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: P1500667

Luminaire Tested: GSS-SB4C-735-U-T4LG

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: | P1500667 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB4C-735-U-T4LG |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 4SQUARE 204W 70CRI 3500K FIXTURE w/ TYPE IV LOW GLARE DISTRIBUTION FIXTURE |
| Light Source: | (104) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 29002.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 142.2 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G3 |

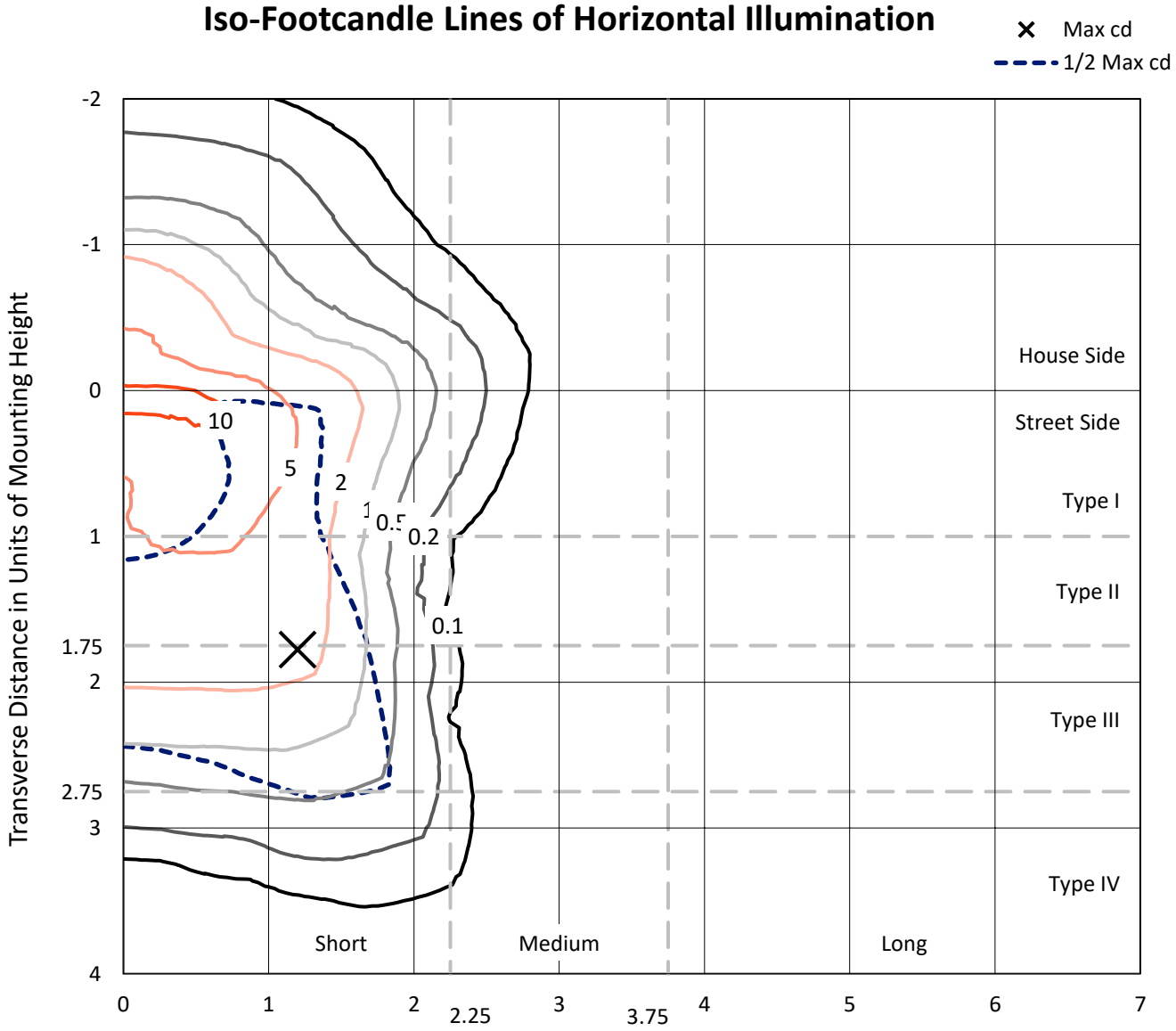
| | |
|---|---|
| Input Watts (W): | 204 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 9.5% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1500667
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## Iso-Footcandle Lines of Horizontal Illumination



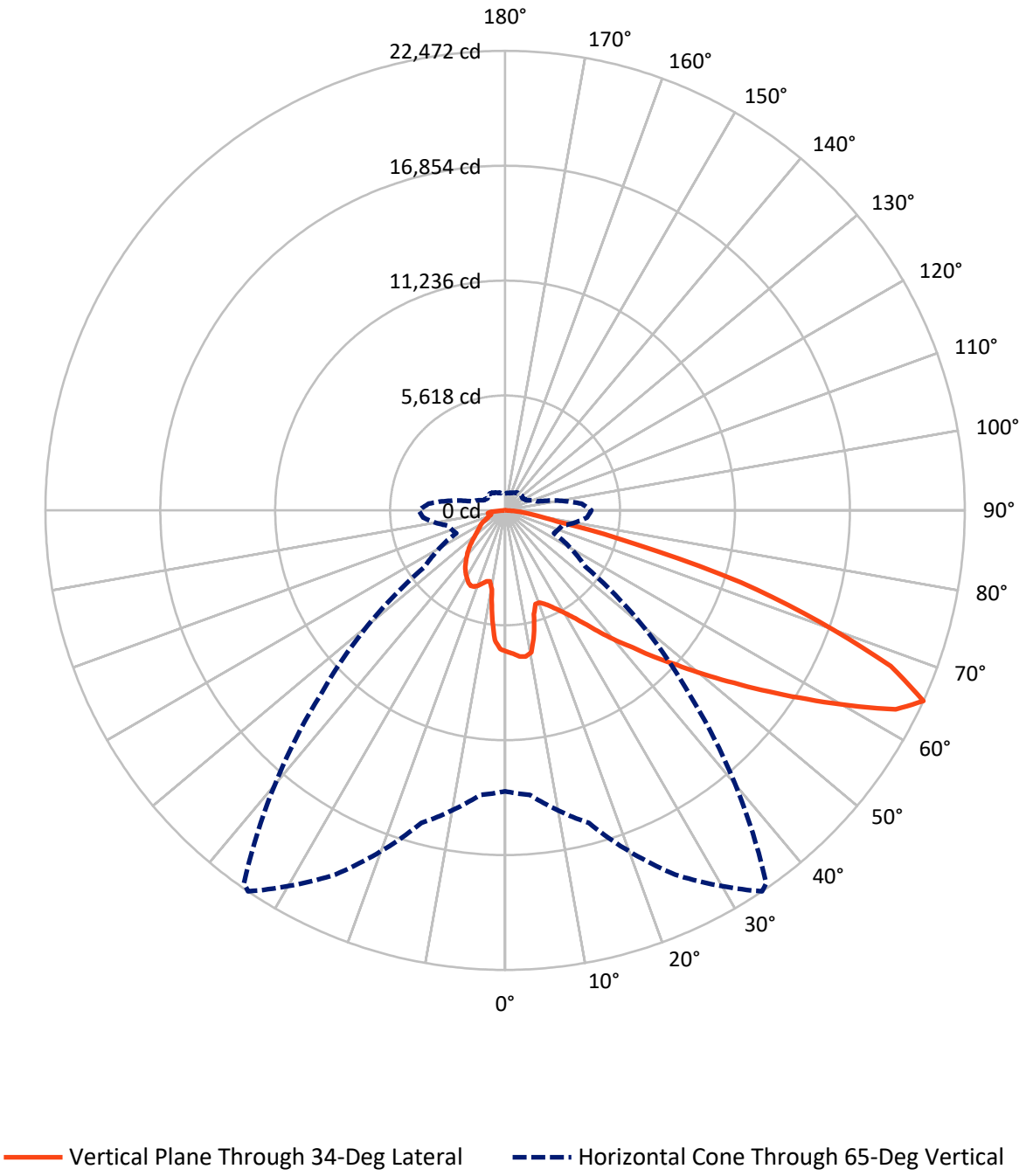

Based on 25 foot mounting height. Maximum calculated value = 11.7 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

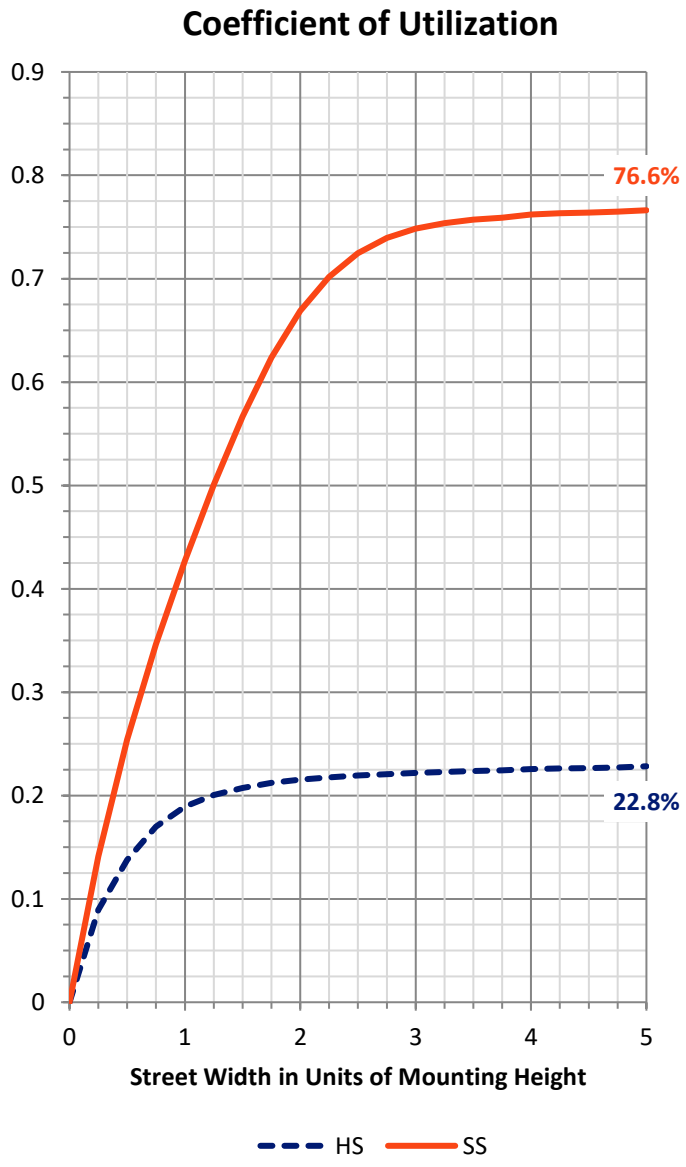
REPORT NUMBER: P1500667
CATALOG NUMBER: GSS-SB4C-735-U-T4LG

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 6747.5 | 0.0 | 6747.5 |
| | % Fixture | 23.3 | 0.0 | 23.3 |
| **Street Side** | Lumens | 22254.7 | 0.0 | 22254.7 |
| | % Fixture | 76.7 | 0.0 | 76.7 |
| **Total** | Lumens | 29002.2 | 0.0 | 29002.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 621.6 | 2.1 |
| 10°-20° | 1564.6 | 5.4 |
| 20°-30° | 2593.4 | 8.9 |
| 30°-40° | 3900.4 | 13.4 |
| 40°-50° | 5464.3 | 18.8 |
| 50°-60° | 6889.6 | 23.8 |
| 60°-70° | 5925.6 | 20.4 |
| 70°-80° | 1761.7 | 6.1 |
| 80°-90° | 281.1 | 1.0 |
| 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° | 29002.2 | 100.0 |
| 0°-180° | 29002.2 | 100.0 |



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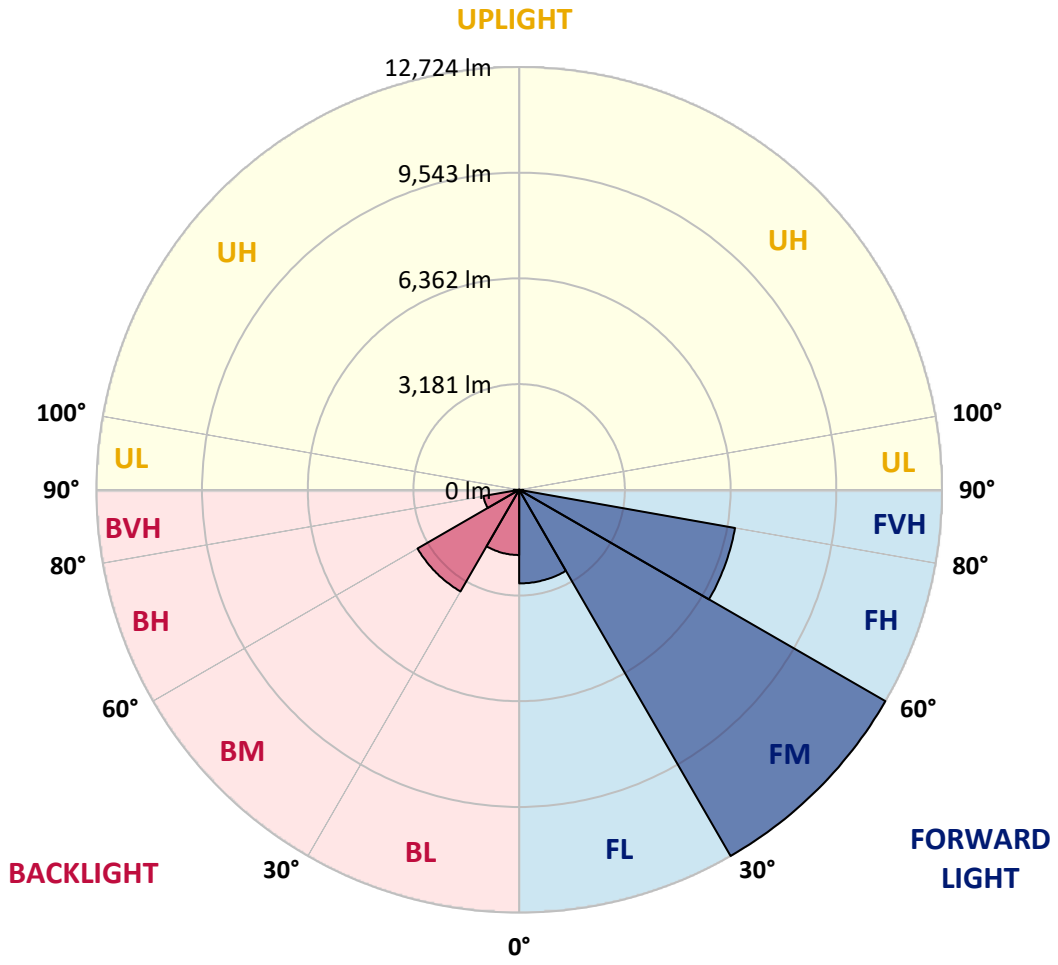
Scaled Data Report

REPORT NUMBER: P1500667
CATALOG NUMBER: GSS-SB4C-735-U-T4LG

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2816.4 | 9.7 | | | |
| FM | (30°-60°) | 12724.1 | 43.9 | | | |
| FH | (60°-80°) | 6595.3 | 22.7 | | | G3/7500 |
| FVH | (80°-90°) | 118.9 | 0.4 | | | G2/225 |
| BL | (0°-30°) | 1963.2 | 6.8 | B3/2500 | | |
| BM | (30°-60°) | 3530.1 | 12.2 | B3/5000 | | |
| BH | (60°-80°) | 1092.0 | 3.8 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 162.2 | 0.6 | | | G2/225 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G3**
Type III Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 34° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 6895.4 | 6895.4 | 6895.4 | 6895.4 | *6895.4* | 6895.4 | 6895.4 | 6895.4 | 6895.4 | 6895.4 | 6895.4 |
| 2.5° | 7026.7 | 7066.1 | 7020.2 | 7000.5 | *7007.0* | 7013.6 | 6980.8 | 6987.3 | 6947.9 | 6947.9 | 6915.1 |
| 5° | 7177.8 | 7184.3 | 7158.1 | 7177.8 | *7171.2* | 7164.6 | 7164.6 | 7158.1 | 7072.7 | 7053.0 | 7020.2 |
| 7.5° | 7092.4 | 7118.7 | 7131.8 | 7204.0 | *7223.7* | 7263.1 | 7289.4 | 7302.6 | 7236.9 | 7184.3 | 7099.0 |
| 10° | 6310.9 | 6330.6 | 6481.7 | 6810.0 | *7059.6* | 7105.5 | 7348.5 | 7486.4 | 7440.5 | 7414.2 | 7269.7 |
| 12.5° | 5043.5 | 5076.3 | 5247.1 | 5673.9 | *6258.4* | 6383.2 | 7158.1 | 7624.3 | 7729.4 | 7736.0 | 7525.8 |
| 15° | 4498.4 | 4498.4 | 4551.0 | 4793.9 | *5266.8* | 5365.3 | 6507.9 | 7663.7 | 8038.1 | 8084.0 | 7827.9 |
| 17.5° | 4386.8 | 4380.2 | 4413.1 | 4557.5 | *4807.1* | 4866.2 | 5759.3 | 7460.2 | 8405.8 | 8484.6 | 8156.3 |
| 20° | 4380.2 | 4360.5 | 4426.2 | 4590.4 | *4807.1* | 4859.6 | 5411.2 | 7105.5 | 8694.8 | 8944.3 | 8484.6 |
| 22.5° | 4386.8 | 4386.8 | 4478.7 | 4715.1 | *4964.7* | 5010.7 | 5476.9 | 6810.0 | 8931.2 | 9423.7 | 8832.7 |
| 25° | 4459.0 | 4445.9 | 4577.2 | 4866.2 | *5207.7* | 5240.5 | 5746.2 | 6796.9 | 9134.8 | 9962.2 | 9253.0 |
| 27.5° | 4577.2 | 4583.8 | 4761.1 | 5109.2 | *5496.6* | 5562.3 | 6120.5 | 7079.3 | 9384.3 | 10553.2 | 9660.1 |
| 30° | 4826.8 | 4833.3 | 5043.5 | 5398.1 | *5844.7* | 5930.0 | 6553.9 | 7499.6 | 9738.9 | 11190.2 | 10100.1 |
| 32.5° | 5109.2 | 5142.0 | 5398.1 | 5811.8 | *6291.2* | 6337.2 | 7085.8 | 8130.0 | 10270.9 | 11827.2 | 10572.9 |
| 35° | 5582.0 | 5614.8 | 5903.8 | 6337.2 | *6869.1* | 6934.8 | 7736.0 | 8858.9 | 10921.0 | 12470.8 | 10940.7 |
| 37.5° | 6192.7 | 6219.0 | 6501.4 | 7026.7 | *7591.5* | 7657.2 | 8458.4 | 9633.9 | 11577.7 | 12983.0 | 11269.0 |
| 40° | 6921.7 | 6980.8 | 7282.9 | 7795.1 | *8366.4* | 8405.8 | 9246.4 | 10382.5 | 12286.9 | 13337.7 | 11400.4 |
| 42.5° | 7716.3 | 7775.4 | 8084.0 | 8648.8 | *9174.2* | 9292.4 | 10100.1 | 11177.1 | 12864.8 | 13495.3 | 11295.3 |
| 45° | 8734.2 | 8721.0 | 9010.0 | 9601.0 | *10218.3* | 10264.3 | 11012.9 | 11833.8 | 13212.9 | 13363.9 | 11190.2 |
| 47.5° | 9968.8 | 9981.9 | 10165.8 | 10645.2 | *11282.2* | 11387.3 | 11965.2 | 12398.6 | 13416.5 | 13258.9 | 11072.0 |
| 50° | 11361.0 | 11393.8 | 11551.4 | 11899.5 | *12582.5* | 12654.7 | 12825.4 | 12792.6 | 13541.2 | 13035.6 | 11118.0 |
| 52.5° | 12753.2 | 12772.9 | 12983.0 | 13350.8 | *14014.1* | 14066.6 | 13692.3 | 13094.7 | 13075.0 | 12135.9 | 11019.5 |
| 55° | 13895.9 | 13889.3 | 14263.6 | 14828.4 | *15636.1* | 15603.3 | 14546.0 | 12864.8 | 11617.1 | 10737.1 | 10579.5 |
| 57.5° | 14887.5 | 14926.9 | 15412.8 | 16391.3 | *17409.2* | 17383.0 | 15458.8 | 11649.9 | 9489.4 | 9082.2 | 9863.7 |
| 60° | 15780.6 | 15872.5 | 16785.4 | 18249.8 | *19372.8* | 19215.2 | 15623.0 | 9817.7 | 7381.4 | 7112.1 | 8445.2 |
| 62.5° | 15393.1 | 15563.9 | 17028.3 | 19885.0 | *21428.3* | 21080.2 | 14611.7 | 7604.6 | 4997.5 | 4754.5 | 5969.4 |
| 65° | *13738.3* | *13968.1* | *15826.6* | *19648.6* | *22472.4* | *22255.7* | *12772.9* | *4780.8* | *2633.4* | *2889.5* | *4019.0* |
| 67.5° | 11538.3 | 11814.1 | 13823.6 | 17652.2 | *20331.6* | 19865.3 | 9922.8 | 2515.2 | 1228.0 | 1904.4 | 2495.5 |
| 70° | 6324.1 | 7007.0 | 9995.0 | 15012.3 | *16286.3* | 15636.1 | 5739.6 | 1188.6 | 893.1 | 1188.6 | 1490.7 |
| 72.5° | 2377.3 | 2541.4 | 4334.2 | 10093.5 | *12063.7* | 11262.5 | 2180.3 | 768.3 | 748.6 | 880.0 | 1077.0 |
| 75° | 1142.7 | 1221.5 | 1884.7 | 4590.4 | *6586.7* | 6140.2 | 1070.4 | 571.3 | 643.6 | 689.5 | 781.5 |
| 77.5° | 683.0 | 735.5 | 1175.5 | 2666.2 | *2594.0* | 2383.8 | 656.7 | 440.0 | 518.8 | 492.5 | 459.7 |
| 80° | 407.2 | 453.1 | 715.8 | 1517.0 | *1563.0* | 1385.6 | 400.6 | 308.7 | 361.2 | 315.2 | 282.4 |
| 82.5° | 236.4 | 256.1 | 374.3 | 683.0 | *991.6* | 912.8 | 229.8 | 183.9 | 262.7 | 210.1 | 157.6 |
| 85° | 118.2 | 124.8 | 170.7 | 295.5 | *492.5* | 374.3 | 98.5 | 85.4 | 124.8 | 91.9 | 52.5 |
| 87.5° | 26.3 | 26.3 | 26.3 | 32.8 | *46.0* | 46.0 | 13.1 | 6.6 | 6.6 | 6.6 | 6.6 |
| 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: P1500667
CATALOG NUMBER: GSS-SB4C-735-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 6895.4 | 6895.4 | 6895.4 | 6895.4 | 6895.4 | 6895.4 | 6895.4 | 6895.4 | 6895.4 | 6895.4 | 6895.4 |
| 2.5° | 6908.5 | 6921.7 | 6875.7 | 6823.2 | 6810.0 | 6770.6 | 6783.8 | 6757.5 | 6718.1 | 6724.7 | 6731.2 |
| 5° | 6974.2 | 6947.9 | 6856.0 | 6737.8 | 6632.7 | 6514.5 | 6376.6 | 6219.0 | 6107.3 | 6061.4 | 6100.8 |
| 7.5° | 7033.3 | 7007.0 | 6849.4 | 6586.7 | 6232.1 | 5739.6 | 5227.4 | 4761.1 | 4439.3 | 4321.1 | 4347.4 |
| 10° | 7197.5 | 7092.4 | 6803.5 | 6232.1 | 5385.0 | 4452.5 | 3933.7 | 3644.7 | 3546.2 | 3493.7 | 3500.2 |
| 12.5° | 7414.2 | 7269.7 | 6718.1 | 5614.8 | 4334.2 | 3743.2 | 3559.3 | 3493.7 | 3460.8 | 3447.7 | 3460.8 |
| 15° | 7676.9 | 7453.6 | 6514.5 | 4839.9 | 3848.3 | 3618.4 | 3579.0 | 3585.6 | 3585.6 | 3592.2 | 3592.2 |
| 17.5° | 7906.7 | 7558.7 | 6146.8 | 4281.7 | 3749.8 | 3684.1 | 3723.5 | 3756.3 | 3756.3 | 3762.9 | 3756.3 |
| 20° | 8116.9 | 7611.2 | 5673.9 | 4045.3 | 3769.5 | 3802.3 | 3894.3 | 3927.1 | 3933.7 | 3927.1 | 3927.1 |
| 22.5° | 8340.1 | 7644.0 | 5201.1 | 3914.0 | 3815.5 | 3914.0 | 4012.5 | 4058.4 | 4071.6 | 4078.1 | 4084.7 |
| 25° | 8556.9 | 7578.4 | 4813.6 | 3808.9 | 3795.8 | 3933.7 | 4045.3 | 4104.4 | 4117.5 | 4117.5 | 4124.1 |
| 27.5° | 8773.6 | 7558.7 | 4551.0 | 3671.0 | 3703.8 | 3815.5 | 3946.8 | 4025.6 | 4078.1 | 4084.7 | 4091.3 |
| 30° | 9023.1 | 7499.6 | 4301.4 | 3487.1 | 3500.2 | 3638.1 | 3776.0 | 3914.0 | 4019.0 | 4065.0 | 4065.0 |
| 32.5° | 9193.9 | 7440.5 | 4078.1 | 3290.1 | 3290.1 | 3434.6 | 3605.3 | 3776.0 | 3927.1 | 4019.0 | 4038.7 |
| 35° | 9358.0 | 7387.9 | 3881.1 | 3093.1 | 3099.6 | 3237.6 | 3414.9 | 3598.7 | 3789.2 | 3900.8 | 3953.4 |
| 37.5° | 9443.4 | 7335.4 | 3743.2 | 2942.0 | 2915.8 | 3060.2 | 3178.4 | 3329.5 | 3533.1 | 3716.9 | 3762.9 |
| 40° | 9463.1 | 7335.4 | 3730.1 | 2837.0 | 2725.3 | 2889.5 | 2942.0 | 3047.1 | 3231.0 | 3428.0 | 3500.2 |
| 42.5° | 9331.8 | 7263.1 | 3795.8 | 2771.3 | 2528.3 | 2646.5 | 2705.6 | 2758.2 | 2876.4 | 3040.5 | 3099.6 |
| 45° | 9174.2 | 7164.6 | 3854.9 | 2679.4 | 2285.3 | 2377.3 | 2469.2 | 2475.8 | 2528.3 | 2567.7 | 2607.1 |
| 47.5° | 9042.8 | 7059.6 | 3749.8 | 2508.6 | 2035.8 | 2101.5 | 2200.0 | 2200.0 | 2173.7 | 2094.9 | 2068.6 |
| 50° | 9147.9 | 7092.4 | 3572.5 | 2265.6 | 1805.9 | 1851.9 | 1957.0 | 1897.9 | 1838.8 | 1674.6 | 1654.9 |
| 52.5° | 9239.8 | 7217.2 | 3362.3 | 2029.2 | 1608.9 | 1654.9 | 1760.0 | 1668.0 | 1549.8 | 1418.5 | 1398.8 |
| 55° | 9088.8 | 7223.7 | 2974.9 | 1766.5 | 1471.0 | 1510.4 | 1608.9 | 1497.3 | 1385.6 | 1306.8 | 1293.7 |
| 57.5° | 8635.7 | 7026.7 | 2567.7 | 1563.0 | 1352.8 | 1392.2 | 1484.2 | 1372.5 | 1267.4 | 1260.9 | 1293.7 |
| 60° | 7637.5 | 6337.2 | 2193.4 | 1431.6 | 1241.2 | 1287.1 | 1379.1 | 1260.9 | 1123.0 | 1063.9 | 1083.6 |
| 62.5° | 5765.9 | 4872.7 | 1878.2 | 1280.6 | 1136.1 | 1195.2 | 1260.9 | 1070.4 | 952.2 | 926.0 | 899.7 |
| 65° | *4216.0* | *3743.2* | *1687.7* | *1162.4* | *1037.6* | *1109.8* | *1057.3* | *952.2* | *873.4* | *847.1* | *834.0* |
| 67.5° | 2725.3 | 2541.4 | 1451.3 | 1050.7 | 945.7 | 1004.8 | 932.5 | 880.0 | 794.6 | 781.5 | 801.2 |
| 70° | 1668.0 | 1727.1 | 1214.9 | 926.0 | 853.7 | 840.6 | 853.7 | 801.2 | 709.2 | 728.9 | 755.2 |
| 72.5° | 1182.1 | 1274.0 | 1044.2 | 807.7 | 728.9 | 702.7 | 761.8 | 728.9 | 663.3 | 683.0 | 709.2 |
| 75° | 847.1 | 945.7 | 860.3 | 663.3 | 617.3 | 604.2 | 709.2 | 728.9 | 683.0 | 696.1 | 715.8 |
| 77.5° | 499.1 | 604.2 | 610.7 | 512.2 | 466.3 | 538.5 | 755.2 | 840.6 | 807.7 | 768.3 | 748.6 |
| 80° | 321.8 | 361.2 | 433.4 | 328.4 | 328.4 | 466.3 | 827.4 | 1024.5 | 880.0 | 781.5 | 768.3 |
| 82.5° | 164.2 | 190.4 | 282.4 | 210.1 | 197.0 | 348.1 | 814.3 | 978.5 | 971.9 | 866.8 | 847.1 |
| 85° | 46.0 | 59.1 | 131.3 | 91.9 | 78.8 | 183.9 | 610.7 | 735.5 | 656.7 | 479.4 | 486.0 |
| 87.5° | 6.6 | 6.6 | 0.0 | 0.0 | 6.6 | 26.3 | 72.2 | 13.1 | 13.1 | 13.1 | 13.1 |
| 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: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

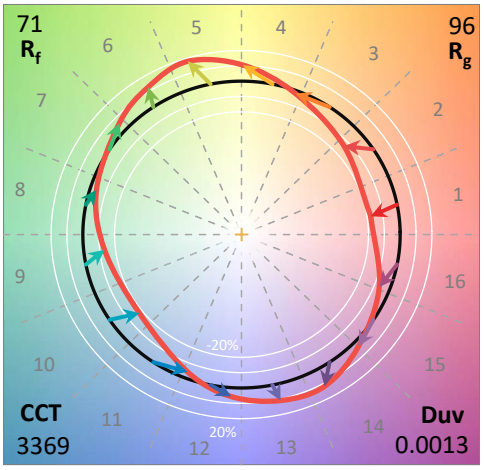
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-5 |
| 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-735-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3369 |
| CIE u': | 0.2386 |
| CIE v': | 0.5156 |
| Duv: | 0.0013 |
| CIE x: | 0.4143 |
| CIE y: | 0.3980 |
| CIE z: | 0.1877 |
| Peak Wavelength (nm): | 590 |
| Dominant Wavelength (nm): | 580 |
| Purity: | 43.80166 |
| Rf: | 71.4 |
| Rg: | 96 |

| | |
|---|---|
| CRI (Ra): | 70.1 |
| R1: | 66.6 |
| R2: | 77.6 |
| R3: | 88.5 |
| R4: | 69.5 |
| R5: | 66.4 |
| R6: | 69.6 |
| R7: | 77.5 |
| R8: | 44.9 |
| R9: | -40.2 |
| R10: | 49.1 |
| R11: | 66.3 |
| R12: | 45.7 |
| R13: | 68.0 |
| R14: | 93.4 |
| R15: | 57.6 |




## Test Conditions

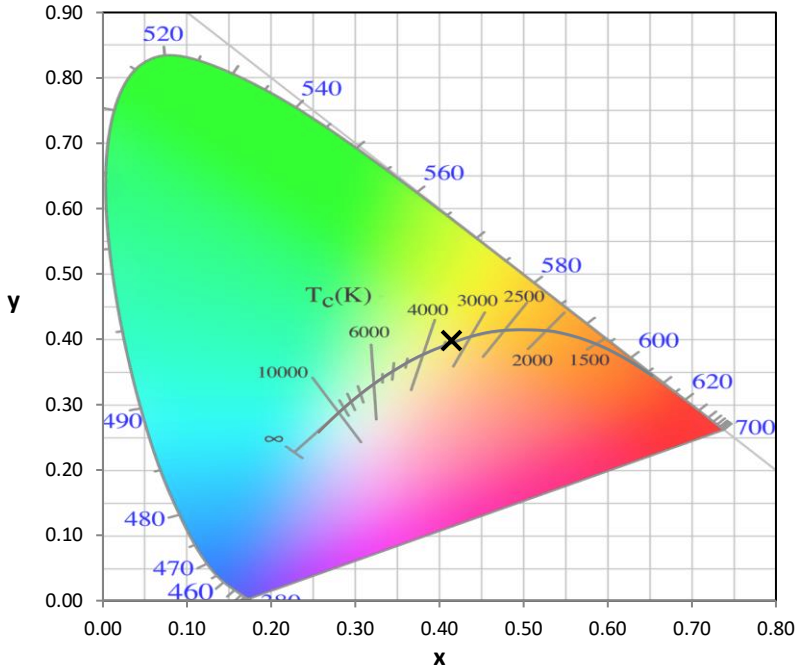
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

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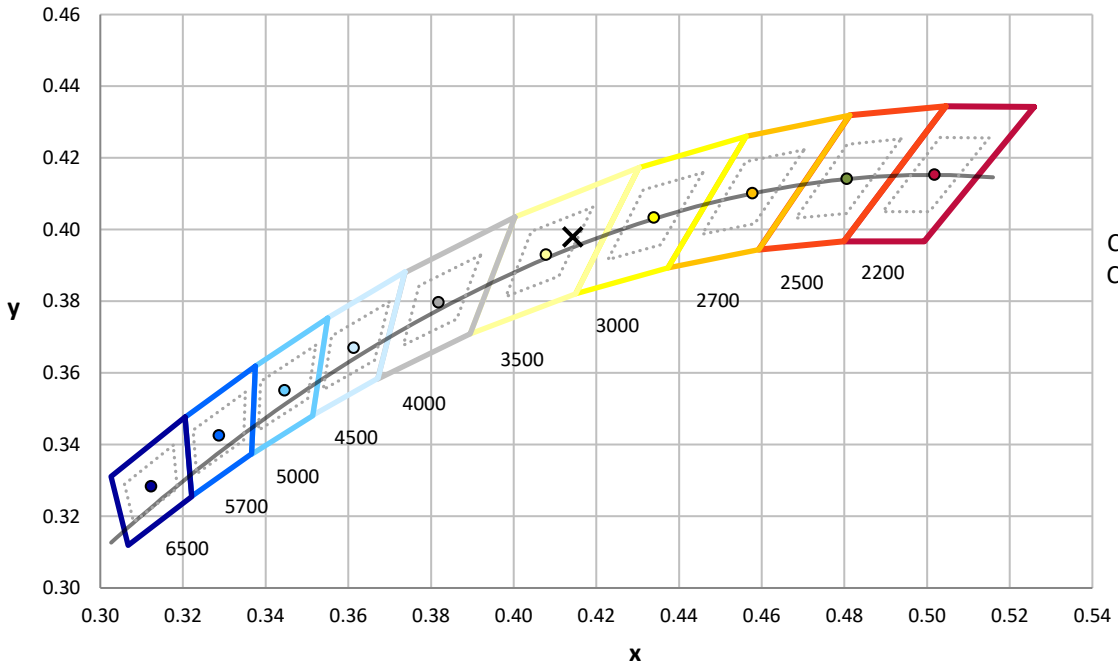
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

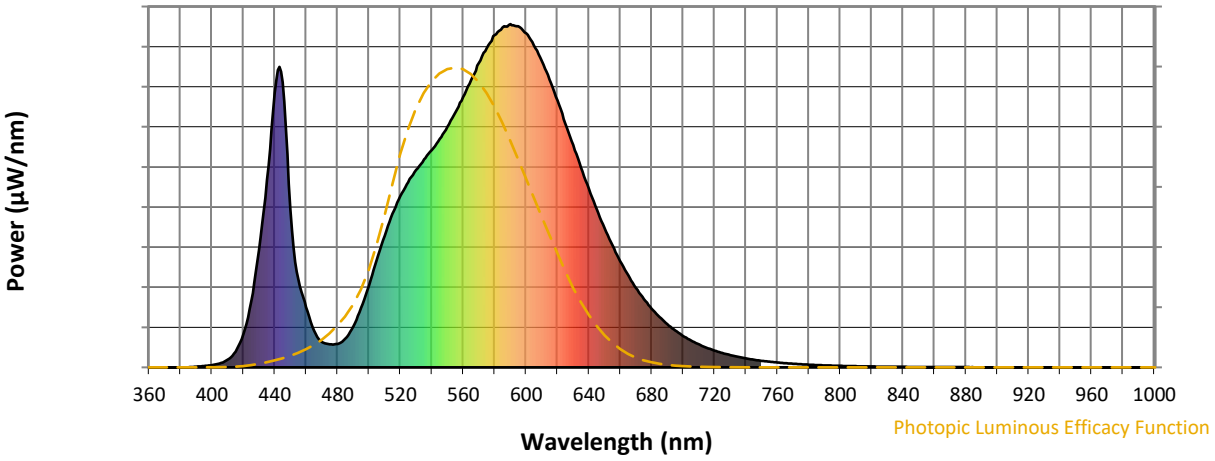



CCT = 3369K
CIE x = 0.4143
CIE y = 0.3980
Duv = 0.0013

Point lies inside the ANSI 3500K 4-step quadrangle

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## Photopic Flux vs. Wavelength

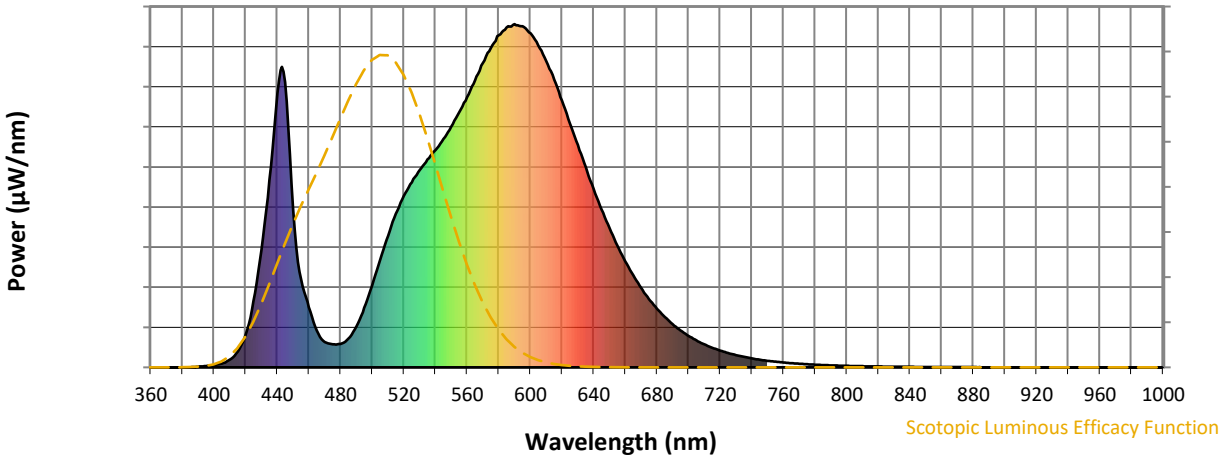



## Photopic Lumens: NR

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

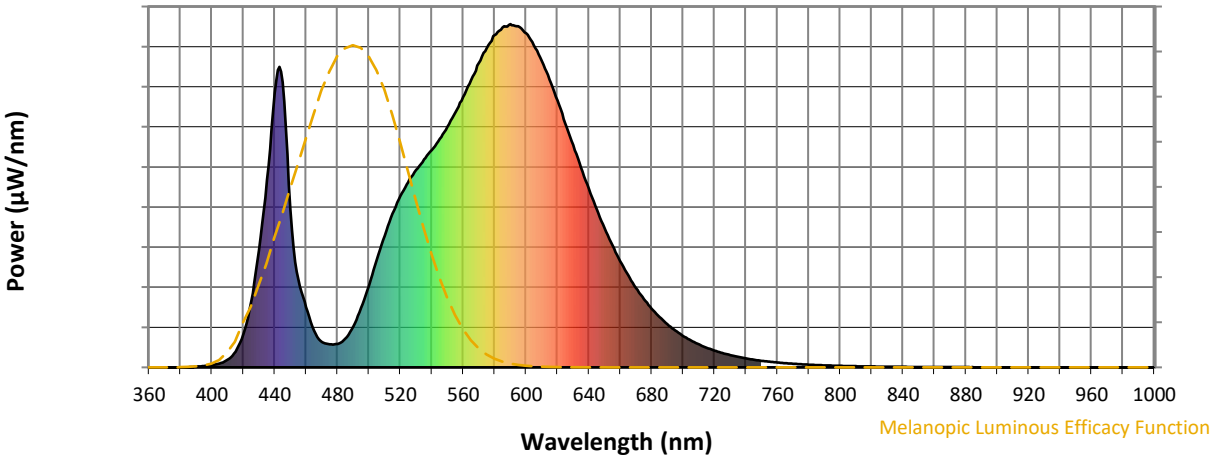



**Scotopic Lumens: NR** **S/P: 1.29**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.36**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

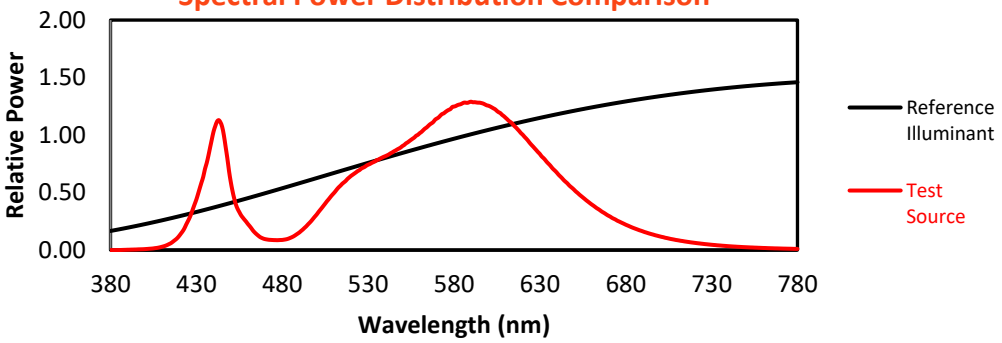
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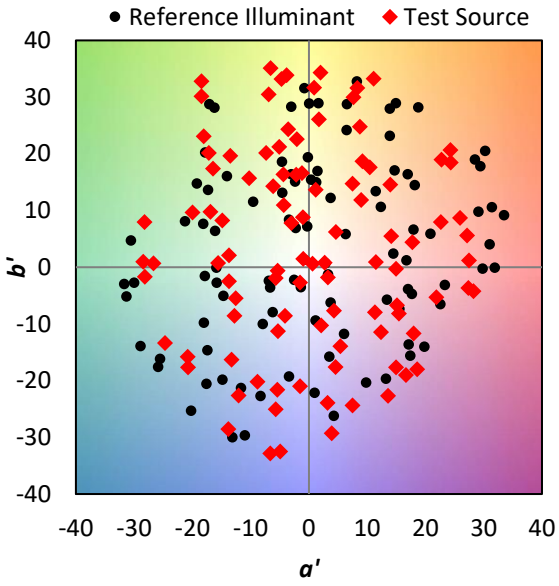
## Summary

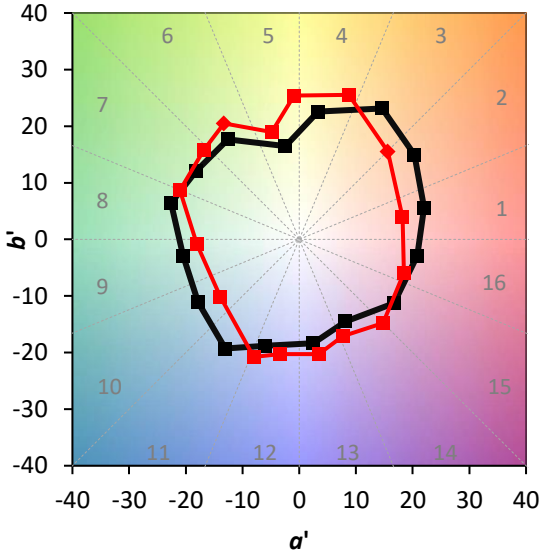
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

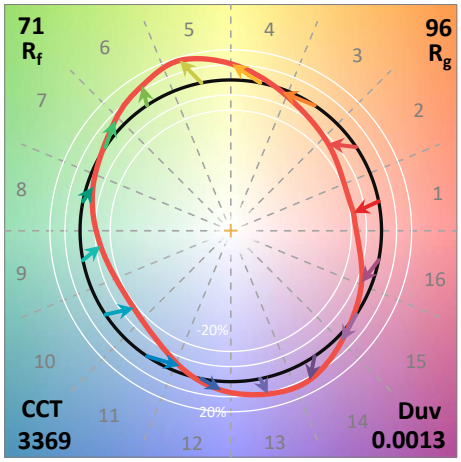
## Spectral Power Distribution Comparison

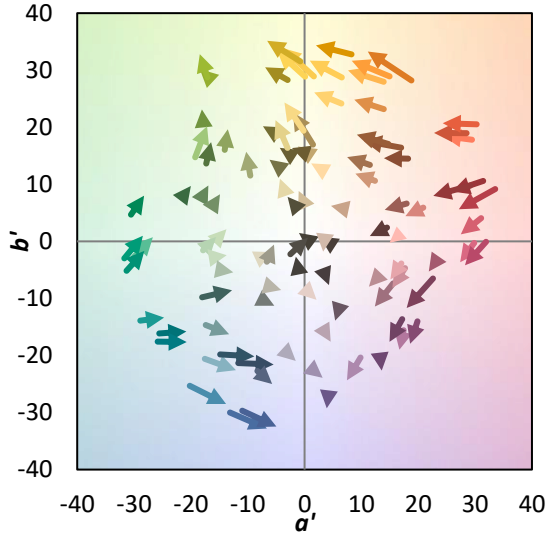



## Color Vector Graphics



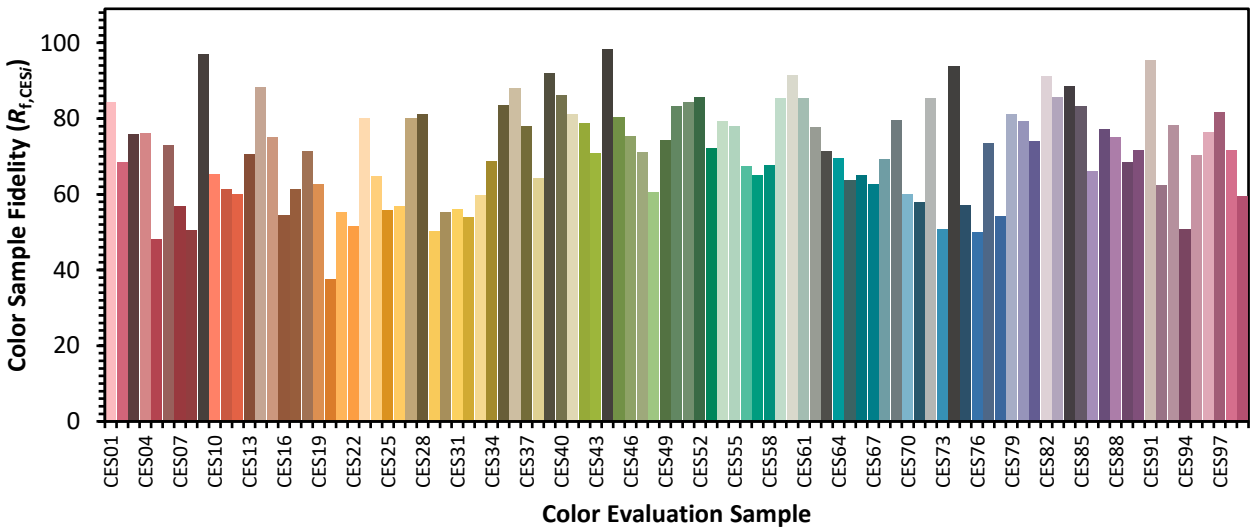



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## Individual Sample Fidelity Index ($R_{f,i}$)

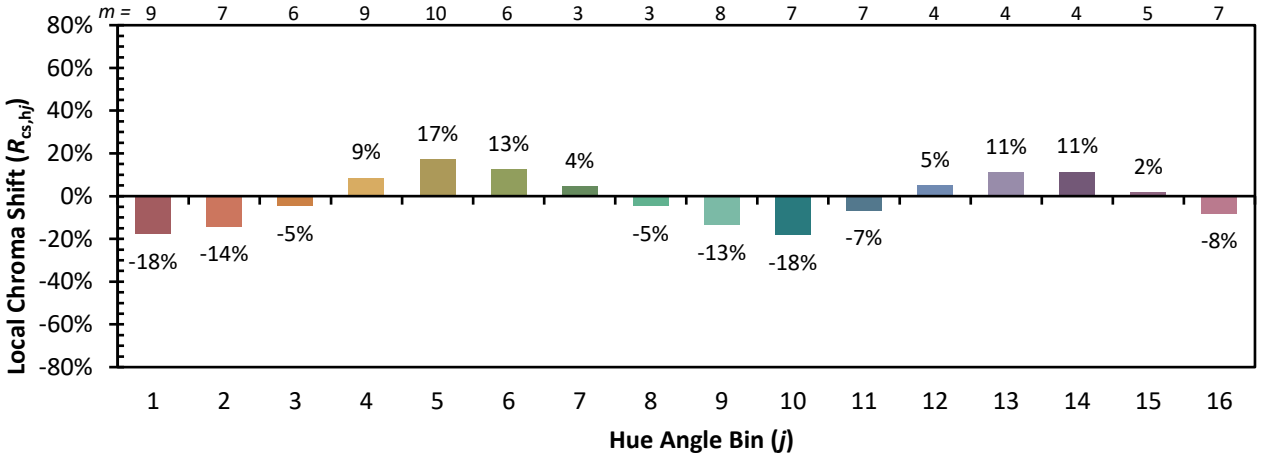
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 | |

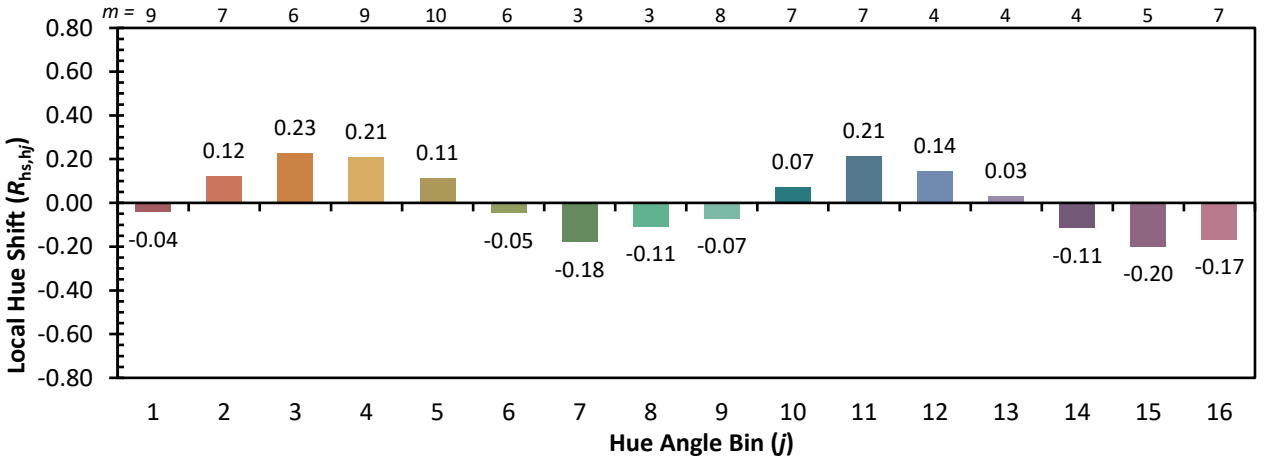


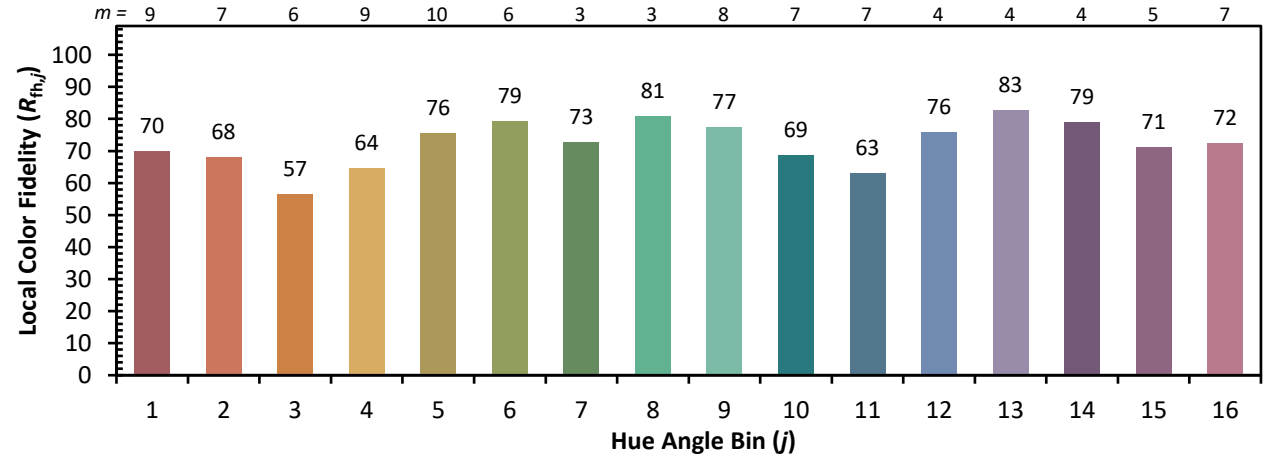
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## Color Rendition by Hue-Angle Bin



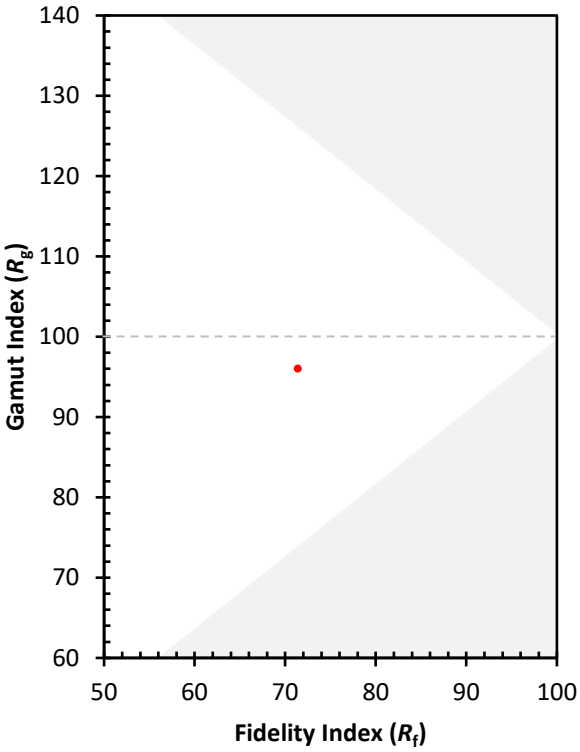



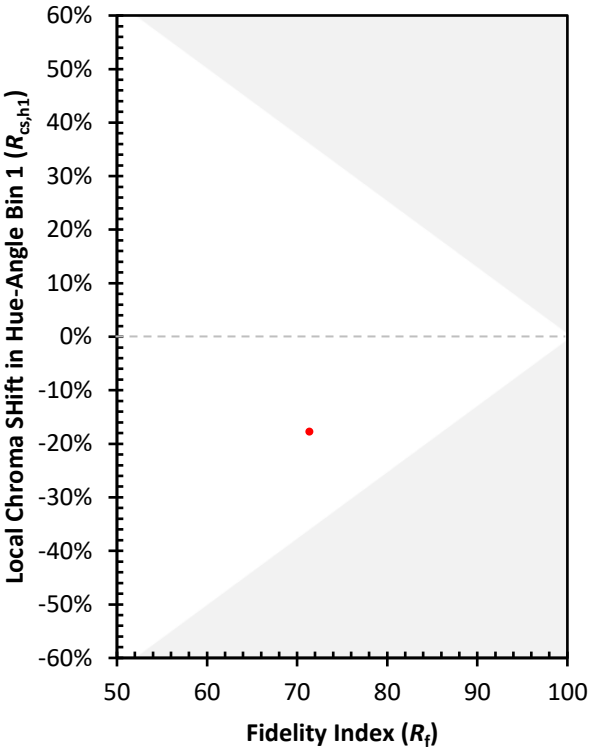



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## Measure Comparisons




(END OF REPORT)