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: P1362590

Luminaire Tested: **GSS-SB2D-740-U-SL2**

Issue Date: 02/18/2026

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: | P1362590 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB2D-740-U-SL2 |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 2SQUARE 147W 70CRI 4000K FIXTURE w/ TYPE II SPILL CONTROL DISTRIBUTION OPTIC |
| Light Source: | (52) 4000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 19707 lumens |
| Efficiency: | N/A |
| Efficacy: | 134.1 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 0.5' x H: 0') |
| IES Classification: | Type II - Medium |
| BUG Rating: | B3 - U0 - G3 |

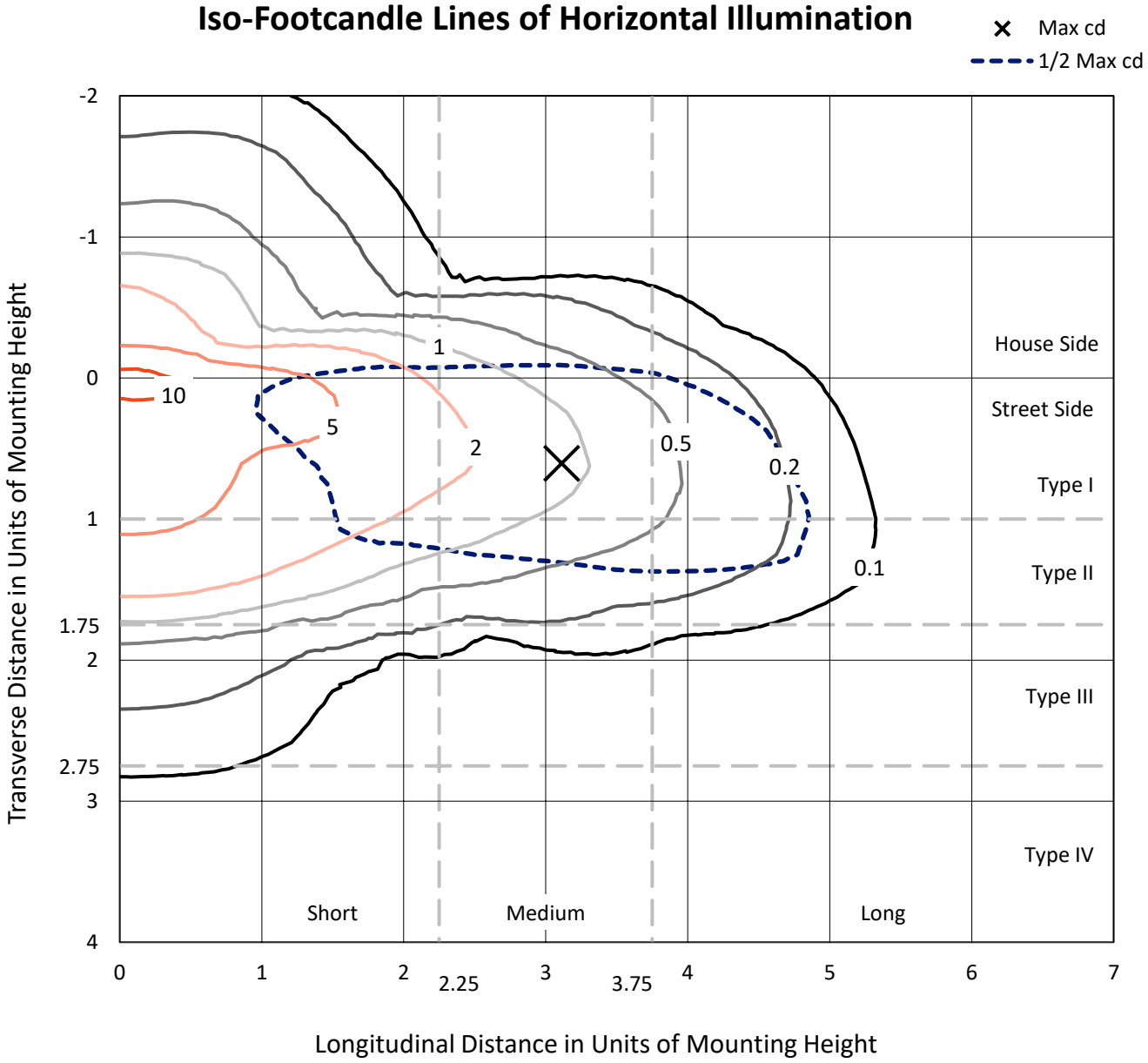
| | |
|---|---|
| Input Watts (W): | 147 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 3.1% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1362590
CATALOG NUMBER: GSS-SB2D-740-U-SL2

## Iso-Footcandle Lines of Horizontal Illumination



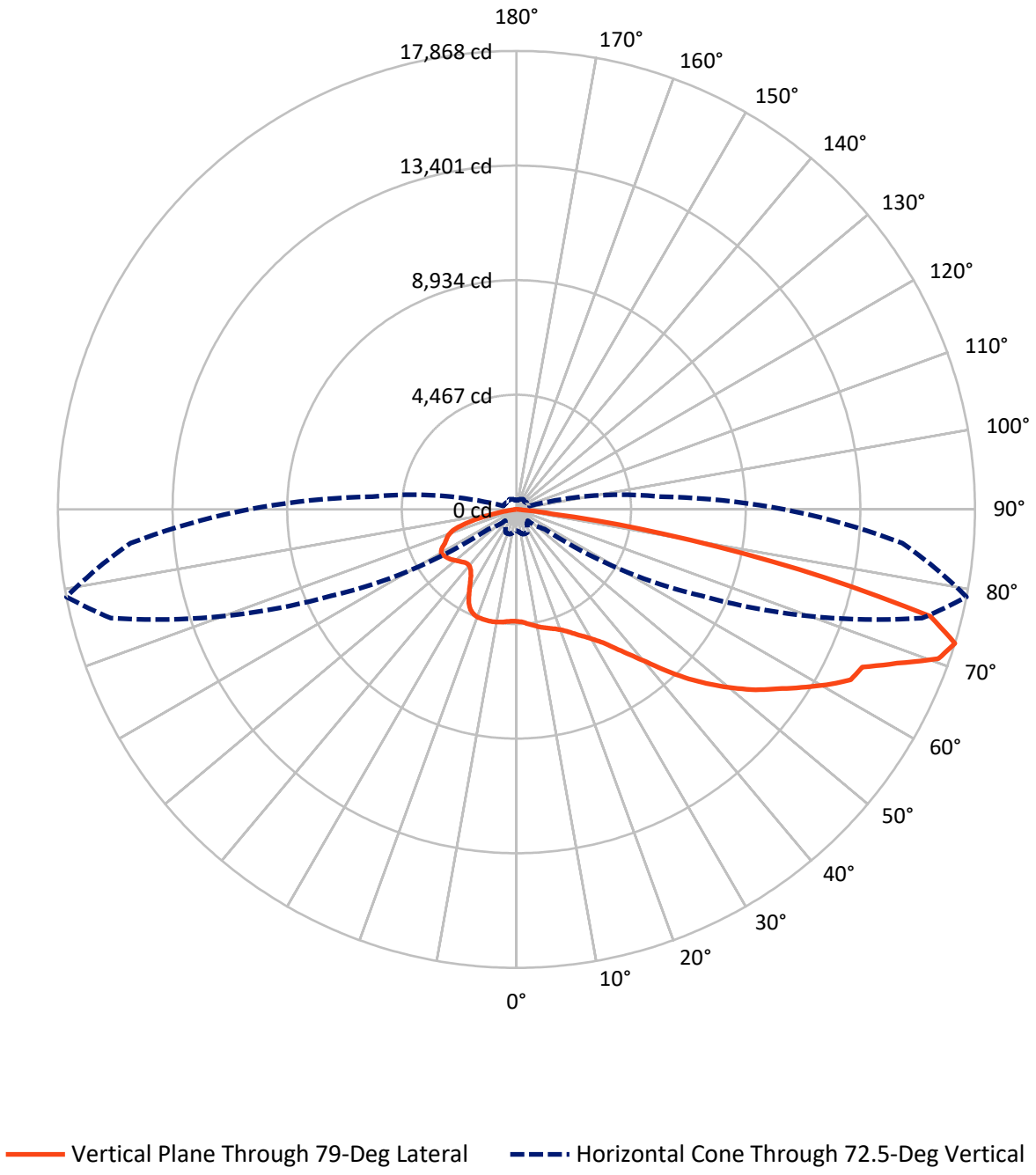

Based on 20 foot mounting height. Maximum calculated value = 11 fc
Type II - Medium - N/A

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## Luminous Intensity Polar Plot



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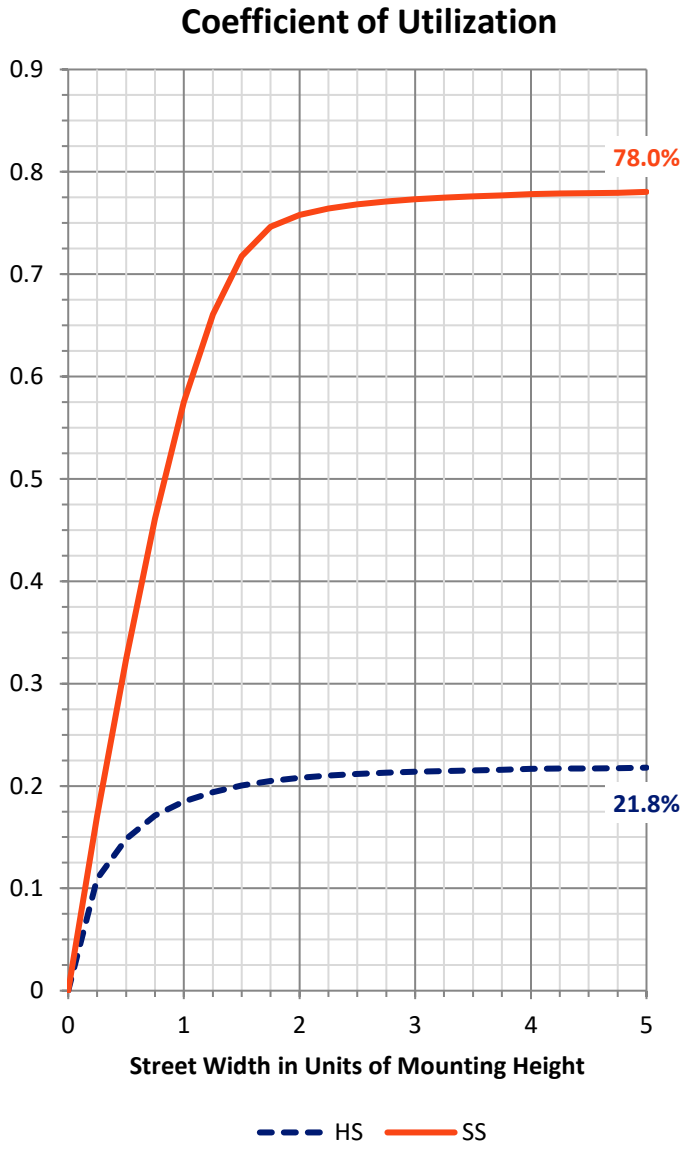
REPORT NUMBER: P1362590
CATALOG NUMBER: GSS-SB2D-740-U-SL2

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 4329.0 | 0.0 | 4329.0 |
| | % Fixture | 22.0 | 0.0 | 22.0 |
| **Street Side** | Lumens | 15378.0 | 0.0 | 15378.0 |
| | % Fixture | 78.0 | 0.0 | 78.0 |
| **Total** | Lumens | 19707.0 | 0.0 | 19707.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 405.1 | 2.1 |
| 10°-20° | 1006.2 | 5.1 |
| 20°-30° | 1584.2 | 8.0 |
| 30°-40° | 2364.1 | 12.0 |
| 40°-50° | 3361.4 | 17.1 |
| 50°-60° | 4246.1 | 21.5 |
| 60°-70° | 3974.4 | 20.2 |
| 70°-80° | 2524.6 | 12.8 |
| 80°-90° | 240.8 | 1.2 |
| 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° | 19707.0 | 100.0 |
| 0°-180° | 19707.0 | 100.0 |



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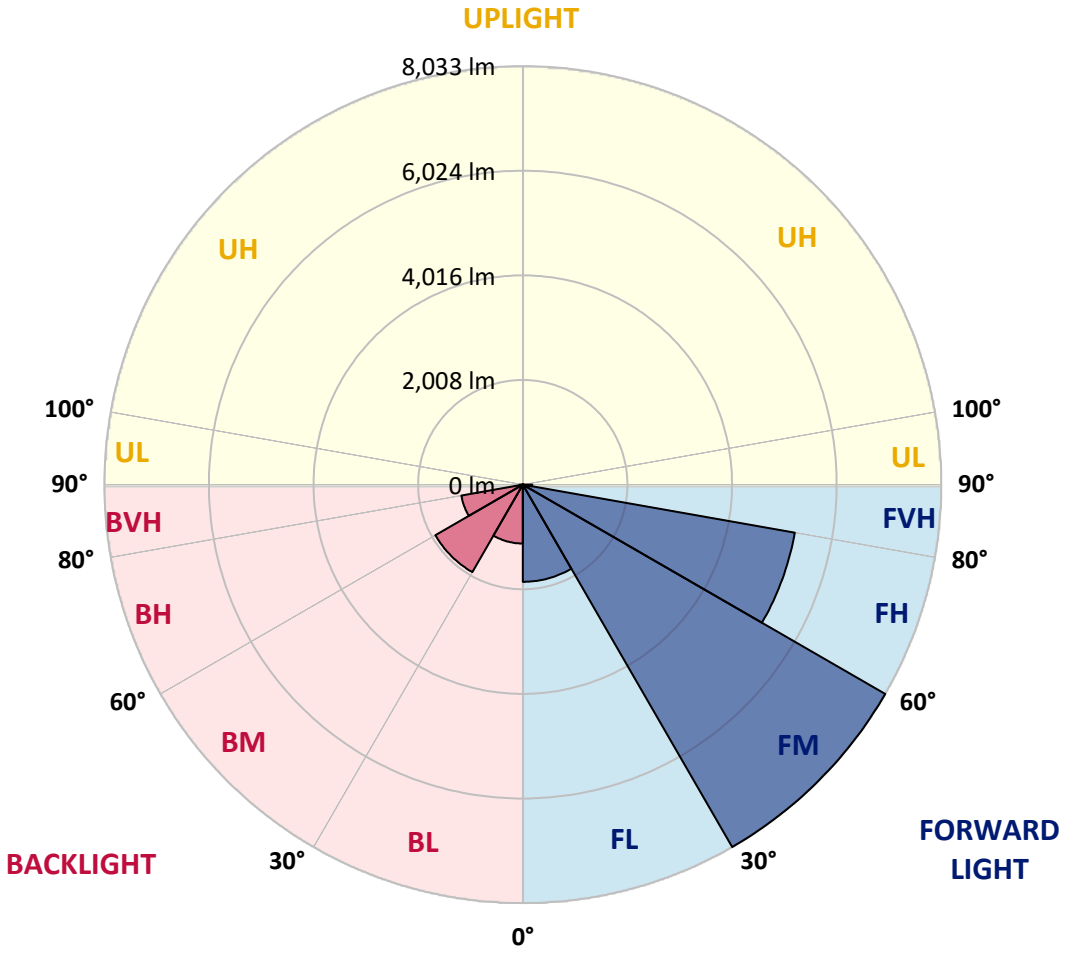
Scaled Data Report

REPORT NUMBER: P1362590
CATALOG NUMBER: GSS-SB2D-740-U-SL2

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1865.3 | 9.5 | | | |
| FM | (30°-60°) | 8032.6 | 40.8 | | | |
| FH | (60°-80°) | 5300.7 | 26.9 | | | G3/7500 |
| FVH | (80°-90°) | 179.4 | 0.9 | | | G2/225 |
| BL | (0°-30°) | 1130.2 | 5.7 | B3/2500 | | |
| BM | (30°-60°) | 1939.0 | 9.8 | B2/2500 | | |
| BH | (60°-80°) | 1198.3 | 6.1 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 61.4 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G3**
Type II Medium



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 79° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | *4364.3* | 4364.3 |
| 2.5° | 4466.9 | 4471.6 | 4452.9 | 4452.9 | 4457.6 | 4439.0 | 4415.6 | 4411.0 | 4392.3 | *4392.3* | 4392.3 |
| 5° | 4490.2 | 4490.2 | 4485.6 | 4508.9 | 4518.2 | 4532.2 | 4513.6 | 4499.6 | 4471.6 | *4471.6* | 4434.3 |
| 7.5° | 4243.1 | 4233.8 | 4271.1 | 4378.3 | 4490.2 | 4550.9 | 4588.2 | 4588.2 | 4574.2 | *4550.9* | 4518.2 |
| 10° | 3776.8 | 3790.8 | 3846.8 | 3991.3 | 4196.5 | 4471.6 | 4620.8 | 4681.4 | 4658.1 | *4648.8* | 4592.8 |
| 12.5° | 3529.7 | 3525.1 | 3567.0 | 3674.3 | 3851.4 | 4187.2 | 4555.5 | 4746.7 | 4751.4 | *4728.0* | 4662.8 |
| 15° | 3501.7 | 3487.7 | 3506.4 | 3543.7 | 3660.3 | 3930.7 | 4359.7 | 4770.0 | 4816.6 | *4807.3* | 4732.7 |
| 17.5° | 3660.3 | 3655.6 | 3627.6 | 3618.3 | 3613.6 | 3762.9 | 4168.5 | 4751.4 | 4905.2 | *4895.9* | 4812.0 |
| 20° | 3935.4 | 3912.1 | 3860.8 | 3814.1 | 3716.2 | 3730.2 | 4019.3 | 4728.0 | 5026.5 | *5012.5* | 4928.5 |
| 22.5° | 4229.1 | 4238.5 | 4191.8 | 4079.9 | 3907.4 | 3828.1 | 3972.7 | 4695.4 | 5189.7 | *5180.3* | 5068.4 |
| 25° | 4588.2 | 4578.8 | 4522.9 | 4397.0 | 4168.5 | 3996.0 | 4024.0 | 4686.1 | 5376.2 | *5385.5* | 5250.3 |
| 27.5° | 4956.5 | 4947.2 | 4877.3 | 4718.7 | 4452.9 | 4201.2 | 4140.5 | 4723.4 | 5614.0 | *5609.3* | 5441.4 |
| 30° | 5366.8 | 5371.5 | 5282.9 | 5068.4 | 4746.7 | 4457.6 | 4327.0 | 4821.3 | 5851.8 | *5865.8* | 5660.6 |
| 32.5° | 5735.2 | 5758.5 | 5707.2 | 5506.7 | 5105.7 | 4723.4 | 4555.5 | 4979.8 | 6168.8 | *6192.2* | 5940.4 |
| 35° | 5968.3 | 5982.3 | 5977.7 | 5884.4 | 5488.1 | 5026.5 | 4784.0 | 5180.3 | 6551.2 | *6639.8* | 6313.4 |
| 37.5° | 6192.2 | 6224.8 | 6229.5 | 6159.5 | 5861.1 | 5385.5 | 5054.4 | 5460.1 | 7040.8 | *7185.3* | 6803.0 |
| 40° | 6434.6 | 6425.3 | 6490.6 | 6406.6 | 6196.8 | 5767.8 | 5334.2 | 5777.2 | 7581.7 | *7819.5* | 7376.5 |
| 42.5° | 6579.2 | 6602.5 | 6686.4 | 6667.8 | 6457.9 | 6122.2 | 5651.3 | 6131.5 | 8257.8 | *8607.5* | 8071.2 |
| 45° | 6672.4 | 6695.7 | 6817.0 | 6835.6 | 6723.7 | 6364.7 | 5949.7 | 6471.9 | 8877.9 | *9423.5* | 8817.3 |
| 47.5° | 6705.1 | 6719.0 | 6877.6 | 6952.2 | 6905.6 | 6518.5 | 6182.8 | 6858.9 | 9488.7 | *10192.8* | 9563.3 |
| 50° | 6574.5 | 6625.8 | 6831.0 | 6998.8 | 7031.5 | 6597.8 | 6383.3 | 7269.3 | 10146.2 | *10938.8* | 10314.0 |
| 52.5° | 6374.0 | 6402.0 | 6649.1 | 7008.1 | 7110.7 | 6728.4 | 6630.5 | 7702.9 | 10766.3 | *11684.9* | 10957.5 |
| 55° | 5982.3 | 6038.3 | 6346.0 | 6854.3 | 7157.3 | 6900.9 | 6952.2 | 8192.5 | 11409.8 | *12337.7* | 11656.9 |
| 57.5° | 4872.6 | 4970.5 | 5478.8 | 6196.8 | 7031.5 | 7241.3 | 7432.4 | 8798.6 | 12113.9 | *13093.0* | 12281.7 |
| 60° | 3054.1 | 3184.7 | 3716.2 | 4877.3 | 6318.0 | 7441.8 | 8197.1 | 9586.6 | 12953.2 | *13885.7* | 12976.5 |
| 62.5° | 1655.3 | 1650.6 | 1809.2 | 2494.6 | 4555.5 | 6919.5 | 8854.6 | 10952.8 | 14034.9 | *14622.4* | 13382.1 |
| 65° | 1436.1 | 1436.1 | 1454.8 | 1450.1 | 1967.7 | 5105.7 | 8201.8 | 11768.8 | 14781.0 | *14818.3* | 13037.1 |
| 67.5° | 1291.6 | 1291.6 | 1319.6 | 1249.6 | 1072.4 | 2284.8 | 6001.0 | 11283.9 | 16016.6 | *15993.3* | 13480.1 |
| 70° | 1137.7 | 1142.4 | 1189.0 | 1147.0 | 862.6 | 927.9 | 3282.6 | 10276.7 | 16939.8 | *17438.7* | 14361.3 |
| 72.5° | *834.6* | *862.6* | *997.8* | *997.8* | *708.7* | *624.8* | *1333.6* | *7968.7* | *16361.6* | *17867.7* | *15093.4* |
| 75° | 587.5 | 592.2 | 662.1 | 713.4 | 559.5 | 470.9 | 648.1 | 5334.2 | 15009.4 | *16669.4* | 14440.6 |
| 77.5° | 447.6 | 452.3 | 475.6 | 568.9 | 382.3 | 345.0 | 447.6 | 2914.2 | 10826.9 | *11255.9* | 9367.5 |
| 80° | 298.4 | 293.8 | 326.4 | 401.0 | 270.4 | 233.1 | 289.1 | 974.5 | 6075.6 | *5795.8* | 3912.1 |
| 82.5° | 149.2 | 153.9 | 177.2 | 209.8 | 158.5 | 139.9 | 167.9 | 503.6 | 2382.7 | *1384.8* | 568.9 |
| 85° | 42.0 | 51.3 | 60.6 | 83.9 | 65.3 | 60.6 | 79.3 | 177.2 | 303.1 | *223.8* | 153.9 |
| 87.5° | 4.7 | 4.7 | 9.3 | 9.3 | 9.3 | 14.0 | 23.3 | 37.3 | 51.3 | *51.3* | 51.3 |
| 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: P1362590
CATALOG NUMBER: GSS-SB2D-740-U-SL2

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 | 4364.3 |
| 2.5° | 4383.0 | 4369.0 | 4350.4 | 4322.4 | 4322.4 | 4289.7 | 4271.1 | 4233.8 | 4247.8 | 4229.1 | 4219.8 |
| 5° | 4425.0 | 4406.3 | 4364.3 | 4317.7 | 4271.1 | 4201.2 | 4145.2 | 4065.9 | 4056.6 | 4038.0 | 4010.0 |
| 7.5° | 4499.6 | 4452.9 | 4401.7 | 4294.4 | 4205.8 | 4047.3 | 3921.4 | 3762.9 | 3674.3 | 3618.3 | 3623.0 |
| 10° | 4574.2 | 4513.6 | 4406.3 | 4266.4 | 4075.3 | 3814.1 | 3487.7 | 3175.3 | 2937.5 | 2802.3 | 2830.3 |
| 12.5° | 4625.5 | 4560.2 | 4415.6 | 4191.8 | 3837.5 | 3315.2 | 2709.1 | 2266.1 | 2093.6 | 2005.0 | 2005.0 |
| 15° | 4676.8 | 4592.8 | 4401.7 | 4033.3 | 3389.8 | 2499.2 | 2019.0 | 1851.1 | 1804.5 | 1776.5 | 1767.2 |
| 17.5° | 4742.0 | 4644.1 | 4359.7 | 3739.5 | 2671.8 | 1953.7 | 1785.8 | 1734.5 | 1734.5 | 1729.9 | 1720.6 |
| 20° | 4821.3 | 4704.7 | 4308.4 | 3273.3 | 2051.6 | 1753.2 | 1706.6 | 1697.2 | 1706.6 | 1701.9 | 1697.2 |
| 22.5° | 4942.5 | 4779.3 | 4177.8 | 2629.8 | 1762.5 | 1659.9 | 1655.3 | 1608.7 | 1618.0 | 1627.3 | 1622.6 |
| 25° | 5096.4 | 4872.6 | 3930.7 | 2009.7 | 1618.0 | 1599.3 | 1552.7 | 1510.7 | 1506.1 | 1510.7 | 1510.7 |
| 27.5° | 5240.9 | 4942.5 | 3529.7 | 1655.3 | 1515.4 | 1510.7 | 1468.8 | 1431.5 | 1431.5 | 1436.1 | 1436.1 |
| 30° | 5399.5 | 4984.5 | 2914.2 | 1473.4 | 1454.8 | 1431.5 | 1417.5 | 1403.5 | 1408.2 | 1422.1 | 1422.1 |
| 32.5° | 5609.3 | 5026.5 | 2312.7 | 1370.9 | 1394.2 | 1361.5 | 1370.9 | 1366.2 | 1375.5 | 1398.8 | 1403.5 |
| 35° | 5865.8 | 5045.1 | 1851.1 | 1310.2 | 1310.2 | 1282.3 | 1286.9 | 1268.3 | 1268.3 | 1282.3 | 1291.6 |
| 37.5° | 6206.1 | 5054.4 | 1557.4 | 1277.6 | 1245.0 | 1231.0 | 1221.6 | 1198.3 | 1165.7 | 1142.4 | 1147.0 |
| 40° | 6574.5 | 5077.8 | 1398.8 | 1254.3 | 1217.0 | 1212.3 | 1193.7 | 1161.0 | 1067.8 | 993.2 | 988.5 |
| 42.5° | 7064.1 | 5143.0 | 1319.6 | 1217.0 | 1217.0 | 1217.0 | 1189.0 | 1044.5 | 969.9 | 918.6 | 913.9 |
| 45° | 7558.3 | 5315.6 | 1277.6 | 1184.3 | 1212.3 | 1217.0 | 1091.1 | 1002.5 | 941.9 | 885.9 | 871.9 |
| 47.5° | 8108.6 | 5562.7 | 1258.9 | 1165.7 | 1179.7 | 1189.0 | 1025.8 | 983.8 | 913.9 | 848.6 | 834.6 |
| 50° | 8654.1 | 5823.8 | 1240.3 | 1133.1 | 1133.1 | 1072.4 | 1011.8 | 965.2 | 895.3 | 825.3 | 816.0 |
| 52.5° | 9232.3 | 6126.9 | 1221.6 | 1077.1 | 1072.4 | 1007.2 | 997.8 | 960.5 | 885.9 | 797.3 | 778.7 |
| 55° | 9735.9 | 6402.0 | 1189.0 | 1011.8 | 1007.2 | 941.9 | 988.5 | 941.9 | 830.0 | 727.4 | 708.7 |
| 57.5° | 10216.1 | 6625.8 | 1147.0 | 941.9 | 951.2 | 890.6 | 951.2 | 904.6 | 778.7 | 676.1 | 666.8 |
| 60° | 10673.1 | 6858.9 | 1091.1 | 881.3 | 881.3 | 844.0 | 904.6 | 844.0 | 727.4 | 624.8 | 610.8 |
| 62.5° | 10808.3 | 6784.3 | 997.8 | 816.0 | 811.3 | 783.3 | 844.0 | 774.0 | 662.1 | 568.9 | 554.9 |
| 65° | 10342.0 | 6402.0 | 885.9 | 750.7 | 736.7 | 713.4 | 755.4 | 690.1 | 587.5 | 512.9 | 508.2 |
| 67.5° | 10407.3 | 6252.8 | 760.0 | 666.8 | 652.8 | 634.1 | 648.1 | 596.8 | 517.6 | 461.6 | 457.0 |
| 70° | 10491.2 | 6089.6 | 643.5 | 587.5 | 554.9 | 522.2 | 554.9 | 512.9 | 457.0 | 410.3 | 405.7 |
| 72.5° | *10425.9* | *5637.3* | *531.6* | *494.3* | *470.9* | *433.6* | *475.6* | *443.0* | *396.3* | *359.0* | *349.7* |
| 75° | 9484.1 | 4532.2 | 433.6 | 405.7 | 377.7 | 354.4 | 382.3 | 373.0 | 335.7 | 331.1 | 298.4 |
| 77.5° | 6378.7 | 2904.9 | 335.7 | 312.4 | 303.1 | 279.8 | 298.4 | 284.4 | 265.8 | 247.1 | 233.1 |
| 80° | 2765.0 | 1300.9 | 242.5 | 219.2 | 209.8 | 195.8 | 214.5 | 209.8 | 200.5 | 186.5 | 181.8 |
| 82.5° | 396.3 | 307.7 | 163.2 | 149.2 | 125.9 | 116.6 | 125.9 | 135.2 | 195.8 | 237.8 | 233.1 |
| 85° | 111.9 | 93.3 | 79.3 | 69.9 | 56.0 | 46.6 | 51.3 | 83.9 | 111.9 | 69.9 | 60.6 |
| 87.5° | 51.3 | 46.6 | 37.3 | 23.3 | 14.0 | 14.0 | 9.3 | 4.7 | 4.7 | 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: SP1-2407-184-1

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-740-U-5WQ

Data in this report applies to families of products including GSS-SB1A-740-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

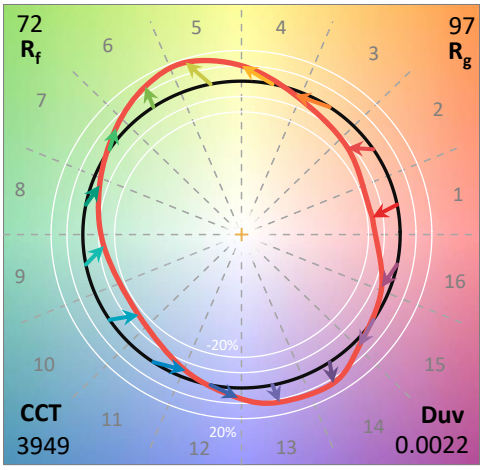
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-1 |
| 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-740-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 4000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3949 |
| CIE u': | 0.2248 |
| CIE v': | 0.5053 |
| Duv: | 0.0022 |
| CIE x: | 0.3844 |
| CIE y: | 0.3840 |
| CIE z: | 0.2316 |
| Peak Wavelength (nm): | 440 |
| Dominant Wavelength (nm): | 578 |
| Purity: | 30.60026 |
| Rf: | 71.8 |
| Rg: | 96.5 |

| | |
|---|---|
| CRI (Ra): | 70.7 |
| R1: | 68.0 |
| R2: | 76.0 |
| R3: | 84.3 |
| R4: | 72.0 |
| R5: | 68.6 |
| R6: | 68.3 |
| R7: | 77.9 |
| R8: | 50.3 |
| R9: | -36.7 |
| R10: | 45.1 |
| R11: | 70.7 |
| R12: | 47.1 |
| R13: | 68.5 |
| R14: | 91.1 |
| R15: | 58.7 |




## Test Conditions

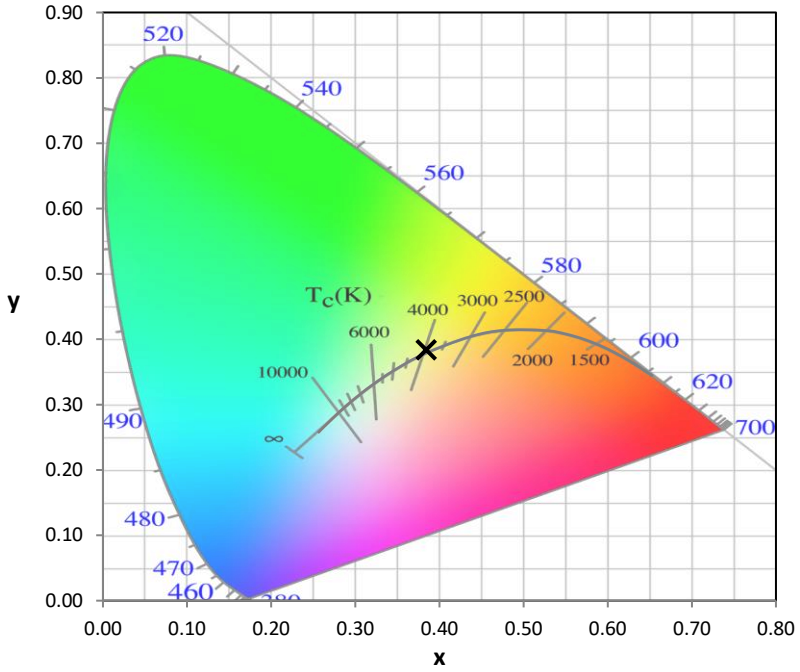
| | |
|---|---|
| Stabilization Time: | 34M |
| Operation Time: | 1H 34M |
| Sphere Temperature (°C): | 25.2 |

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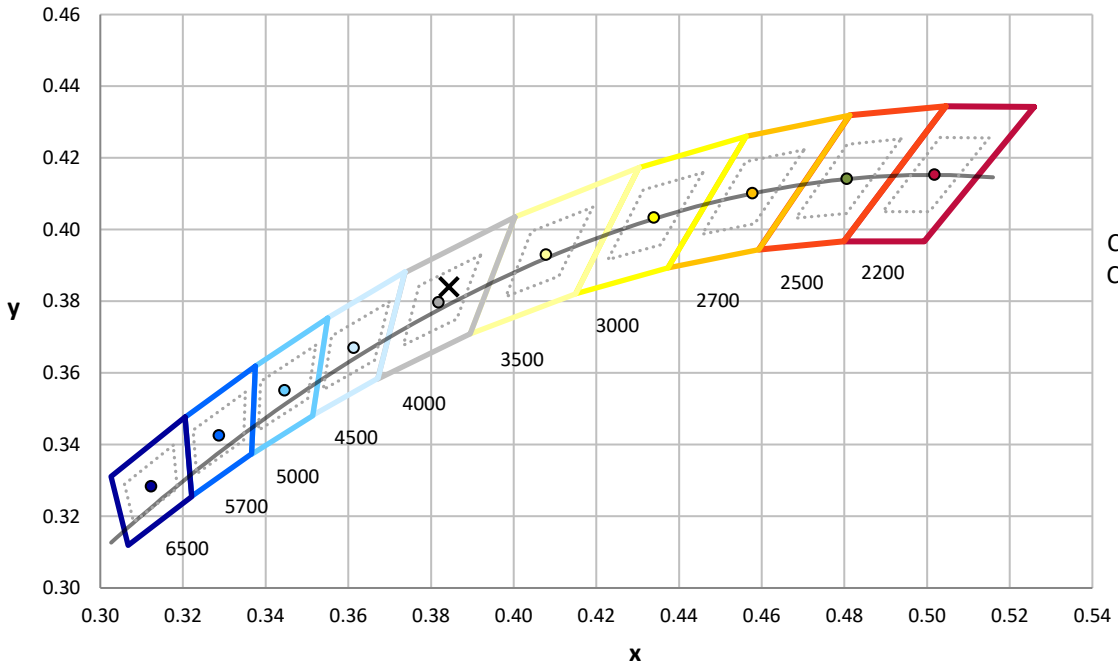
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

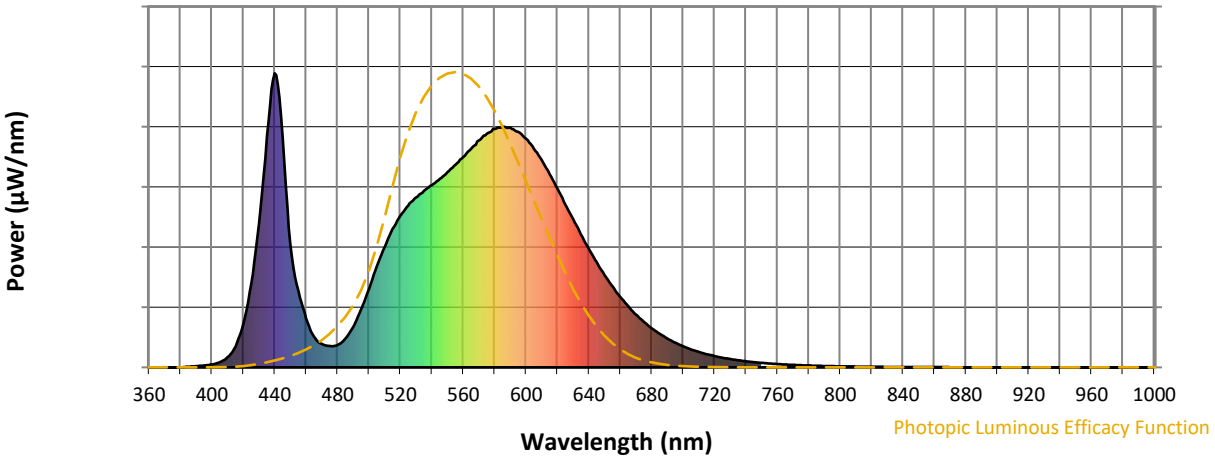



CCT = 3949K
CIE x = 0.3844
CIE y = 0.3840
Duv = 0.0022

Point lies inside the ANSI 4000K 4-step quadrangle

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## Photopic Flux vs. Wavelength

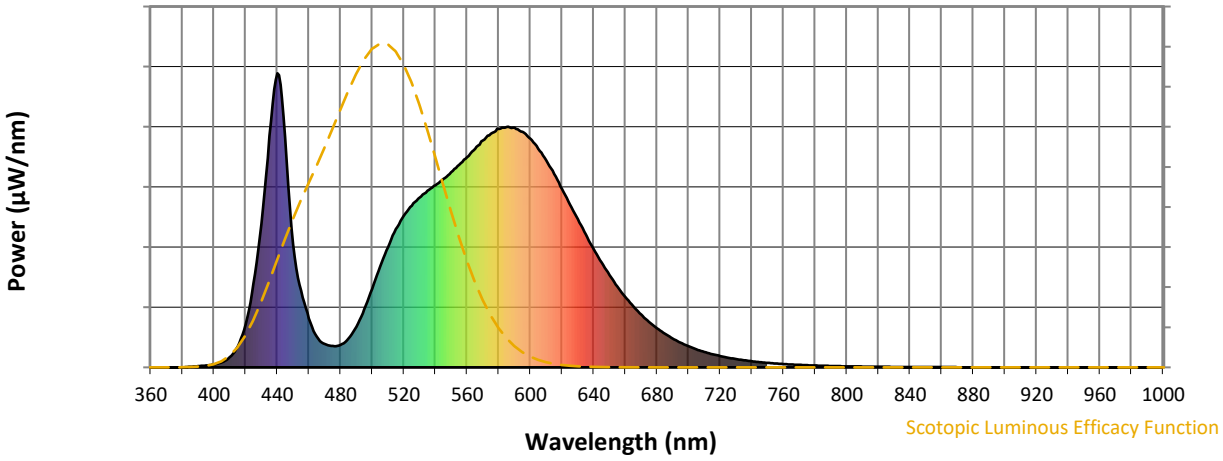



## Photopic Lumens: NR

| 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 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-1

## Scotopic Flux vs. Wavelength

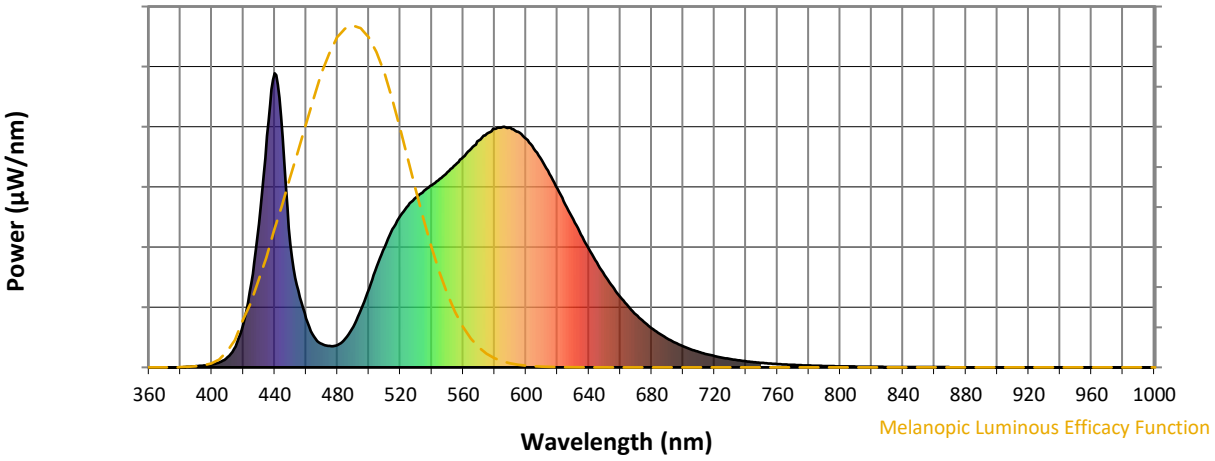



**Scotopic Lumens: NR** **S/P: 1.47**

| 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 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.78**

| 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 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

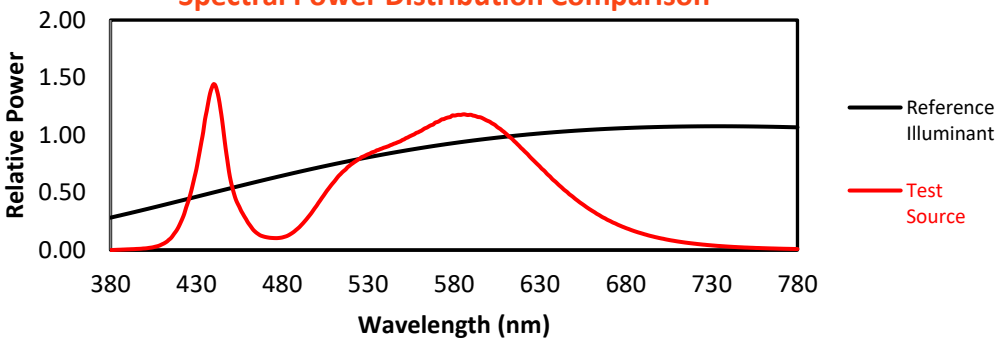
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# TM-30-18

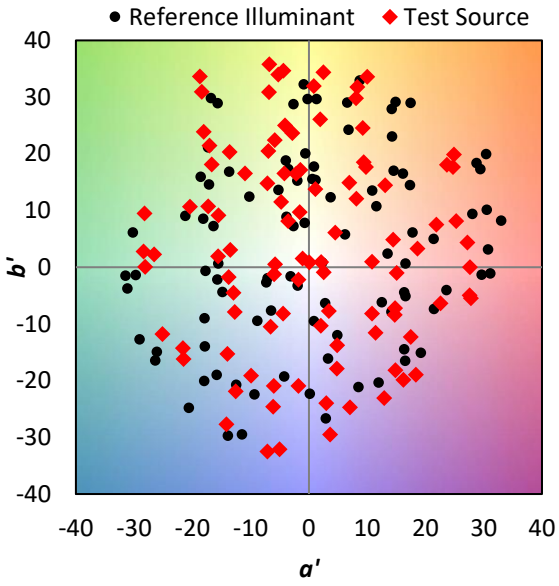
## Summary

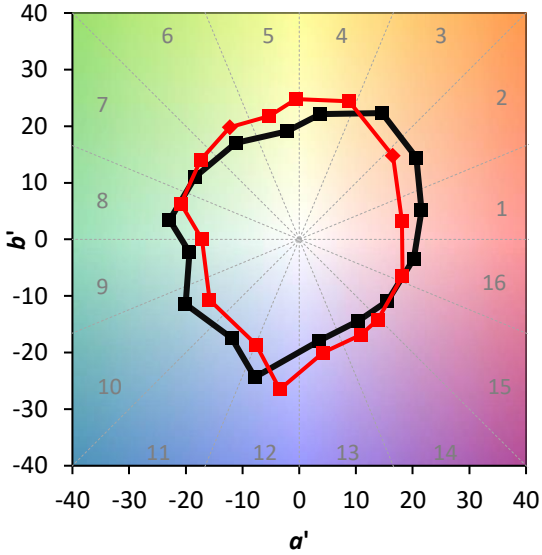
$R_f$ = 71.8
$R_g$ = 96.5
CIE $R_a$ = 70.7
$R_9$ = -36.7

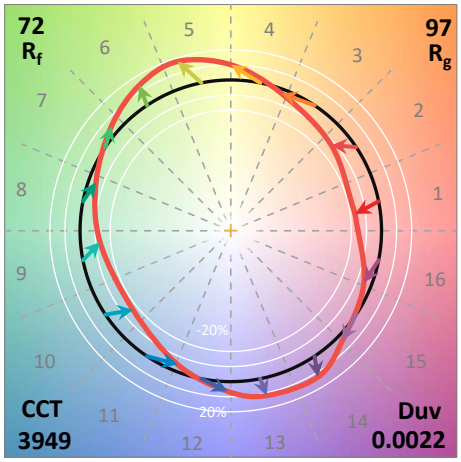
## Spectral Power Distribution Comparison

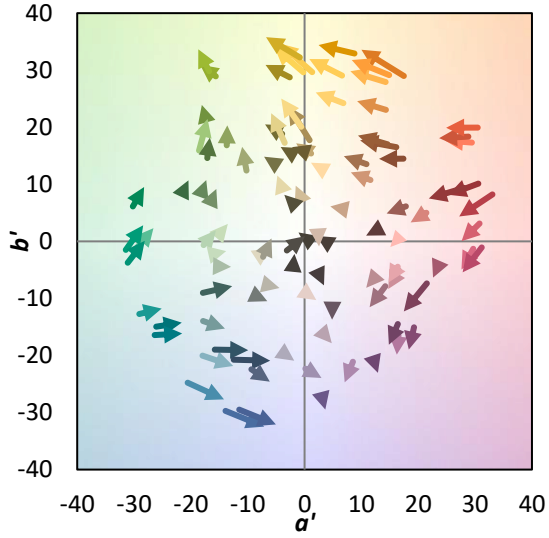



## Color Vector Graphics



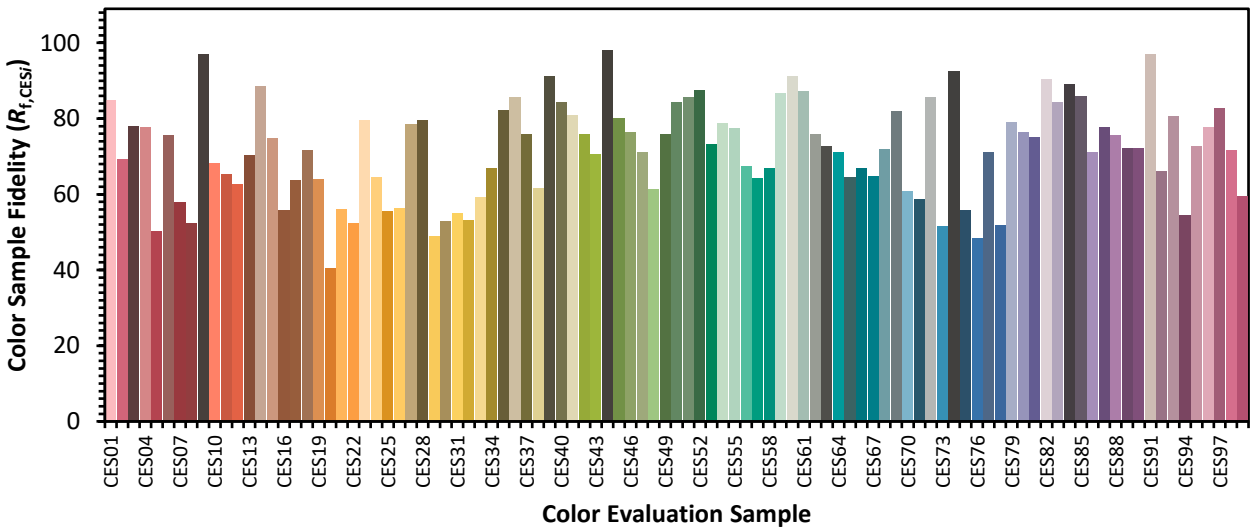



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**Individual Sample Fidelity Index ($R_{f,i}$)**

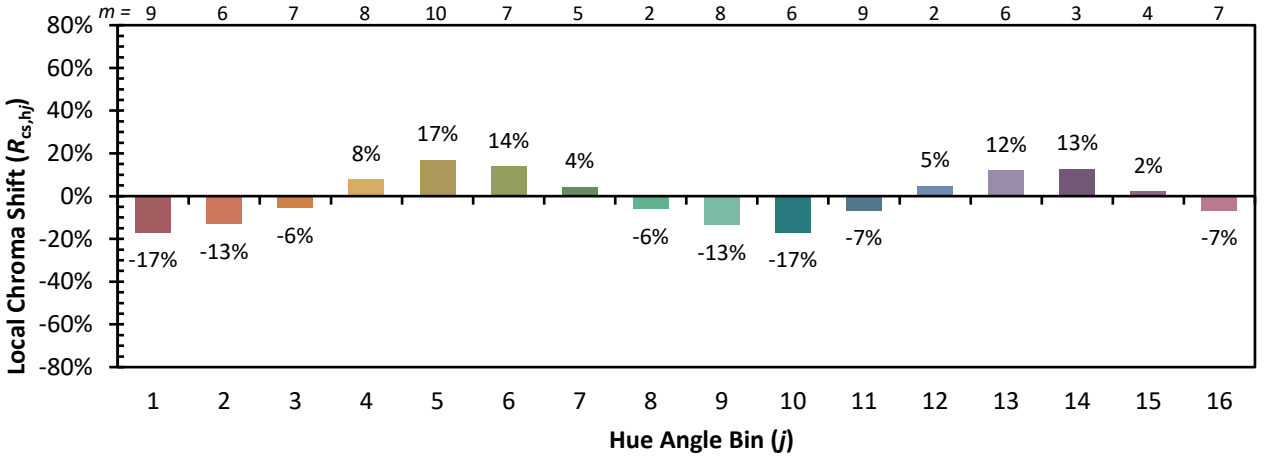
| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 56 | CES51 = 86 | CES76 = 48 |
| CES02 = 61 | CES27 = 79 | CES52 = 88 | CES77 = 71 |
| CES03 = 30 | CES28 = 80 | CES53 = 73 | CES78 = 52 |
| CES04 = 70 | CES29 = 49 | CES54 = 79 | CES79 = 79 |
| CES05 = 47 | CES30 = 53 | CES55 = 77 | CES80 = 77 |
| CES06 = 50 | CES31 = 55 | CES56 = 67 | CES81 = 75 |
| CES07 = 40 | CES32 = 53 | CES57 = 64 | CES82 = 90 |
| CES08 = 39 | CES33 = 59 | CES58 = 67 | CES83 = 84 |
| CES09 = 29 | CES34 = 67 | CES59 = 87 | CES84 = 89 |
| CES10 = 74 | CES35 = 82 | CES60 = 91 | CES85 = 86 |
| CES11 = 57 | CES36 = 86 | CES61 = 87 | CES86 = 71 |
| CES12 = 63 | CES37 = 76 | CES62 = 76 | CES87 = 78 |
| CES13 = 42 | CES38 = 62 | CES63 = 73 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 71 | CES89 = 72 |
| CES15 = 71 | CES40 = 84 | CES65 = 64 | CES90 = 72 |
| CES16 = 46 | CES41 = 81 | CES66 = 67 | CES91 = 97 |
| CES17 = 49 | CES42 = 76 | CES67 = 65 | CES92 = 66 |
| CES18 = 56 | CES43 = 71 | CES68 = 72 | CES93 = 81 |
| CES19 = 72 | CES44 = 98 | CES69 = 82 | CES94 = 55 |
| CES20 = 65 | CES45 = 80 | CES70 = 61 | CES95 = 73 |
| CES21 = 86 | CES46 = 76 | CES71 = 59 | CES96 = 78 |
| CES22 = 78 | CES47 = 71 | CES72 = 86 | CES97 = 83 |
| CES23 = 92 | CES48 = 61 | CES73 = 52 | CES98 = 72 |
| CES24 = 91 | CES49 = 76 | CES74 = 93 | CES99 = 60 |
| CES25 = 72 | CES50 = 84 | CES75 = 56 | |

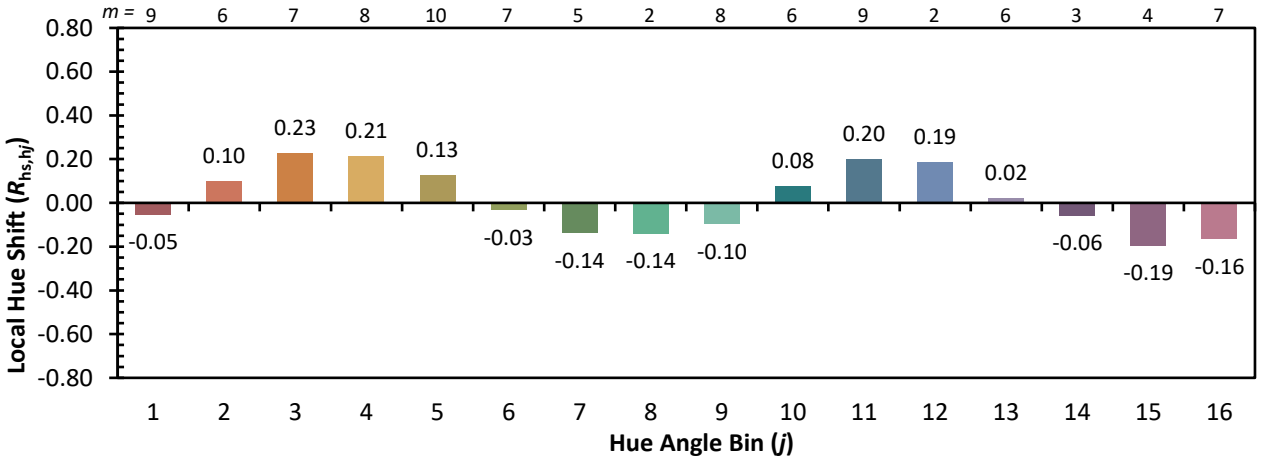


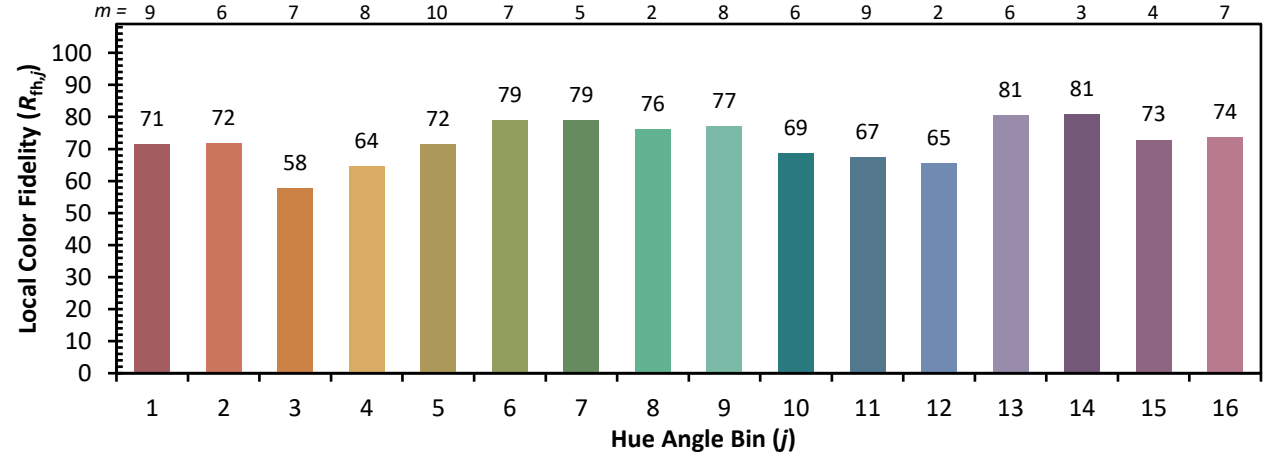
REPORT NUMBER: SP1-2407-184-1

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## Color Rendition by Hue-Angle Bin



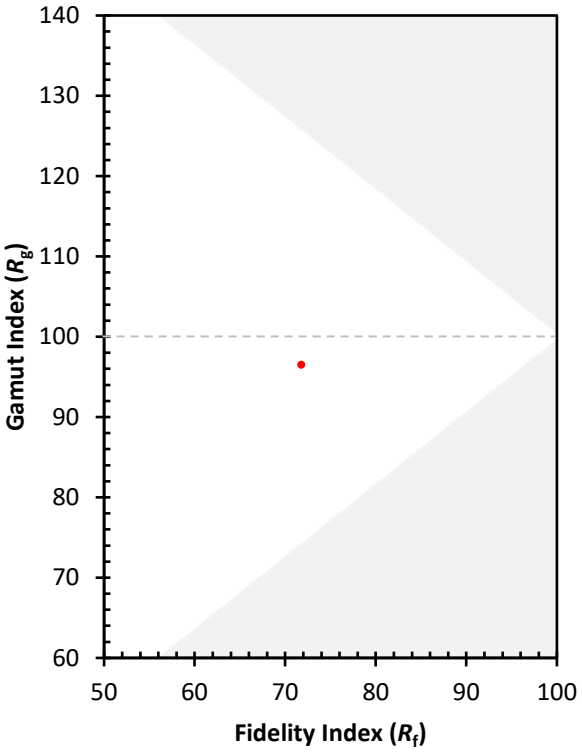



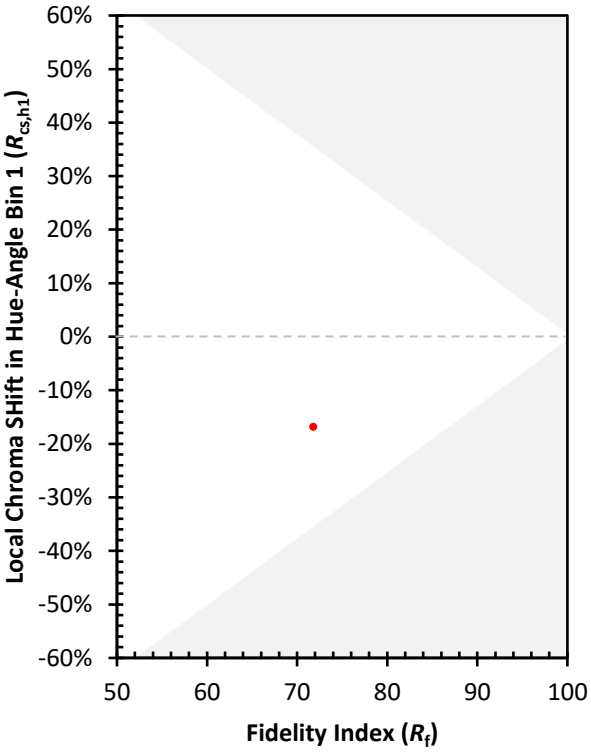



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## Measure Comparisons




(END OF REPORT)