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

Cooper Lighting Solutions Photometric Lab
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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: McGRAW-EDISON

Report Number: P1502170

Luminaire Tested: GSS-SB2B-730-U-T3LG-HSS

Issue Date: 07/20/2026

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: | P1502170 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB2B-730-U-T3LG-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 2SQUARE 74W 70CRI 3000K FIXTURE w/ TYPE III LOW GLARE DISTRIBUTION FIXTURE W/ HOUSE SIDE SHIELD |
| Light Source: | (52) 3000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 8767.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 118.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 0.5' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B1 - U0 - G2 |

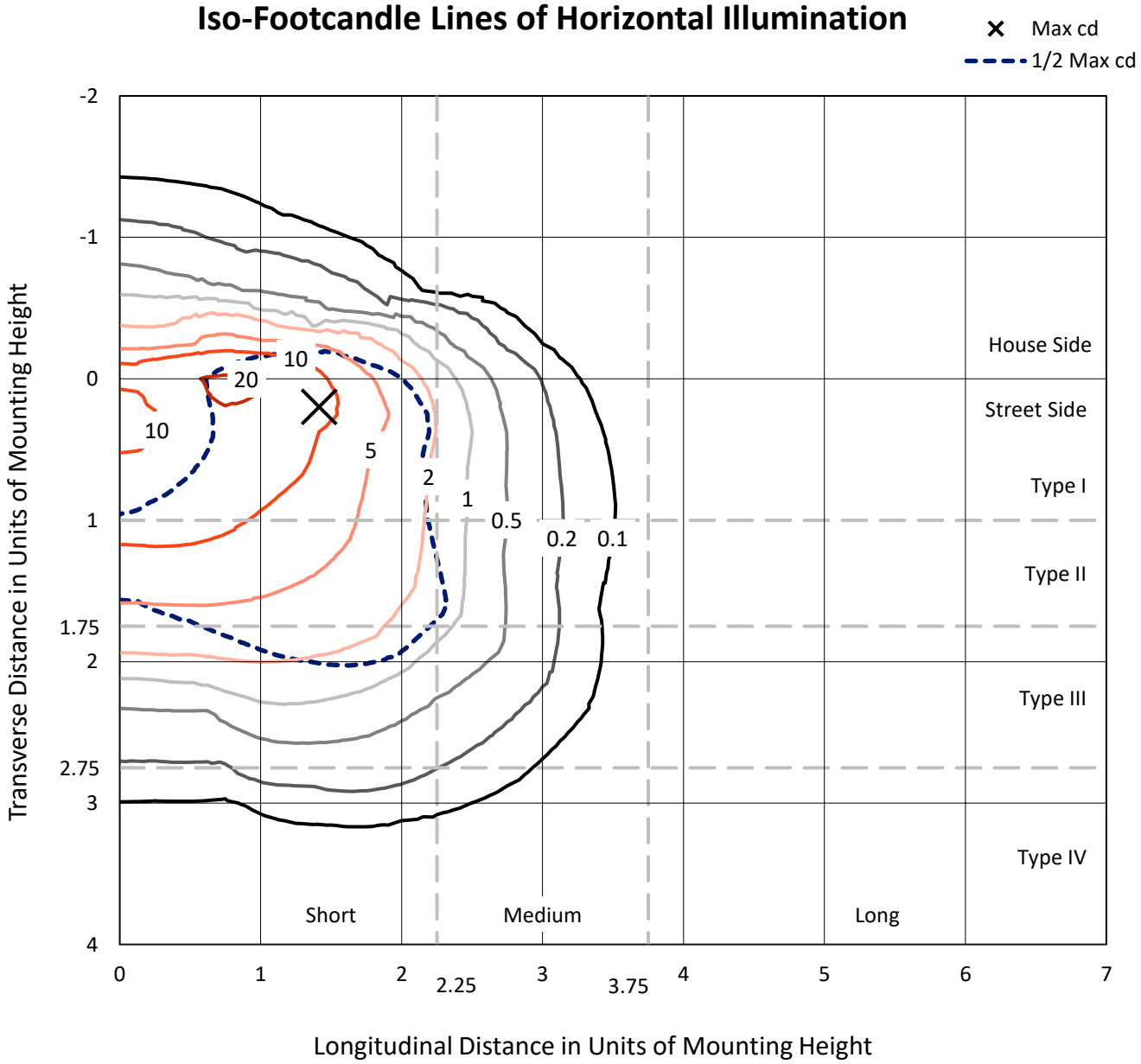
| | |
|---|---|
| Input Watts (W): | 74 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 13.6% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1502170
CATALOG NUMBER: GSS-SB2B-730-U-T3LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination



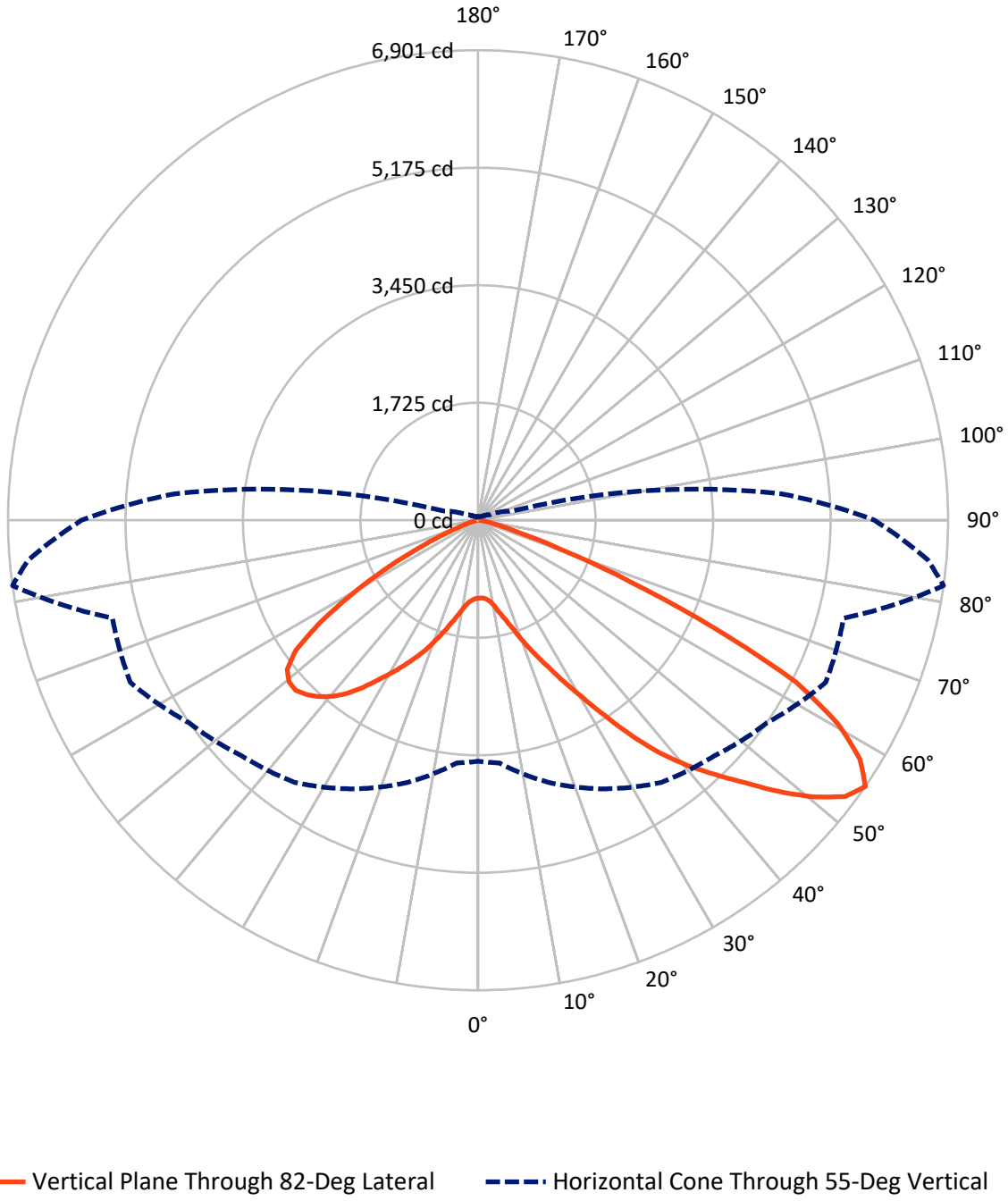

Based on 10 foot mounting height. Maximum calculated value = 21.4 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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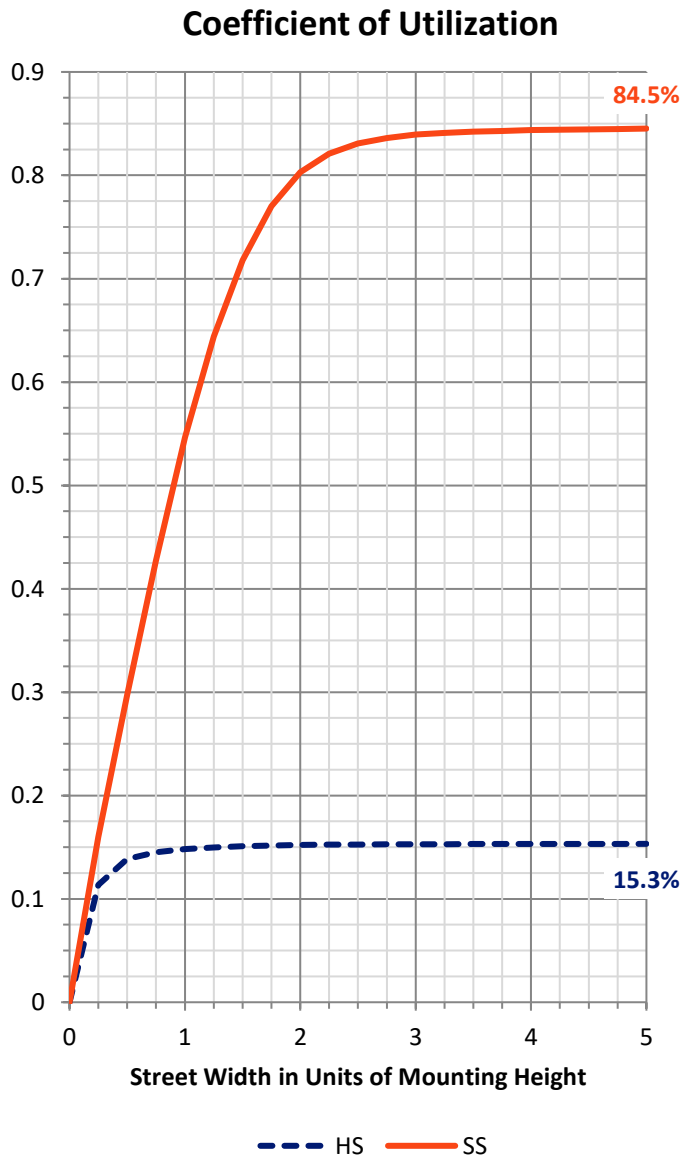
REPORT NUMBER: P1502170
CATALOG NUMBER: GSS-SB2B-730-U-T3LG-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1355.1 | 0.0 | 1355.1 |
| | % Fixture | 15.5 | 0.0 | 15.5 |
| **Street Side** | Lumens | 7412.1 | 0.0 | 7412.1 |
| | % Fixture | 84.5 | 0.0 | 84.5 |
| **Total** | Lumens | 8767.2 | 0.0 | 8767.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 103.8 | 1.2 |
| 10°-20° | 280.9 | 3.2 |
| 20°-30° | 561.5 | 6.4 |
| 30°-40° | 1162.7 | 13.3 |
| 40°-50° | 1942.3 | 22.2 |
| 50°-60° | 2463.4 | 28.1 |
| 60°-70° | 1841.6 | 21.0 |
| 70°-80° | 390.1 | 4.4 |
| 80°-90° | 21.0 | 0.2 |
| 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° | 8767.2 | 100.0 |
| 0°-180° | 8767.2 | 100.0 |



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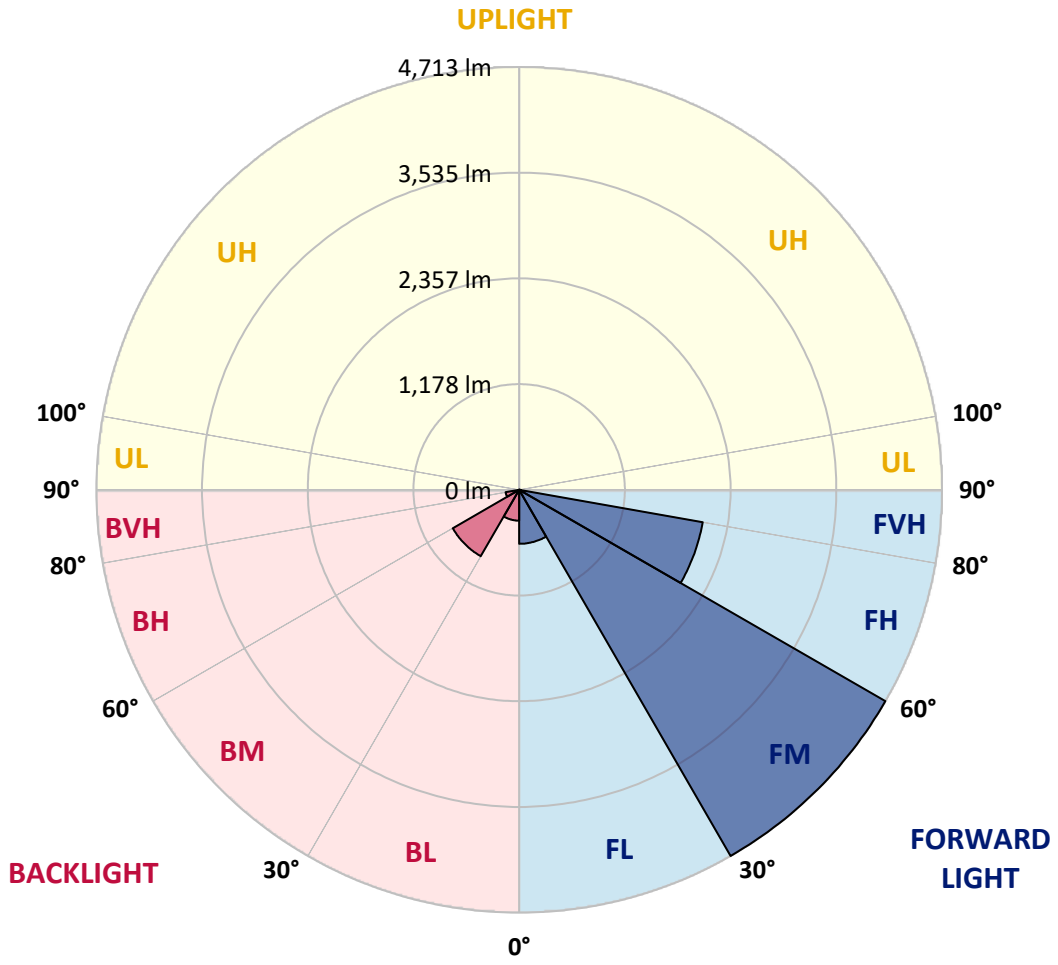
Scaled Data Report

REPORT NUMBER: P1502170
CATALOG NUMBER: GSS-SB2B-730-U-T3LG-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 602.1 | 6.9 | | | |
| FM | (30°-60°) | 4713.4 | 53.8 | | | |
| FH | (60°-80°) | 2077.8 | 23.7 | | | G2/5000 |
| FVH | (80°-90°) | 18.8 | 0.2 | | | G1/100 |
| BL | (0°-30°) | 344.0 | 3.9 | B1/500 | | |
| BM | (30°-60°) | 855.0 | 9.8 | B1/1000 | | |
| BH | (60°-80°) | 153.9 | 1.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 2.2 | 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 III Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 82° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | *1144.6* | 1144.6 |
| 2.5° | 1113.6 | 1116.0 | 1111.2 | 1113.6 | 1118.4 | 1116.0 | 1125.5 | 1132.7 | 1139.8 | *1142.2* | 1144.6 |
| 5° | 1016.1 | 1018.4 | 1020.8 | 1039.9 | 1051.8 | 1080.3 | 1106.5 | 1123.1 | 1146.9 | *1158.8* | 1161.2 |
| 7.5° | 899.5 | 899.5 | 909.0 | 932.8 | 963.7 | 1018.4 | 1077.9 | 1125.5 | 1170.7 | *1194.5* | 1199.3 |
| 10° | 878.0 | 880.4 | 880.4 | 897.1 | 923.3 | 978.0 | 1054.1 | 1149.3 | 1230.2 | *1265.9* | 1277.8 |
| 12.5° | 882.8 | 885.2 | 887.6 | 904.2 | 930.4 | 978.0 | 1075.5 | 1199.3 | 1325.4 | *1384.9* | 1392.0 |
| 15° | 894.7 | 899.5 | 906.6 | 928.0 | 956.6 | 1018.4 | 1120.8 | 1270.7 | 1439.6 | *1515.8* | 1534.8 |
| 17.5° | 930.4 | 932.8 | 944.7 | 968.5 | 1013.7 | 1075.5 | 1187.4 | 1363.5 | 1599.0 | *1682.3* | 1718.0 |
| 20° | 985.1 | 989.9 | 1006.5 | 1039.9 | 1092.2 | 1170.7 | 1294.5 | 1484.8 | 1770.4 | *1898.9* | 1927.4 |
| 22.5° | 1054.1 | 1054.1 | 1077.9 | 1130.3 | 1204.0 | 1292.1 | 1442.0 | 1646.6 | 1979.8 | *2129.7* | 2177.3 |
| 25° | 1168.4 | 1166.0 | 1185.0 | 1244.5 | 1332.5 | 1461.0 | 1613.3 | 1839.4 | 2198.7 | *2377.2* | 2427.1 |
| 27.5° | 1430.1 | 1423.0 | 1415.8 | 1418.2 | 1494.3 | 1658.5 | 1834.6 | 2082.1 | 2470.0 | *2679.4* | 2717.4 |
| 30° | 1734.7 | 1744.2 | 1734.7 | 1710.9 | 1722.8 | 1875.1 | 2094.0 | 2379.5 | 2774.5 | *3010.1* | 3060.1 |
| 32.5° | 2001.2 | 2005.9 | 2046.4 | 2072.6 | 2082.1 | 2153.5 | 2393.8 | 2738.8 | 3162.4 | *3419.4* | 3483.6 |
| 35° | 2291.5 | 2298.6 | 2343.8 | 2398.6 | 2484.2 | 2548.5 | 2769.8 | 3155.3 | 3557.4 | *3881.0* | 3928.6 |
| 37.5° | 2629.4 | 2641.3 | 2700.8 | 2779.3 | 2898.3 | 3045.8 | 3164.8 | 3533.6 | 3959.5 | *4333.1* | 4383.1 |
| 40° | 2926.8 | 2964.9 | 3067.2 | 3167.2 | 3293.3 | 3459.8 | 3538.4 | 3864.4 | 4257.0 | *4732.9* | 4816.2 |
| 42.5° | 3207.6 | 3229.0 | 3393.2 | 3547.9 | 3697.8 | 3833.4 | 3909.6 | 4123.7 | 4521.1 | *5104.1* | 5196.9 |
| 45° | 3440.8 | 3457.5 | 3640.7 | 3845.3 | 4030.9 | 4166.6 | 4178.5 | 4376.0 | 4782.9 | *5496.7* | 5568.1 |
| 47.5° | 3583.6 | 3609.8 | 3845.3 | 4078.5 | 4283.2 | 4409.3 | 4390.2 | 4697.2 | 5068.4 | *5953.6* | 5963.1 |
| 50° | 3669.2 | 3685.9 | 3926.2 | 4228.4 | 4480.7 | 4568.7 | 4609.2 | 5004.2 | 5327.8 | *6386.7* | 6329.6 |
| 52.5° | 3731.1 | 3757.3 | 3992.9 | 4314.1 | 4597.3 | 4716.2 | 4861.4 | 5349.2 | 5532.4 | *6741.2* | 6588.9 |
| 55° | *3538.4* | *3576.4* | *3983.3* | *4352.2* | *4697.2* | *4897.1* | *5182.6* | *5632.4* | *5556.2* | *6900.6* | *6622.2* |
| 57.5° | 3321.8 | 3329.0 | 3731.1 | 4340.3 | 4809.0 | 5087.4 | 5477.7 | 5653.8 | 5334.9 | *6610.3* | 6284.3 |
| 60° | 3003.0 | 3045.8 | 3457.5 | 4185.6 | 4828.1 | 5239.7 | 5677.6 | 5394.4 | 4930.4 | *6072.6* | 5582.4 |
| 62.5° | 2108.3 | 2174.9 | 2712.7 | 3778.7 | 4692.4 | 5323.0 | 5644.3 | 4942.3 | 4423.6 | *5242.1* | 4692.4 |
| 65° | 1180.2 | 1237.4 | 1677.6 | 3048.2 | 4318.9 | 5304.0 | 5301.6 | 4337.9 | 3609.8 | *3788.2* | 3355.1 |
| 67.5° | 647.2 | 692.4 | 870.9 | 2293.9 | 3426.5 | 4897.1 | 4580.6 | 3309.9 | 2420.0 | *2405.7* | 2094.0 |
| 70° | 452.1 | 454.5 | 549.7 | 1549.1 | 2462.8 | 3417.0 | 3581.2 | 2220.1 | 1501.5 | *1327.8* | 1120.8 |
| 72.5° | 221.3 | 223.7 | 273.6 | 730.5 | 1506.2 | 1894.1 | 2455.7 | 1154.1 | 842.4 | *659.1* | 561.6 |
| 75° | 111.8 | 109.5 | 149.9 | 273.6 | 623.4 | 923.3 | 1082.7 | 578.2 | 490.2 | *361.7* | 321.2 |
| 77.5° | 71.4 | 73.8 | 88.0 | 149.9 | 280.8 | 359.3 | 333.1 | 314.1 | 287.9 | *211.8* | 183.2 |
| 80° | 47.6 | 47.6 | 59.5 | 95.2 | 138.0 | 171.3 | 102.3 | 145.2 | 168.9 | *123.7* | 107.1 |
| 82.5° | 14.3 | 14.3 | 35.7 | 52.3 | 66.6 | 69.0 | 45.2 | 66.6 | 95.2 | *69.0* | 52.3 |
| 85° | 9.5 | 9.5 | 19.0 | 26.2 | 28.6 | 23.8 | 14.3 | 28.6 | 45.2 | *30.9* | 26.2 |
| 87.5° | 0.0 | 0.0 | 0.0 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | *2.4* | 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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Scaled Data Report

REPORT NUMBER: P1502170
CATALOG NUMBER: GSS-SB2B-730-U-T3LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 | 1144.6 |
| 2.5° | 1146.9 | 1149.3 | 1156.5 | 1158.8 | 1163.6 | 1166.0 | 1166.0 | 1166.0 | 1163.6 | 1166.0 | 1170.7 |
| 5° | 1166.0 | 1177.9 | 1187.4 | 1185.0 | 1185.0 | 1173.1 | 1163.6 | 1144.6 | 1135.0 | 1132.7 | 1135.0 |
| 7.5° | 1213.6 | 1223.1 | 1232.6 | 1218.3 | 1182.6 | 1127.9 | 1068.4 | 1020.8 | 980.4 | 961.3 | 968.5 |
| 10° | 1299.2 | 1311.1 | 1311.1 | 1244.5 | 1144.6 | 1016.1 | 909.0 | 820.9 | 754.3 | 718.6 | 735.3 |
| 12.5° | 1423.0 | 1432.5 | 1408.7 | 1268.3 | 1077.9 | 866.2 | 687.7 | 540.2 | 454.5 | 411.7 | 402.1 |
| 15° | 1565.7 | 1580.0 | 1499.1 | 1263.5 | 973.2 | 647.2 | 428.3 | 321.2 | 290.3 | 280.8 | 283.2 |
| 17.5° | 1749.0 | 1756.1 | 1599.0 | 1225.5 | 792.4 | 423.6 | 304.6 | 273.6 | 266.5 | 261.7 | 261.7 |
| 20° | 1975.0 | 1953.6 | 1680.0 | 1161.2 | 578.2 | 333.1 | 280.8 | 257.0 | 249.9 | 247.5 | 249.9 |
| 22.5° | 2217.7 | 2184.4 | 1746.6 | 1039.9 | 437.8 | 314.1 | 268.9 | 242.7 | 233.2 | 230.8 | 230.8 |
| 25° | 2472.3 | 2396.2 | 1798.9 | 861.4 | 409.3 | 309.3 | 254.6 | 221.3 | 211.8 | 207.0 | 207.0 |
| 27.5° | 2762.6 | 2631.8 | 1827.5 | 721.0 | 416.4 | 302.2 | 238.0 | 202.3 | 188.0 | 183.2 | 183.2 |
| 30° | 3083.9 | 2893.5 | 1829.9 | 692.4 | 430.7 | 292.7 | 221.3 | 180.8 | 166.6 | 159.4 | 161.8 |
| 32.5° | 3474.1 | 3160.0 | 1822.7 | 737.7 | 440.2 | 285.5 | 202.3 | 159.4 | 147.5 | 140.4 | 140.4 |
| 35° | 3878.6 | 3483.6 | 1794.2 | 823.3 | 445.0 | 264.1 | 178.5 | 140.4 | 126.1 | 123.7 | 126.1 |
| 37.5° | 4280.8 | 3790.6 | 1753.7 | 870.9 | 421.2 | 216.5 | 145.2 | 121.4 | 111.8 | 111.8 | 111.8 |
| 40° | 4647.2 | 4057.1 | 1699.0 | 830.5 | 335.5 | 157.0 | 119.0 | 104.7 | 99.9 | 97.6 | 99.9 |
| 42.5° | 4920.9 | 4295.1 | 1599.0 | 699.6 | 238.0 | 126.1 | 104.7 | 92.8 | 88.0 | 88.0 | 90.4 |
| 45° | 5220.7 | 4523.5 | 1406.3 | 514.0 | 180.8 | 109.5 | 90.4 | 80.9 | 78.5 | 78.5 | 80.9 |
| 47.5° | 5522.9 | 4706.7 | 1220.7 | 342.7 | 157.0 | 97.6 | 80.9 | 73.8 | 71.4 | 69.0 | 71.4 |
| 50° | 5753.7 | 4794.8 | 978.0 | 249.9 | 142.8 | 88.0 | 73.8 | 69.0 | 64.2 | 61.9 | 61.9 |
| 52.5° | 5917.9 | 4771.0 | 716.2 | 214.2 | 130.9 | 80.9 | 69.0 | 64.2 | 57.1 | 57.1 | 57.1 |
| 55° | *5818.0* | *4466.4* | *516.4* | *192.7* | *121.4* | *76.1* | *66.6* | *59.5* | *54.7* | *52.3* | *52.3* |
| 57.5° | 5332.5 | 3807.3 | 373.6 | 173.7 | 107.1 | 71.4 | 64.2 | 57.1 | 50.0 | 47.6 | 47.6 |
| 60° | 4635.3 | 2964.9 | 278.4 | 152.3 | 92.8 | 69.0 | 57.1 | 54.7 | 47.6 | 42.8 | 42.8 |
| 62.5° | 3788.2 | 2158.2 | 216.5 | 130.9 | 83.3 | 59.5 | 54.7 | 50.0 | 42.8 | 38.1 | 35.7 |
| 65° | 2629.4 | 1377.7 | 166.6 | 107.1 | 78.5 | 52.3 | 50.0 | 42.8 | 35.7 | 28.6 | 28.6 |
| 67.5° | 1622.8 | 818.6 | 128.5 | 83.3 | 61.9 | 45.2 | 42.8 | 38.1 | 30.9 | 23.8 | 23.8 |
| 70° | 897.1 | 433.1 | 88.0 | 61.9 | 47.6 | 35.7 | 33.3 | 33.3 | 26.2 | 21.4 | 19.0 |
| 72.5° | 430.7 | 235.6 | 59.5 | 52.3 | 35.7 | 23.8 | 26.2 | 26.2 | 21.4 | 16.7 | 16.7 |
| 75° | 259.4 | 140.4 | 40.5 | 40.5 | 23.8 | 19.0 | 19.0 | 21.4 | 16.7 | 11.9 | 11.9 |
| 77.5° | 147.5 | 83.3 | 23.8 | 30.9 | 16.7 | 11.9 | 14.3 | 11.9 | 9.5 | 7.1 | 7.1 |
| 80° | 83.3 | 47.6 | 14.3 | 21.4 | 9.5 | 7.1 | 7.1 | 4.8 | 4.8 | 2.4 | 2.4 |
| 82.5° | 40.5 | 26.2 | 7.1 | 7.1 | 4.8 | 2.4 | 2.4 | 2.4 | 2.4 | 0.0 | 0.0 |
| 85° | 19.0 | 4.8 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 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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# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-4

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-730-U-5WQ

Data in this report applies to families of products including GSS-SB1A-730-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

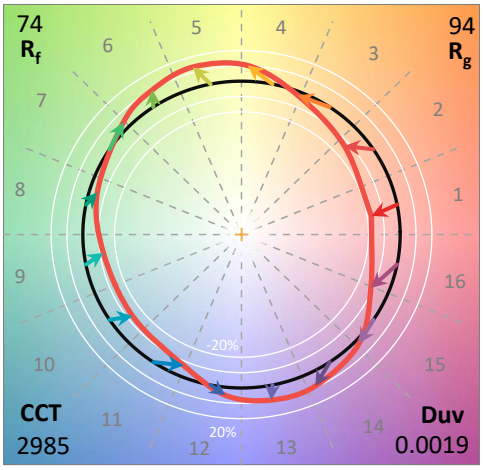
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-4 |
| 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-730-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2985 |
| CIE u': | 0.2504 |
| CIE v': | 0.5243 |
| Duv: | 0.0019 |
| CIE x: | 0.4408 |
| CIE y: | 0.4101 |
| CIE z: | 0.1491 |
| Peak Wavelength (nm): | 595 |
| Dominant Wavelength (nm): | 582 |
| Purity: | 55.41818 |
| Rf: | 73.8 |
| Rg: | 94.4 |

| | |
|---|---|
| CRI (Ra): | 70.8 |
| R1: | 66.3 |
| R2: | 80.6 |
| R3: | 94.5 |
| R4: | 68.2 |
| R5: | 66.5 |
| R6: | 74.7 |
| R7: | 76.2 |
| R8: | 39.6 |
| R9: | -43.2 |
| R10: | 57.6 |
| R11: | 64.8 |
| R12: | 53.5 |
| R13: | 68.7 |
| R14: | 97.0 |
| R15: | 56.4 |




## Test Conditions

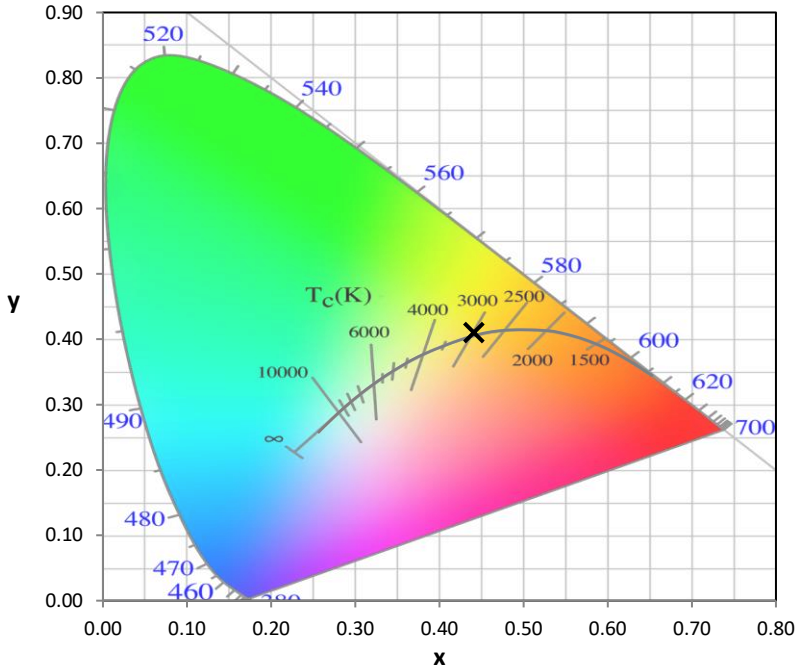
| | |
|---|---|
| Stabilization Time: | 36M |
| Operation Time: | 1H 36M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-4

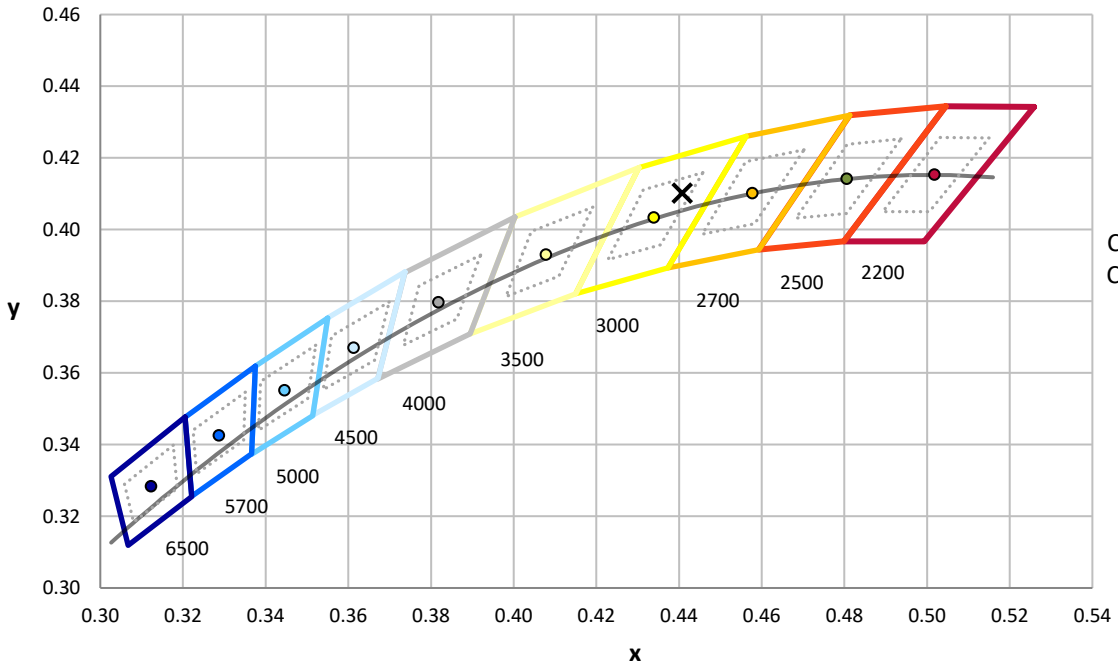
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

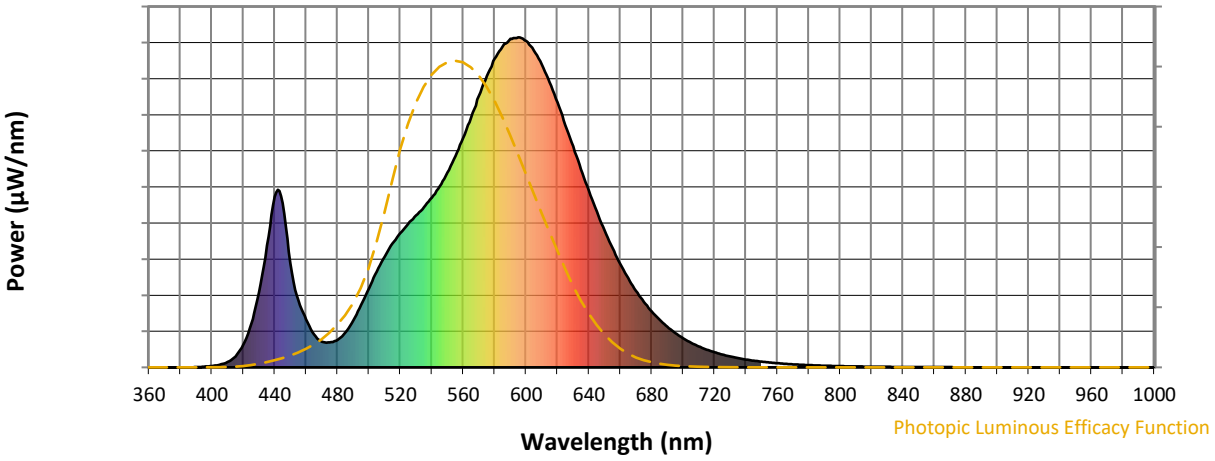



CCT = 2985K
CIE x = 0.4408
CIE y = 0.4101
Duv = 0.0019

Point lies inside the ANSI 3000K 4-step quadrangle

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## Photopic Flux vs. Wavelength

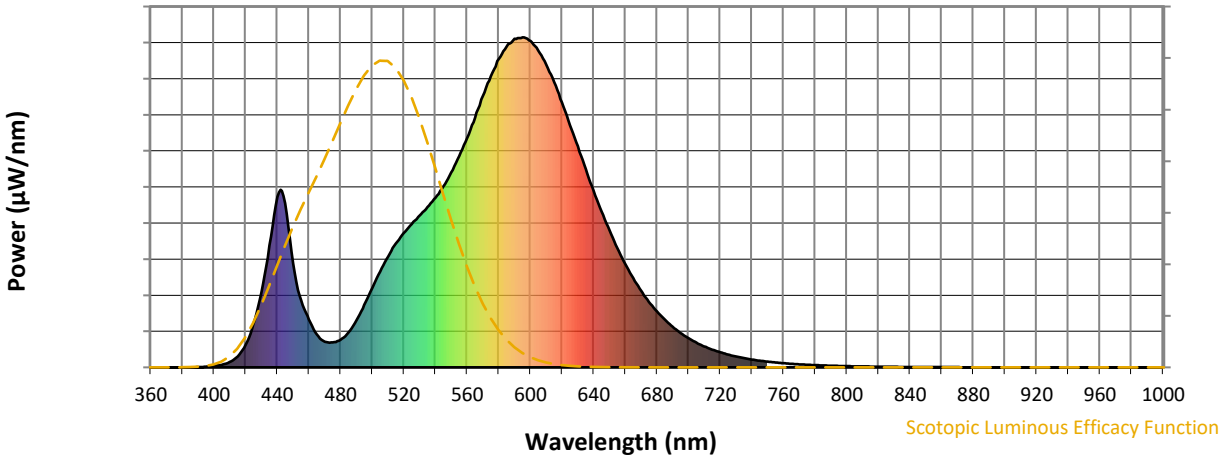



## Photopic Lumens: NR

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

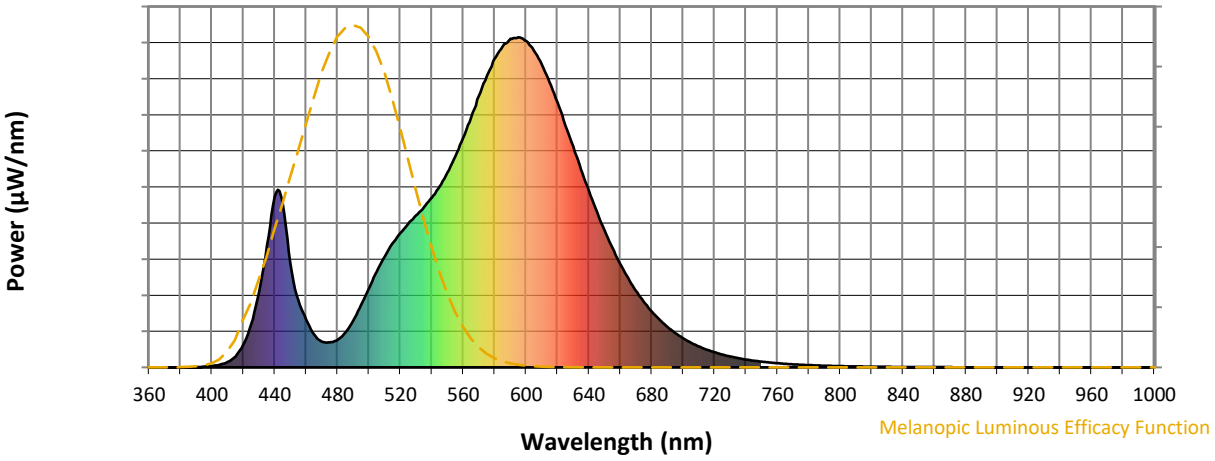



**Scotopic Lumens: NR** **S/P: 1.19**

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.13**

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

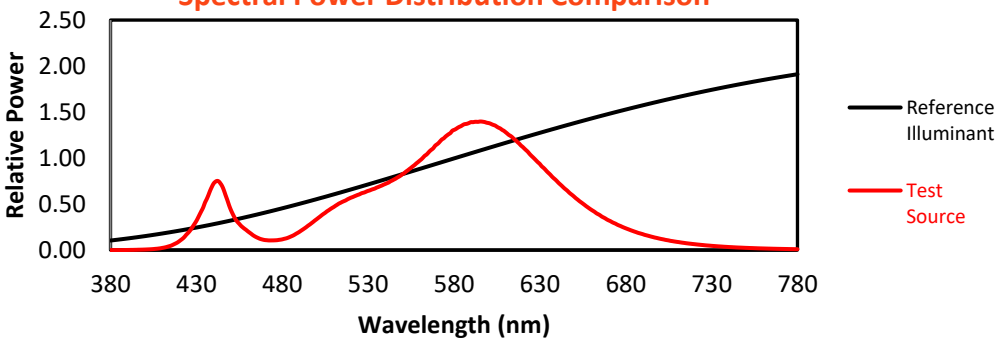
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# TM-30-18

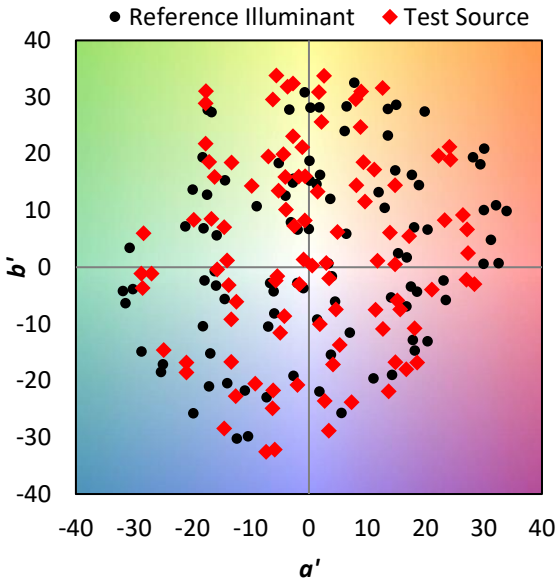
## Summary

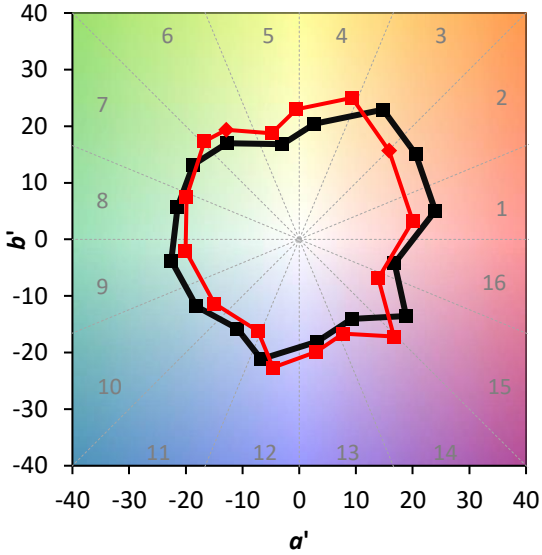
$R_f$ = 73.8
$R_g$ = 94.4
CIE $R_a$ = 70.8
$R_9$ = -43.2

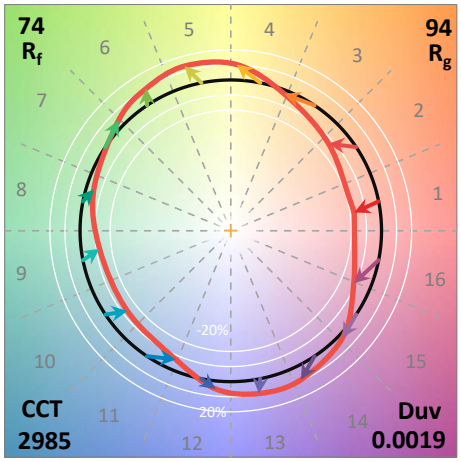
## Spectral Power Distribution Comparison

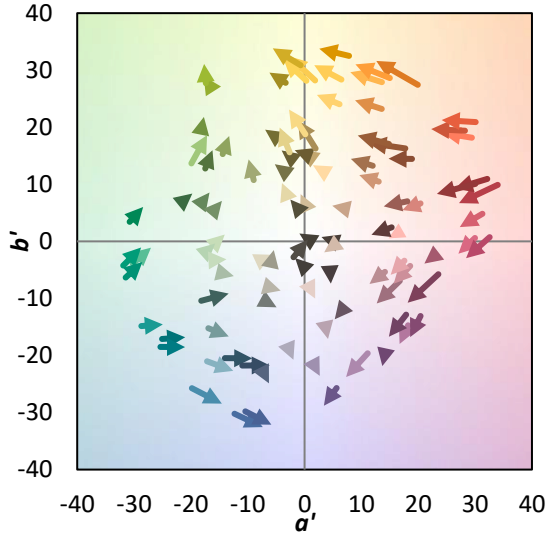



## Color Vector Graphics



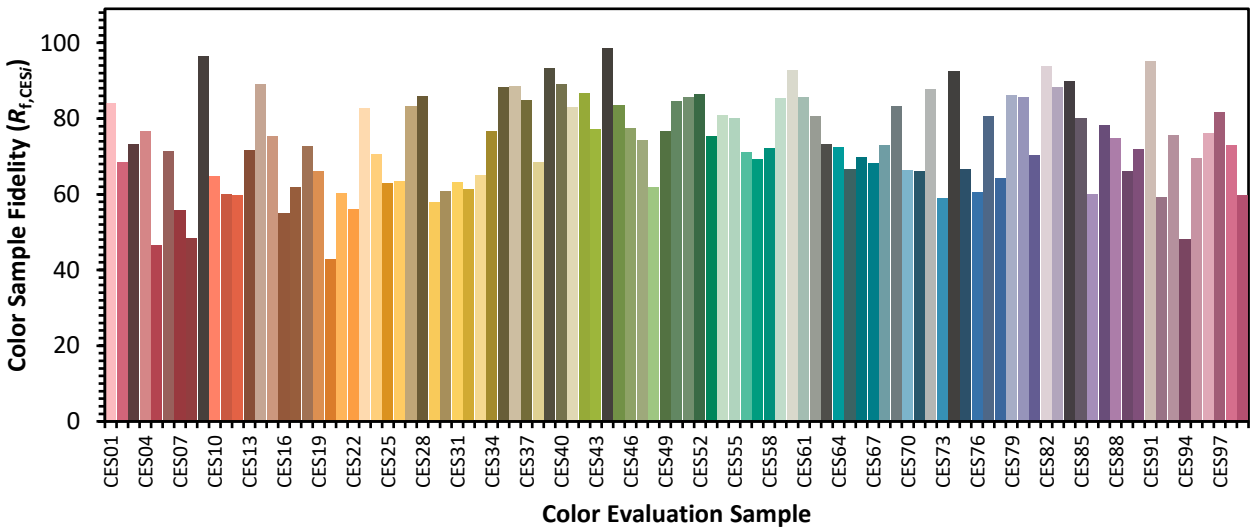



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**Individual Sample Fidelity Index ($R_{f,i}$)**

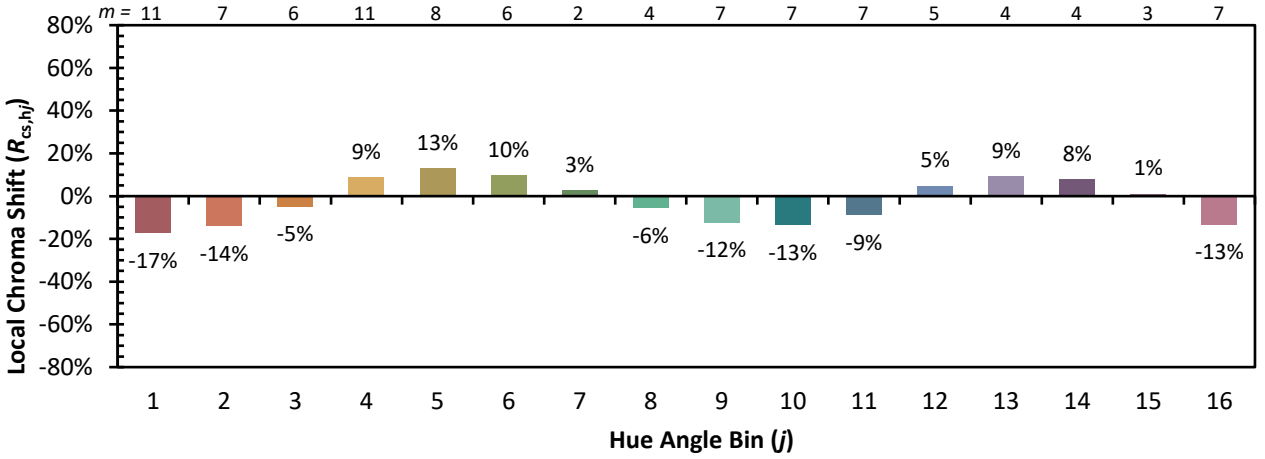
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 63 | CES51 = 86 | CES76 = 61 |
| CES02 = 62 | CES27 = 83 | CES52 = 86 | CES77 = 81 |
| CES03 = 31 | CES28 = 86 | CES53 = 75 | CES78 = 64 |
| CES04 = 71 | CES29 = 58 | CES54 = 81 | CES79 = 86 |
| CES05 = 49 | CES30 = 61 | CES55 = 80 | CES80 = 86 |
| CES06 = 51 | CES31 = 63 | CES56 = 71 | CES81 = 70 |
| CES07 = 41 | CES32 = 61 | CES57 = 69 | CES82 = 94 |
| CES08 = 40 | CES33 = 65 | CES58 = 72 | CES83 = 88 |
| CES09 = 29 | CES34 = 77 | CES59 = 85 | CES84 = 90 |
| CES10 = 76 | CES35 = 88 | CES60 = 93 | CES85 = 80 |
| CES11 = 59 | CES36 = 89 | CES61 = 86 | CES86 = 60 |
| CES12 = 65 | CES37 = 85 | CES62 = 81 | CES87 = 78 |
| CES13 = 43 | CES38 = 69 | CES63 = 73 | CES88 = 75 |
| CES14 = 74 | CES39 = 93 | CES64 = 72 | CES89 = 66 |
| CES15 = 71 | CES40 = 89 | CES65 = 67 | CES90 = 72 |
| CES16 = 47 | CES41 = 83 | CES66 = 70 | CES91 = 95 |
| CES17 = 50 | CES42 = 87 | CES67 = 68 | CES92 = 59 |
| CES18 = 56 | CES43 = 77 | CES68 = 73 | CES93 = 76 |
| CES19 = 73 | CES44 = 99 | CES69 = 83 | CES94 = 48 |
| CES20 = 66 | CES45 = 83 | CES70 = 66 | CES95 = 70 |
| CES21 = 87 | CES46 = 77 | CES71 = 66 | CES96 = 76 |
| CES22 = 79 | CES47 = 74 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 62 | CES73 = 59 | CES98 = 73 |
| CES24 = 91 | CES49 = 77 | CES74 = 93 | CES99 = 60 |
| CES25 = 73 | CES50 = 85 | CES75 = 67 | |

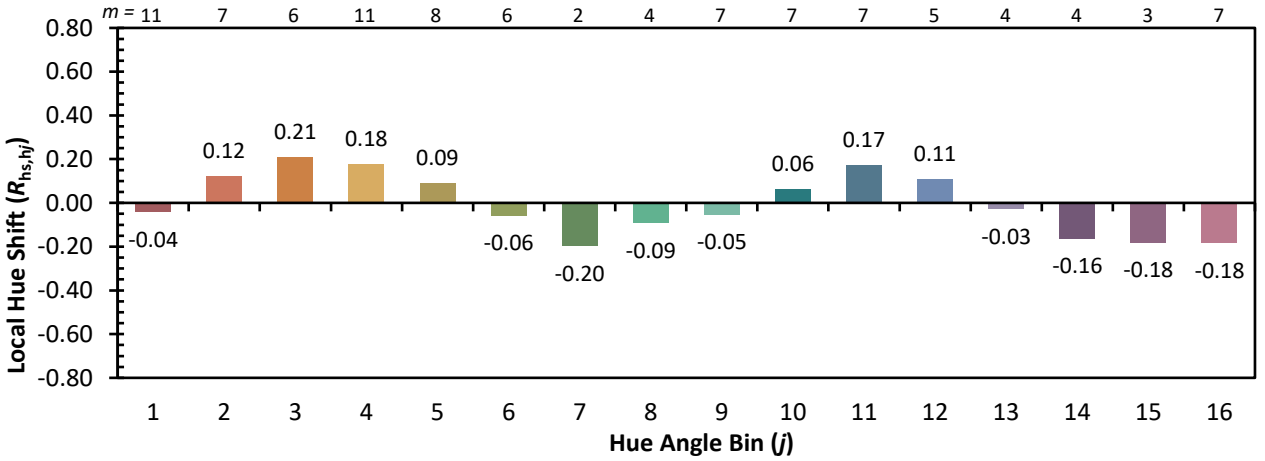


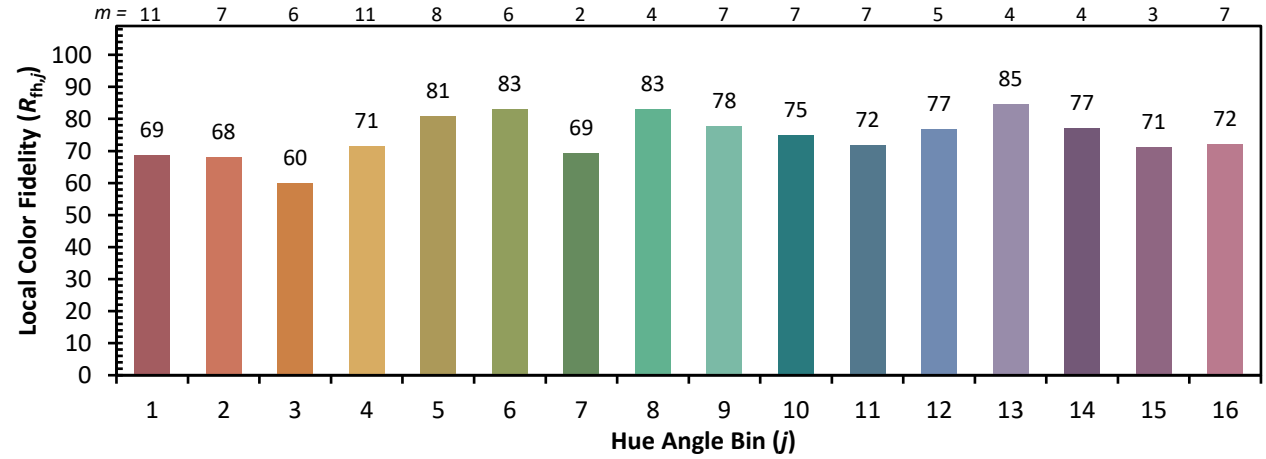
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## Color Rendition by Hue-Angle Bin



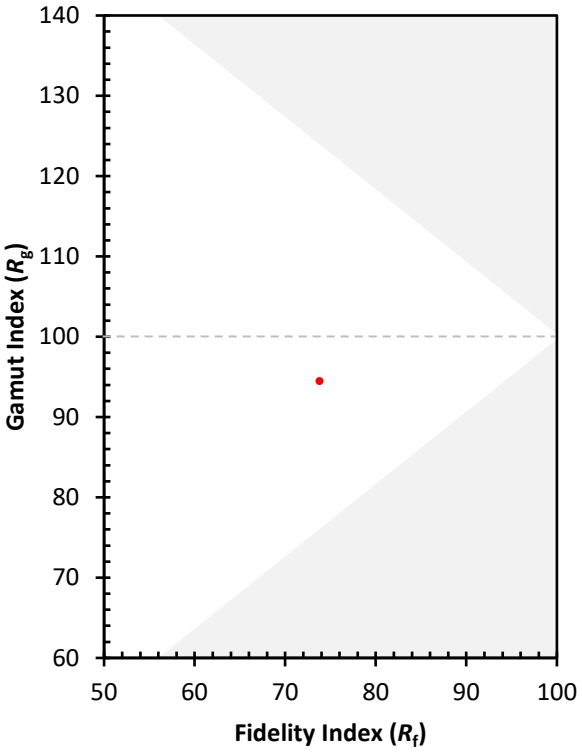



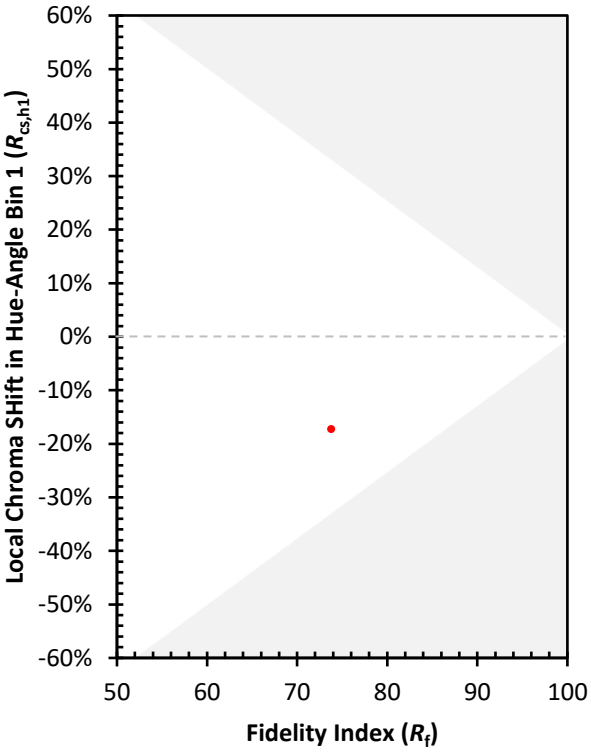



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## Measure Comparisons




(END OF REPORT)