | 1386.5 | 861.1 | 590.0 | 486.7 | 426.0 | 438.9 | 480.3 | 490.6 | 495.7 | 499.6 |
| 57.5° | 1810.0 | 1413.6 | 854.6 | 569.3 | 449.3 | 391.2 | 400.2 | 437.6 | 451.9 | 457.0 | 460.9 |
| 60° | 1868.1 | 1439.5 | 849.5 | 547.4 | 414.4 | 360.2 | 365.4 | 401.5 | 417.0 | 419.6 | 423.4 |
| 62.5° | 1906.8 | 1456.2 | 841.7 | 520.3 | 382.1 | 330.5 | 331.8 | 366.6 | 383.4 | 386.0 | 388.6 |
| 65° | 1917.1 | 1452.4 | 818.5 | 484.1 | 349.9 | 300.8 | 300.8 | 334.4 | 352.4 | 361.5 | 365.4 |
| 67.5° | 1886.2 | 1420.1 | 769.4 | 437.6 | 318.9 | 273.7 | 273.7 | 303.4 | 322.8 | 333.1 | 337.0 |
| 68° | *1875.8* | *1405.9* | *753.9* | *426.0* | *311.1* | *267.2* | *267.2* | *298.2* | *316.3* | *325.3* | *327.9* |
| 70° | 1788.0 | 1336.2 | 682.9 | 382.1 | 286.6 | 247.9 | 247.9 | 275.0 | 294.3 | 294.3 | 293.1 |
| 72.5° | 1553.1 | 1158.0 | 561.6 | 320.2 | 250.5 | 219.5 | 223.3 | 249.2 | 255.6 | 262.1 | 260.8 |
| 75° | 961.8 | 693.3 | 377.0 | 253.0 | 210.4 | 192.4 | 200.1 | 223.3 | 227.2 | 241.4 | 237.5 |
| 77.5° | 481.5 | 339.5 | 200.1 | 147.2 | 162.7 | 165.2 | 179.4 | 196.2 | 207.9 | 223.3 | 213.0 |
| 80° | 237.5 | 165.2 | 117.5 | 91.7 | 95.5 | 121.4 | 156.2 | 169.1 | 189.8 | 200.1 | 191.1 |
| 82.5° | 65.8 | 50.3 | 47.8 | 50.3 | 71.0 | 94.2 | 122.6 | 149.8 | 176.9 | 185.9 | 173.0 |
| 85° | 11.6 | 9.0 | 7.7 | 24.5 | 49.1 | 69.7 | 99.4 | 133.0 | 158.8 | 152.3 | 143.3 |
| 87.5° | 3.9 | 2.6 | 2.6 | 15.5 | 36.1 | 56.8 | 85.2 | 118.8 | 135.6 | 122.6 | 109.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP2-2501-321-1

Test Date: 04/09/2025

Luminaire Tested: GKO-PB1E-740-U-T4W

Data in this report applies to families of products including GKO-PB1E-740-U-T4W

Report Generated By FNC07603 / LDUCLS01DT447
Version: v7.04

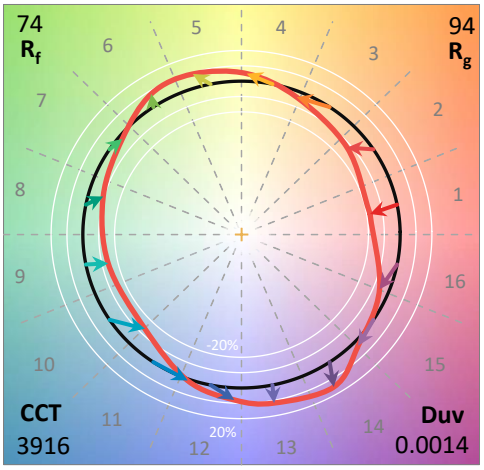
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP2-2501-321-1 |
| 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-740-U-T4W** |
| Description: | Gekko Wedge Wall Pack Fixture 1 SQ w/ T4W distribution |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3916 |
| CIE u': | 0.2259 |
| CIE v': | 0.5049 |
| Duv: | 0.0014 |
| CIE x: | 0.3853 |
| CIE y: | 0.3827 |
| CIE z: | 0.2321 |
| Peak Wavelength (nm): | 449 |
| Dominant Wavelength (nm): | 578 |
| Purity: | 30.46652 |
| Rf: | 73.5 |
| Rg: | 93.5 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 71.0 | | | | |
| R1: | 67.4 | R9: | -37.9 |
| R2: | 78.3 | R10: | 48.9 |
| R3: | 87.2 | R11: | 64.6 |
| R4: | 69.5 | R12: | 40.9 |
| R5: | 67.2 | R13: | 69.2 |
| R6: | 69.3 | R14: | 92.7 |
| R7: | 79.9 | R15: | 59.8 |
| R8: | 48.9 | | |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 33M |
| Operation Time: | 1H 33M |
| Sphere Temperature (°C): | 25.0 |

REPORT NUMBER: SP2-2501-321-1

| 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 |

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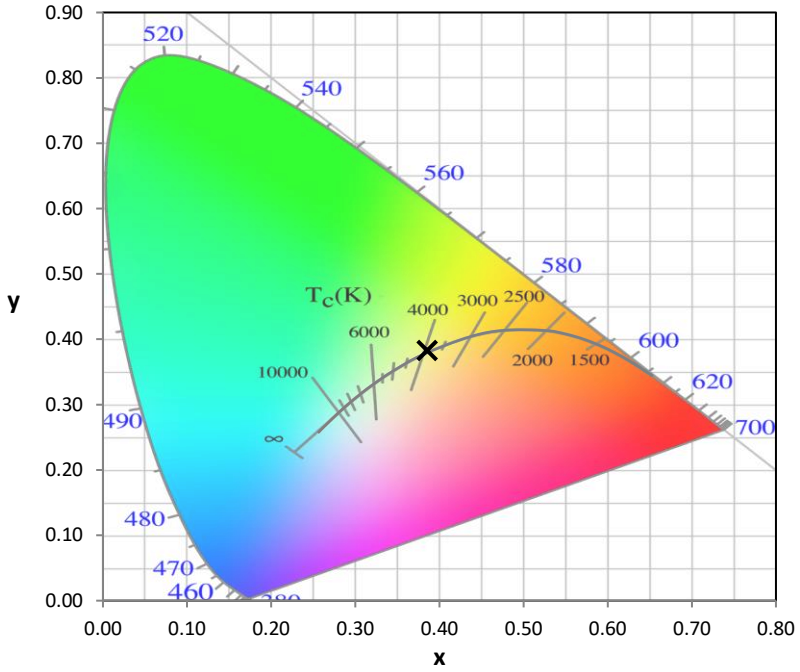
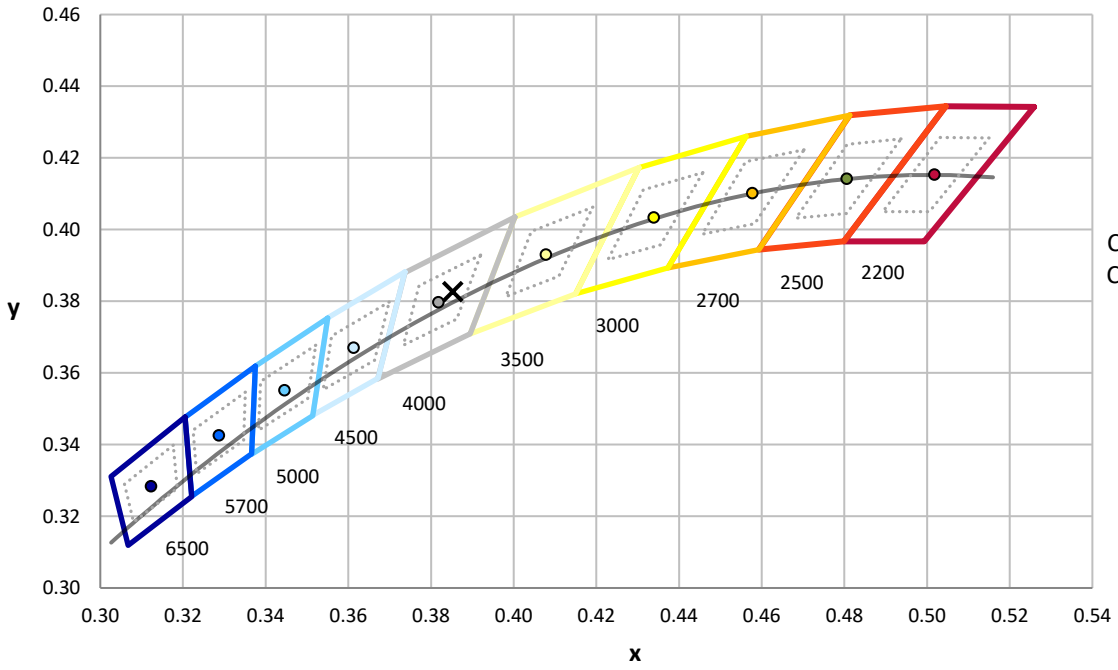
## CIE 1931 Chromaticity Diagram




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




CCT = 3916K
CIE x = 0.3853
CIE y = 0.3827
Duv = 0.0014

Point lies inside the ANSI 4000K 4-step quadrangle

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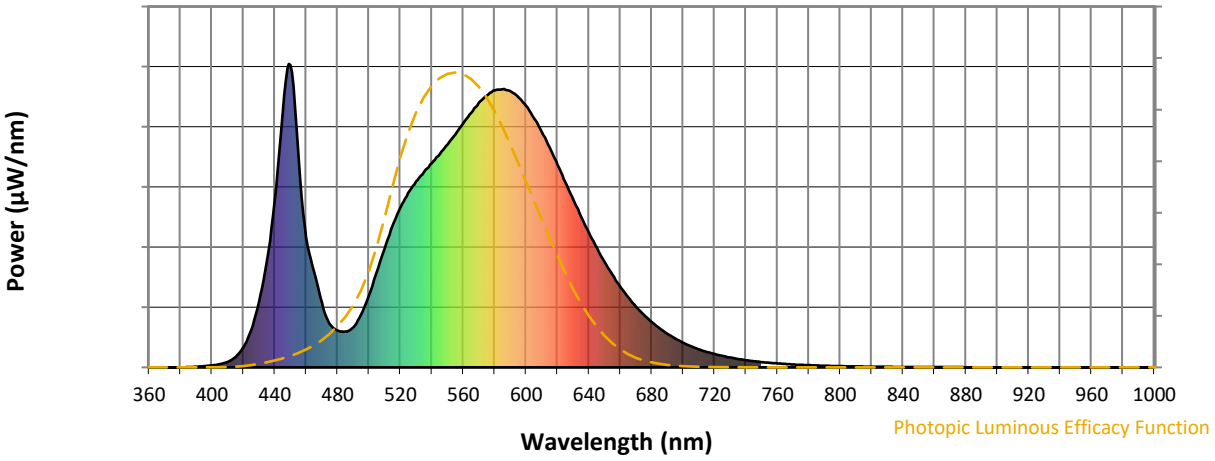
## Photopic Flux vs. Wavelength




## 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 | 132 | NR | 620 | 668 | NR | 750 | 17 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 174 | NR | 625 | 611 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 238 | NR | 630 | 554 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 314 | NR | 635 | 498 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 392 | NR | 640 | 445 | NR | 770 | 10 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 467 | NR | 645 | 394 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 526 | NR | 650 | 347 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 575 | NR | 655 | 305 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 613 | NR | 660 | 266 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 10 | NR | 535 | 644 | NR | 665 | 231 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 673 | NR | 670 | 200 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 703 | NR | 675 | 174 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 66 | NR | 550 | 734 | NR | 680 | 150 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 124 | NR | 555 | 768 | NR | 685 | 129 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 216 | NR | 560 | 804 | NR | 690 | 111 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 352 | NR | 565 | 838 | NR | 695 | 95 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 548 | NR | 570 | 872 | NR | 700 | 81 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 836 | NR | 575 | 896 | NR | 705 | 69 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 997 | NR | 580 | 913 | NR | 710 | 60 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 705 | NR | 585 | 917 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 429 | NR | 590 | 911 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 316 | NR | 595 | 891 | NR | 725 | 38 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 213 | NR | 600 | 862 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 143 | NR | 605 | 822 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 121 | NR | 610 | 776 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 118 | NR | 615 | 725 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

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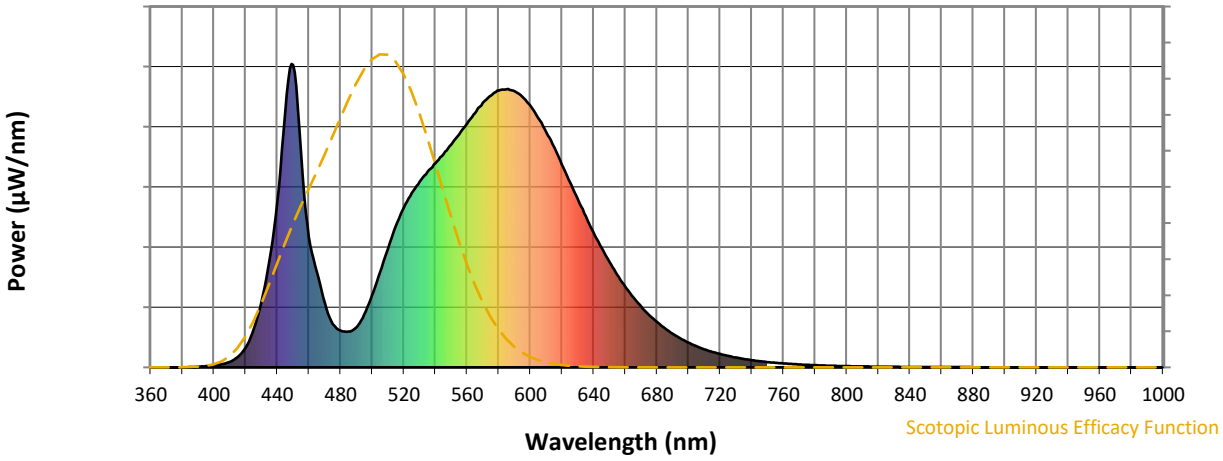
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.49**

| 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 | 132 | NR | 620 | 668 | NR | 750 | 17 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 174 | NR | 625 | 611 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 238 | NR | 630 | 554 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 314 | NR | 635 | 498 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 392 | NR | 640 | 445 | NR | 770 | 10 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 467 | NR | 645 | 394 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 526 | NR | 650 | 347 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 575 | NR | 655 | 305 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 613 | NR | 660 | 266 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 10 | NR | 535 | 644 | NR | 665 | 231 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 673 | NR | 670 | 200 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 703 | NR | 675 | 174 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 66 | NR | 550 | 734 | NR | 680 | 150 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 124 | NR | 555 | 768 | NR | 685 | 129 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 216 | NR | 560 | 804 | NR | 690 | 111 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 352 | NR | 565 | 838 | NR | 695 | 95 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 548 | NR | 570 | 872 | NR | 700 | 81 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 836 | NR | 575 | 896 | NR | 705 | 69 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 997 | NR | 580 | 913 | NR | 710 | 60 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 705 | NR | 585 | 917 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 429 | NR | 590 | 911 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 316 | NR | 595 | 891 | NR | 725 | 38 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 213 | NR | 600 | 862 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 143 | NR | 605 | 822 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 121 | NR | 610 | 776 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 118 | NR | 615 | 725 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

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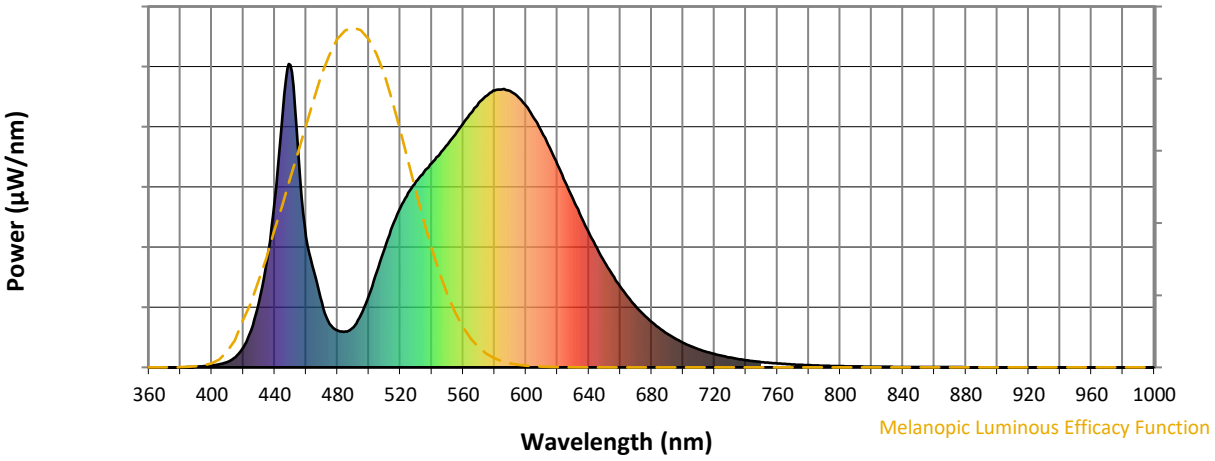
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.88**

| 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 | 132 | NR | 620 | 668 | NR | 750 | 17 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 174 | NR | 625 | 611 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 238 | NR | 630 | 554 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 314 | NR | 635 | 498 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 392 | NR | 640 | 445 | NR | 770 | 10 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 467 | NR | 645 | 394 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 526 | NR | 650 | 347 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 575 | NR | 655 | 305 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 613 | NR | 660 | 266 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 10 | NR | 535 | 644 | NR | 665 | 231 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 673 | NR | 670 | 200 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 703 | NR | 675 | 174 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 66 | NR | 550 | 734 | NR | 680 | 150 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 124 | NR | 555 | 768 | NR | 685 | 129 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 216 | NR | 560 | 804 | NR | 690 | 111 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 352 | NR | 565 | 838 | NR | 695 | 95 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 548 | NR | 570 | 872 | NR | 700 | 81 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 836 | NR | 575 | 896 | NR | 705 | 69 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 997 | NR | 580 | 913 | NR | 710 | 60 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 705 | NR | 585 | 917 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 429 | NR | 590 | 911 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 316 | NR | 595 | 891 | NR | 725 | 38 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 213 | NR | 600 | 862 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 143 | NR | 605 | 822 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 121 | NR | 610 | 776 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 118 | NR | 615 | 725 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

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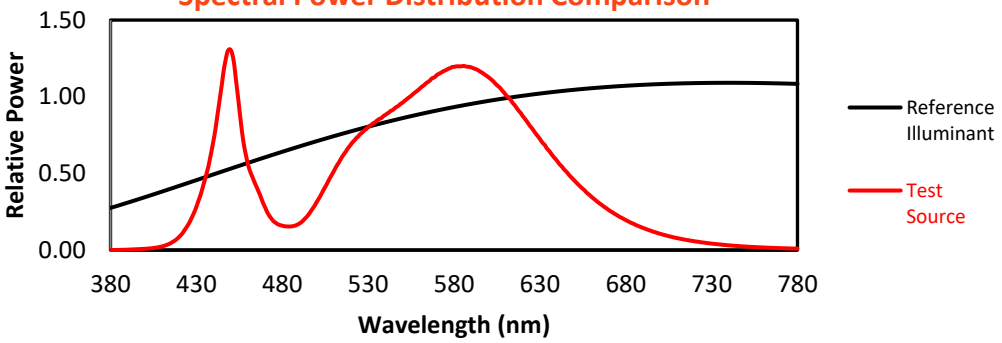
# TM-30-18

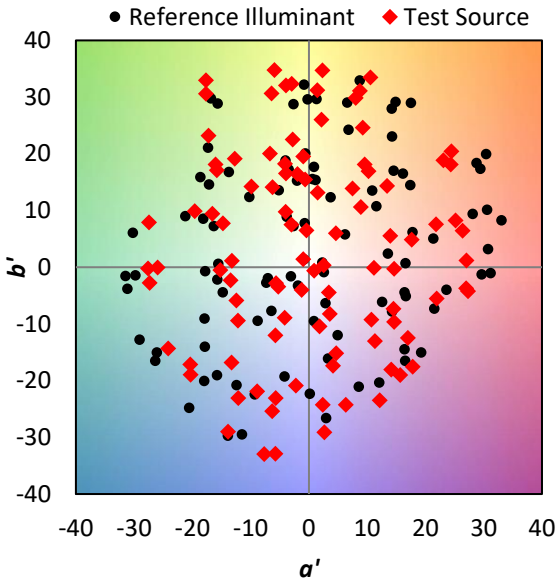
## Summary

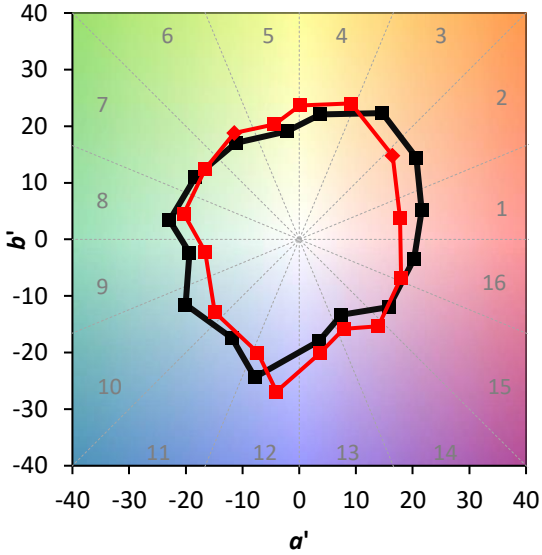
$R_f$ = 73.5
$R_g$ = 93.5
CIE $R_a$ = 71.0
$R_9$ = -37.9

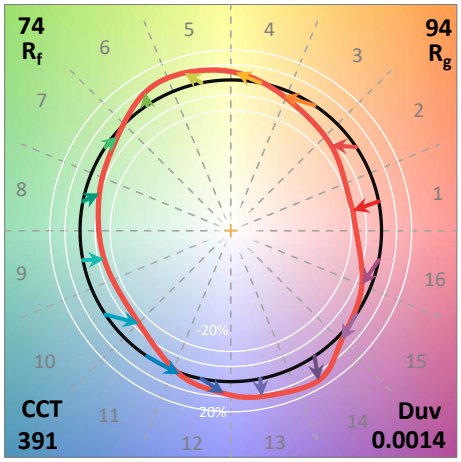
## Spectral Power Distribution Comparison

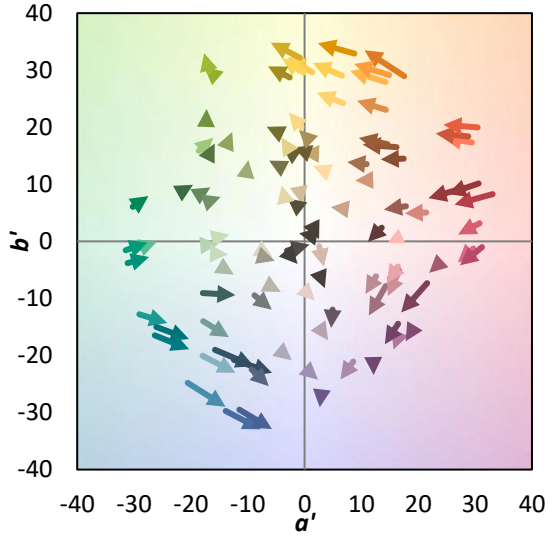



## Color Vector Graphics



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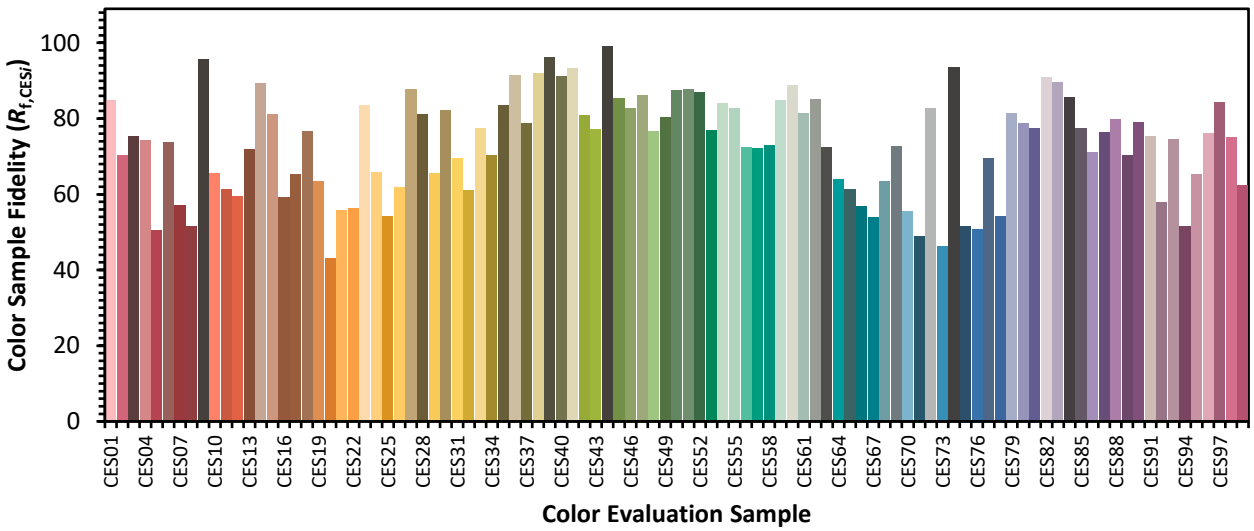
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 62 | CES51 = 88 | CES76 = 51 |
| CES02 = 61 | CES27 = 88 | CES52 = 87 | CES77 = 70 |
| CES03 = 30 | CES28 = 81 | CES53 = 77 | CES78 = 54 |
| CES04 = 70 | CES29 = 66 | CES54 = 84 | CES79 = 81 |
| CES05 = 47 | CES30 = 82 | CES55 = 83 | CES80 = 79 |
| CES06 = 50 | CES31 = 69 | CES56 = 73 | CES81 = 77 |
| CES07 = 40 | CES32 = 61 | CES57 = 72 | CES82 = 91 |
| CES08 = 39 | CES33 = 77 | CES58 = 73 | CES83 = 90 |
| CES09 = 29 | CES34 = 70 | CES59 = 85 | CES84 = 86 |
| CES10 = 74 | CES35 = 84 | CES60 = 89 | CES85 = 77 |
| CES11 = 57 | CES36 = 91 | CES61 = 81 | CES86 = 71 |
| CES12 = 63 | CES37 = 79 | CES62 = 85 | CES87 = 76 |
| CES13 = 42 | CES38 = 92 | CES63 = 72 | CES88 = 80 |
| CES14 = 74 | CES39 = 96 | CES64 = 64 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 61 | CES90 = 79 |
| CES16 = 46 | CES41 = 93 | CES66 = 57 | CES91 = 75 |
| CES17 = 49 | CES42 = 81 | CES67 = 54 | CES92 = 58 |
| CES18 = 56 | CES43 = 77 | CES68 = 63 | CES93 = 75 |
| CES19 = 72 | CES44 = 99 | CES69 = 73 | CES94 = 52 |
| CES20 = 65 | CES45 = 85 | CES70 = 56 | CES95 = 65 |
| CES21 = 86 | CES46 = 83 | CES71 = 49 | CES96 = 76 |
| CES22 = 78 | CES47 = 86 | CES72 = 83 | CES97 = 84 |
| CES23 = 92 | CES48 = 77 | CES73 = 46 | CES98 = 75 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 62 |
| CES25 = 72 | CES50 = 87 | CES75 = 52 | |



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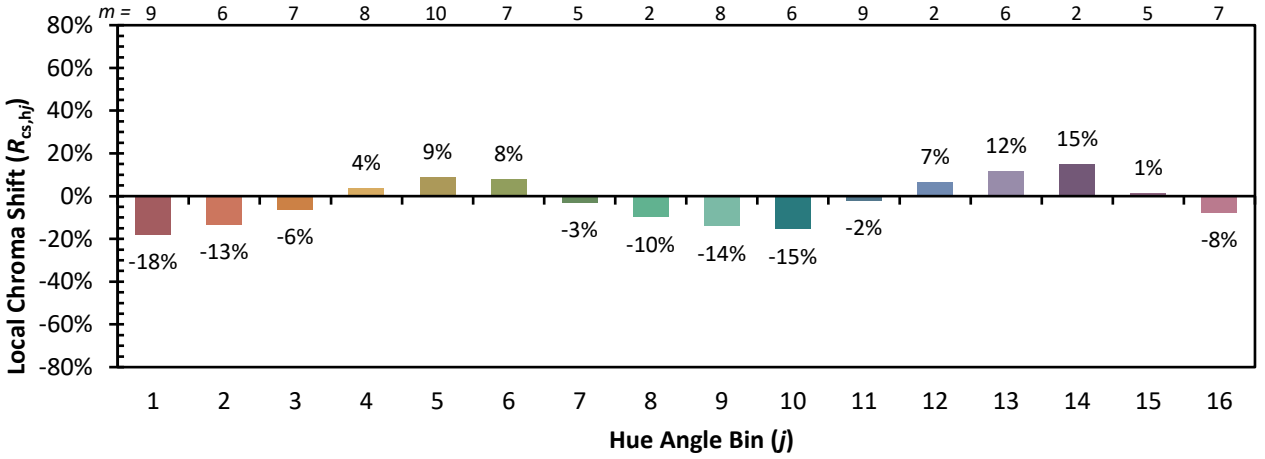
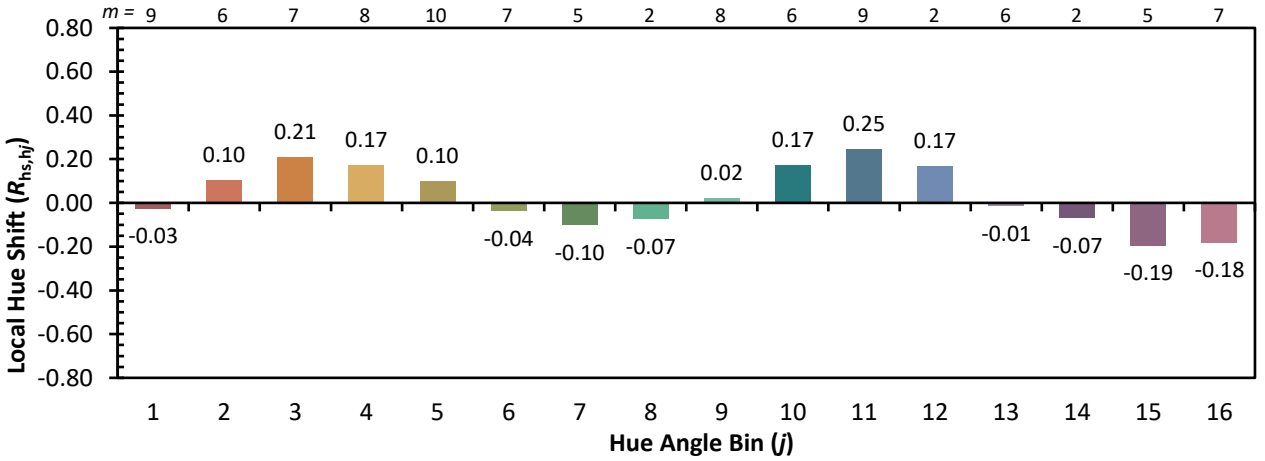
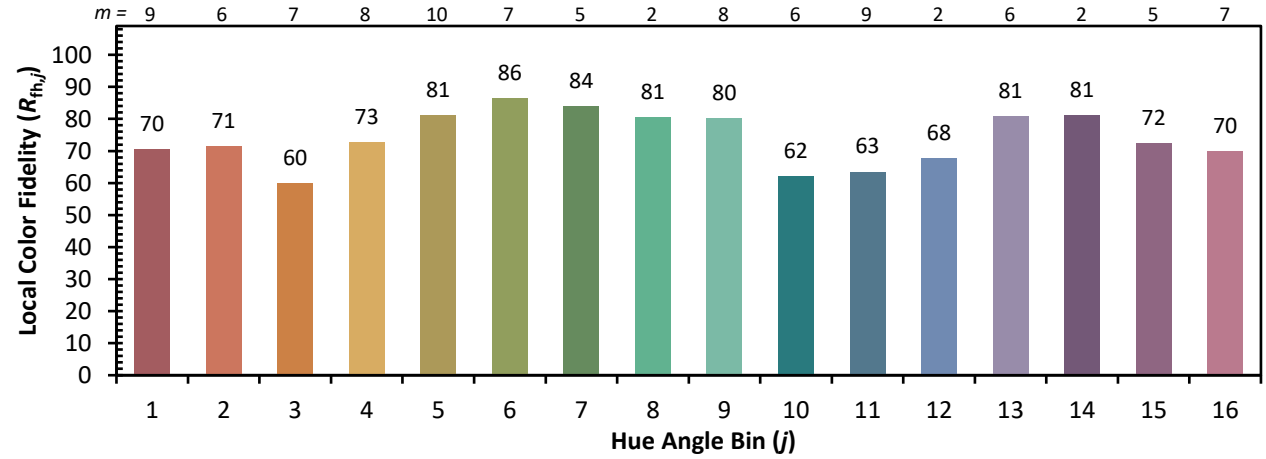
## Color Rendition by Hue-Angle Bin



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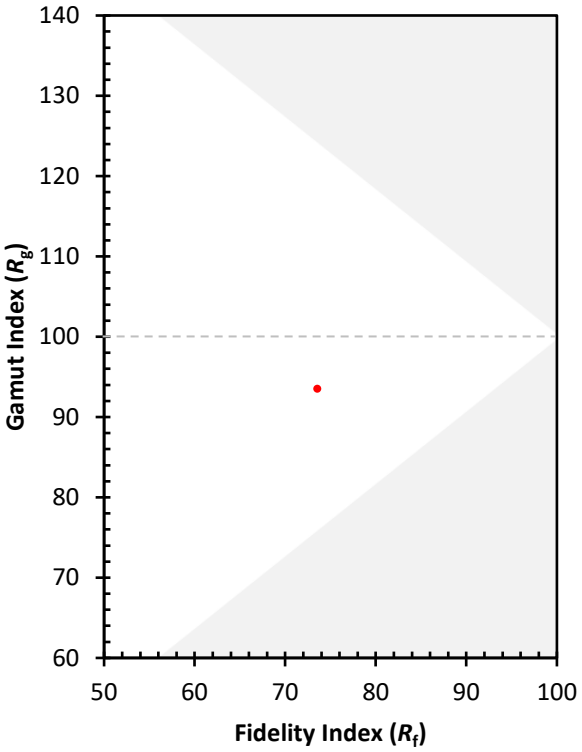
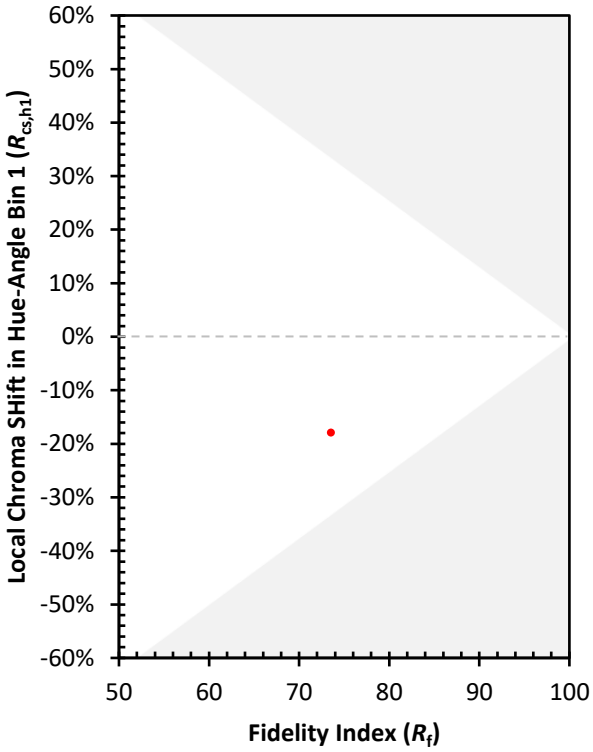
## Measure Comparisons




(END OF REPORT)