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: P1360340

Luminaire Tested: **GSS-SB4B-727-U-T3-HSS**

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: | P1360340 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB4B-727-U-T3-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 4SQUARE 148W 70CRI 2700K FIXTURE w/ TYPE III DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD |
| Light Source: | (104) 2700K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 14777 lumens |
| Efficiency: | N/A |
| Efficacy: | 99.8 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B2 - U0 - G3 |

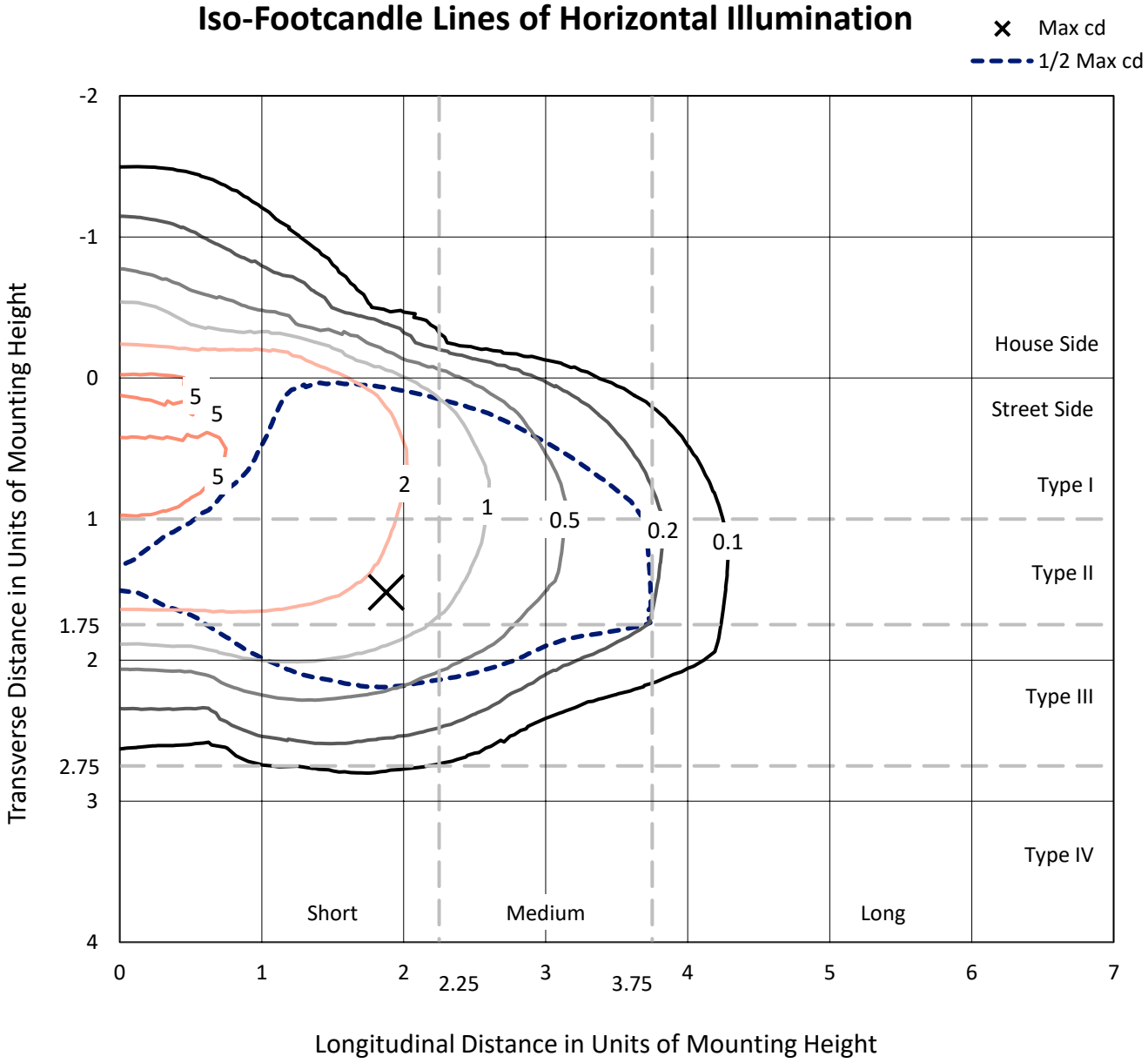
| | |
|---|---|
| Input Watts (W): | 148 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 13.6% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1360340
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## Iso-Footcandle Lines of Horizontal Illumination



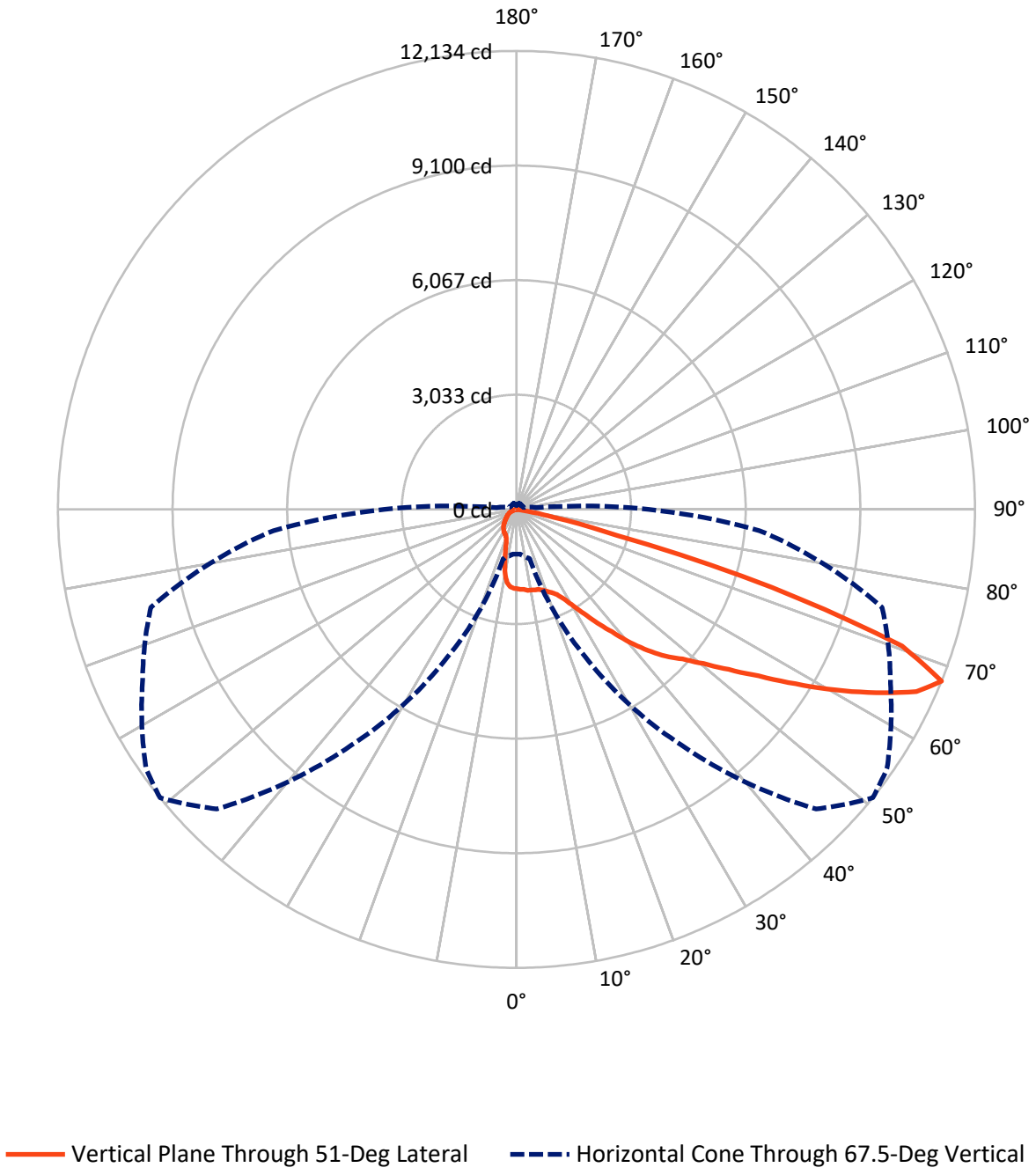

Based on 20 foot mounting height. Maximum calculated value = 6.7 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

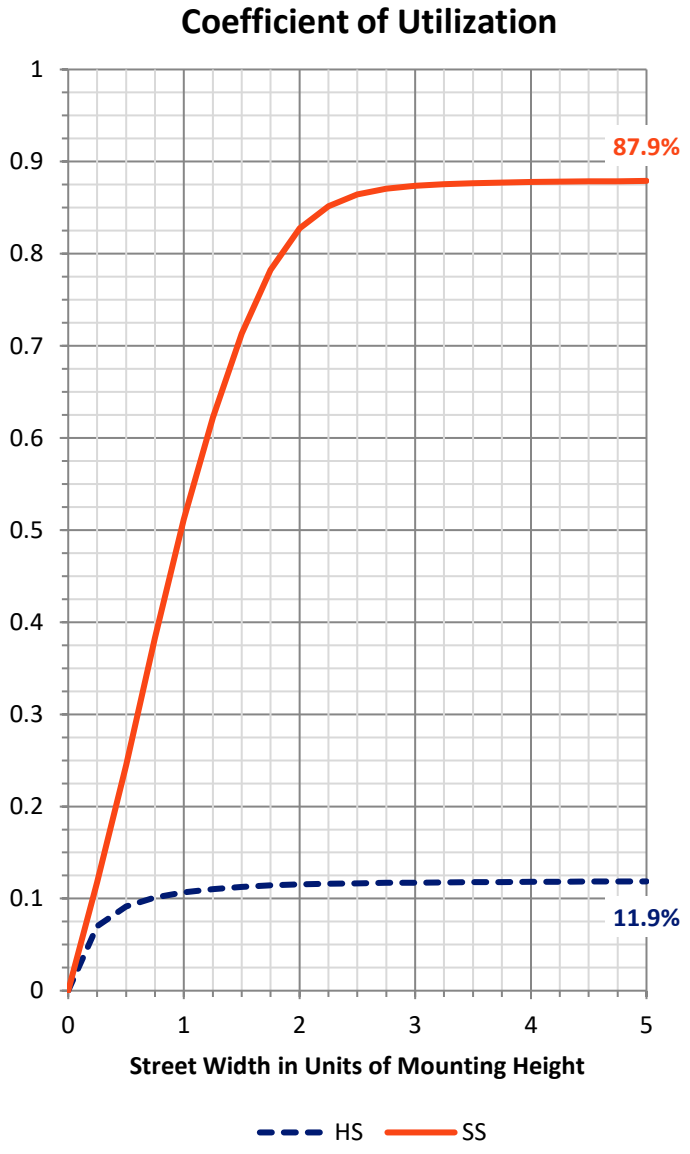
REPORT NUMBER: P1360340
CATALOG NUMBER: GSS-SB4B-727-U-T3-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1766.9 | 0.0 | 1766.9 |
| | % Fixture | 12.0 | 0.0 | 12.0 |
| **Street Side** | Lumens | 13010.2 | 0.0 | 13010.2 |
| | % Fixture | 88.0 | 0.0 | 88.0 |
| **Total** | Lumens | 14777.0 | 0.0 | 14777.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 191.6 | 1.3 |
| 10°-20° | 492.6 | 3.3 |
| 20°-30° | 878.1 | 5.9 |
| 30°-40° | 1571.6 | 10.6 |
| 40°-50° | 2475.6 | 16.8 |
| 50°-60° | 3600.7 | 24.4 |
| 60°-70° | 3917.7 | 26.5 |
| 70°-80° | 1582.6 | 10.7 |
| 80°-90° | 66.5 | 0.4 |
| 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° | 14777.0 | 100.0 |
| 0°-180° | 14777.0 | 100.0 |



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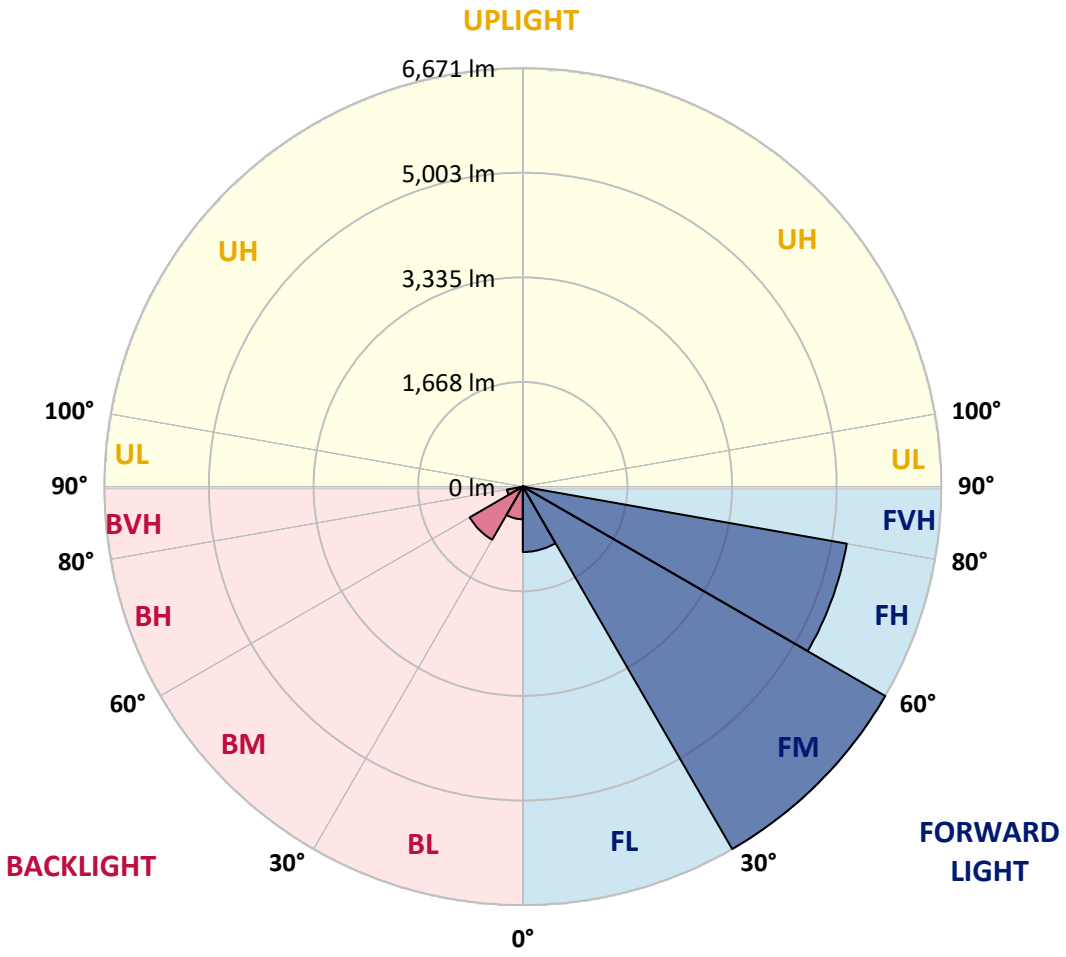
Scaled Data Report

REPORT NUMBER: P1360340
CATALOG NUMBER: GSS-SB4B-727-U-T3-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1042.0 | 7.1 | | | |
| FM | (30°-60°) | 6670.8 | 45.1 | | | |
| FH | (60°-80°) | 5243.5 | 35.5 | | | G3/7500 |
| FVH | (80°-90°) | 54.0 | 0.4 | | | G1/100 |
| BL | (0°-30°) | 520.3 | 3.5 | B2/1000 | | |
| BM | (30°-60°) | 977.2 | 6.6 | B1/1000 | | |
| BH | (60°-80°) | 256.8 | 1.7 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 12.5 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G3**
Type III Short



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REPORT NUMBER: P1360340
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 51° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2098.3 | 2098.3 | 2098.3 | 2098.3 | 2098.3 | 2098.3 | *2098.3* | 2098.3 | 2098.3 | 2098.3 | 2098.3 |
| 2.5° | 2116.0 | 2111.6 | 2116.0 | 2098.3 | 2107.2 | 2111.6 | *2120.4* | 2107.2 | 2102.7 | 2107.2 | 2102.7 |
| 5° | 2107.2 | 2102.7 | 2107.2 | 2111.6 | 2120.4 | 2133.7 | *2129.3* | 2129.3 | 2138.2 | 2120.4 | 2120.4 |
| 7.5° | 2031.9 | 2027.5 | 2054.0 | 2062.9 | 2098.3 | 2129.3 | *2164.7* | 2151.4 | 2169.1 | 2164.7 | 2151.4 |
| 10° | 1938.9 | 1925.7 | 1952.2 | 2000.9 | 2054.0 | 2133.7 | *2169.1* | 2178.0 | 2217.8 | 2235.5 | 2226.7 |
| 12.5° | 1885.8 | 1872.5 | 1908.0 | 1943.4 | 2027.5 | 2124.9 | *2186.8* | 2209.0 | 2253.3 | 2288.7 | 2297.5 |
| 15° | 1846.0 | 1859.3 | 1894.7 | 1961.1 | 2040.8 | 2142.6 | *2195.7* | 2240.0 | 2332.9 | 2368.3 | 2368.3 |
| 17.5° | 1872.5 | 1868.1 | 1899.1 | 1965.5 | 2062.9 | 2164.7 | *2244.4* | 2288.7 | 2399.3 | 2448.0 | 2443.6 |
| 20° | 2133.7 | 2107.2 | 2102.7 | 2067.3 | 2098.3 | 2217.8 | *2315.2* | 2359.5 | 2465.7 | 2532.1 | 2527.7 |
| 22.5° | 2470.2 | 2496.7 | 2425.9 | 2346.2 | 2248.8 | 2288.7 | *2390.5* | 2452.5 | 2558.7 | 2629.5 | 2603.0 |
| 25° | 2926.1 | 2912.8 | 2864.2 | 2704.8 | 2527.7 | 2443.6 | *2496.7* | 2558.7 | 2691.5 | 2749.1 | 2704.8 |
| 27.5° | 3408.7 | 3351.1 | 3289.1 | 3067.8 | 2833.2 | 2678.2 | *2687.1* | 2726.9 | 2881.9 | 2917.3 | 2815.5 |
| 30° | 3926.6 | 3935.4 | 3833.6 | 3532.6 | 3209.4 | 2974.8 | *2957.1* | 2974.8 | 3098.8 | 3094.3 | 2952.7 |
| 32.5° | 4519.8 | 4497.6 | 4400.3 | 4077.1 | 3718.5 | 3333.4 | *3289.1* | 3258.1 | 3311.3 | 3262.6 | 3098.8 |
| 35° | 4935.9 | 4958.0 | 4851.8 | 4639.3 | 4280.7 | 3802.6 | *3696.4* | 3621.1 | 3568.0 | 3514.9 | 3337.8 |
| 37.5° | 5307.8 | 5281.2 | 5219.2 | 5099.7 | 4750.0 | 4311.7 | *4108.1* | 4041.7 | 3926.6 | 3780.5 | 3616.7 |
| 40° | 5391.9 | 5378.6 | 5347.6 | 5352.0 | 5126.3 | 4785.4 | *4639.3* | 4519.8 | 4320.6 | 4201.1 | 3988.6 |
| 42.5° | 5378.6 | 5422.9 | 5431.7 | 5467.1 | 5338.7 | 5254.6 | *5104.1* | 4989.0 | 4803.1 | 4657.0 | 4435.7 |
| 45° | 5449.4 | 5524.7 | 5586.6 | 5617.6 | 5533.5 | 5524.7 | *5542.4* | 5489.3 | 5360.9 | 5210.4 | 4958.0 |
| 47.5° | 5591.1 | 5719.5 | 5816.8 | 5883.2 | 5865.5 | 6011.6 | *5918.7* | 5905.4 | 5958.5 | 5812.4 | 5560.1 |
| 50° | 5856.7 | 5892.1 | 6122.3 | 6219.7 | 6383.5 | 6596.0 | *6414.5* | 6458.7 | 6565.0 | 6578.3 | 6113.4 |
| 52.5° | 6055.9 | 6086.9 | 6317.1 | 6604.8 | 6967.8 | 7202.4 | *7038.6* | 7034.2 | 7224.6 | 7277.7 | 6649.1 |
| 55° | 6109.0 | 6179.8 | 6476.4 | 6976.7 | 7658.4 | 7897.4 | *7782.4* | 7742.5 | 7994.8 | 8087.8 | 7122.8 |
| 57.5° | 6033.8 | 6060.3 | 6485.3 | 7206.9 | 8158.6 | 8676.6 | *8712.0* | 8588.0 | 8818.2 | 8840.4 | 7472.5 |
| 60° | 5219.2 | 5334.3 | 6078.0 | 7352.9 | 8583.6 | 9522.1 | *9708.0* | 9637.2 | 9654.9 | 9615.1 | 7733.7 |
| 62.5° | 3607.9 | 3630.0 | 4723.4 | 7198.0 | 8933.3 | 10376.5 | *10686.3* | 10633.2 | 10482.7 | 10106.4 | 7600.9 |
| 65° | 1717.6 | 1837.1 | 2536.6 | 6091.3 | 8982.0 | 11027.2 | *11629.3* | 11664.7 | 10965.2 | 10110.9 | 7087.3 |
| 67.5° | *1182.0* | *1186.4* | *1350.2* | *4298.4* | *7618.6* | *11213.1* | *12133.9* | *11970.1* | *10921.0* | *10017.9* | *6458.7* |
| 70° | 748.1 | 695.0 | 779.1 | 2452.5 | 5148.4 | 8804.9 | *10823.6* | 11399.1 | 10735.0 | 9411.4 | 5458.3 |
| 72.5° | 296.6 | 318.7 | 367.4 | 805.7 | 2523.3 | 5015.6 | *7069.6* | 8676.6 | 9681.5 | 8140.9 | 4263.0 |
| 75° | 132.8 | 141.7 | 185.9 | 336.4 | 650.7 | 2045.2 | *2735.8* | 3833.6 | 7746.9 | 6427.7 | 3019.1 |
| 77.5° | 88.5 | 93.0 | 119.5 | 194.8 | 296.6 | 571.1 | *1000.5* | 1173.1 | 4643.7 | 3514.9 | 1416.6 |
| 80° | 53.1 | 57.5 | 79.7 | 119.5 | 163.8 | 203.6 | *305.5* | 354.1 | 1226.2 | 1164.3 | 389.6 |
| 82.5° | 35.4 | 31.0 | 53.1 | 66.4 | 97.4 | 84.1 | *97.4* | 115.1 | 336.4 | 296.6 | 106.2 |
| 85° | 13.3 | 13.3 | 22.1 | 26.6 | 35.4 | 44.3 | *39.8* | 48.7 | 79.7 | 79.7 | 48.7 |
| 87.5° | 0.0 | 0.0 | 4.4 | 4.4 | 13.3 | 17.7 | *22.1* | 22.1 | 31.0 | 31.0 | 26.6 |
| 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: P1360340
CATALOG NUMBER: GSS-SB4B-727-U-T3-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2098.3 | 2098.3 | 2098.3 | 2098.3 | 2098.3 | 2098.3 | 2098.3 | 2098.3 | 2098.3 | 2098.3 | 2098.3 |
| 2.5° | 2107.2 | 2093.9 | 2098.3 | 2089.5 | 2093.9 | 2085.0 | 2067.3 | 2085.0 | 2071.8 | 2071.8 | 2085.0 |
| 5° | 2120.4 | 2116.0 | 2102.7 | 2080.6 | 2067.3 | 2036.3 | 1987.6 | 1965.5 | 1943.4 | 1930.1 | 1938.9 |
| 7.5° | 2164.7 | 2147.0 | 2124.9 | 2071.8 | 2000.9 | 1908.0 | 1810.6 | 1699.9 | 1615.8 | 1606.9 | 1575.9 |
| 10° | 2222.3 | 2204.6 | 2155.9 | 2036.3 | 1890.3 | 1624.6 | 1412.2 | 1266.1 | 1177.5 | 1120.0 | 1097.9 |
| 12.5° | 2297.5 | 2275.4 | 2186.8 | 1983.2 | 1624.6 | 1252.8 | 1000.5 | 894.2 | 863.2 | 849.9 | 845.5 |
| 15° | 2368.3 | 2341.8 | 2186.8 | 1810.6 | 1314.8 | 942.9 | 814.5 | 788.0 | 783.5 | 788.0 | 783.5 |
| 17.5° | 2434.8 | 2399.3 | 2164.7 | 1575.9 | 1009.3 | 796.8 | 765.8 | 752.6 | 748.1 | 743.7 | 743.7 |
| 20° | 2514.4 | 2456.9 | 2102.7 | 1319.2 | 832.2 | 757.0 | 743.7 | 726.0 | 726.0 | 708.3 | 712.7 |
| 22.5° | 2589.7 | 2510.0 | 1983.2 | 1062.4 | 765.8 | 734.9 | 721.6 | 703.9 | 695.0 | 681.7 | 681.7 |
| 25° | 2664.9 | 2563.1 | 1841.6 | 880.9 | 726.0 | 712.7 | 699.4 | 681.7 | 659.6 | 641.9 | 641.9 |
| 27.5° | 2775.6 | 2634.0 | 1673.3 | 805.7 | 703.9 | 681.7 | 668.4 | 646.3 | 619.8 | 597.6 | 597.6 |
| 30° | 2899.6 | 2731.3 | 1536.1 | 792.4 | 695.0 | 641.9 | 619.8 | 584.3 | 566.6 | 548.9 | 548.9 |
| 32.5° | 3050.1 | 2864.2 | 1434.3 | 814.5 | 672.9 | 588.8 | 553.4 | 517.9 | 504.7 | 504.7 | 504.7 |
| 35° | 3271.4 | 3058.9 | 1323.6 | 819.0 | 646.3 | 535.6 | 478.1 | 442.7 | 442.7 | 460.4 | 460.4 |
| 37.5° | 3568.0 | 3271.4 | 1266.1 | 810.1 | 624.2 | 482.5 | 416.1 | 389.6 | 385.1 | 402.8 | 402.8 |
| 40° | 3908.9 | 3506.0 | 1288.2 | 779.1 | 593.2 | 429.4 | 367.4 | 345.3 | 340.9 | 345.3 | 349.7 |
| 42.5° | 4280.7 | 3758.4 | 1341.3 | 734.9 | 540.1 | 385.1 | 332.0 | 318.7 | 314.3 | 314.3 | 314.3 |
| 45° | 4674.7 | 3931.0 | 1394.4 | 690.6 | 487.0 | 349.7 | 309.9 | 301.0 | 296.6 | 296.6 | 296.6 |
| 47.5° | 5051.0 | 4068.2 | 1359.0 | 650.7 | 442.7 | 327.6 | 292.2 | 292.2 | 287.7 | 287.7 | 287.7 |
| 50° | 5374.2 | 4055.0 | 1208.5 | 610.9 | 394.0 | 309.9 | 283.3 | 278.9 | 278.9 | 274.5 | 274.5 |
| 52.5° | 5555.7 | 3784.9 | 973.9 | 566.6 | 349.7 | 292.2 | 274.5 | 270.0 | 265.6 | 261.2 | 261.2 |
| 55° | 5626.5 | 3426.4 | 757.0 | 500.2 | 318.7 | 278.9 | 265.6 | 261.2 | 252.3 | 247.9 | 243.5 |
| 57.5° | 5502.5 | 2899.6 | 584.3 | 398.4 | 292.2 | 261.2 | 252.3 | 247.9 | 239.0 | 225.8 | 221.3 |
| 60° | 5250.2 | 2324.1 | 438.3 | 305.5 | 261.2 | 239.0 | 239.0 | 234.6 | 216.9 | 194.8 | 190.4 |
| 62.5° | 4807.5 | 1668.9 | 332.0 | 247.9 | 225.8 | 216.9 | 225.8 | 216.9 | 190.4 | 159.4 | 154.9 |
| 65° | 4183.3 | 1031.4 | 256.8 | 212.5 | 199.2 | 190.4 | 203.6 | 194.8 | 163.8 | 128.4 | 119.5 |
| 67.5° | *3497.2* | *526.8* | *199.2* | *181.5* | *168.2* | *159.4* | *172.6* | *172.6* | *141.7* | *106.2* | *101.8* |
| 70° | 2700.4 | 292.2 | 159.4 | 150.5 | 137.2 | 124.0 | 146.1 | 150.5 | 124.0 | 93.0 | 88.5 |
| 72.5° | 2005.3 | 185.9 | 128.4 | 124.0 | 106.2 | 88.5 | 119.5 | 128.4 | 106.2 | 70.8 | 66.4 |
| 75° | 1310.3 | 146.1 | 97.4 | 97.4 | 75.3 | 70.8 | 101.8 | 110.7 | 93.0 | 53.1 | 53.1 |
| 77.5° | 628.6 | 110.7 | 75.3 | 66.4 | 53.1 | 53.1 | 88.5 | 93.0 | 66.4 | 39.8 | 39.8 |
| 80° | 208.1 | 75.3 | 53.1 | 44.3 | 35.4 | 35.4 | 70.8 | 53.1 | 35.4 | 31.0 | 31.0 |
| 82.5° | 70.8 | 48.7 | 35.4 | 31.0 | 26.6 | 22.1 | 22.1 | 26.6 | 26.6 | 22.1 | 22.1 |
| 85° | 35.4 | 31.0 | 26.6 | 22.1 | 17.7 | 17.7 | 17.7 | 17.7 | 22.1 | 22.1 | 22.1 |
| 87.5° | 22.1 | 22.1 | 17.7 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 17.7 | 8.9 | 8.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Peachtree City, GA 30269

# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-3

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-727-U-5WQ

Data in this report applies to families of products including GSS-SB1A-727-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

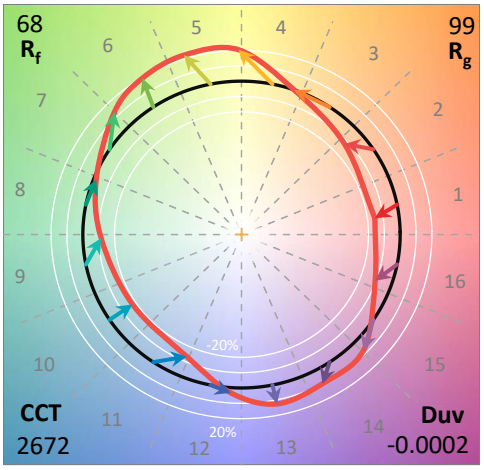
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-3 |
| 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-727-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2700K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2672 |
| CIE u': | 0.2638 |
| CIE v': | 0.5276 |
| Duv: | -0.0002 |
| CIE x: | 0.4619 |
| CIE y: | 0.4106 |
| CIE z: | 0.1275 |
| Peak Wavelength (nm): | 601 |
| Dominant Wavelength (nm): | 584 |
| Purity: | 61.88407 |
| Rf: | 67.9 |
| Rg: | 98.6 |

| | |
|---|---|
| CRI (Ra): | 71.1 |
| R1: | 68.3 |
| R2: | 79.8 |
| R3: | 91.2 |
| R4: | 69.4 |
| R5: | 66.5 |
| R6: | 72.6 |
| R7: | 77.0 |
| R8: | 44.1 |
| R9: | -27.8 |
| R10: | 54.4 |
| R11: | 65.8 |
| R12: | 45.6 |
| R13: | 69.8 |
| R14: | 94.5 |
| R15: | 60.1 |




## Test Conditions

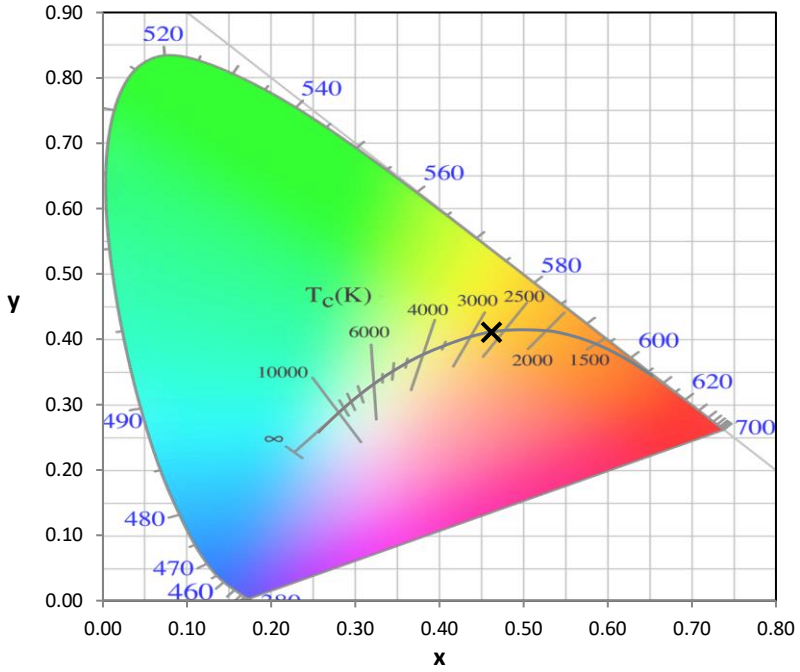
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-3

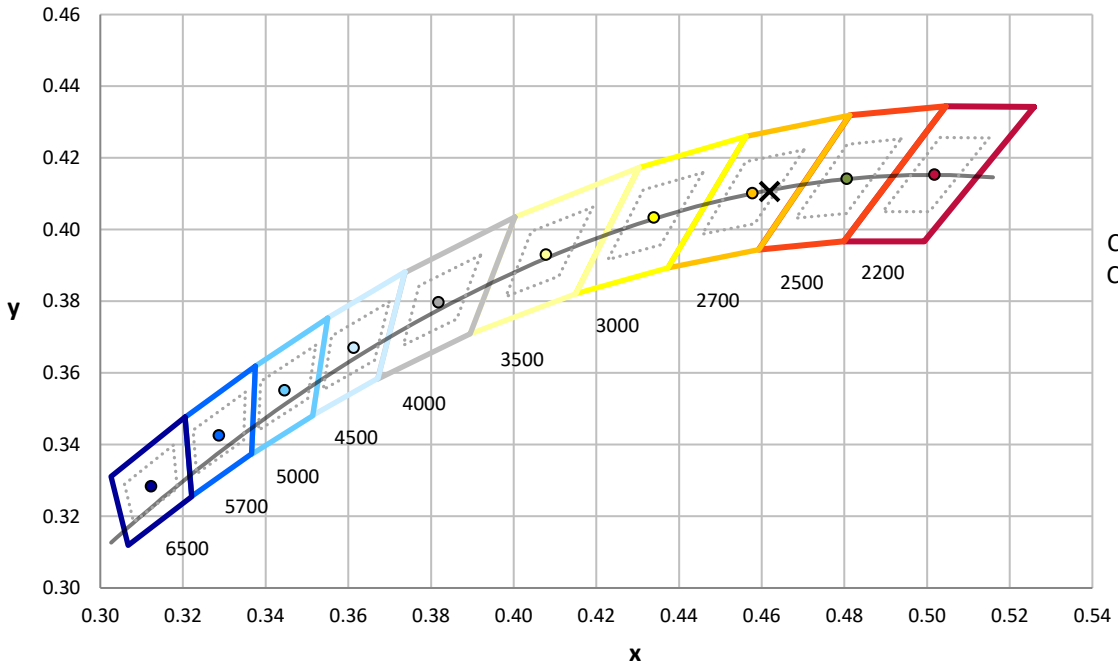
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

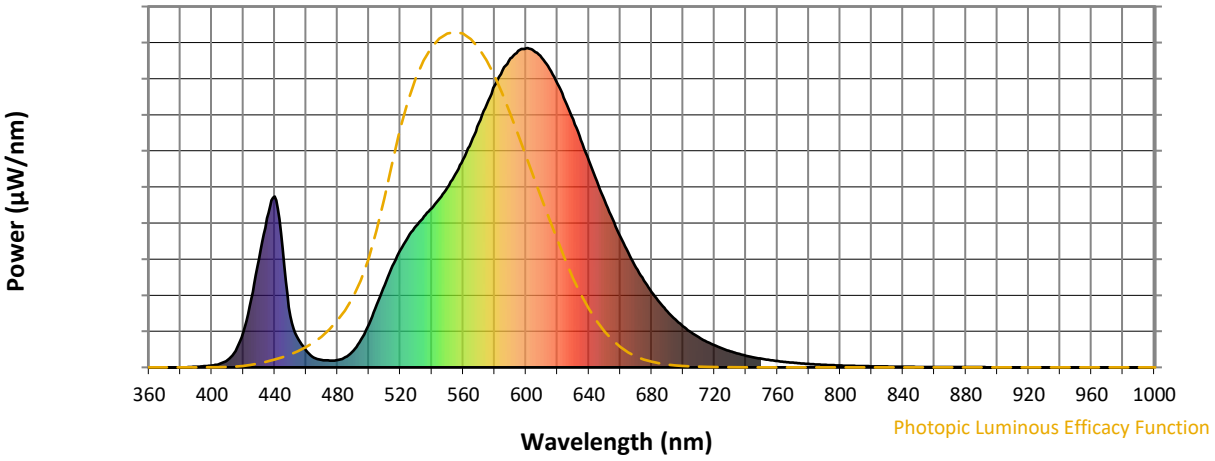



CCT = 2672K
CIE x = 0.4619
CIE y = 0.4106
Duv = -0.0002

Point lies inside the ANSI 2700K 4-step quadrangle

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## Photopic Flux vs. Wavelength

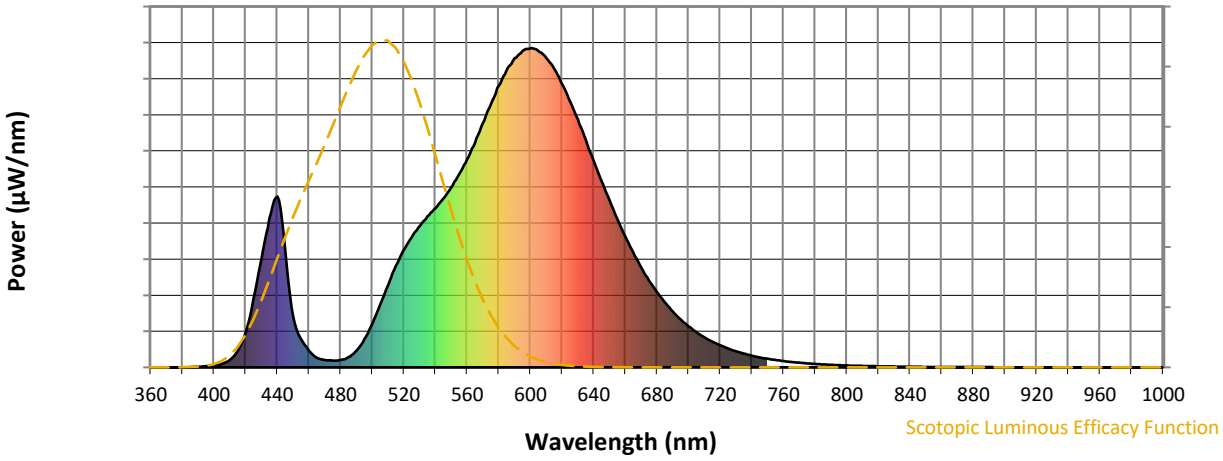



## Photopic Lumens: NR

| 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 | 52 | NR | 620 | 888 | NR | 750 | 27 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 834 | NR | 755 | 23 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 135 | NR | 630 | 776 | NR | 760 | 20 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 196 | NR | 635 | 712 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 258 | NR | 640 | 648 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 317 | NR | 645 | 583 | NR | 775 | 12 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 368 | NR | 650 | 523 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 408 | NR | 655 | 465 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 443 | NR | 660 | 410 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 473 | NR | 665 | 360 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 23 | NR | 540 | 498 | NR | 670 | 313 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 51 | NR | 545 | 530 | NR | 675 | 272 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 111 | NR | 550 | 563 | NR | 680 | 236 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 214 | NR | 555 | 605 | NR | 685 | 203 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 339 | NR | 560 | 651 | NR | 690 | 175 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 467 | NR | 565 | 705 | NR | 695 | 150 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 535 | NR | 570 | 765 | NR | 700 | 128 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 372 | NR | 575 | 824 | NR | 705 | 110 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 160 | NR | 580 | 882 | NR | 710 | 94 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 89 | NR | 585 | 930 | NR | 715 | 80 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 53 | NR | 590 | 968 | NR | 720 | 69 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 31 | NR | 595 | 991 | NR | 725 | 59 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 999 | NR | 730 | 50 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 21 | NR | 605 | 992 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 23 | NR | 610 | 969 | NR | 740 | 36 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 32 | NR | 615 | 935 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

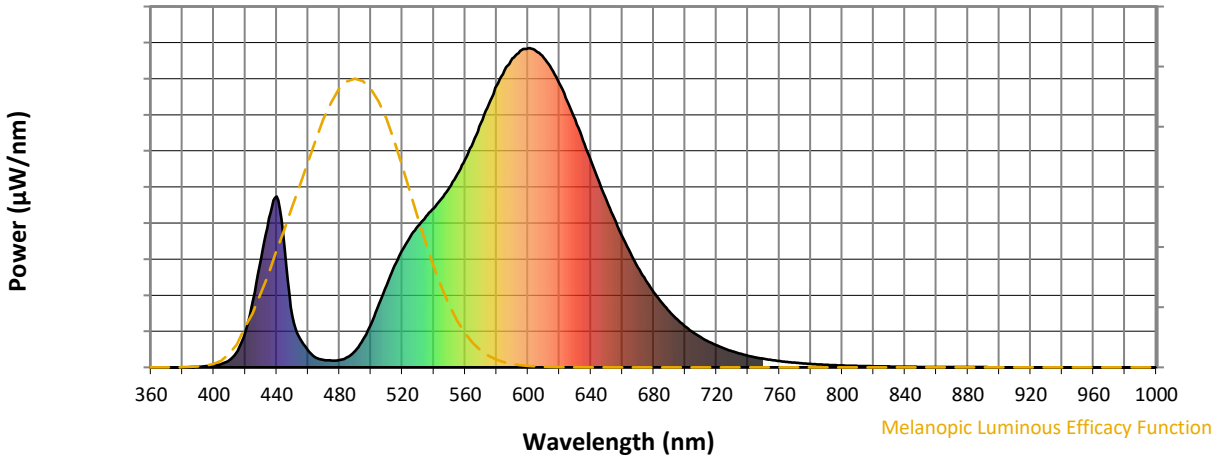



**Scotopic Lumens: NR** **S/P: 1.02**

| 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 | 52 | NR | 620 | 888 | NR | 750 | 27 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 834 | NR | 755 | 23 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 135 | NR | 630 | 776 | NR | 760 | 20 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 196 | NR | 635 | 712 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 258 | NR | 640 | 648 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 317 | NR | 645 | 583 | NR | 775 | 12 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 368 | NR | 650 | 523 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 408 | NR | 655 | 465 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 443 | NR | 660 | 410 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 473 | NR | 665 | 360 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 23 | NR | 540 | 498 | NR | 670 | 313 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 51 | NR | 545 | 530 | NR | 675 | 272 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 111 | NR | 550 | 563 | NR | 680 | 236 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 214 | NR | 555 | 605 | NR | 685 | 203 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 339 | NR | 560 | 651 | NR | 690 | 175 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 467 | NR | 565 | 705 | NR | 695 | 150 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 535 | NR | 570 | 765 | NR | 700 | 128 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 372 | NR | 575 | 824 | NR | 705 | 110 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 160 | NR | 580 | 882 | NR | 710 | 94 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 89 | NR | 585 | 930 | NR | 715 | 80 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 53 | NR | 590 | 968 | NR | 720 | 69 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 31 | NR | 595 | 991 | NR | 725 | 59 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 999 | NR | 730 | 50 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 21 | NR | 605 | 992 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 23 | NR | 610 | 969 | NR | 740 | 36 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 32 | NR | 615 | 935 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 1.71**

| 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 | 52 | NR | 620 | 888 | NR | 750 | 27 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 834 | NR | 755 | 23 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 135 | NR | 630 | 776 | NR | 760 | 20 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 196 | NR | 635 | 712 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 258 | NR | 640 | 648 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 317 | NR | 645 | 583 | NR | 775 | 12 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 368 | NR | 650 | 523 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 408 | NR | 655 | 465 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 443 | NR | 660 | 410 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 473 | NR | 665 | 360 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 23 | NR | 540 | 498 | NR | 670 | 313 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 51 | NR | 545 | 530 | NR | 675 | 272 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 111 | NR | 550 | 563 | NR | 680 | 236 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 214 | NR | 555 | 605 | NR | 685 | 203 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 339 | NR | 560 | 651 | NR | 690 | 175 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 467 | NR | 565 | 705 | NR | 695 | 150 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 535 | NR | 570 | 765 | NR | 700 | 128 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 372 | NR | 575 | 824 | NR | 705 | 110 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 160 | NR | 580 | 882 | NR | 710 | 94 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 89 | NR | 585 | 930 | NR | 715 | 80 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 53 | NR | 590 | 968 | NR | 720 | 69 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 31 | NR | 595 | 991 | NR | 725 | 59 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 999 | NR | 730 | 50 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 21 | NR | 605 | 992 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 23 | NR | 610 | 969 | NR | 740 | 36 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 32 | NR | 615 | 935 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

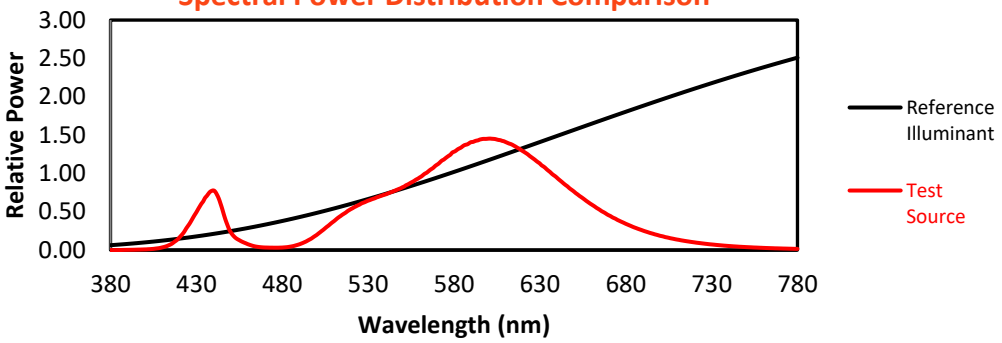
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# TM-30-18

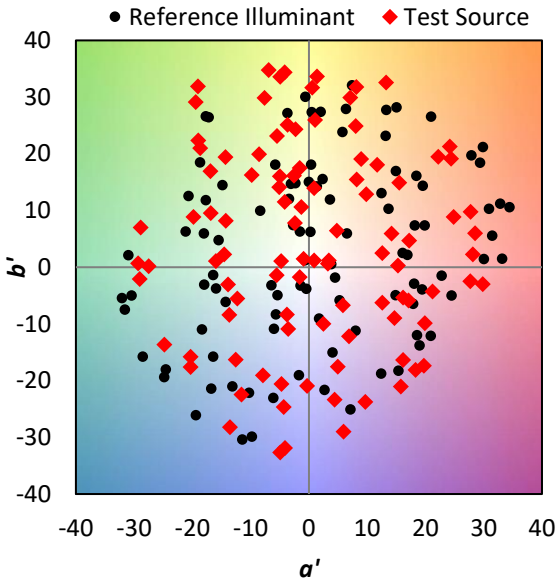
## Summary

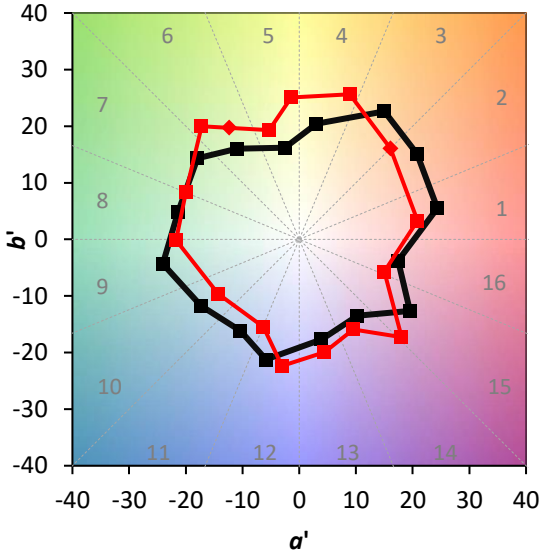
$R_f$ = 67.9
$R_g$ = 98.6
CIE $R_a$ = 71.1
$R_9$ = -27.8

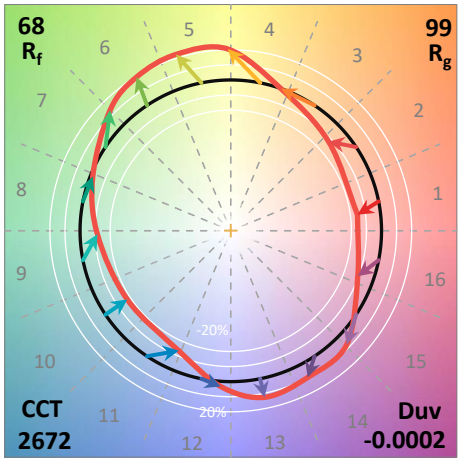
## Spectral Power Distribution Comparison

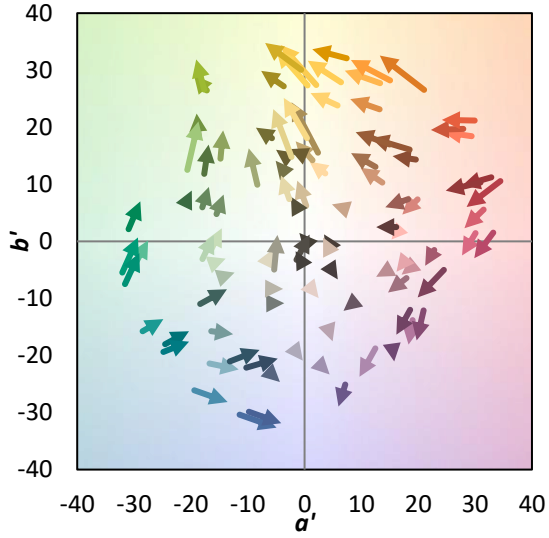



## Color Vector Graphics



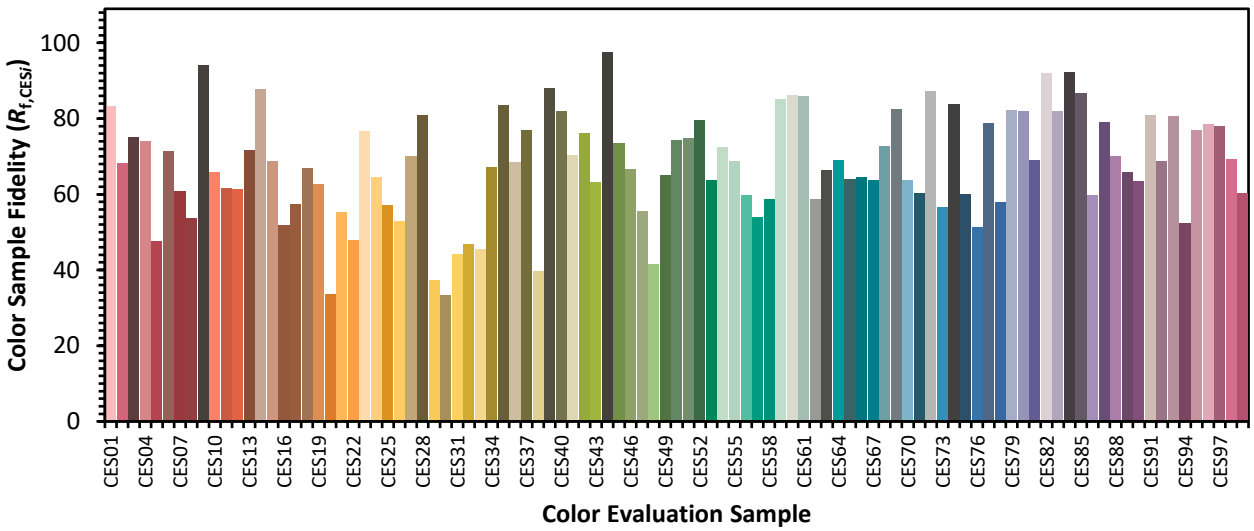



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**Individual Sample Fidelity Index ($R_{f,i}$)**

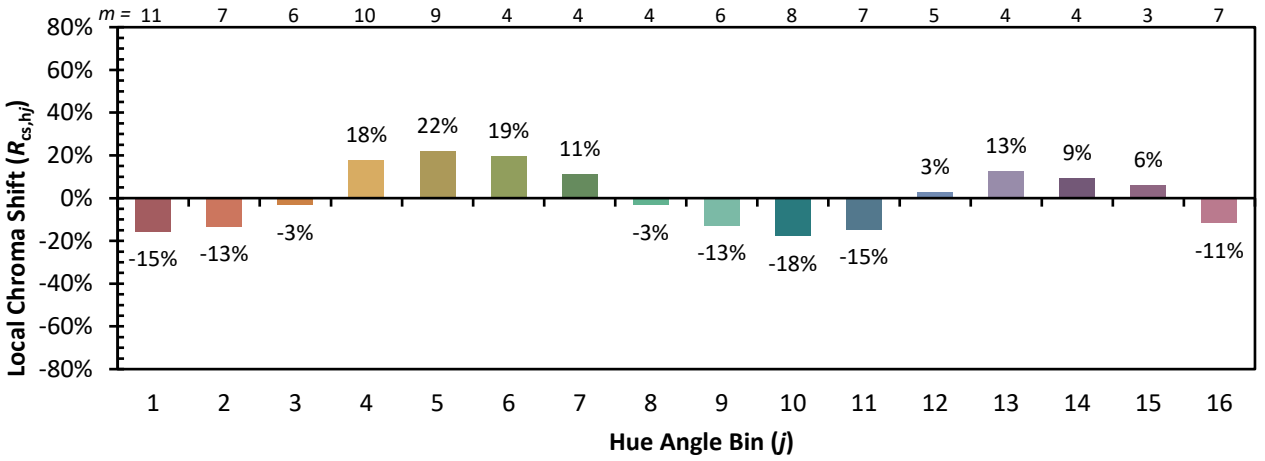
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 53 | CES51 = 75 | CES76 = 51 |
| CES02 = 63 | CES27 = 70 | CES52 = 80 | CES77 = 79 |
| CES03 = 31 | CES28 = 81 | CES53 = 64 | CES78 = 58 |
| CES04 = 71 | CES29 = 37 | CES54 = 73 | CES79 = 82 |
| CES05 = 50 | CES30 = 33 | CES55 = 69 | CES80 = 82 |
| CES06 = 52 | CES31 = 44 | CES56 = 60 | CES81 = 69 |
| CES07 = 42 | CES32 = 47 | CES57 = 54 | CES82 = 92 |
| CES08 = 41 | CES33 = 45 | CES58 = 59 | CES83 = 82 |
| CES09 = 29 | CES34 = 67 | CES59 = 85 | CES84 = 92 |
| CES10 = 77 | CES35 = 84 | CES60 = 86 | CES85 = 87 |
| CES11 = 60 | CES36 = 68 | CES61 = 86 | CES86 = 60 |
| CES12 = 66 | CES37 = 77 | CES62 = 59 | CES87 = 79 |
| CES13 = 44 | CES38 = 40 | CES63 = 66 | CES88 = 70 |
| CES14 = 74 | CES39 = 88 | CES64 = 69 | CES89 = 66 |
| CES15 = 72 | CES40 = 82 | CES65 = 64 | CES90 = 64 |
| CES16 = 48 | CES41 = 70 | CES66 = 65 | CES91 = 81 |
| CES17 = 51 | CES42 = 76 | CES67 = 64 | CES92 = 69 |
| CES18 = 57 | CES43 = 63 | CES68 = 73 | CES93 = 81 |
| CES19 = 73 | CES44 = 97 | CES69 = 83 | CES94 = 53 |
| CES20 = 67 | CES45 = 74 | CES70 = 64 | CES95 = 77 |
| CES21 = 88 | CES46 = 67 | CES71 = 60 | CES96 = 79 |
| CES22 = 80 | CES47 = 55 | CES72 = 87 | CES97 = 78 |
| CES23 = 92 | CES48 = 42 | CES73 = 57 | CES98 = 69 |
| CES24 = 92 | CES49 = 65 | CES74 = 84 | CES99 = 60 |
| CES25 = 73 | CES50 = 74 | CES75 = 60 | |

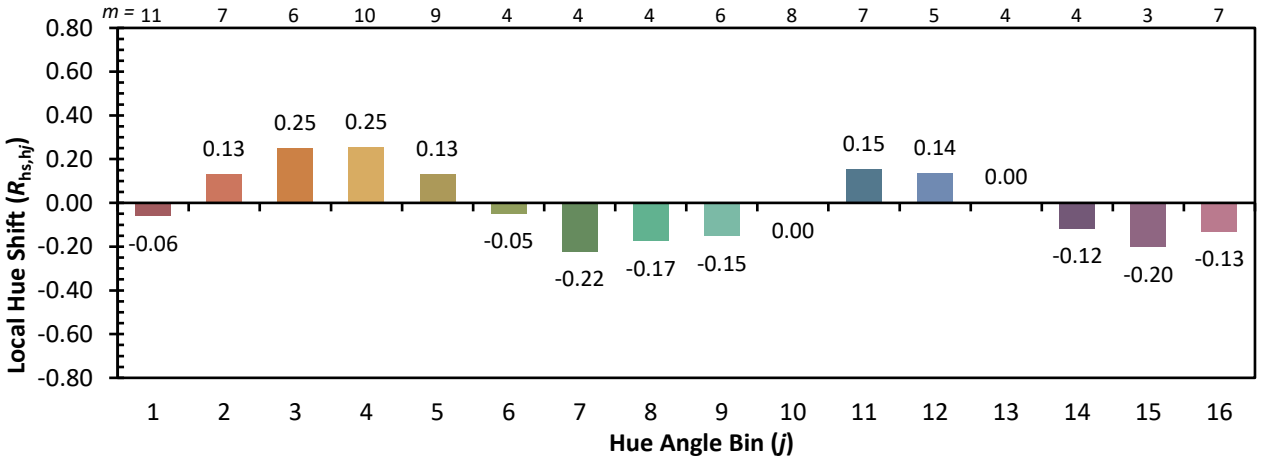


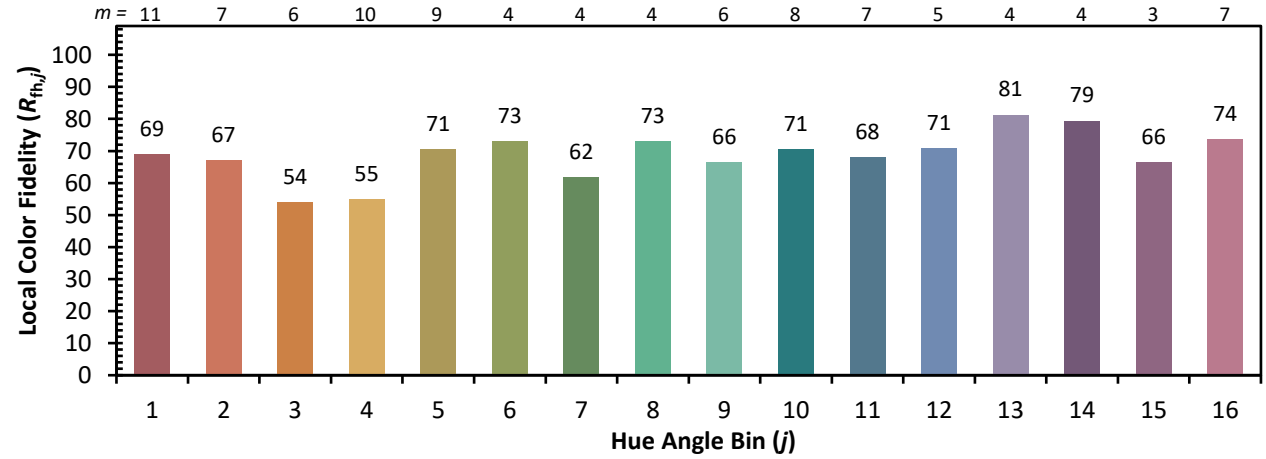
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## Color Rendition by Hue-Angle Bin



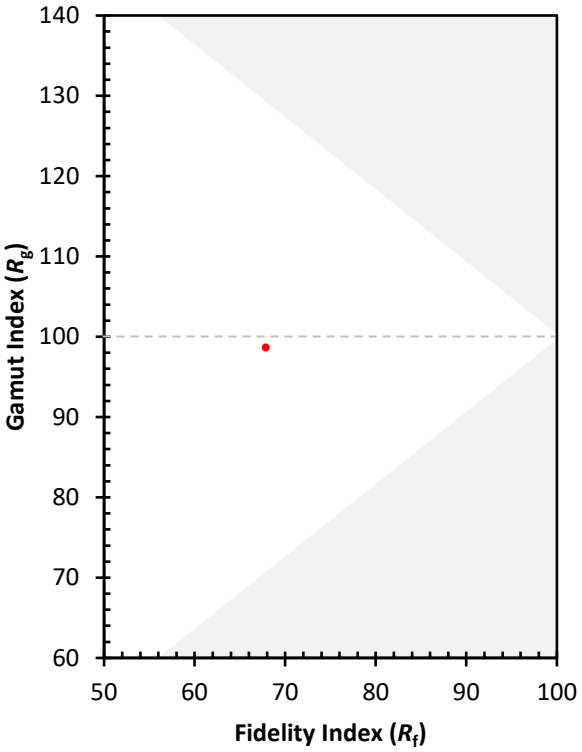



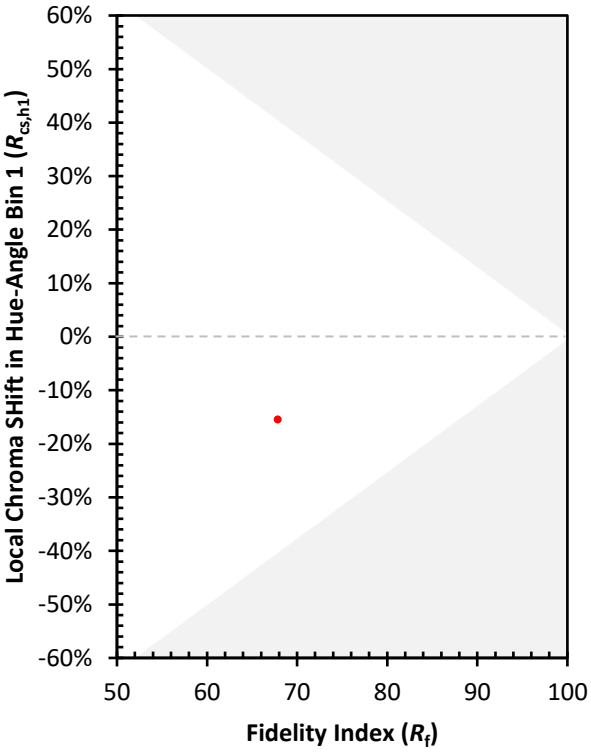



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## Measure Comparisons




(END OF REPORT)