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

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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: STREETWORKS

Report Number: P1459075

Luminaire Tested: GLAN-SB3A-927-U-T4LG-HSS

Issue Date: 05/20/2026

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: | P1459075 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB3A-927-U-T4LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 350mA 3xLight Square PACKAGE 90CRI 2700K FIXTURE w/ TYPE IV LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (78) 2700K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 5937 lumens |
| Efficiency: | N/A |
| Efficacy: | 70.1 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 1' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 84.7 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.97 |
| Total Harmonic Distortion (THDi): | NR |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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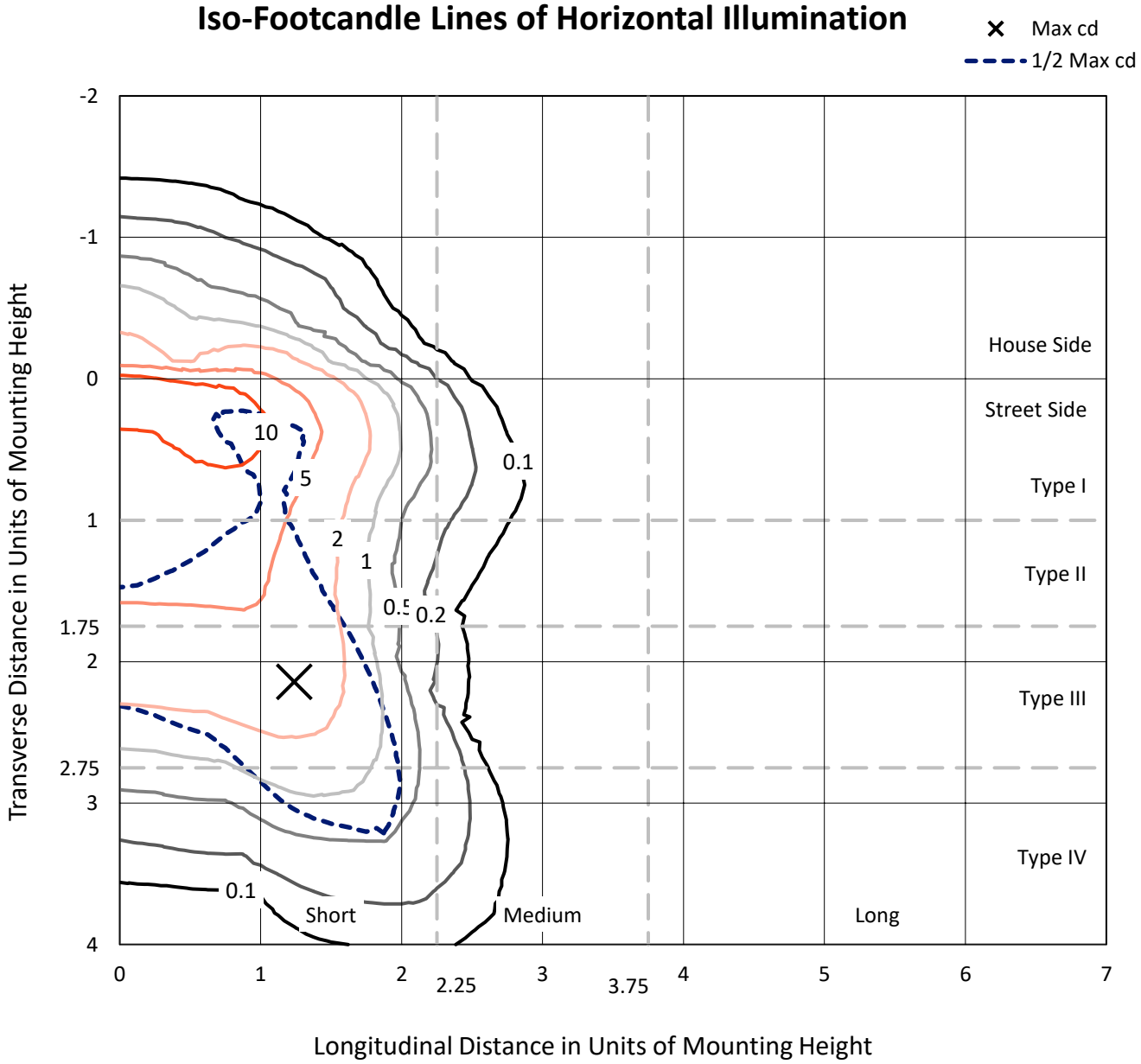
REPORT NUMBER: P1459075
CATALOG NUMBER: GLAN-SB3A-927-U-T4LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination




Based on 10 foot mounting height. Maximum calculated value = 17.9 fc
Type IV - Short - N/A

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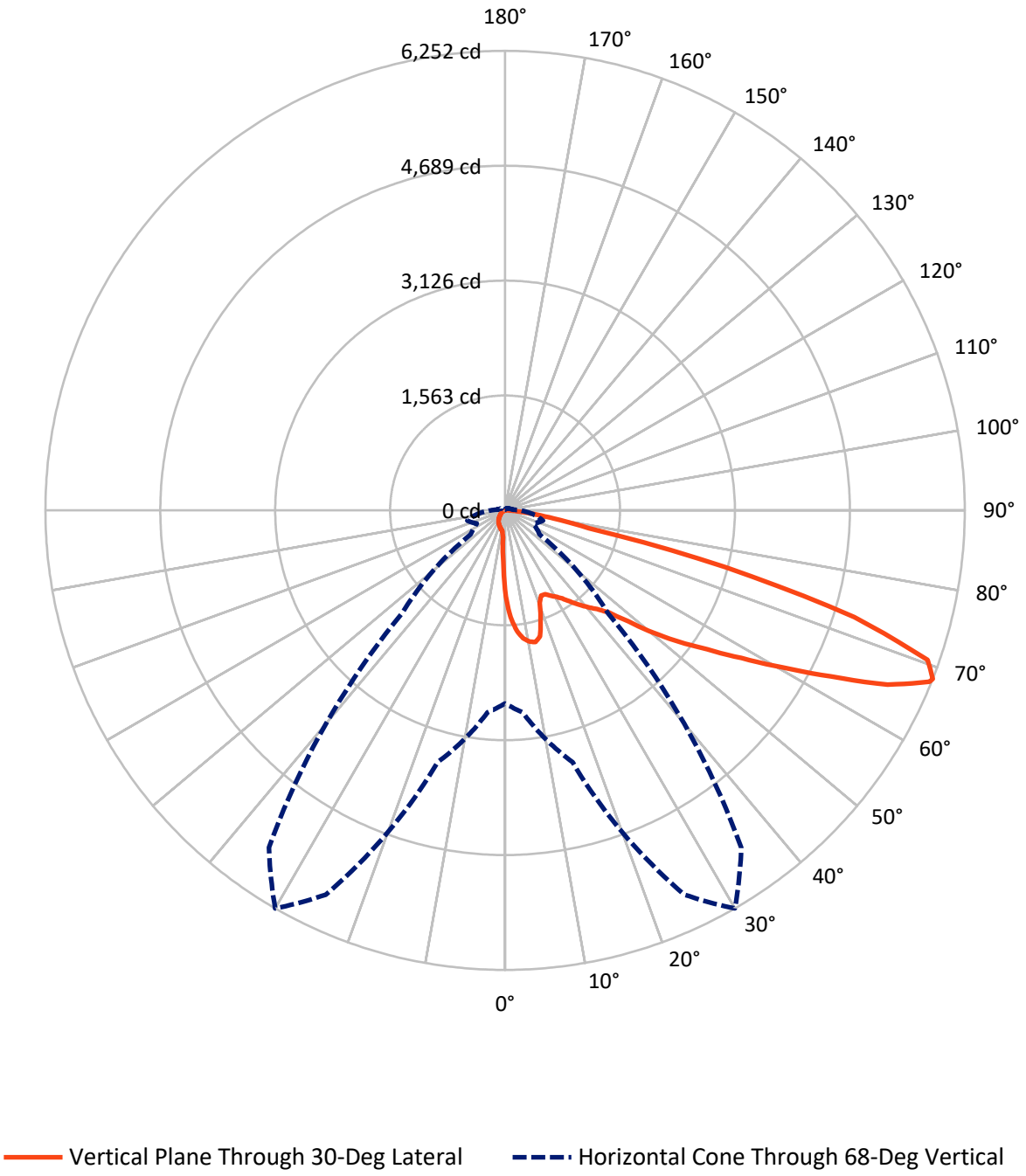
## Luminous Intensity Polar Plot



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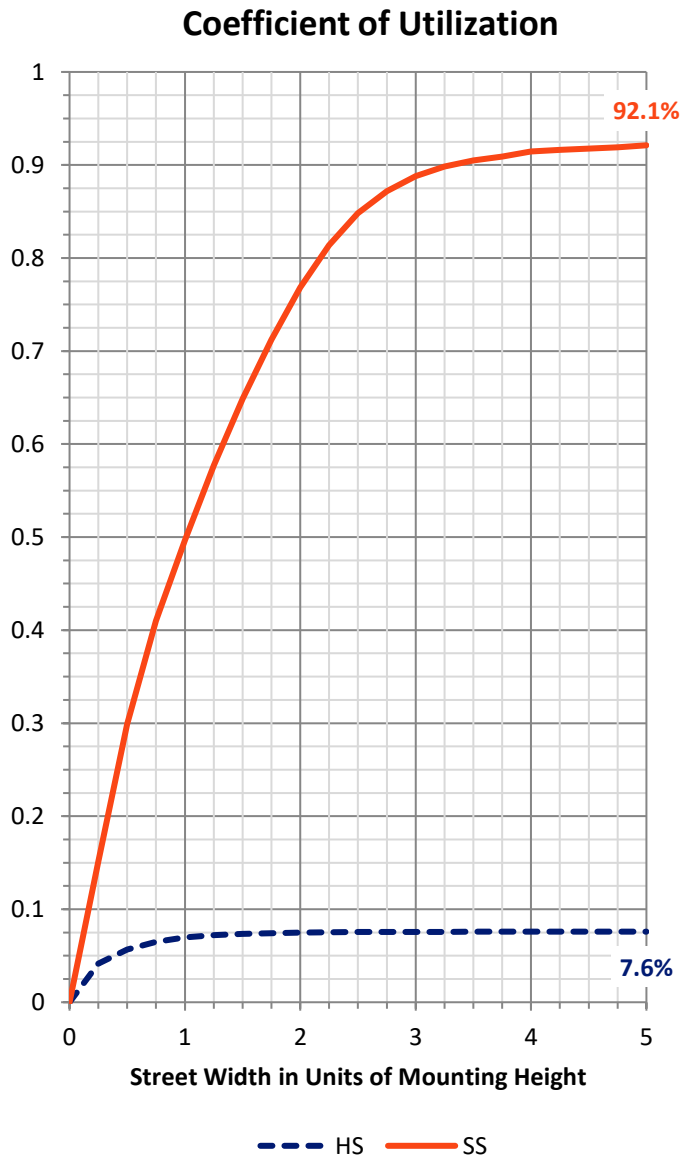
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 453.2 | 0.0 | 453.2 |
| | % Fixture | 7.6 | 0.0 | 7.6 |
| **Street Side** | Lumens | 5483.9 | 0.0 | 5483.9 |
| | % Fixture | 92.4 | 0.0 | 92.4 |
| **Total** | Lumens | 5937.0 | 0.0 | 5937.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 101.0 | 1.7 |
| 10°-20° | 288.4 | 4.9 |
| 20°-30° | 453.2 | 7.6 |
| 30°-40° | 710.8 | 12.0 |
| 40°-50° | 1062.5 | 17.9 |
| 50°-60° | 1413.4 | 23.8 |
| 60°-70° | 1366.4 | 23.0 |
| 70°-80° | 491.2 | 8.3 |
| 80°-90° | 50.1 | 0.8 |
| 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° | 5937.0 | 100.0 |
| 0°-180° | 5937.0 | 100.0 |



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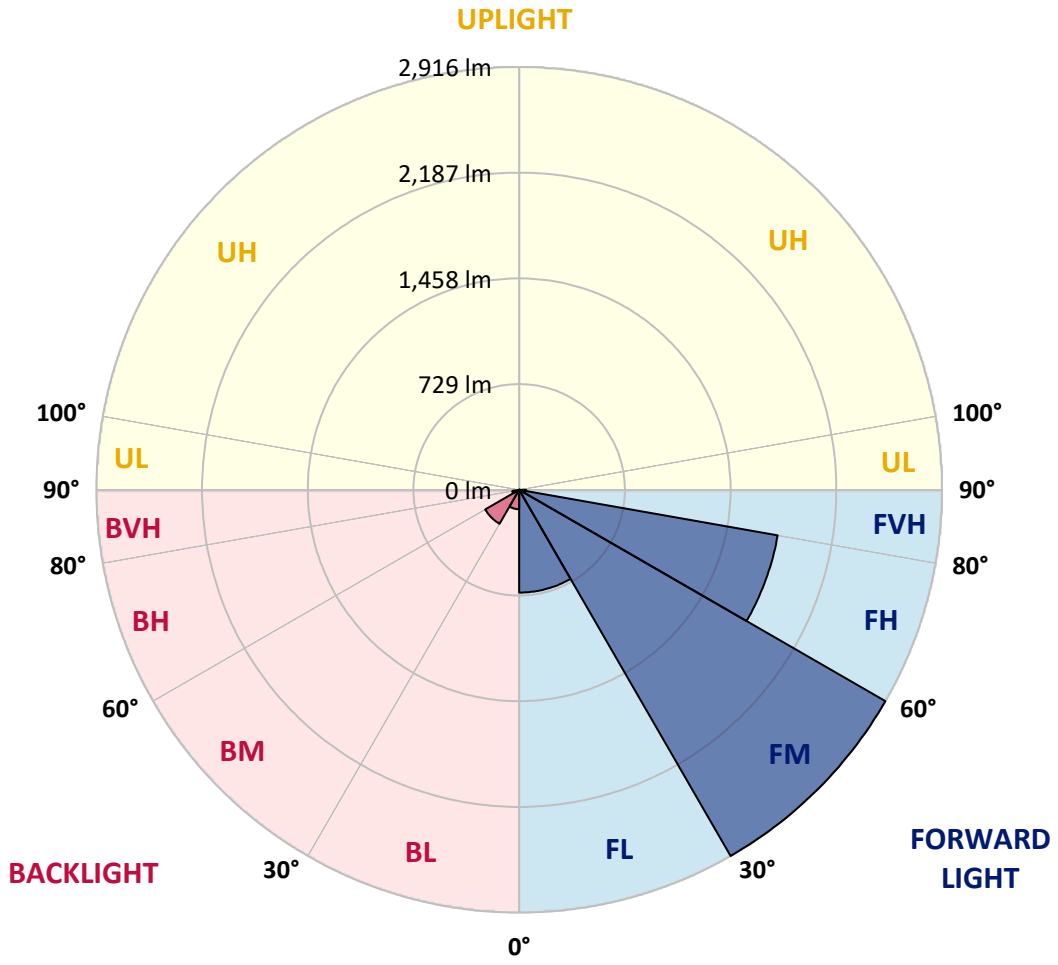
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 708.9 | 11.9 | | | |
| FM | (30°-60°) | 2916.3 | 49.1 | | | |
| FH | (60°-80°) | 1810.4 | 30.5 | | | G2/5000 |
| FVH | (80°-90°) | 48.3 | 0.8 | | | G1/100 |
| BL | (0°-30°) | 133.8 | 2.3 | B1/500 | | |
| BM | (30°-60°) | 270.5 | 4.6 | B1/1000 | | |
| BH | (60°-80°) | 47.1 | 0.8 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 1.8 | 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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REPORT NUMBER: P1459075
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 30° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1170.7 | 1170.7 | 1170.7 | 1170.7 | *1170.7* | 1170.7 | 1170.7 | 1170.7 | 1170.7 | 1170.7 | 1170.7 |
| 2.5° | 1496.3 | 1496.3 | 1485.6 | 1471.4 | *1455.4* | 1450.0 | 1419.8 | 1377.1 | 1332.6 | 1281.0 | 1206.3 |
| 5° | 1688.5 | 1686.7 | 1665.3 | 1665.3 | *1644.0* | 1624.4 | 1594.2 | 1531.9 | 1460.7 | 1368.2 | 1238.3 |
| 7.5° | 1773.9 | 1777.4 | 1768.5 | 1768.5 | *1756.1* | 1741.8 | 1724.0 | 1663.5 | 1579.9 | 1455.4 | 1270.3 |
| 10° | 1804.1 | 1805.9 | 1805.9 | 1818.3 | *1814.8* | 1813.0 | 1811.2 | 1777.4 | 1690.2 | 1544.3 | 1304.1 |
| 12.5° | 1731.2 | 1740.1 | 1765.0 | 1820.1 | *1837.9* | 1857.5 | 1884.2 | 1873.5 | 1813.0 | 1656.4 | 1355.7 |
| 15° | 1496.3 | 1498.1 | 1567.5 | 1704.5 | *1777.4* | 1852.1 | 1955.3 | 1976.7 | 1937.5 | 1777.4 | 1409.1 |
| 17.5° | 1234.8 | 1240.1 | 1295.3 | 1448.3 | *1565.7* | 1738.3 | 1996.3 | 2083.4 | 2069.2 | 1896.6 | 1458.9 |
| 20° | 1126.2 | 1133.3 | 1160.0 | 1256.1 | *1345.1* | 1505.2 | 1955.3 | 2184.8 | 2190.2 | 2015.8 | 1505.2 |
| 22.5° | 1101.3 | 1106.7 | 1128.0 | 1202.7 | *1257.9* | 1364.6 | 1816.6 | 2264.9 | 2327.2 | 2152.8 | 1560.4 |
| 25° | 1094.2 | 1099.5 | 1131.6 | 1213.4 | *1265.0* | 1354.0 | 1690.2 | 2307.6 | 2489.1 | 2295.2 | 1613.7 |
| 27.5° | 1088.9 | 1096.0 | 1147.6 | 1252.6 | *1313.0* | 1398.4 | 1667.1 | 2316.5 | 2643.9 | 2446.4 | 1700.9 |
| 30° | 1096.0 | 1106.7 | 1174.3 | 1293.5 | *1362.9* | 1458.9 | 1722.3 | 2325.4 | 2814.7 | 2619.0 | 1811.2 |
| 32.5° | 1124.5 | 1133.3 | 1215.2 | 1348.6 | *1428.7* | 1537.2 | 1816.6 | 2378.8 | 2976.6 | 2795.1 | 1916.2 |
| 35° | 1156.5 | 1168.9 | 1266.8 | 1426.9 | *1523.0* | 1645.8 | 1944.7 | 2483.8 | 3131.4 | 2962.4 | 2024.7 |
| 37.5° | 1195.6 | 1209.9 | 1327.3 | 1515.9 | *1626.2* | 1765.0 | 2083.4 | 2629.6 | 3268.4 | 3099.4 | 2133.3 |
| 40° | 1249.0 | 1265.0 | 1396.7 | 1610.2 | *1729.4* | 1868.2 | 2220.4 | 2773.8 | 3373.4 | 3181.2 | 2204.4 |
| 42.5° | 1458.9 | 1480.3 | 1535.4 | 1702.7 | *1836.1* | 1978.5 | 2355.7 | 2910.8 | 3412.5 | 3207.9 | 2218.7 |
| 45° | 1850.4 | 1871.7 | 1857.5 | 1889.5 | *1978.5* | 2111.9 | 2503.3 | 3042.4 | 3417.8 | 3200.8 | 2211.5 |
| 47.5° | 2243.6 | 2268.5 | 2256.0 | 2238.2 | *2257.8* | 2321.8 | 2668.8 | 3126.0 | 3389.4 | 3197.2 | 2211.5 |
| 50° | 2619.0 | 2604.7 | 2606.5 | 2601.2 | *2619.0* | 2652.8 | 2828.9 | 3142.1 | 3382.2 | 3231.0 | 2231.1 |
| 52.5° | 2820.0 | 2827.1 | 2871.6 | 2937.4 | *2976.6* | 3010.4 | 3012.2 | 3167.0 | 3330.7 | 3174.1 | 2208.0 |
| 55° | 3017.5 | 3031.7 | 3134.9 | 3247.0 | *3334.2* | 3398.3 | 3195.4 | 3151.0 | 3022.8 | 2983.7 | 2087.0 |
| 57.5° | 3239.9 | 3259.5 | 3405.4 | 3636.7 | *3789.7* | 3823.5 | 3376.9 | 2852.0 | 2558.5 | 2711.5 | 1852.1 |
| 60° | 3545.9 | 3569.1 | 3763.0 | 4109.9 | *4337.7* | 4268.3 | 3391.1 | 2377.0 | 2031.8 | 2250.7 | 1528.3 |
| 62.5° | 3786.1 | 3832.4 | 4182.9 | 4723.8 | *4974.6* | 4754.0 | 3126.0 | 1821.9 | 1419.8 | 1581.7 | 1115.6 |
| 65° | 3529.9 | 3618.9 | 4190.0 | 5426.5 | *5716.5* | 5325.1 | 2709.7 | 1243.7 | 800.6 | 1023.0 | 713.5 |
| 67.5° | 2853.8 | 2978.4 | 3720.3 | 5768.1 | *6225.4* | 5625.8 | 2133.3 | 660.1 | 459.0 | 594.3 | 375.4 |
| 68° | *2626.1* | *2761.3* | *3547.7* | *5768.1* | *6252.1* | *5599.1* | *1980.2* | *571.1* | *423.4* | *533.8* | *325.6* |
| 70° | 1814.8 | 1910.9 | 2727.5 | 5444.3 | *6095.5* | 5104.5 | 1304.1 | 327.4 | 318.5 | 366.5 | 215.3 |
| 72.5° | 889.6 | 992.8 | 1458.9 | 4314.5 | *4965.7* | 3923.1 | 594.3 | 217.1 | 242.0 | 268.7 | 169.0 |
| 75° | 354.1 | 375.4 | 574.7 | 2127.9 | *3102.9* | 2503.3 | 311.4 | 163.7 | 208.2 | 209.9 | 133.4 |
| 77.5° | 202.8 | 215.3 | 318.5 | 782.8 | *1163.6* | 1119.1 | 201.0 | 117.4 | 165.5 | 151.2 | 87.2 |
| 80° | 113.9 | 115.6 | 179.7 | 412.8 | *665.4* | 596.0 | 137.0 | 85.4 | 126.3 | 106.8 | 58.7 |
| 82.5° | 56.9 | 64.1 | 113.9 | 227.7 | *370.1* | 379.0 | 72.9 | 60.5 | 101.4 | 76.5 | 48.0 |
| 85° | 40.9 | 44.5 | 81.8 | 126.3 | *170.8* | 256.2 | 44.5 | 30.2 | 76.5 | 51.6 | 33.8 |
| 87.5° | 21.4 | 26.7 | 51.6 | 62.3 | *69.4* | 87.2 | 21.4 | 14.2 | 42.7 | 30.2 | 17.8 |
| 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: P1459075
CATALOG NUMBER: GLAN-SB3A-927-U-T4LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1170.7 | 1170.7 | 1170.7 | 1170.7 | 1170.7 | 1170.7 | 1170.7 | 1170.7 | 1170.7 | 1170.7 | 1170.7 |
| 2.5° | 1170.7 | 1129.8 | 1046.2 | 948.3 | 871.8 | 793.5 | 729.5 | 669.0 | 640.5 | 637.0 | 644.1 |
| 5° | 1165.4 | 1076.4 | 886.0 | 699.2 | 546.2 | 439.5 | 380.7 | 350.5 | 334.5 | 327.4 | 329.2 |
| 7.5° | 1154.7 | 1019.5 | 715.2 | 473.3 | 354.1 | 307.8 | 293.6 | 288.2 | 286.5 | 286.5 | 286.5 |
| 10° | 1144.0 | 943.0 | 548.0 | 346.9 | 290.0 | 277.6 | 274.0 | 274.0 | 272.2 | 272.2 | 274.0 |
| 12.5° | 1138.7 | 871.8 | 425.2 | 290.0 | 270.4 | 265.1 | 261.5 | 259.8 | 259.8 | 259.8 | 261.5 |
| 15° | 1126.2 | 793.5 | 343.4 | 268.7 | 258.0 | 250.9 | 249.1 | 247.3 | 247.3 | 247.3 | 247.3 |
| 17.5° | 1115.6 | 717.0 | 298.9 | 254.4 | 245.5 | 238.4 | 236.6 | 234.9 | 234.9 | 236.6 | 236.6 |
| 20° | 1099.5 | 644.1 | 268.7 | 240.2 | 233.1 | 226.0 | 224.2 | 222.4 | 224.2 | 224.2 | 224.2 |
| 22.5° | 1080.0 | 583.6 | 250.9 | 229.5 | 220.6 | 213.5 | 213.5 | 213.5 | 213.5 | 213.5 | 215.3 |
| 25° | 1067.5 | 540.9 | 238.4 | 217.1 | 208.2 | 202.8 | 201.0 | 201.0 | 204.6 | 204.6 | 206.4 |
| 27.5° | 1087.1 | 530.2 | 240.2 | 213.5 | 197.5 | 192.2 | 190.4 | 190.4 | 193.9 | 195.7 | 197.5 |
| 30° | 1145.8 | 549.8 | 261.5 | 224.2 | 190.4 | 181.5 | 179.7 | 179.7 | 185.0 | 186.8 | 188.6 |
| 32.5° | 1213.4 | 590.7 | 293.6 | 238.4 | 185.0 | 170.8 | 167.2 | 167.2 | 172.6 | 174.4 | 176.1 |
| 35° | 1305.9 | 654.7 | 336.3 | 250.9 | 188.6 | 160.1 | 153.0 | 153.0 | 156.6 | 160.1 | 161.9 |
| 37.5° | 1425.1 | 759.7 | 386.1 | 259.8 | 188.6 | 147.7 | 138.8 | 137.0 | 140.6 | 140.6 | 142.3 |
| 40° | 1549.7 | 896.7 | 437.7 | 259.8 | 179.7 | 135.2 | 126.3 | 121.0 | 122.8 | 121.0 | 122.8 |
| 42.5° | 1619.1 | 1007.0 | 482.2 | 243.7 | 169.0 | 122.8 | 113.9 | 106.8 | 105.0 | 101.4 | 103.2 |
| 45° | 1658.2 | 1056.8 | 469.7 | 226.0 | 158.3 | 113.9 | 103.2 | 94.3 | 90.7 | 85.4 | 85.4 |
| 47.5° | 1658.2 | 1062.2 | 402.1 | 211.7 | 147.7 | 106.8 | 92.5 | 83.6 | 78.3 | 72.9 | 74.7 |
| 50° | 1638.6 | 1014.1 | 318.5 | 197.5 | 135.2 | 99.6 | 83.6 | 76.5 | 69.4 | 65.8 | 65.8 |
| 52.5° | 1556.8 | 857.6 | 243.7 | 179.7 | 121.0 | 90.7 | 74.7 | 67.6 | 60.5 | 58.7 | 58.7 |
| 55° | 1416.2 | 629.8 | 197.5 | 161.9 | 108.5 | 83.6 | 67.6 | 62.3 | 55.2 | 51.6 | 51.6 |
| 57.5° | 1151.1 | 430.6 | 163.7 | 145.9 | 96.1 | 74.7 | 60.5 | 55.2 | 46.3 | 42.7 | 42.7 |
| 60° | 854.0 | 281.1 | 138.8 | 128.1 | 81.8 | 67.6 | 53.4 | 46.3 | 39.1 | 35.6 | 33.8 |
| 62.5° | 576.5 | 190.4 | 115.6 | 101.4 | 69.4 | 58.7 | 46.3 | 39.1 | 30.2 | 23.1 | 23.1 |
| 65° | 359.4 | 147.7 | 96.1 | 80.1 | 60.5 | 51.6 | 39.1 | 30.2 | 21.4 | 16.0 | 14.2 |
| 67.5° | 206.4 | 119.2 | 78.3 | 62.3 | 51.6 | 40.9 | 30.2 | 24.9 | 17.8 | 12.5 | 10.7 |
| 68° | *190.4* | *113.9* | *72.9* | *58.7* | *48.0* | *39.1* | *28.5* | *23.1* | *16.0* | *10.7* | *10.7* |
| 70° | 154.8 | 101.4 | 62.3 | 48.0 | 40.9 | 32.0 | 24.9 | 19.6 | 12.5 | 7.1 | 7.1 |
| 72.5° | 137.0 | 85.4 | 53.4 | 37.4 | 28.5 | 26.7 | 19.6 | 14.2 | 8.9 | 5.3 | 3.6 |
| 75° | 112.1 | 67.6 | 42.7 | 28.5 | 19.6 | 19.6 | 14.2 | 8.9 | 3.6 | 0.0 | 0.0 |
| 77.5° | 72.9 | 49.8 | 33.8 | 17.8 | 10.7 | 12.5 | 8.9 | 3.6 | 0.0 | 0.0 | 0.0 |
| 80° | 48.0 | 37.4 | 23.1 | 8.9 | 5.3 | 5.3 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 33.8 | 24.9 | 14.2 | 3.6 | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 21.4 | 10.7 | 5.3 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 8.9 | 3.6 | 1.8 | 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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# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-13

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-927-U-5WQ

Data in this report applies to families of products including GSS-SB1A-927-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

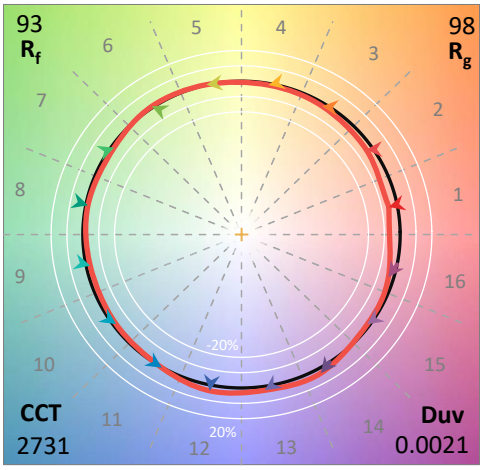
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-13 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/15/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGraw-Edison |
| Catalog Number: | **GSS-SB1A-927-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 2700K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2731 |
| CIE u': | 0.2605 |
| CIE v': | 0.5298 |
| Duv: | 0.0021 |
| CIE x: | 0.4610 |
| CIE y: | 0.4166 |
| CIE z: | 0.1224 |
| Peak Wavelength (nm): | 622 |
| Dominant Wavelength (nm): | 583 |
| Purity: | 63.43685 |
| Rf: | 92.6 |
| Rg: | 98 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 91.8 | | | | |
| R1: | 91.4 | R9: | 54.7 | | |
| R2: | 95.1 | R10: | 87.7 | | |
| R3: | 97.6 | R11: | 92.9 | | |
| R4: | 92.3 | R12: | 84.0 | | |
| R5: | 91.1 | R13: | 92.2 | | |
| R6: | 94.7 | R14: | 97.8 | | |
| R7: | 92.3 | R15: | 86.8 | | |
| R8: | 80.0 | | | | |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | M |
| Operation Time: | 1H 0M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-13

| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

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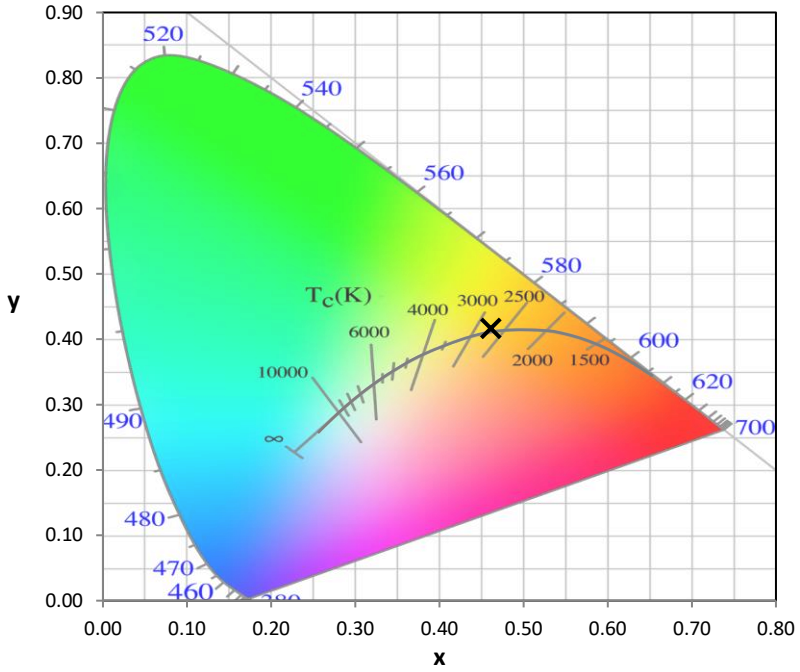
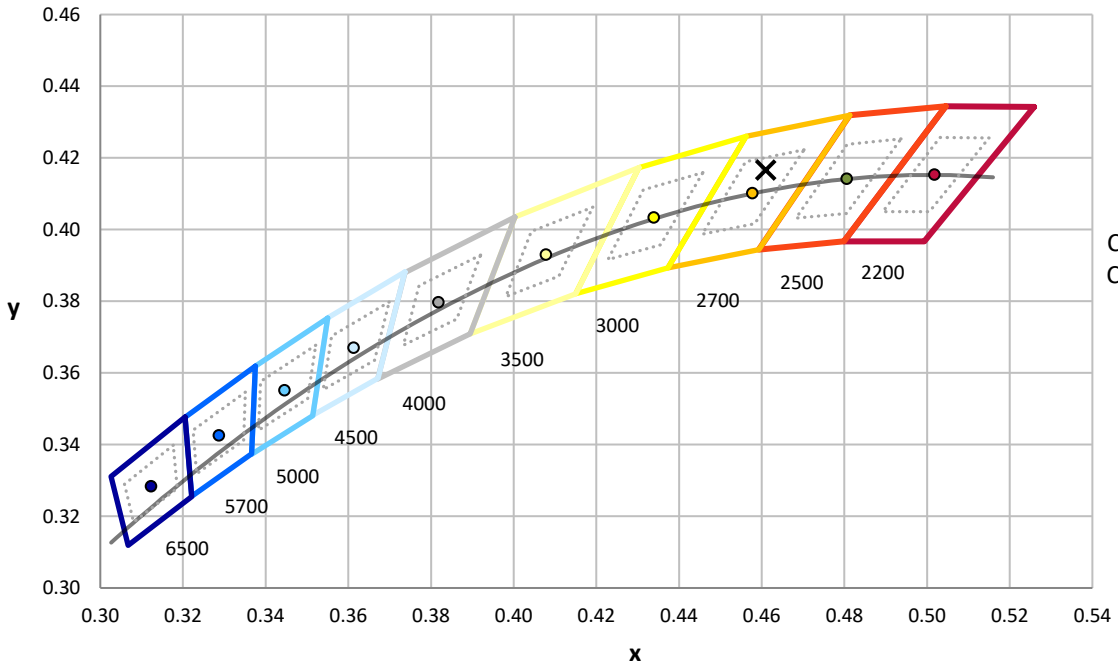
**CIE 1931 Chromaticity Diagram**




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




CCT = 2731K
CIE x = 0.4610
CIE y = 0.4166
Duv = 0.0021

Point lies inside the ANSI 2700K 4-step quadrangle

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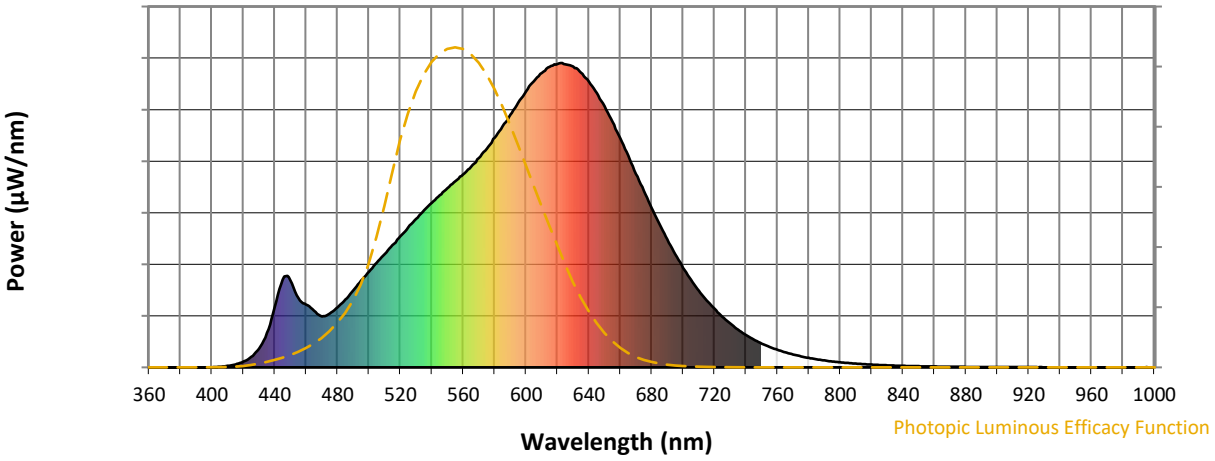
## Photopic Flux vs. Wavelength




## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 253 | NR | 620 | 997 | NR | 750 | 78 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 285 | NR | 625 | 996 | NR | 755 | 67 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 314 | NR | 630 | 989 | NR | 760 | 58 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 969 | NR | 765 | 50 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 372 | NR | 640 | 939 | NR | 770 | 42 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 401 | NR | 645 | 901 | NR | 775 | 36 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 431 | NR | 650 | 858 | NR | 780 | 31 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 459 | NR | 655 | 806 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 0 | NR | 530 | 488 | NR | 660 | 752 | NR | 790 | 23 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 516 | NR | 665 | 696 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 5 | NR | 540 | 540 | NR | 670 | 636 | NR | 800 | 17 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 566 | NR | 675 | 579 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 19 | NR | 550 | 589 | NR | 680 | 524 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 34 | NR | 555 | 612 | NR | 685 | 470 | NR | 815 | 11 | NR | 945 | 0 | NR |
| 430 | 61 | NR | 560 | 634 | NR | 690 | 421 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 113 | NR | 565 | 660 | NR | 695 | 371 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 198 | NR | 570 | 688 | NR | 700 | 327 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 288 | NR | 575 | 719 | NR | 705 | 288 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 286 | NR | 580 | 754 | NR | 710 | 251 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 228 | NR | 585 | 791 | NR | 715 | 220 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 207 | NR | 590 | 831 | NR | 720 | 192 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 186 | NR | 595 | 870 | NR | 725 | 166 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 168 | NR | 600 | 907 | NR | 730 | 144 | NR | 860 | 3 | NR | 990 | 1 | NR |
| 475 | 177 | NR | 605 | 940 | NR | 735 | 124 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 198 | NR | 610 | 967 | NR | 740 | 106 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 223 | NR | 615 | 988 | NR | 745 | 91 | NR | 875 | 2 | NR | | | |

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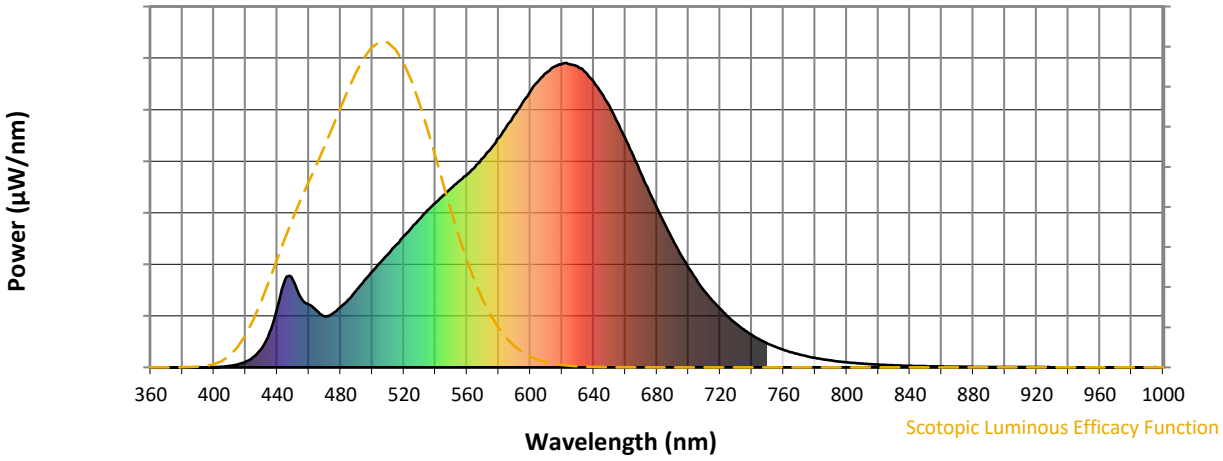
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.27**

| 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 | 253 | NR | 620 | 997 | NR | 750 | 78 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 285 | NR | 625 | 996 | NR | 755 | 67 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 314 | NR | 630 | 989 | NR | 760 | 58 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 969 | NR | 765 | 50 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 372 | NR | 640 | 939 | NR | 770 | 42 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 401 | NR | 645 | 901 | NR | 775 | 36 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 431 | NR | 650 | 858 | NR | 780 | 31 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 459 | NR | 655 | 806 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 0 | NR | 530 | 488 | NR | 660 | 752 | NR | 790 | 23 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 516 | NR | 665 | 696 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 5 | NR | 540 | 540 | NR | 670 | 636 | NR | 800 | 17 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 566 | NR | 675 | 579 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 19 | NR | 550 | 589 | NR | 680 | 524 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 34 | NR | 555 | 612 | NR | 685 | 470 | NR | 815 | 11 | NR | 945 | 0 | NR |
| 430 | 61 | NR | 560 | 634 | NR | 690 | 421 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 113 | NR | 565 | 660 | NR | 695 | 371 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 198 | NR | 570 | 688 | NR | 700 | 327 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 288 | NR | 575 | 719 | NR | 705 | 288 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 286 | NR | 580 | 754 | NR | 710 | 251 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 228 | NR | 585 | 791 | NR | 715 | 220 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 207 | NR | 590 | 831 | NR | 720 | 192 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 186 | NR | 595 | 870 | NR | 725 | 166 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 168 | NR | 600 | 907 | NR | 730 | 144 | NR | 860 | 3 | NR | 990 | 1 | NR |
| 475 | 177 | NR | 605 | 940 | NR | 735 | 124 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 198 | NR | 610 | 967 | NR | 740 | 106 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 223 | NR | 615 | 988 | NR | 745 | 91 | NR | 875 | 2 | NR | | | |

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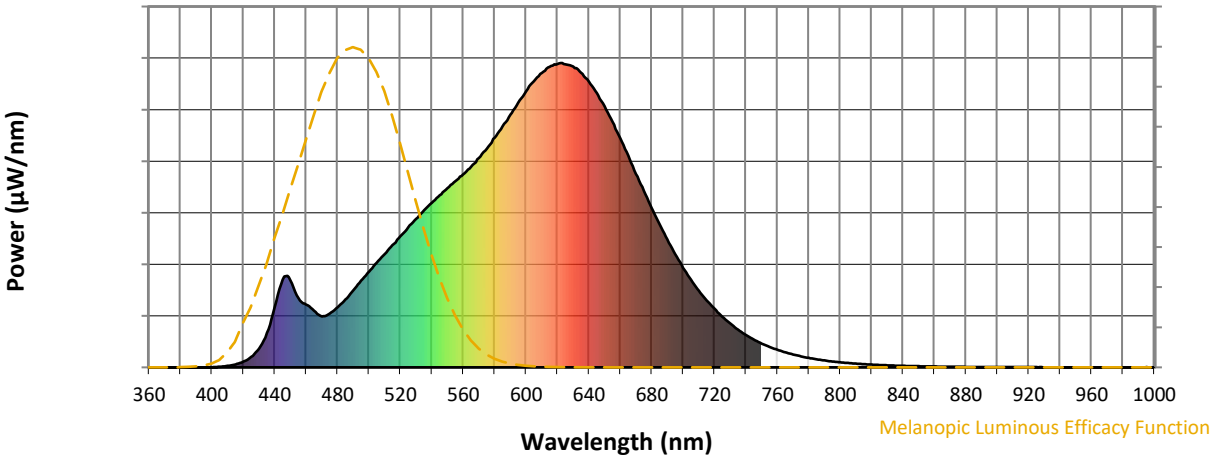
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.38**

| 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 | 253 | NR | 620 | 997 | NR | 750 | 78 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 285 | NR | 625 | 996 | NR | 755 | 67 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 314 | NR | 630 | 989 | NR | 760 | 58 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 969 | NR | 765 | 50 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 372 | NR | 640 | 939 | NR | 770 | 42 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 401 | NR | 645 | 901 | NR | 775 | 36 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 431 | NR | 650 | 858 | NR | 780 | 31 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 459 | NR | 655 | 806 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 0 | NR | 530 | 488 | NR | 660 | 752 | NR | 790 | 23 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 516 | NR | 665 | 696 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 5 | NR | 540 | 540 | NR | 670 | 636 | NR | 800 | 17 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 566 | NR | 675 | 579 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 19 | NR | 550 | 589 | NR | 680 | 524 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 34 | NR | 555 | 612 | NR | 685 | 470 | NR | 815 | 11 | NR | 945 | 0 | NR |
| 430 | 61 | NR | 560 | 634 | NR | 690 | 421 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 113 | NR | 565 | 660 | NR | 695 | 371 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 198 | NR | 570 | 688 | NR | 700 | 327 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 288 | NR | 575 | 719 | NR | 705 | 288 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 286 | NR | 580 | 754 | NR | 710 | 251 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 228 | NR | 585 | 791 | NR | 715 | 220 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 207 | NR | 590 | 831 | NR | 720 | 192 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 186 | NR | 595 | 870 | NR | 725 | 166 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 168 | NR | 600 | 907 | NR | 730 | 144 | NR | 860 | 3 | NR | 990 | 1 | NR |
| 475 | 177 | NR | 605 | 940 | NR | 735 | 124 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 198 | NR | 610 | 967 | NR | 740 | 106 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 223 | NR | 615 | 988 | NR | 745 | 91 | NR | 875 | 2 | NR | | | |

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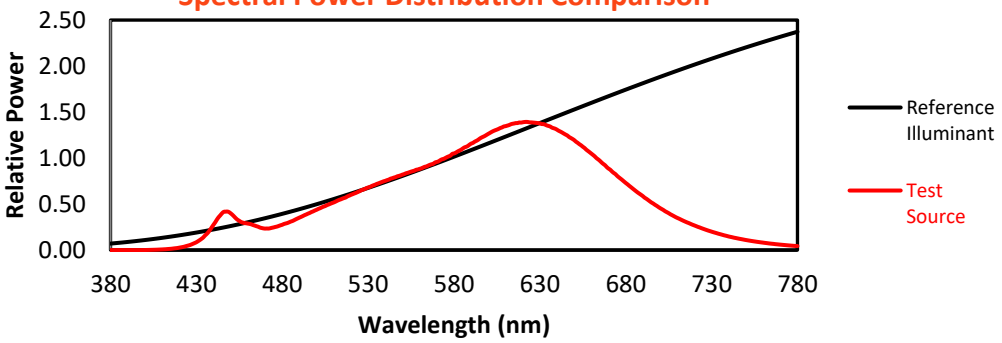
# TM-30-18

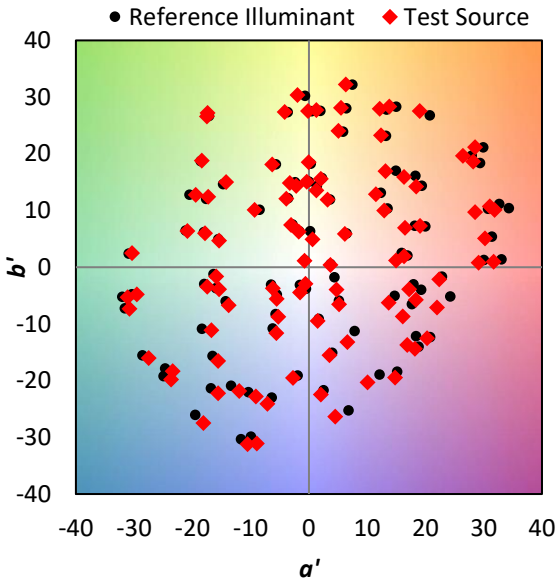
## Summary

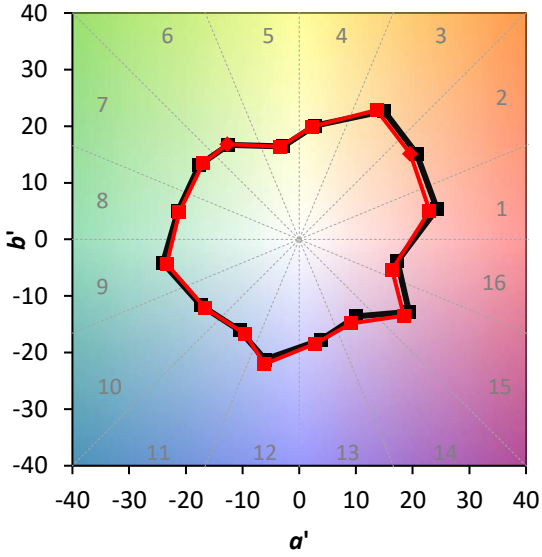
$R_f$ = 92.6
$R_g$ = 98
CIE $R_a$ = 91.8
$R_9$ = 54.7

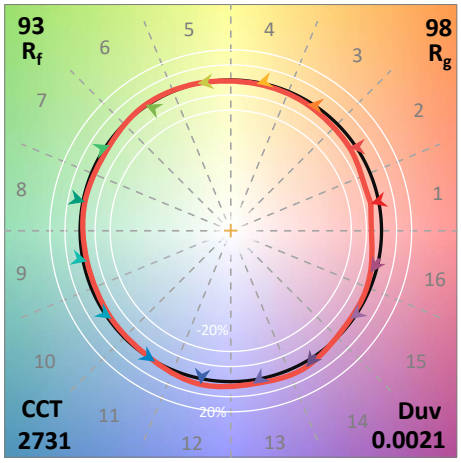
## Spectral Power Distribution Comparison

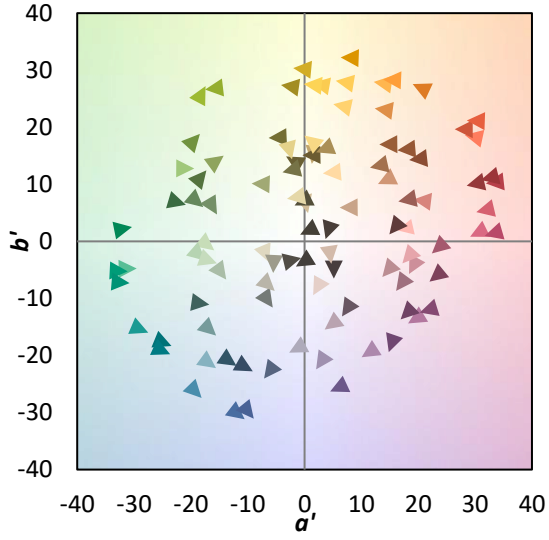



## Color Vector Graphics



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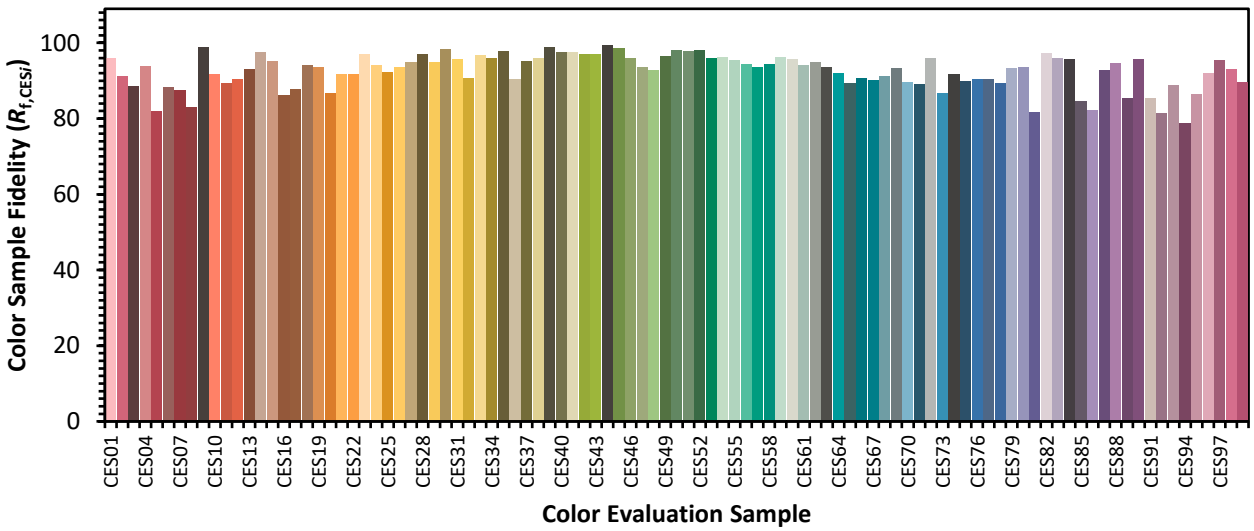
# TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 98 | CES76 = 90 |
| CES02 = 64 | CES27 = 95 | CES52 = 98 | CES77 = 90 |
| CES03 = 32 | CES28 = 97 | CES53 = 96 | CES78 = 89 |
| CES04 = 71 | CES29 = 95 | CES54 = 96 | CES79 = 93 |
| CES05 = 51 | CES30 = 98 | CES55 = 95 | CES80 = 94 |
| CES06 = 52 | CES31 = 96 | CES56 = 94 | CES81 = 82 |
| CES07 = 44 | CES32 = 91 | CES57 = 94 | CES82 = 97 |
| CES08 = 43 | CES33 = 97 | CES58 = 94 | CES83 = 96 |
| CES09 = 29 | CES34 = 96 | CES59 = 96 | CES84 = 96 |
| CES10 = 77 | CES35 = 98 | CES60 = 96 | CES85 = 85 |
| CES11 = 59 | CES36 = 90 | CES61 = 94 | CES86 = 82 |
| CES12 = 66 | CES37 = 95 | CES62 = 95 | CES87 = 93 |
| CES13 = 44 | CES38 = 96 | CES63 = 94 | CES88 = 95 |
| CES14 = 74 | CES39 = 99 | CES64 = 92 | CES89 = 85 |
| CES15 = 72 | CES40 = 98 | CES65 = 89 | CES90 = 96 |
| CES16 = 48 | CES41 = 98 | CES66 = 91 | CES91 = 85 |
| CES17 = 50 | CES42 = 97 | CES67 = 90 | CES92 = 82 |
| CES18 = 57 | CES43 = 97 | CES68 = 91 | CES93 = 89 |
| CES19 = 72 | CES44 = 99 | CES69 = 93 | CES94 = 79 |
| CES20 = 68 | CES45 = 99 | CES70 = 90 | CES95 = 87 |
| CES21 = 87 | CES46 = 96 | CES71 = 89 | CES96 = 92 |
| CES22 = 79 | CES47 = 94 | CES72 = 96 | CES97 = 96 |
| CES23 = 92 | CES48 = 93 | CES73 = 87 | CES98 = 93 |
| CES24 = 91 | CES49 = 96 | CES74 = 92 | CES99 = 90 |
| CES25 = 72 | CES50 = 98 | CES75 = 90 | |



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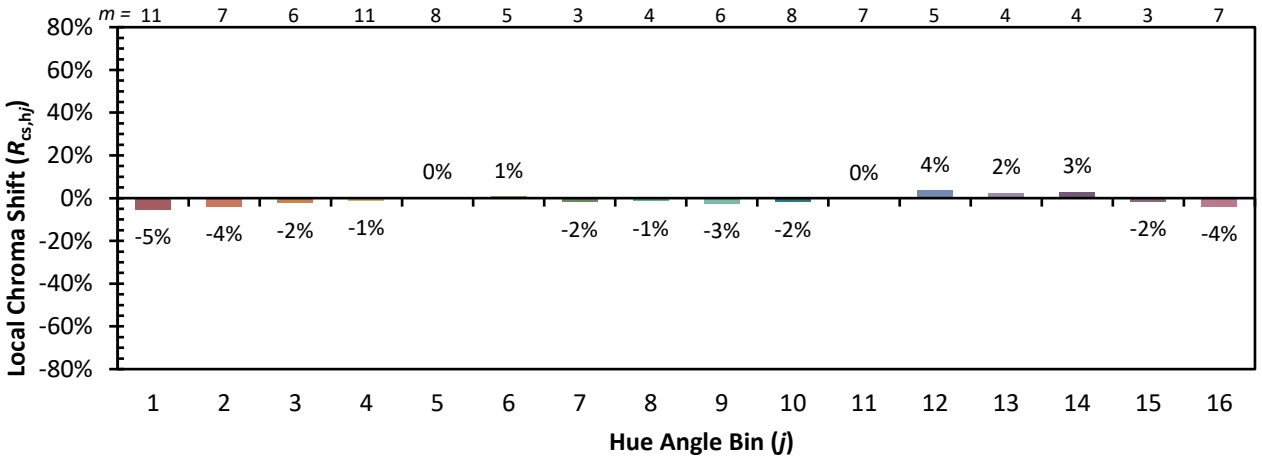
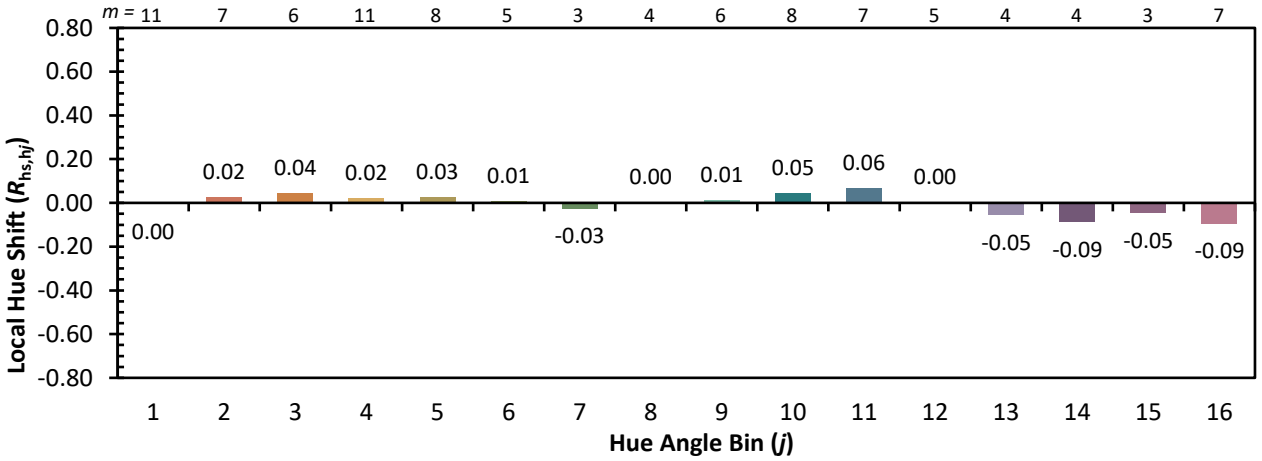
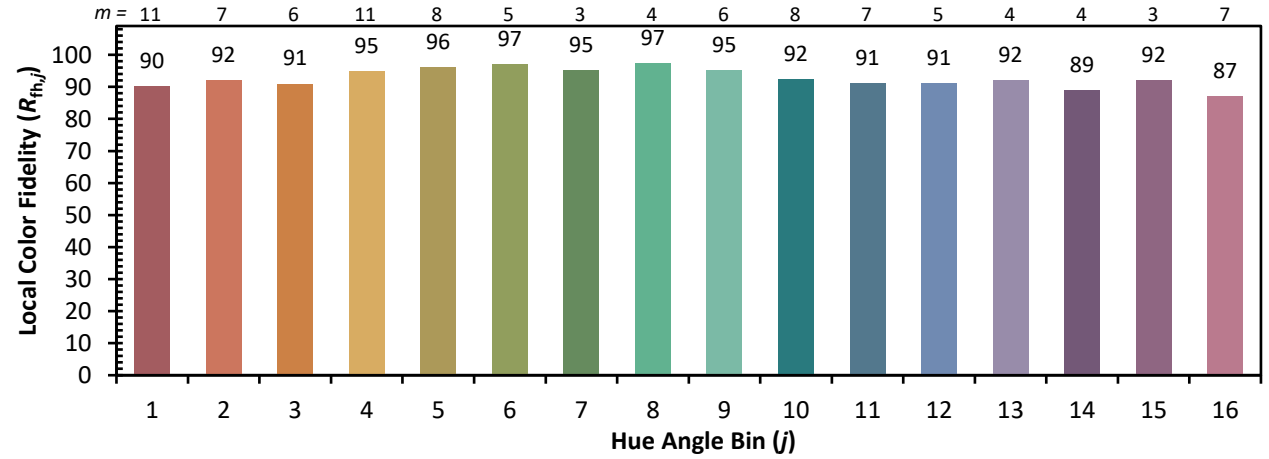
## Color Rendition by Hue-Angle Bin



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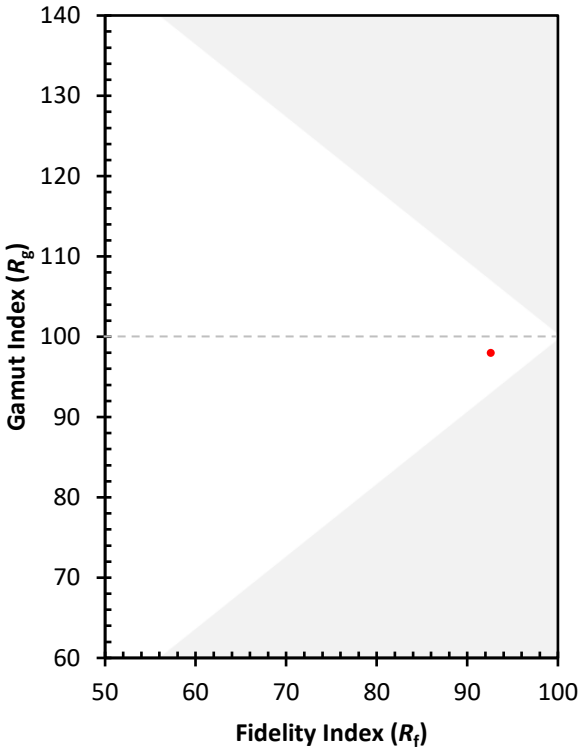
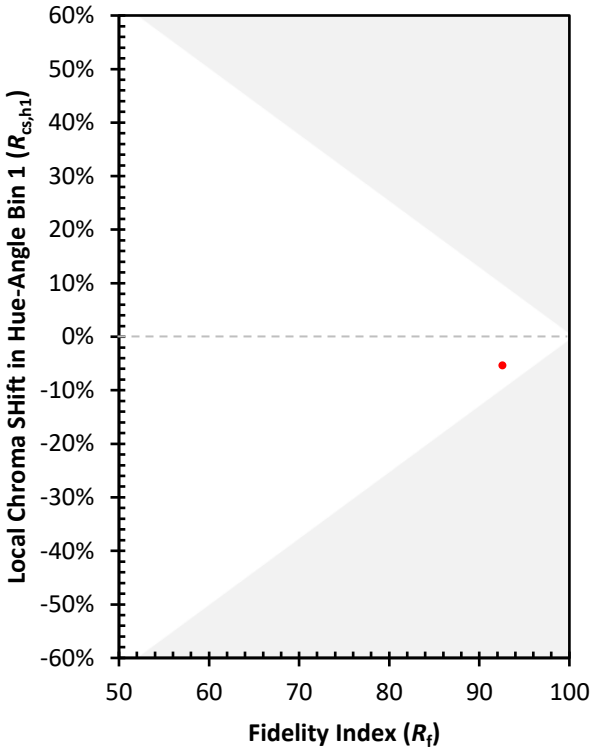
## Measure Comparisons




(END OF REPORT)