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

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Scaled data based on original data using

LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P1198704

Luminaire Tested: GPC-SB1D-722-U-T4W-HSS

Issue Date: 10/30/2025

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1198704 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-2) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 3/12/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GPC-SB1D-722-U-T4W-HSS |
| Description: | GALLEON PEDESTRIAN LUMINAIRE |
| | (1) 70 CRI, 2200K, 900mA LIGHTSQUARE WITH 26 LEDS AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD |
| Light Source: | - |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 6509 lumens |
| Efficiency: | N/A |
| Efficacy: | 81.8 lumens/watt |
| Luminous Opening: | Rectangular (W 0.5' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 79.6 |
| Input Voltage (V): | 120.0 |
| Input Current (Ain): | 0.638 |
| Voltage Rise (V): | NR |
| Power Factor: | 0.997 |
| Total Harmonic Distortion (THDi): | 6.673 |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

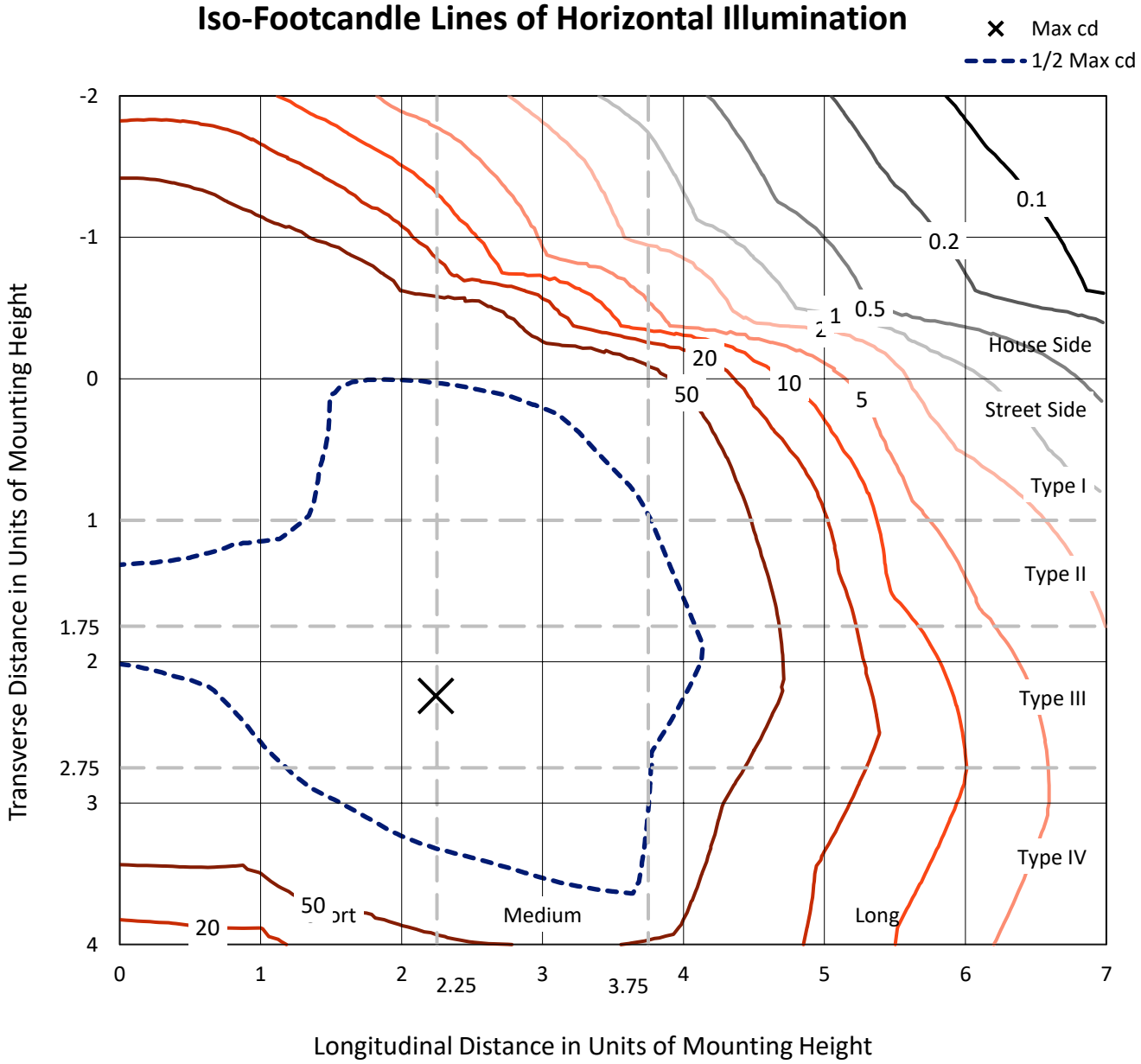


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REPORT NUMBER: P1198704
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## Iso-Footcandle Lines of Horizontal Illumination



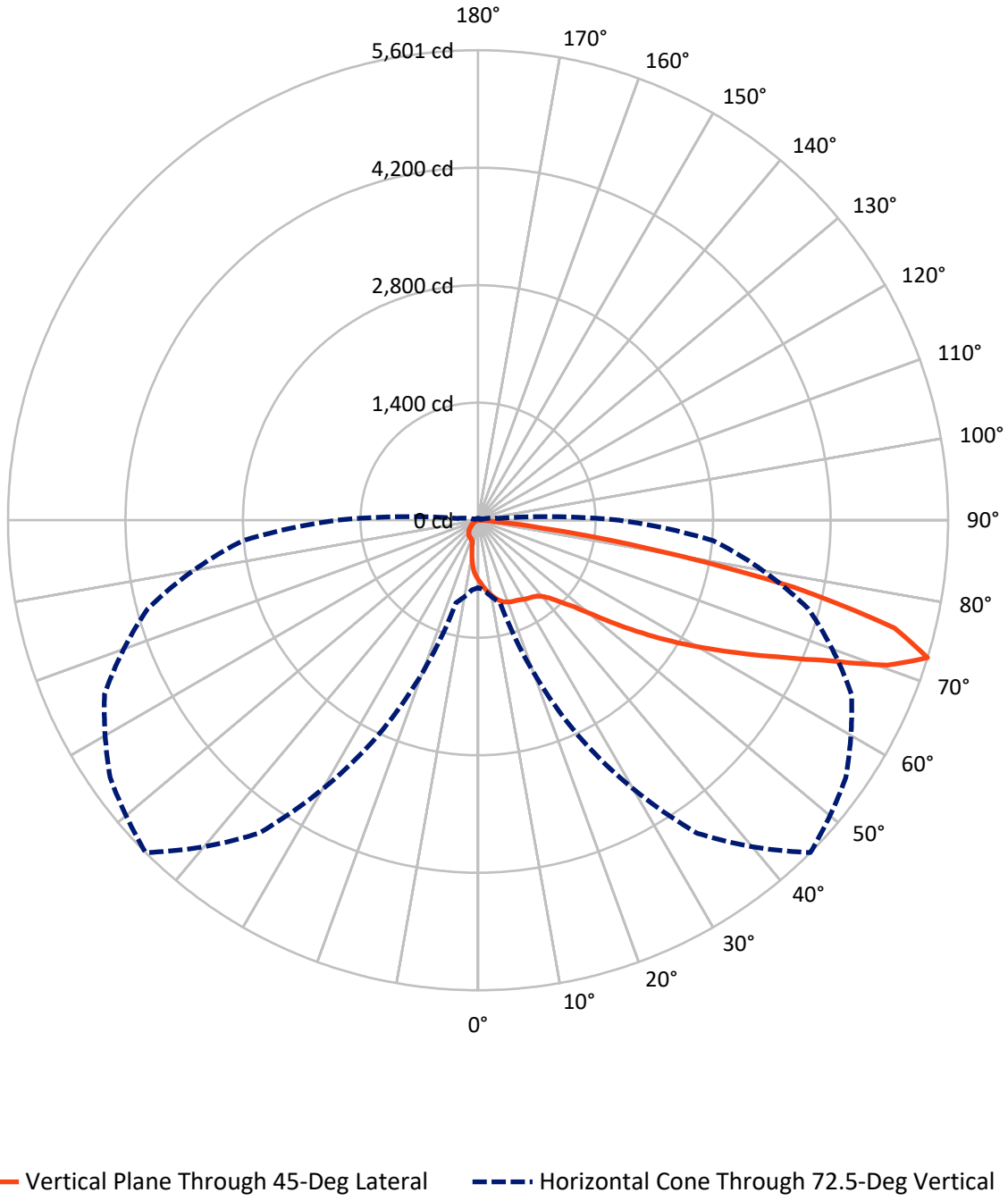

Based on 0.5 foot mounting height. Maximum calculated value = 3918.3 fc
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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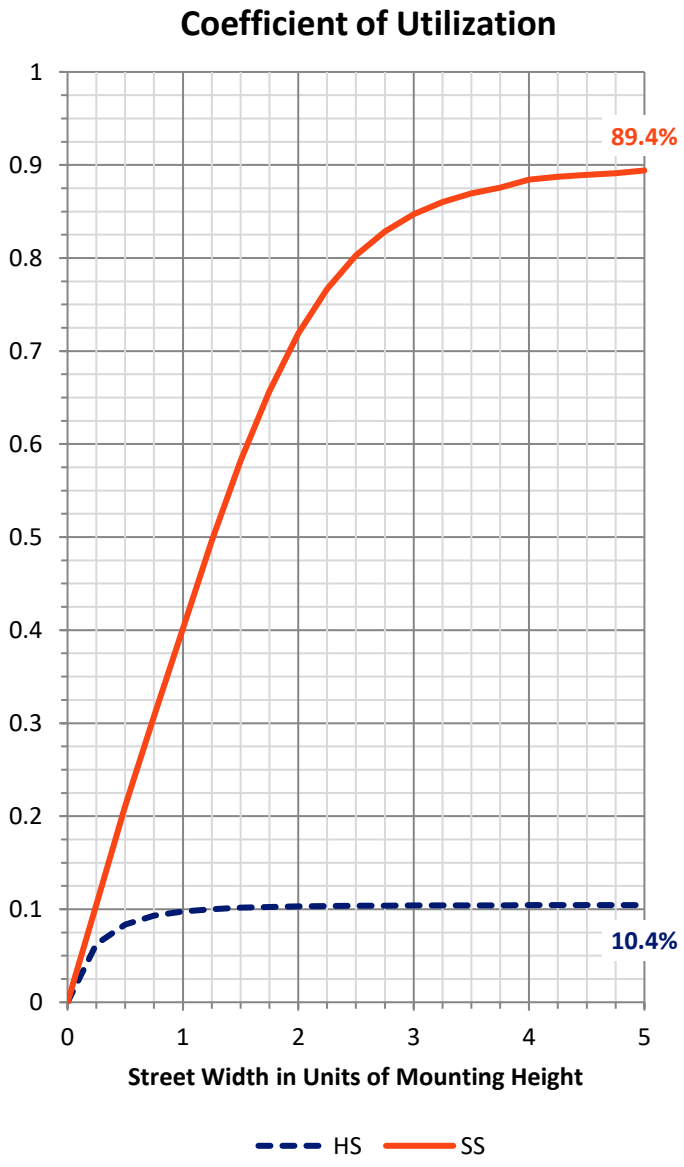
REPORT NUMBER: P1198704
CATALOG NUMBER: GPC-SB1D-722-U-T4W-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 683.9 | 0.0 | 683.9 |
| | % Fixture | 10.5 | 0.0 | 10.5 |
| **Street Side** | Lumens | 5825.1 | 0.0 | 5825.1 |
| | % Fixture | 89.5 | 0.0 | 89.5 |
| **Total** | Lumens | 6509.0 | 0.0 | 6509.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 67.2 | 1.0 |
| 10°-20° | 196.4 | 3.0 |
| 20°-30° | 322.4 | 5.0 |
| 30°-40° | 457.3 | 7.0 |
| 40°-50° | 755.9 | 11.6 |
| 50°-60° | 1357.9 | 20.9 |
| 60°-70° | 1885.4 | 29.0 |
| 70°-80° | 1367.6 | 21.0 |
| 80°-90° | 98.9 | 1.5 |
| 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° | 6509.0 | 100.0 |
| 0°-180° | 6509.0 | 100.0 |



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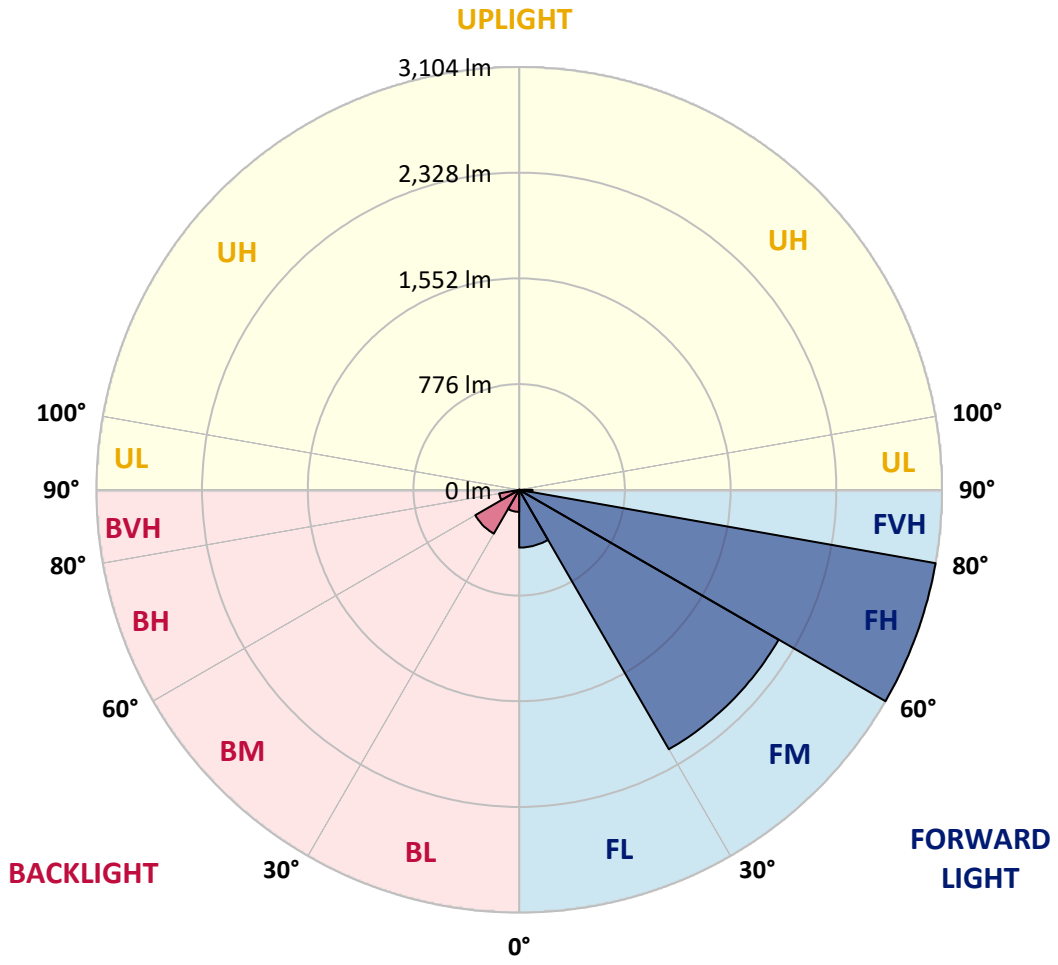
Scaled Data Report

REPORT NUMBER: P1198704
CATALOG NUMBER: GPC-SB1D-722-U-T4W-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 424.0 | 6.5 | | | |
| FM | (30°-60°) | 2199.1 | 33.8 | | | |
| FH | (60°-80°) | 3104.0 | 47.7 | | | G2/5000 |
| FVH | (80°-90°) | 98.0 | 1.5 | | | G1/100 |
| BL | (0°-30°) | 162.0 | 2.5 | B1/500 | | |
| BM | (30°-60°) | 372.0 | 5.7 | B1/1000 | | |
| BH | (60°-80°) | 149.1 | 2.3 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 0.8 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G2**
Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 46° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 713.1 | 713.1 | 713.1 | 713.1 | 713.1 | *713.1* | 713.1 | 713.1 | 713.1 | 713.1 | 713.1 |
| 2.5° | 778.8 | 780.2 | 779.3 | 773.9 | 765.1 | *760.2* | 757.5 | 748.6 | 742.8 | 732.6 | 722.0 |
| 5° | 850.4 | 855.7 | 852.6 | 841.9 | 825.0 | *813.0* | 809.5 | 791.3 | 774.8 | 755.7 | 733.5 |
| 7.5° | 926.3 | 929.0 | 923.2 | 909.4 | 886.8 | *866.4* | 863.2 | 837.9 | 811.7 | 782.4 | 752.2 |
| 10° | 992.1 | 995.2 | 986.3 | 966.3 | 940.5 | *915.2* | 910.8 | 882.8 | 851.7 | 815.7 | 777.1 |
| 12.5° | 1047.2 | 1050.3 | 1038.7 | 1014.7 | 986.3 | *960.1* | 955.7 | 926.3 | 892.1 | 852.1 | 804.2 |
| 15° | 1088.9 | 1094.7 | 1079.2 | 1053.4 | 1022.7 | *996.5* | 994.3 | 965.4 | 932.1 | 887.7 | 836.6 |
| 17.5° | 1113.4 | 1119.1 | 1104.5 | 1073.4 | 1047.2 | *1025.0* | 1022.3 | 998.3 | 967.2 | 924.6 | 868.1 |
| 20° | 1117.4 | 1122.7 | 1107.2 | 1080.1 | 1058.3 | *1040.5* | 1039.2 | 1021.9 | 999.2 | 958.3 | 902.3 |
| 22.5° | 1105.4 | 1112.0 | 1097.8 | 1076.1 | 1060.9 | *1051.6* | 1049.8 | 1040.1 | 1027.2 | 992.5 | 934.3 |
| 25° | 1092.9 | 1098.3 | 1087.6 | 1068.5 | 1060.5 | *1059.6* | 1060.9 | 1059.2 | 1056.5 | 1027.2 | 971.6 |
| 27.5° | 1092.0 | 1097.8 | 1085.8 | 1067.6 | 1063.2 | *1072.5* | 1073.8 | 1082.3 | 1084.5 | 1058.7 | 1007.6 |
| 30° | 1099.6 | 1103.6 | 1092.0 | 1072.9 | 1070.7 | *1092.0* | 1092.5 | 1107.6 | 1111.2 | 1085.4 | 1043.2 |
| 32.5° | 1116.0 | 1120.5 | 1108.9 | 1080.9 | 1077.8 | *1107.6* | 1108.9 | 1128.9 | 1134.7 | 1113.8 | 1080.5 |
| 35° | 1154.7 | 1160.0 | 1146.7 | 1103.2 | 1092.0 | *1122.3* | 1126.3 | 1149.8 | 1161.4 | 1144.0 | 1119.1 |
| 37.5° | 1251.1 | 1235.6 | 1217.3 | 1148.0 | 1124.5 | *1145.4* | 1152.0 | 1179.6 | 1200.0 | 1180.0 | 1165.4 |
| 40° | 1490.6 | 1441.7 | 1384.8 | 1224.4 | 1181.3 | *1194.7* | 1200.0 | 1227.6 | 1255.5 | 1236.0 | 1228.9 |
| 42.5° | 1850.0 | 1792.2 | 1700.7 | 1400.4 | 1267.1 | *1273.8* | 1277.8 | 1301.8 | 1341.3 | 1325.7 | 1327.5 |
| 45° | 2170.3 | 2149.4 | 2056.1 | 1700.7 | 1427.5 | *1394.6* | 1399.5 | 1411.9 | 1470.1 | 1464.4 | 1475.9 |
| 47.5° | 2416.5 | 2404.5 | 2332.5 | 2045.5 | 1698.5 | *1542.6* | 1556.3 | 1562.1 | 1646.1 | 1666.5 | 1697.6 |
| 50° | 2605.7 | 2601.3 | 2536.9 | 2352.0 | 2052.6 | *1760.7* | 1765.6 | 1753.1 | 1878.9 | 1929.5 | 1988.6 |
| 52.5° | 2784.3 | 2799.4 | 2751.9 | 2636.8 | 2430.7 | *2046.4* | 2045.5 | 1986.8 | 2156.6 | 2233.0 | 2333.8 |
| 55° | 2945.6 | 2950.9 | 2955.8 | 2927.4 | 2811.0 | *2371.6* | 2363.1 | 2267.2 | 2478.7 | 2557.7 | 2667.0 |
| 57.5° | 3097.1 | 3099.3 | 3142.9 | 3201.1 | 3206.8 | *2720.8* | 2705.2 | 2590.2 | 2830.5 | 2887.0 | 2954.0 |
| 60° | 3198.8 | 3209.1 | 3301.0 | 3462.7 | 3533.4 | *3081.1* | 3072.7 | 2955.4 | 3188.6 | 3214.8 | 3202.4 |
| 62.5° | 3052.2 | 3114.4 | 3346.3 | 3667.1 | 3841.7 | *3480.5* | 3476.5 | 3366.3 | 3565.4 | 3544.0 | 3437.4 |
| 65° | 2470.7 | 2576.0 | 2983.8 | 3805.3 | 4144.3 | *3926.6* | 3932.4 | 3815.1 | 3952.3 | 3883.0 | 3628.5 |
| 67.5° | 1728.3 | 1839.3 | 2321.8 | 3816.4 | 4482.4 | *4450.4* | 4483.7 | 4299.8 | 4363.3 | 4207.8 | 3673.8 |
| 70° | 1195.1 | 1252.4 | 1566.5 | 3577.4 | 4745.8 | *5171.9* | 5171.0 | 4895.1 | 4772.0 | 4355.8 | 3442.8 |
| 72.5° | *803.7* | *833.5* | *1017.4* | *2838.1* | *4552.1* | *5600.6* | *5574.9* | *5350.1* | *4909.8* | *4073.6* | *2812.8* |
| 75° | 339.0 | 360.8 | 470.9 | 1595.0 | 3601.4 | *5123.9* | 5054.2 | 4728.1 | 4362.4 | 3207.7 | 1754.9 |
| 77.5° | 107.5 | 116.8 | 185.7 | 570.9 | 1983.7 | *3851.5* | 3777.7 | 2952.7 | 2923.8 | 1609.2 | 641.5 |
| 80° | 51.1 | 59.5 | 104.4 | 229.3 | 780.6 | *2094.8* | 2084.6 | 1339.5 | 1257.8 | 434.5 | 128.8 |
| 82.5° | 22.2 | 26.2 | 57.8 | 122.6 | 349.2 | *747.3* | 762.4 | 455.8 | 377.2 | 164.8 | 39.5 |
| 85° | 7.1 | 9.3 | 26.7 | 56.4 | 147.5 | *185.7* | 183.5 | 108.4 | 151.9 | 89.7 | 13.8 |
| 87.5° | 0.0 | 0.0 | 8.9 | 12.9 | 15.1 | *10.7* | 12.0 | 9.3 | 42.2 | 24.9 | 4.9 |
| 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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Scaled Data Report

REPORT NUMBER: P1198704
CATALOG NUMBER: GPC-SB1D-722-U-T4W-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 713.1 | 713.1 | 713.1 | 713.1 | 713.1 | 713.1 | 713.1 | 713.1 | 713.1 | 713.1 | 713.1 |
| 2.5° | 716.6 | 709.5 | 697.1 | 685.5 | 675.3 | 665.1 | 658.9 | 650.0 | 649.1 | 649.1 | 651.3 |
| 5° | 721.5 | 710.0 | 687.8 | 664.2 | 637.1 | 611.3 | 585.6 | 560.7 | 552.7 | 546.9 | 549.6 |
| 7.5° | 735.7 | 717.5 | 682.4 | 637.5 | 586.0 | 529.6 | 490.0 | 447.4 | 431.0 | 422.1 | 423.4 |
| 10° | 756.2 | 731.3 | 678.0 | 599.3 | 515.8 | 439.0 | 382.5 | 336.3 | 318.6 | 311.0 | 311.0 |
| 12.5° | 778.8 | 748.2 | 670.0 | 551.8 | 439.0 | 347.0 | 291.9 | 270.6 | 267.9 | 267.9 | 267.9 |
| 15° | 805.9 | 768.6 | 656.2 | 495.8 | 358.5 | 274.6 | 255.0 | 255.9 | 258.6 | 260.4 | 260.4 |
| 17.5° | 833.9 | 790.4 | 634.4 | 433.2 | 287.5 | 247.0 | 247.5 | 248.8 | 251.0 | 252.8 | 252.8 |
| 20° | 864.1 | 812.1 | 605.6 | 366.5 | 246.6 | 239.0 | 240.4 | 241.7 | 243.5 | 244.4 | 244.8 |
| 22.5° | 896.6 | 832.6 | 571.3 | 301.2 | 232.8 | 232.4 | 232.8 | 234.1 | 236.4 | 236.4 | 237.2 |
| 25° | 931.2 | 855.2 | 532.3 | 253.7 | 225.7 | 225.7 | 226.6 | 227.5 | 229.3 | 229.3 | 229.7 |
| 27.5° | 966.8 | 876.1 | 490.9 | 228.8 | 219.5 | 219.0 | 219.0 | 220.4 | 221.3 | 221.7 | 222.1 |
| 30° | 1005.9 | 900.6 | 449.6 | 223.5 | 214.6 | 212.4 | 211.0 | 211.9 | 212.8 | 213.3 | 214.1 |
| 32.5° | 1045.8 | 924.1 | 412.7 | 225.7 | 209.7 | 205.7 | 201.3 | 200.4 | 200.4 | 202.1 | 203.5 |
| 35° | 1090.3 | 949.9 | 384.3 | 233.2 | 207.0 | 195.9 | 188.8 | 184.8 | 185.3 | 187.9 | 189.3 |
| 37.5° | 1143.6 | 981.0 | 363.4 | 239.9 | 205.3 | 184.8 | 173.3 | 168.4 | 165.3 | 168.4 | 167.5 |
| 40° | 1213.3 | 1026.7 | 348.3 | 245.2 | 203.0 | 171.9 | 156.4 | 148.4 | 142.6 | 144.4 | 143.5 |
| 42.5° | 1316.0 | 1098.7 | 342.5 | 245.7 | 198.2 | 156.8 | 139.1 | 128.4 | 120.0 | 120.4 | 118.6 |
| 45° | 1459.9 | 1212.4 | 372.3 | 239.9 | 187.5 | 140.4 | 120.8 | 106.6 | 101.3 | 100.0 | 98.2 |
| 47.5° | 1657.2 | 1378.2 | 441.2 | 227.9 | 171.9 | 124.4 | 103.1 | 91.1 | 87.1 | 84.9 | 83.5 |
| 50° | 1921.5 | 1591.0 | 517.6 | 214.6 | 156.4 | 109.3 | 88.4 | 80.9 | 78.2 | 76.0 | 75.5 |
| 52.5° | 2228.1 | 1806.9 | 580.2 | 201.3 | 140.8 | 96.0 | 79.1 | 74.6 | 72.4 | 70.6 | 70.2 |
| 55° | 2509.3 | 1955.7 | 576.7 | 187.0 | 125.7 | 85.3 | 72.4 | 69.8 | 67.1 | 65.3 | 64.4 |
| 57.5° | 2684.4 | 1976.6 | 475.4 | 171.5 | 108.4 | 76.9 | 66.2 | 64.4 | 61.3 | 59.1 | 58.6 |
| 60° | 2764.8 | 1857.5 | 333.2 | 151.1 | 91.1 | 68.9 | 59.5 | 58.6 | 54.6 | 51.5 | 50.6 |
| 62.5° | 2779.4 | 1636.3 | 222.1 | 125.7 | 76.0 | 61.3 | 52.9 | 51.5 | 46.2 | 40.9 | 38.2 |
| 65° | 2719.9 | 1320.0 | 153.7 | 98.2 | 64.9 | 53.3 | 45.3 | 42.7 | 36.9 | 31.5 | 29.8 |
| 67.5° | 2531.5 | 926.8 | 107.1 | 70.6 | 55.1 | 42.2 | 36.0 | 35.1 | 30.7 | 26.2 | 24.9 |
| 70° | 2186.3 | 528.3 | 71.5 | 52.9 | 43.5 | 28.9 | 28.4 | 29.3 | 24.9 | 21.3 | 19.5 |
| 72.5° | *1676.3* | *241.7* | *44.4* | *38.7* | *29.8* | *19.5* | *22.7* | *23.1* | *19.1* | *16.0* | *14.2* |
| 75° | 986.8 | 103.5 | 28.0 | 24.9 | 15.1 | 12.9 | 16.4 | 16.9 | 12.9 | 10.2 | 8.9 |
| 77.5° | 335.9 | 39.1 | 17.8 | 14.7 | 7.6 | 7.1 | 10.7 | 10.7 | 7.1 | 4.0 | 3.1 |
| 80° | 76.4 | 14.7 | 8.9 | 5.8 | 3.6 | 3.1 | 3.6 | 3.1 | 1.8 | 0.4 | 0.0 |
| 82.5° | 21.8 | 5.8 | 3.6 | 2.2 | 1.3 | 1.3 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 6.2 | 2.7 | 0.9 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 2.7 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 |

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Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.13

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## Test Information

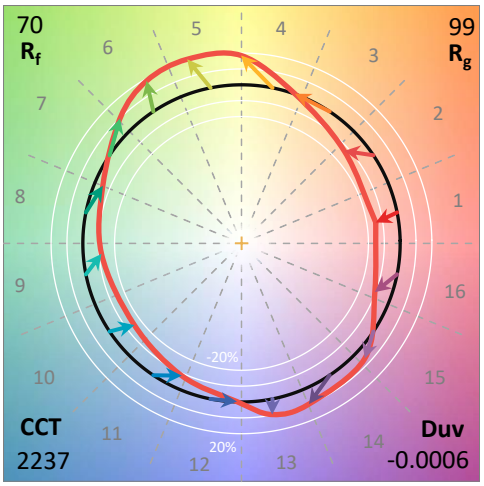
| | |
|---|---|
| Test Method: | LM-79-2008 Report |
| Number: | SP1-1908-441-10-R4 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/28/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | **SA1C-722-U-5WQ** |
| Description: | McGRAW EDISON ROADWAY AND AREA LUMINAIRE |

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

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 2237 | CRI (Ra): | 72.0 | | |
| CIE u': | 0.2876 | R1: | 68.9 | R9: | -17.4 |
| CIE v': | 0.5346 | R2: | 83.0 | R10: | 61.3 |
| Duv: | -0.0006 | R3: | 95.2 | R11: | 59.8 |
| CIE x: | 0.5005 | R4: | 66.2 | R12: | 50.5 |
| CIE y: | 0.4134 | R5: | 65.9 | R13: | 71.1 |
| CIE z: | 0.0860 | R6: | 76.3 | R14: | 96.9 |
| Peak Wavelength (nm): | 603 | R7: | 76.7 | | |
| Dominant Wavelength (nm): | 587 | R8: | 43.8 | | |
| Purity: | 74.5 | | | | |

| | |
|---|---|
| Rf: | 69.8 |
| Rg: | 99.2 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 71M |
| Operation Time: | 12H |
| Room Temperature (°C) / RH%: | 24.7/41% |
| Sphere Temperature (°C): | 25.6 |

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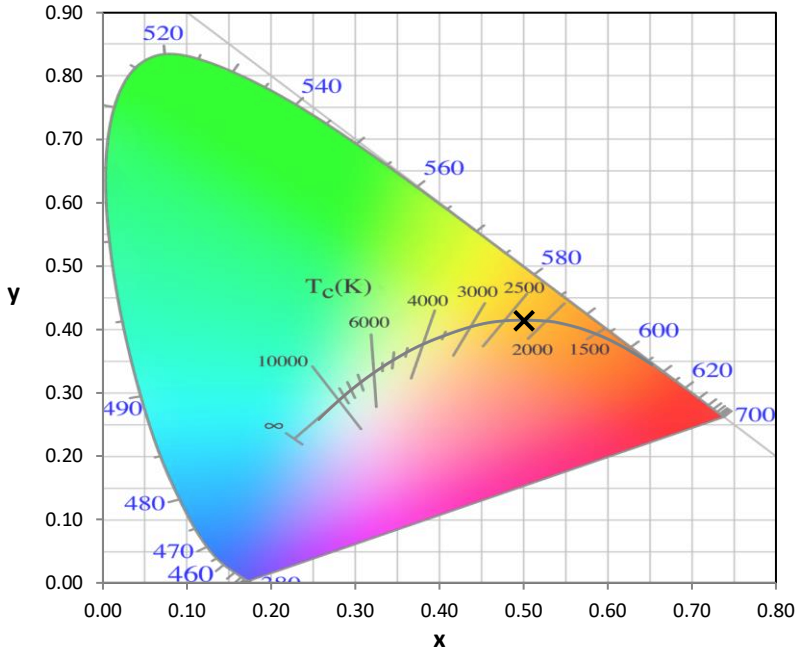
REPORT NUMBER: SP1-1908-441-10-R4

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

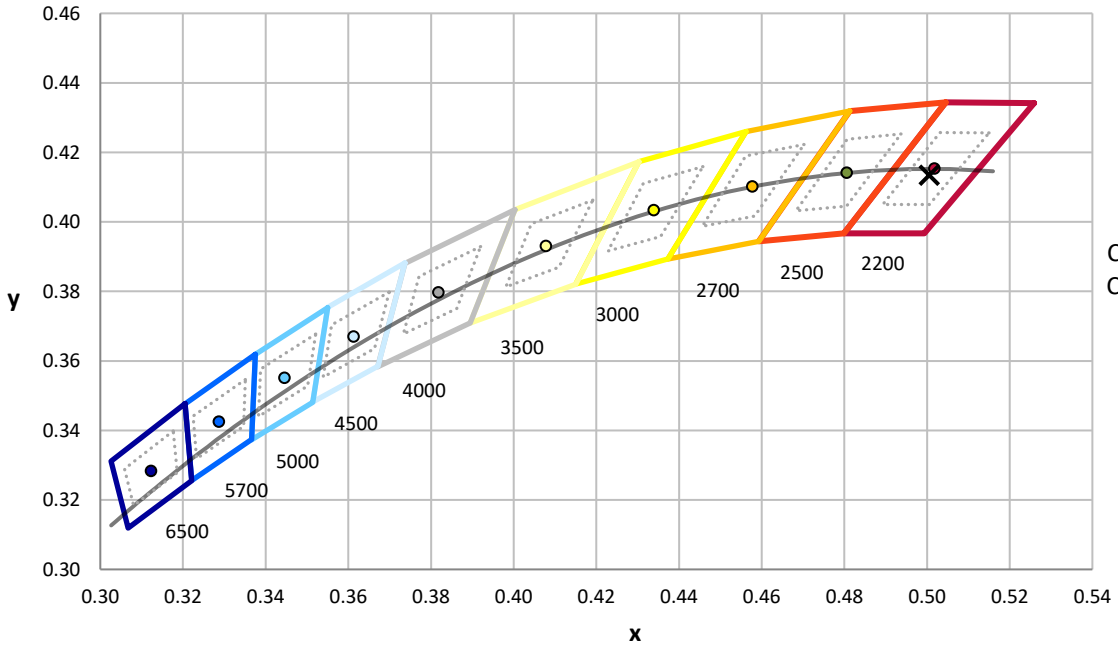
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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## CIE 1931 Chromaticity Diagram




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



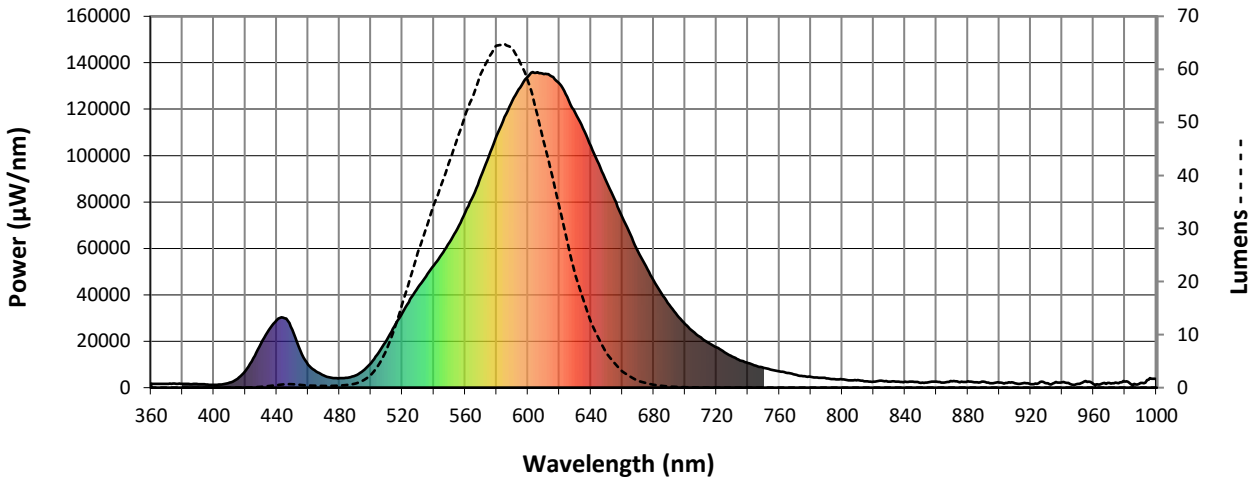

CCT = 2237K
CIE x = 0.5005
CIE y = 0.4134
Duv = -0.0006

Point lies inside the ANSI 2200K 4-step quadrangle

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## Photopic Flux vs. Wavelength



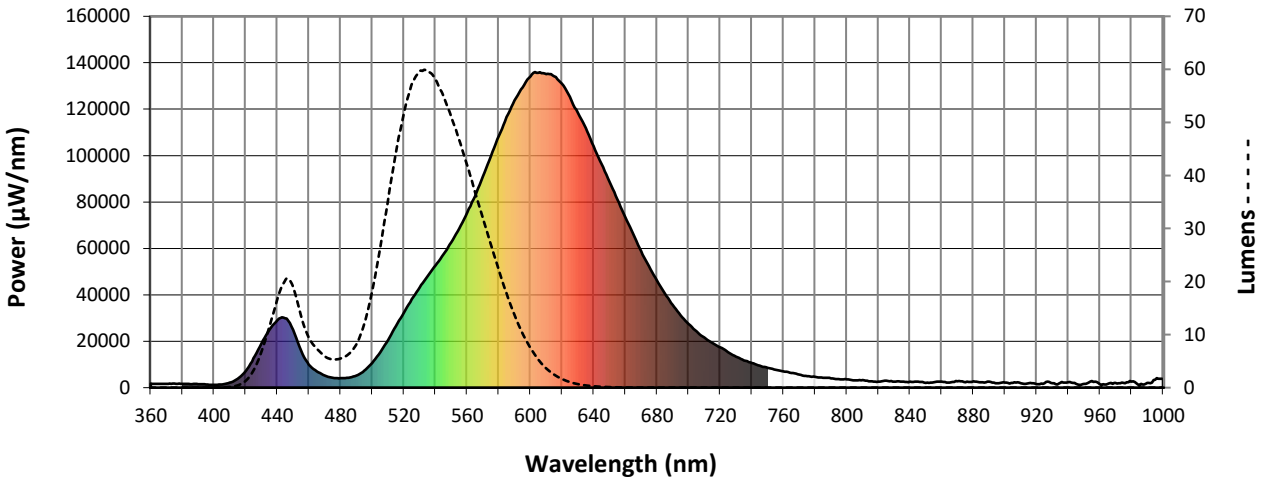

**Photopic Lumens: 5530.5**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 1768 | 0.0 | 490 | 5206 | 0.7 | 620 | 130919 | 34.1 | 750 | 8553 | 0.0 | 880 | 2713 | 0.0 |
| 365 | 1569 | 0.0 | 495 | 7286 | 1.3 | 625 | 125335 | 27.7 | 755 | 7696 | 0.0 | 885 | 2316 | 0.0 |
| 370 | 1594 | 0.0 | 500 | 10654 | 2.4 | 630 | 118388 | 21.4 | 760 | 6978 | 0.0 | 890 | 2539 | 0.0 |
| 375 | 1744 | 0.0 | 505 | 15189 | 4.2 | 635 | 111855 | 16.8 | 765 | 6377 | 0.0 | 895 | 1933 | 0.0 |
| 380 | 1659 | 0.0 | 510 | 20541 | 7.1 | 640 | 104062 | 12.4 | 770 | 5600 | 0.0 | 900 | 2216 | 0.0 |
| 385 | 1504 | 0.0 | 515 | 26492 | 11.0 | 645 | 96365 | 9.3 | 775 | 5000 | 0.0 | 905 | 2067 | 0.0 |
| 390 | 1541 | 0.0 | 520 | 32294 | 15.7 | 650 | 88651 | 6.5 | 780 | 4709 | 0.0 | 910 | 1959 | 0.0 |
| 395 | 1355 | 0.0 | 525 | 38123 | 20.5 | 655 | 81152 | 4.7 | 785 | 4305 | 0.0 | 915 | 1874 | 0.0 |
| 400 | 1243 | 0.0 | 530 | 43232 | 25.5 | 660 | 73523 | 3.1 | 790 | 4040 | 0.0 | 920 | 1484 | 0.0 |
| 405 | 1417 | 0.0 | 535 | 48012 | 29.8 | 665 | 66123 | 2.1 | 795 | 3642 | 0.0 | 925 | 1914 | 0.0 |
| 410 | 2147 | 0.0 | 540 | 52623 | 34.3 | 670 | 58677 | 1.3 | 800 | 3594 | 0.0 | 930 | 1948 | 0.0 |
| 415 | 3837 | 0.0 | 545 | 57516 | 38.3 | 675 | 52349 | 0.9 | 805 | 3190 | 0.0 | 935 | 2079 | 0.0 |
| 420 | 7159 | 0.0 | 550 | 62613 | 42.5 | 680 | 46159 | 0.5 | 810 | 3241 | 0.0 | 940 | 2263 | 0.0 |
| 425 | 12599 | 0.1 | 555 | 68554 | 46.8 | 685 | 40525 | 0.3 | 815 | 2732 | 0.0 | 945 | 1688 | 0.0 |
| 430 | 19019 | 0.2 | 560 | 75325 | 51.2 | 690 | 35615 | 0.2 | 820 | 2612 | 0.0 | 950 | 1560 | 0.0 |
| 435 | 24875 | 0.3 | 565 | 82533 | 54.9 | 695 | 31158 | 0.1 | 825 | 2966 | 0.0 | 955 | 2826 | 0.0 |
| 440 | 29103 | 0.5 | 570 | 90909 | 59.1 | 700 | 27409 | 0.1 | 830 | 2574 | 0.0 | 960 | 1477 | 0.0 |
| 445 | 29901 | 0.6 | 575 | 99621 | 62.0 | 705 | 24204 | 0.1 | 835 | 2633 | 0.0 | 965 | 1568 | 0.0 |
| 450 | 24862 | 0.6 | 580 | 108484 | 64.5 | 710 | 21558 | 0.0 | 840 | 2526 | 0.0 | 970 | 2030 | 0.0 |
| 455 | 15942 | 0.5 | 585 | 116679 | 64.8 | 715 | 19222 | 0.0 | 845 | 2631 | 0.0 | 975 | 1986 | 0.0 |
| 460 | 9916 | 0.4 | 590 | 123752 | 64.0 | 720 | 17310 | 0.0 | 850 | 2079 | 0.0 | 980 | 2540 | 0.0 |
| 465 | 7051 | 0.4 | 595 | 129324 | 61.3 | 725 | 15280 | 0.0 | 855 | 2309 | 0.0 | 985 | 1139 | 0.0 |
| 470 | 5227 | 0.3 | 600 | 134082 | 57.8 | 730 | 13282 | 0.0 | 860 | 2528 | 0.0 | 990 | 2018 | 0.0 |
| 475 | 4257 | 0.3 | 605 | 135698 | 52.6 | 735 | 11753 | 0.0 | 865 | 2121 | 0.0 | 995 | 3445 | 0.0 |
| 480 | 4052 | 0.4 | 610 | 135144 | 46.4 | 740 | 10654 | 0.0 | 870 | 2751 | 0.0 | 1000 | 3704 | 0.0 |
| 485 | 4298 | 0.5 | 615 | 134180 | 40.5 | 745 | 9451 | 0.0 | 875 | 2317 | 0.0 | | | |

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## Scotopic Flux vs. Wavelength



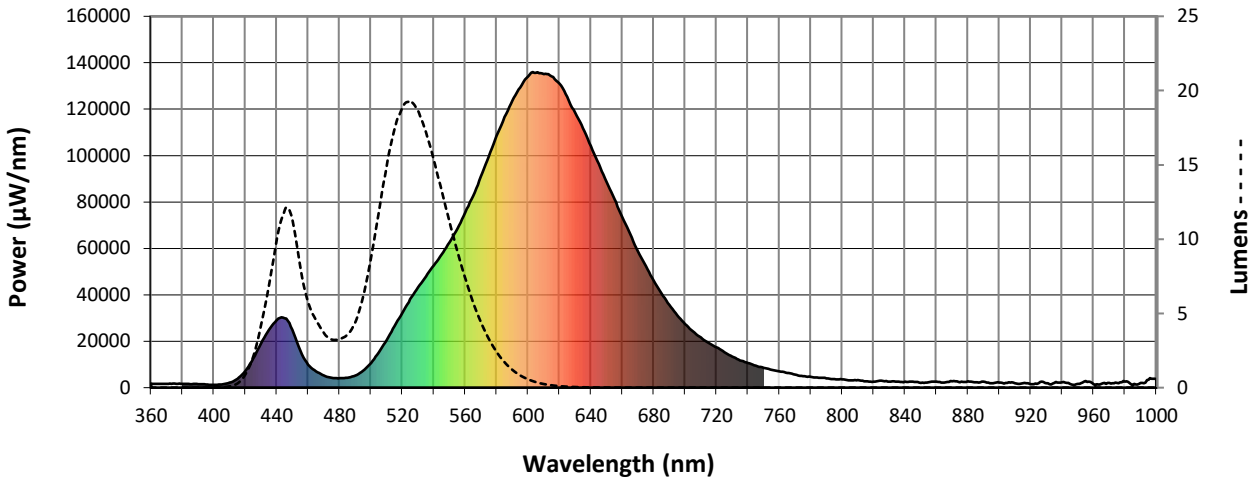

**Scotopic Lumens: 4696.9** **S/P: 0.85**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 1768 | 0.0 | 490 | 5206 | 4.3 | 620 | 130919 | 0.1 | 750 | 8553 | 0.0 | 880 | 2713 | 0.0 |
| 365 | 1569 | 0.0 | 495 | 7286 | 6.0 | 625 | 125335 | 0.1 | 755 | 7696 | 0.0 | 885 | 2316 | 0.0 |
| 370 | 1594 | 0.0 | 500 | 10654 | 8.6 | 630 | 118388 | 0.0 | 760 | 6978 | 0.0 | 890 | 2539 | 0.0 |
| 375 | 1744 | 0.0 | 505 | 15189 | 11.7 | 635 | 111855 | 0.0 | 765 | 6377 | 0.0 | 895 | 1933 | 0.0 |
| 380 | 1659 | 0.0 | 510 | 20541 | 14.7 | 640 | 104062 | 0.0 | 770 | 5600 | 0.0 | 900 | 2216 | 0.0 |
| 385 | 1504 | 0.0 | 515 | 26492 | 17.3 | 645 | 96365 | 0.0 | 775 | 5000 | 0.0 | 905 | 2067 | 0.0 |
| 390 | 1541 | 0.0 | 520 | 32294 | 18.8 | 650 | 88651 | 0.0 | 780 | 4709 | 0.0 | 910 | 1959 | 0.0 |
| 395 | 1355 | 0.0 | 525 | 38123 | 19.3 | 655 | 81152 | 0.0 | 785 | 4305 | 0.0 | 915 | 1874 | 0.0 |
| 400 | 1243 | 0.0 | 530 | 43232 | 18.7 | 660 | 73523 | 0.0 | 790 | 4040 | 0.0 | 920 | 1484 | 0.0 |
| 405 | 1417 | 0.0 | 535 | 48012 | 17.3 | 665 | 66123 | 0.0 | 795 | 3642 | 0.0 | 925 | 1914 | 0.0 |
| 410 | 2147 | 0.1 | 540 | 52623 | 15.4 | 670 | 58677 | 0.0 | 800 | 3594 | 0.0 | 930 | 1948 | 0.0 |
| 415 | 3837 | 0.3 | 545 | 57516 | 13.4 | 675 | 52349 | 0.0 | 805 | 3190 | 0.0 | 935 | 2079 | 0.0 |
| 420 | 7159 | 0.8 | 550 | 62613 | 11.2 | 680 | 46159 | 0.0 | 810 | 3241 | 0.0 | 940 | 2263 | 0.0 |
| 425 | 12599 | 2.0 | 555 | 68554 | 9.2 | 685 | 40525 | 0.0 | 815 | 2732 | 0.0 | 945 | 1688 | 0.0 |
| 430 | 19019 | 4.0 | 560 | 75325 | 7.4 | 690 | 35615 | 0.0 | 820 | 2612 | 0.0 | 950 | 1560 | 0.0 |
| 435 | 24875 | 6.6 | 565 | 82533 | 5.8 | 695 | 31158 | 0.0 | 825 | 2966 | 0.0 | 955 | 2826 | 0.0 |
| 440 | 29103 | 9.7 | 570 | 90909 | 4.4 | 700 | 27409 | 0.0 | 830 | 2574 | 0.0 | 960 | 1477 | 0.0 |
| 445 | 29901 | 11.8 | 575 | 99621 | 3.3 | 705 | 24204 | 0.0 | 835 | 2633 | 0.0 | 965 | 1568 | 0.0 |
| 450 | 24862 | 11.5 | 580 | 108484 | 2.4 | 710 | 21558 | 0.0 | 840 | 2526 | 0.0 | 970 | 2030 | 0.0 |
| 455 | 15942 | 8.4 | 585 | 116679 | 1.7 | 715 | 19222 | 0.0 | 845 | 2631 | 0.0 | 975 | 1986 | 0.0 |
| 460 | 9916 | 5.8 | 590 | 123752 | 1.2 | 720 | 17310 | 0.0 | 850 | 2079 | 0.0 | 980 | 2540 | 0.0 |
| 465 | 7051 | 4.6 | 595 | 129324 | 0.8 | 725 | 15280 | 0.0 | 855 | 2309 | 0.0 | 985 | 1139 | 0.0 |
| 470 | 5227 | 3.7 | 600 | 134082 | 0.6 | 730 | 13282 | 0.0 | 860 | 2528 | 0.0 | 990 | 2018 | 0.0 |
| 475 | 4257 | 3.3 | 605 | 135698 | 0.4 | 735 | 11753 | 0.0 | 865 | 2121 | 0.0 | 995 | 3445 | 0.0 |
| 480 | 4052 | 3.3 | 610 | 135144 | 0.2 | 740 | 10654 | 0.0 | 870 | 2751 | 0.0 | 1000 | 3704 | 0.0 |
| 485 | 4298 | 3.5 | 615 | 134180 | 0.2 | 745 | 9451 | 0.0 | 875 | 2317 | 0.0 | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: 1470.8** **M/P: 0.27**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 1768 | 0.0 | 490 | 5206 | 8.0 | 620 | 130919 | 1.6 | 750 | 8553 | 0.0 | 880 | 2713 | 0.0 |
| 365 | 1569 | 0.0 | 495 | 7286 | 11.8 | 625 | 125335 | 1.1 | 755 | 7696 | 0.0 | 885 | 2316 | 0.0 |
| 370 | 1594 | 0.0 | 500 | 10654 | 17.8 | 630 | 118388 | 0.7 | 760 | 6978 | 0.0 | 890 | 2539 | 0.0 |
| 375 | 1744 | 0.0 | 505 | 15189 | 25.8 | 635 | 111855 | 0.4 | 765 | 6377 | 0.0 | 895 | 1933 | 0.0 |
| 380 | 1659 | 0.0 | 510 | 20541 | 34.8 | 640 | 104062 | 0.3 | 770 | 5600 | 0.0 | 900 | 2216 | 0.0 |
| 385 | 1504 | 0.0 | 515 | 26492 | 43.9 | 645 | 96365 | 0.2 | 775 | 5000 | 0.0 | 905 | 2067 | 0.0 |
| 390 | 1541 | 0.0 | 520 | 32294 | 51.3 | 650 | 88651 | 0.1 | 780 | 4709 | 0.0 | 910 | 1959 | 0.0 |
| 395 | 1355 | 0.0 | 525 | 38123 | 57.0 | 655 | 81152 | 0.1 | 785 | 4305 | 0.0 | 915 | 1874 | 0.0 |
| 400 | 1243 | 0.0 | 530 | 43232 | 59.6 | 660 | 73523 | 0.0 | 790 | 4040 | 0.0 | 920 | 1484 | 0.0 |
| 405 | 1417 | 0.0 | 535 | 48012 | 59.8 | 665 | 66123 | 0.0 | 795 | 3642 | 0.0 | 925 | 1914 | 0.0 |
| 410 | 2147 | 0.1 | 540 | 52623 | 58.1 | 670 | 58677 | 0.0 | 800 | 3594 | 0.0 | 930 | 1948 | 0.0 |
| 415 | 3837 | 0.4 | 545 | 57516 | 55.1 | 675 | 52349 | 0.0 | 805 | 3190 | 0.0 | 935 | 2079 | 0.0 |
| 420 | 7159 | 1.2 | 550 | 62613 | 51.2 | 680 | 46159 | 0.0 | 810 | 3241 | 0.0 | 940 | 2263 | 0.0 |
| 425 | 12599 | 3.1 | 555 | 68554 | 46.9 | 685 | 40525 | 0.0 | 815 | 2732 | 0.0 | 945 | 1688 | 0.0 |
| 430 | 19019 | 6.5 | 560 | 75325 | 42.1 | 690 | 35615 | 0.0 | 820 | 2612 | 0.0 | 950 | 1560 | 0.0 |
| 435 | 24875 | 11.1 | 565 | 82533 | 37.0 | 695 | 31158 | 0.0 | 825 | 2966 | 0.0 | 955 | 2826 | 0.0 |
| 440 | 29103 | 16.3 | 570 | 90909 | 32.1 | 700 | 27409 | 0.0 | 830 | 2574 | 0.0 | 960 | 1477 | 0.0 |
| 445 | 29901 | 20.0 | 575 | 99621 | 27.1 | 705 | 24204 | 0.0 | 835 | 2633 | 0.0 | 965 | 1568 | 0.0 |
| 450 | 24862 | 19.3 | 580 | 108484 | 22.4 | 710 | 21558 | 0.0 | 840 | 2526 | 0.0 | 970 | 2030 | 0.0 |
| 455 | 15942 | 13.9 | 585 | 116679 | 17.8 | 715 | 19222 | 0.0 | 845 | 2631 | 0.0 | 975 | 1986 | 0.0 |
| 460 | 9916 | 9.6 | 590 | 123752 | 13.8 | 720 | 17310 | 0.0 | 850 | 2079 | 0.0 | 980 | 2540 | 0.0 |
| 465 | 7051 | 7.4 | 595 | 129324 | 10.3 | 725 | 15280 | 0.0 | 855 | 2309 | 0.0 | 985 | 1139 | 0.0 |
| 470 | 5227 | 6.0 | 600 | 134082 | 7.6 | 730 | 13282 | 0.0 | 860 | 2528 | 0.0 | 990 | 2018 | 0.0 |
| 475 | 4257 | 5.3 | 605 | 135698 | 5.3 | 735 | 11753 | 0.0 | 865 | 2121 | 0.0 | 995 | 3445 | 0.0 |
| 480 | 4052 | 5.5 | 610 | 135144 | 3.7 | 740 | 10654 | 0.0 | 870 | 2751 | 0.0 | 1000 | 3704 | 0.0 |
| 485 | 4298 | 6.2 | 615 | 134180 | 2.5 | 745 | 9451 | 0.0 | 875 | 2317 | 0.0 | | | |

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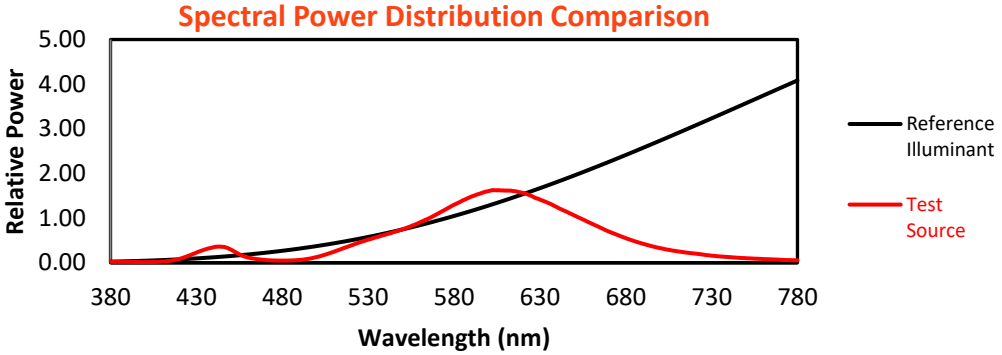
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# TM-30-18

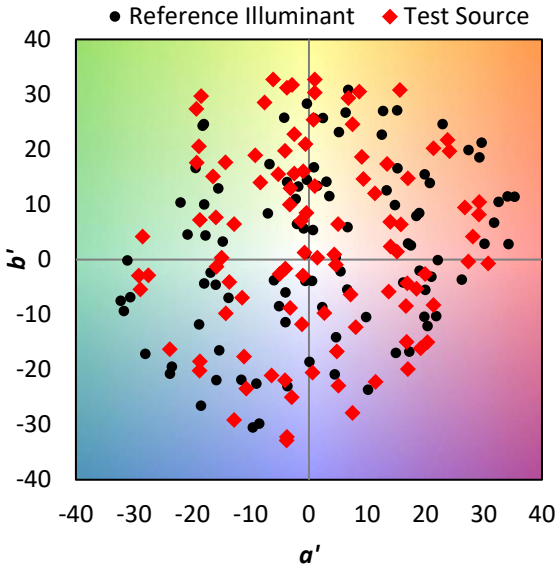
## Summary

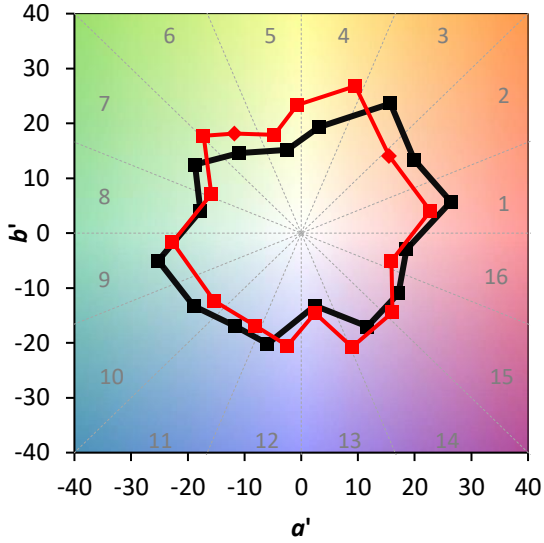
$R_f$ = 69.8
$R_g$ = 99.2
CIE $R_a$ = 72.0
$R_9$ = -17.4

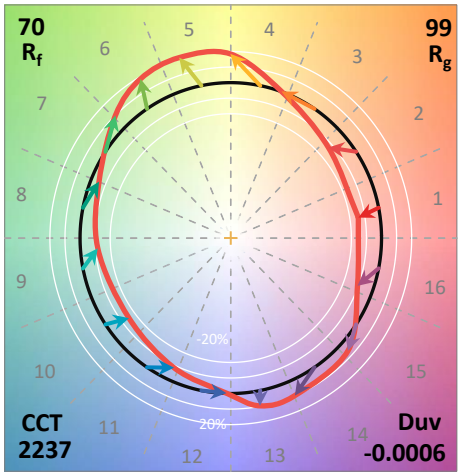
## Spectral Power Distribution Comparison

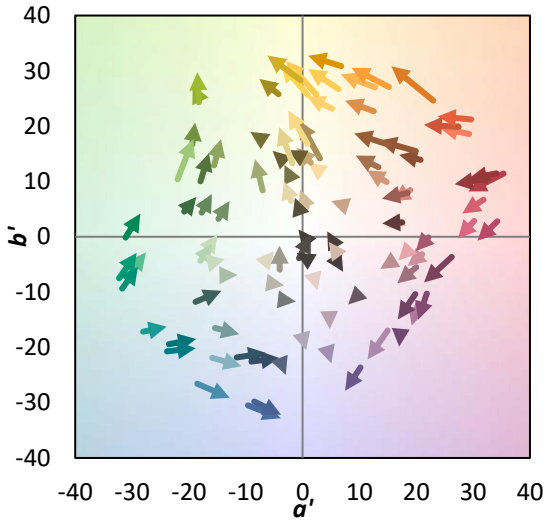



## Color Vector Graphics



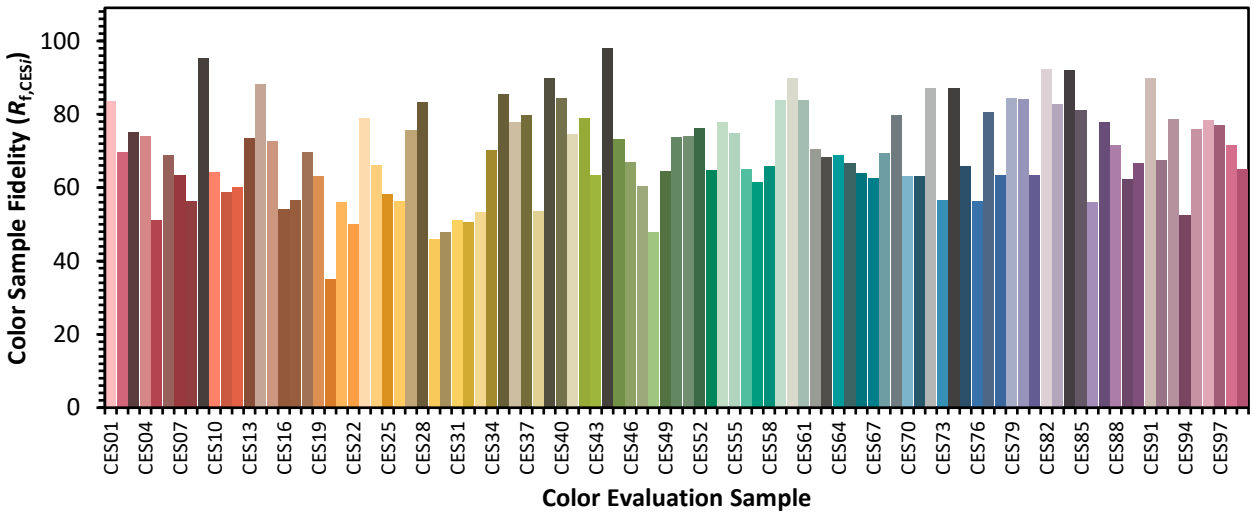
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Peachtree City, GA 30269

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

| | | | |
|---|---|---|---|
| CES01 = 87 | CES26 = 56 | CES51 = 74 | CES76 = 56 |
| CES02 = 65 | CES27 = 76 | CES52 = 76 | CES77 = 81 |
| CES03 = 32 | CES28 = 83 | CES53 = 65 | CES78 = 63 |
| CES04 = 72 | CES29 = 46 | CES54 = 78 | CES79 = 84 |
| CES05 = 52 | CES30 = 48 | CES55 = 75 | CES80 = 84 |
| CES06 = 52 | CES31 = 51 | CES56 = 65 | CES81 = 63 |
| CES07 = 44 | CES32 = 51 | CES57 = 62 | CES82 = 92 |
| CES08 = 42 | CES33 = 53 | CES58 = 66 | CES83 = 83 |
| CES09 = 29 | CES34 = 70 | CES59 = 84 | CES84 = 92 |
| CES10 = 78 | CES35 = 85 | CES60 = 90 | CES85 = 81 |
| CES11 = 61 | CES36 = 78 | CES61 = 84 | CES86 = 56 |
| CES12 = 68 | CES37 = 80 | CES62 = 70 | CES87 = 78 |
| CES13 = 45 | CES38 = 53 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 84 | CES65 = 67 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 90 |
| CES17 = 51 | CES42 = 79 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 64 | CES68 = 69 | CES93 = 79 |
| CES19 = 74 | CES44 = 98 | CES69 = 80 | CES94 = 52 |
| CES20 = 68 | CES45 = 73 | CES70 = 63 | CES95 = 76 |
| CES21 = 89 | CES46 = 67 | CES71 = 63 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 87 | CES97 = 77 |
| CES23 = 92 | CES48 = 48 | CES73 = 56 | CES98 = 71 |
| CES24 = 92 | CES49 = 64 | CES74 = 87 | CES99 = 65 |
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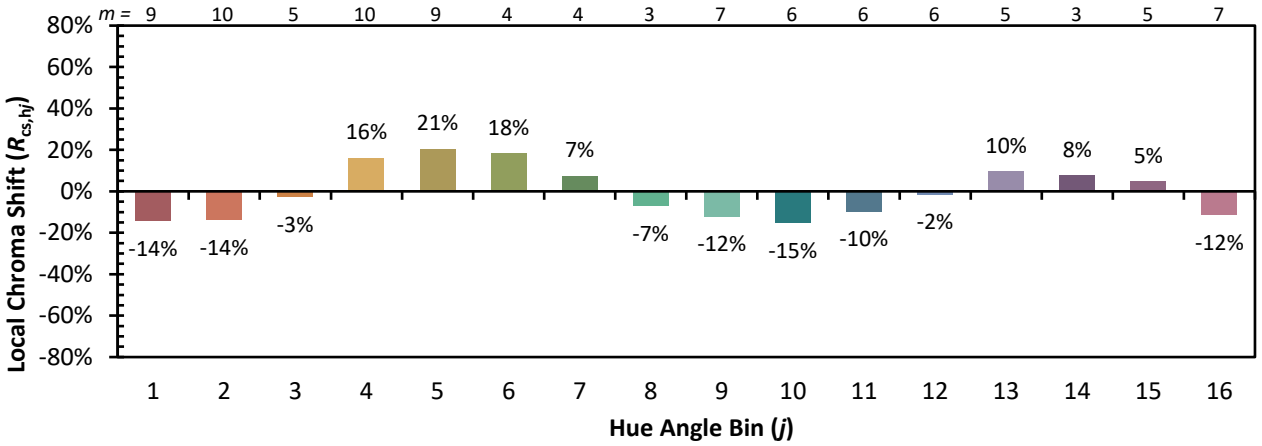


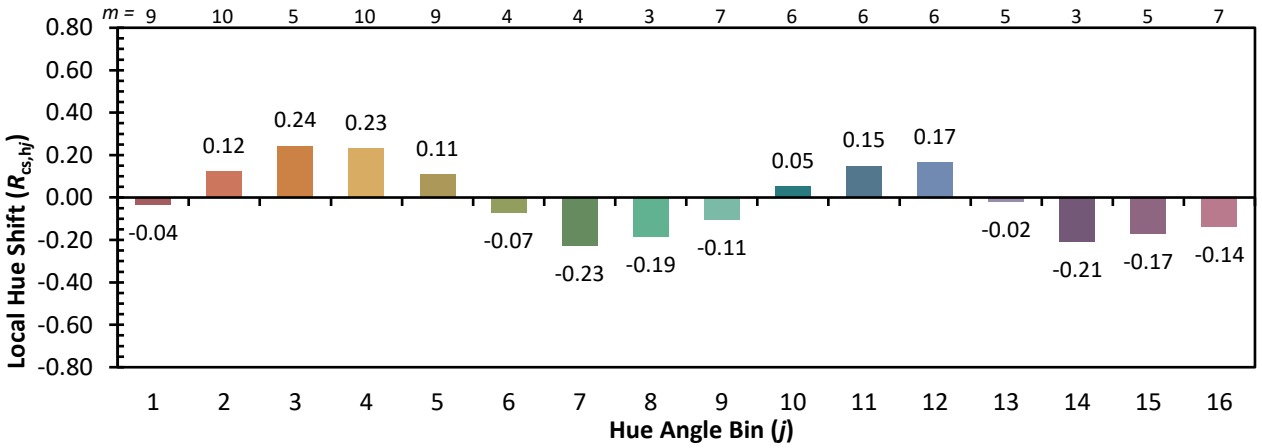
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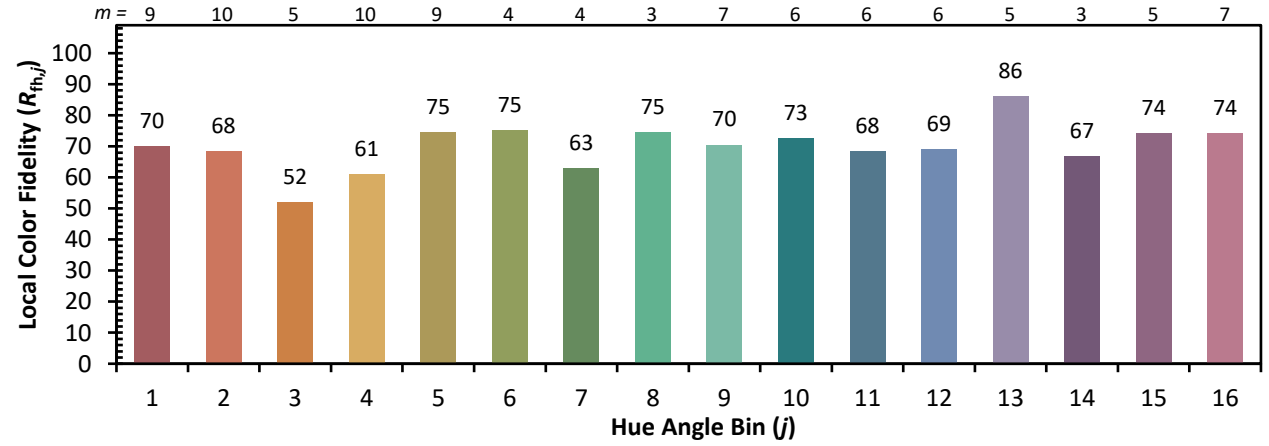
REPORT NUMBER: SP1-1908-441-10-R4

## TM-30-18

### Color Rendition by Hue-Angle Bin



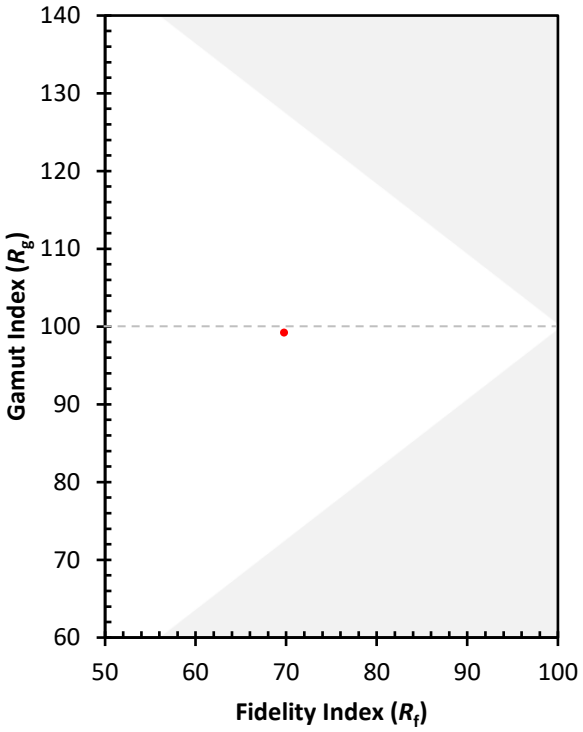



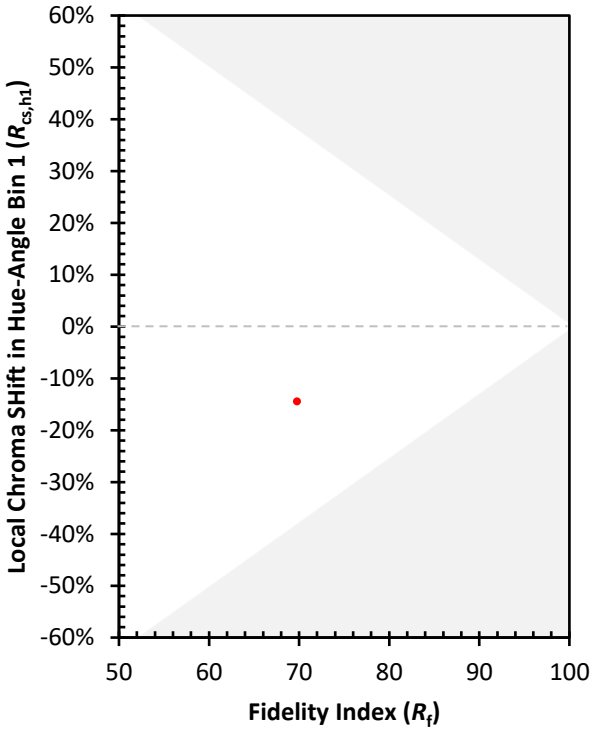
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### Measure Comparisons




(END OF REPORT)