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: P1366099

Luminaire Tested: **GSS-SB4A-727-U-T2R-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: | P1366099 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB4A-727-U-T2R-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 4SQUARE 114W 70CRI 2700K FIXTURE w/ TYPE II ROADWAY 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: | 13618.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 119.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B1 - U0 - G2 |

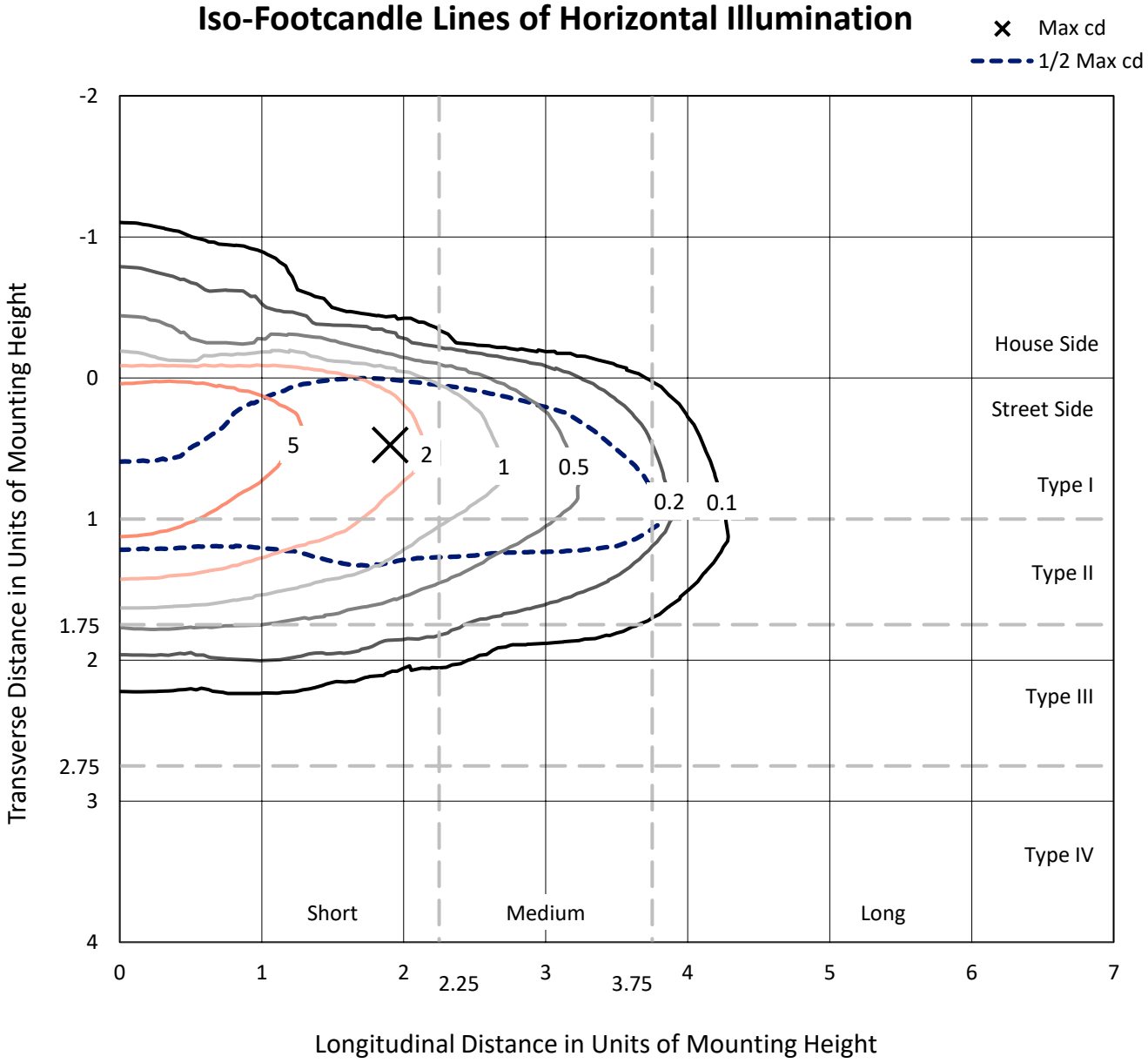
| | |
|---|---|
| Input Watts (W): | 114 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 8.2% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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REPORT NUMBER: P1366099
CATALOG NUMBER: GSS-SB4A-727-U-T2R-HSS

## Iso-Footcandle Lines of Horizontal Illumination



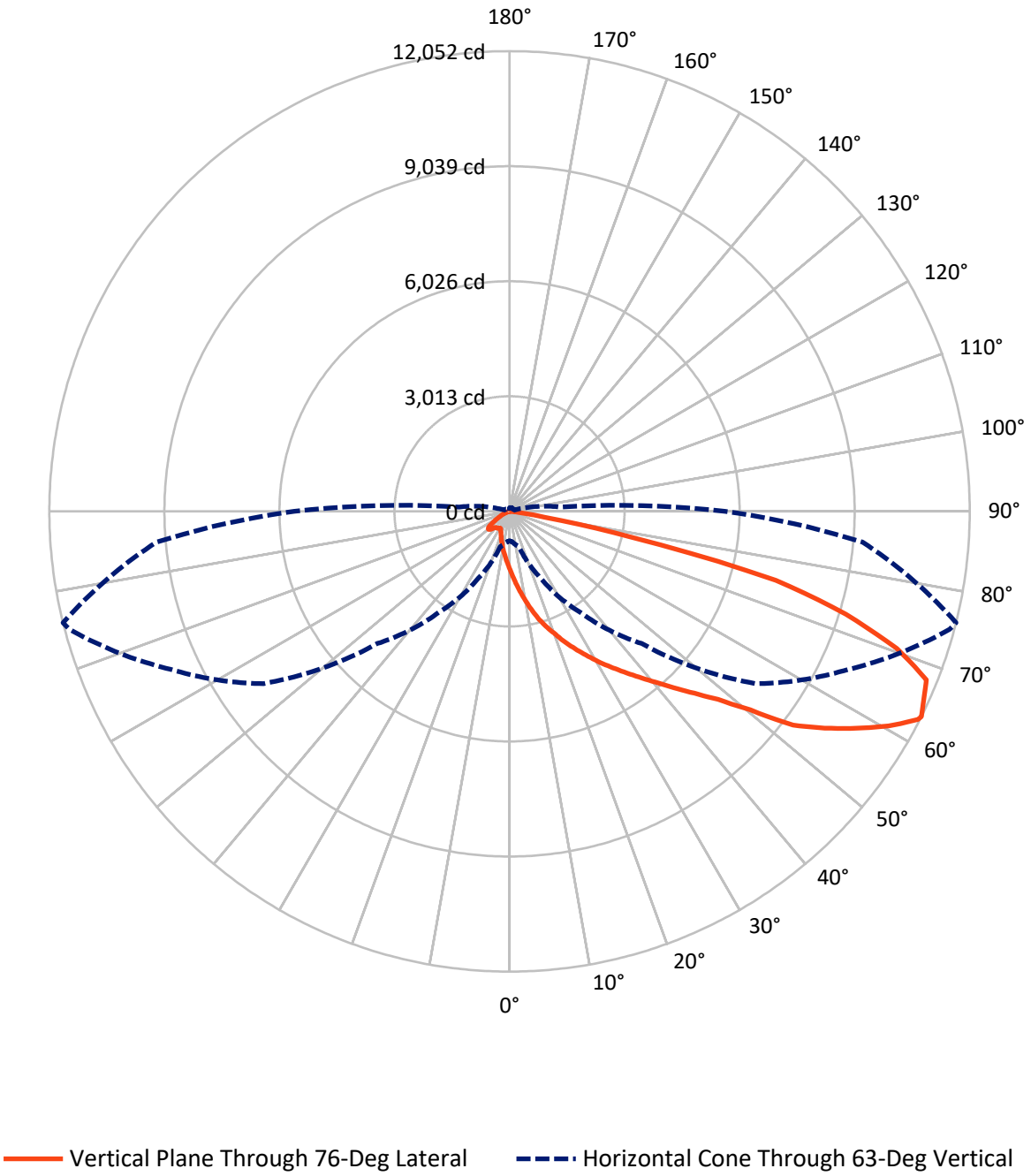

Based on 20 foot mounting height. Maximum calculated value = 9.6 fc
Type II - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

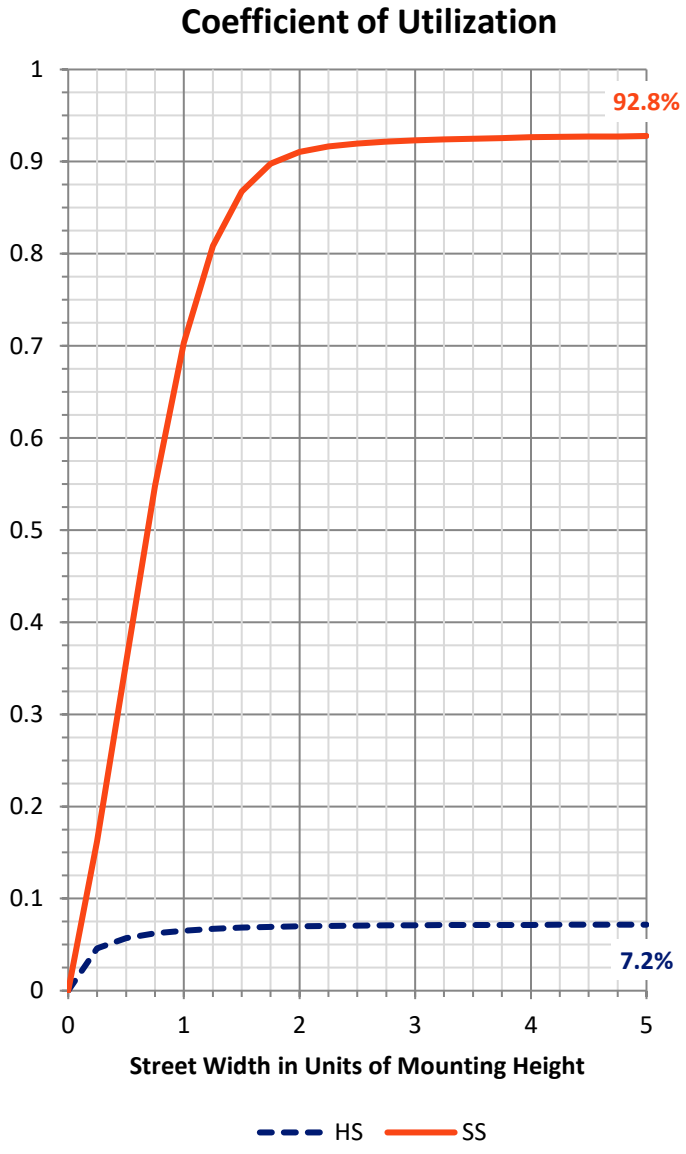
REPORT NUMBER: P1366099
CATALOG NUMBER: GSS-SB4A-727-U-T2R-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 981.3 | 0.0 | 981.3 |
| | % Fixture | 7.2 | 0.0 | 7.2 |
| **Street Side** | Lumens | 12637.0 | 0.0 | 12637.0 |
| | % Fixture | 92.8 | 0.0 | 92.8 |
| **Total** | Lumens | 13618.2 | 0.0 | 13618.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 158.8 | 1.2 |
| 10°-20° | 568.3 | 4.2 |
| 20°-30° | 1108.0 | 8.1 |
| 30°-40° | 1946.1 | 14.3 |
| 40°-50° | 2847.4 | 20.9 |
| 50°-60° | 3304.0 | 24.3 |
| 60°-70° | 2604.0 | 19.1 |
| 70°-80° | 1035.0 | 7.6 |
| 80°-90° | 46.7 | 0.3 |
| 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° | 13618.2 | 100.0 |
| 0°-180° | 13618.2 | 100.0 |



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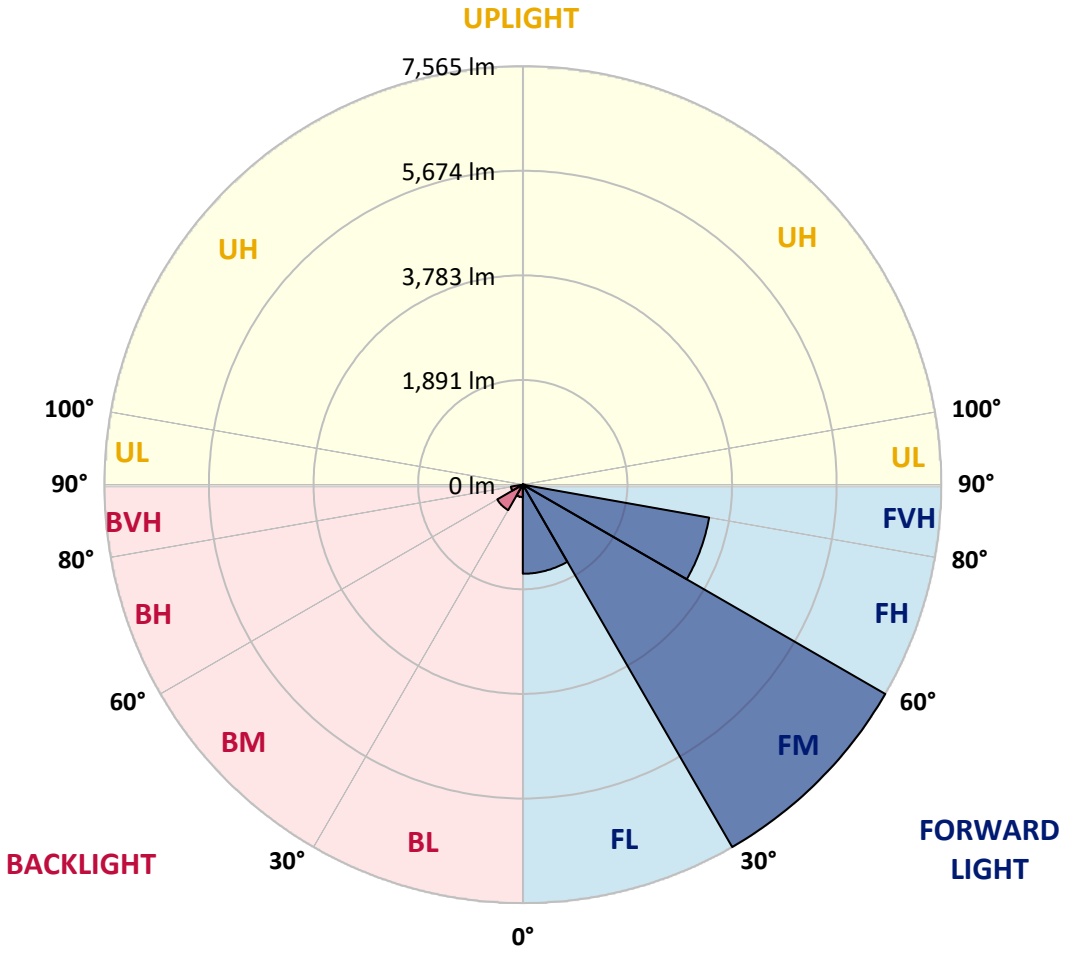
Scaled Data Report

REPORT NUMBER: P1366099
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## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1610.4 | 11.8 | | | |
| FM | (30°-60°) | 7565.2 | 55.6 | | | |
| FH | (60°-80°) | 3420.6 | 25.1 | | | G2/5000 |
| FVH | (80°-90°) | 40.8 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 224.7 | 1.7 | B1/500 | | |
| BM | (30°-60°) | 532.3 | 3.9 | B1/1000 | | |
| BH | (60°-80°) | 218.4 | 1.6 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 5.9 | 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 II Short



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REPORT NUMBER: P1366099
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | *1522.4* | 1522.4 |
| 2.5° | 2182.4 | 2171.1 | 2171.1 | 2129.9 | 2069.9 | 2006.2 | 1916.2 | 1814.9 | 1713.7 | *1709.9* | 1597.4 |
| 5° | 2707.4 | 2692.4 | 2673.6 | 2624.9 | 2546.1 | 2441.1 | 2321.1 | 2144.9 | 1934.9 | *1927.4* | 1706.2 |
| 7.5° | 3048.6 | 3052.4 | 3026.1 | 3003.6 | 2951.1 | 2838.6 | 2684.9 | 2467.4 | 2193.6 | *2159.9* | 1848.7 |
| 10° | 3356.1 | 3337.3 | 3333.6 | 3329.8 | 3292.3 | 3183.6 | 3037.4 | 2782.4 | 2448.6 | *2414.9* | 2006.2 |
| 12.5° | 3547.3 | 3539.8 | 3566.1 | 3588.6 | 3581.1 | 3536.1 | 3367.3 | 3112.4 | 2718.6 | *2677.4* | 2163.7 |
| 15° | 3607.3 | 3614.8 | 3678.6 | 3749.8 | 3809.8 | 3824.8 | 3682.3 | 3419.8 | 2973.6 | *2947.4* | 2343.6 |
| 17.5° | 3562.3 | 3573.6 | 3663.6 | 3791.1 | 3937.3 | 4049.8 | 3986.1 | 3708.6 | 3247.4 | *3198.6* | 2504.9 |
| 20° | 3581.1 | 3592.3 | 3674.8 | 3794.8 | 3986.1 | 4177.3 | 4233.6 | 4016.1 | 3491.1 | *3438.6* | 2692.4 |
| 22.5° | 3896.1 | 3911.1 | 3929.8 | 3929.8 | 4061.1 | 4267.3 | 4394.8 | 4304.8 | 3768.6 | *3716.1* | 2898.6 |
| 25° | 4586.0 | 4574.8 | 4473.5 | 4308.6 | 4312.3 | 4402.3 | 4541.0 | 4544.8 | 4049.8 | *3986.1* | 3086.1 |
| 27.5° | 5272.3 | 5302.3 | 5171.0 | 4927.3 | 4736.0 | 4649.8 | 4709.8 | 4758.5 | 4319.8 | *4256.1* | 3296.1 |
| 30° | 5906.0 | 5887.2 | 5748.5 | 5497.2 | 5257.3 | 5058.5 | 4931.0 | 4957.3 | 4608.5 | *4559.8* | 3506.1 |
| 32.5° | 6404.7 | 6412.2 | 6254.7 | 5977.2 | 5714.7 | 5542.2 | 5279.8 | 5171.0 | 4889.8 | *4852.3* | 3731.1 |
| 35° | 6824.7 | 6802.2 | 6610.9 | 6341.0 | 6097.2 | 5984.7 | 5707.2 | 5403.5 | 5212.3 | *5163.5* | 3967.3 |
| 37.5° | 7225.9 | 7210.9 | 6974.7 | 6614.7 | 6393.5 | 6341.0 | 6183.5 | 5711.0 | 5546.0 | *5508.5* | 4267.3 |
| 40° | 7495.9 | 7480.9 | 7278.4 | 6925.9 | 6659.7 | 6614.7 | 6607.2 | 6093.5 | 5906.0 | *5879.7* | 4574.8 |
| 42.5° | 7559.7 | 7540.9 | 7398.4 | 7135.9 | 6899.7 | 6850.9 | 7012.2 | 6509.7 | 6356.0 | *6311.0* | 4934.8 |
| 45° | 7432.2 | 7450.9 | 7353.4 | 7195.9 | 7083.4 | 7027.2 | 7345.9 | 6963.4 | 6817.2 | *6790.9* | 5321.0 |
| 47.5° | 7064.7 | 7072.2 | 7064.7 | 7113.4 | 7135.9 | 7237.2 | 7653.4 | 7454.7 | 7353.4 | *7357.2* | 5816.0 |
| 50° | 6397.2 | 6386.0 | 6502.2 | 6772.2 | 7038.4 | 7387.2 | 8050.9 | 8095.9 | 8193.4 | *8170.9* | 6554.7 |
| 52.5° | 5092.3 | 5111.0 | 5613.5 | 6108.5 | 6757.2 | 7372.2 | 8350.9 | 8898.3 | 9295.8 | *9295.8* | 7353.4 |
| 55° | 4106.1 | 4121.1 | 4451.0 | 5287.3 | 6187.2 | 7210.9 | 8515.9 | 9310.8 | 10023.3 | *10019.5* | 7923.4 |
| 57.5° | 3356.1 | 3382.3 | 3644.8 | 4304.8 | 5336.0 | 6745.9 | 8583.4 | 9633.3 | 10649.5 | *10717.0* | 8508.4 |
| 60° | 1878.7 | 2024.9 | 2546.1 | 3412.3 | 4394.8 | 6022.2 | 8478.4 | 9907.0 | 11332.0 | *11410.7* | 9104.6 |
| 62.5° | 851.2 | 870.0 | 1106.2 | 2107.4 | 3423.6 | 5099.8 | 7990.9 | 9839.5 | 11946.9 | *12006.9* | 9299.6 |
| 63° | *772.5* | *802.5* | *960.0* | *1927.4* | *3228.6* | *4893.5* | *7867.1* | *9790.8* | *11935.7* | *12051.9* | *9284.6* |
| 65° | 607.5 | 626.2 | 667.5 | 1244.9 | 2163.7 | 4016.1 | 7034.7 | 8988.3 | 11778.2 | *11917.0* | 8954.6 |
| 67.5° | 498.7 | 498.7 | 532.5 | 776.2 | 1196.2 | 2763.6 | 5216.0 | 7848.4 | 11613.2 | *11774.5* | 8534.6 |
| 70° | 423.7 | 423.7 | 446.2 | 547.5 | 712.5 | 1334.9 | 3753.6 | 6715.9 | 10630.8 | *10762.0* | 7428.4 |
| 72.5° | 307.5 | 322.5 | 356.2 | 427.5 | 491.2 | 753.7 | 1927.4 | 5156.0 | 9097.1 | *9213.3* | 6232.2 |
| 75° | 251.2 | 258.7 | 288.7 | 326.2 | 337.5 | 453.7 | 678.7 | 3839.8 | 7158.4 | *7203.4* | 4323.6 |
| 77.5° | 131.2 | 142.5 | 236.2 | 266.2 | 258.7 | 277.5 | 330.0 | 2092.4 | 3479.8 | *3243.6* | 1402.4 |
| 80° | 56.2 | 56.2 | 168.7 | 172.5 | 183.7 | 131.2 | 157.5 | 480.0 | 997.5 | *930.0* | 285.0 |
| 82.5° | 15.0 | 18.7 | 135.0 | 120.0 | 123.7 | 60.0 | 67.5 | 153.7 | 255.0 | *240.0* | 82.5 |
| 85° | 7.5 | 11.2 | 33.7 | 30.0 | 37.5 | 22.5 | 30.0 | 60.0 | 45.0 | *45.0* | 33.7 |
| 87.5° | 0.0 | 0.0 | 3.7 | 3.7 | 3.7 | 7.5 | 11.2 | 18.7 | 22.5 | *22.5* | 22.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 |

Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P1366099
CATALOG NUMBER: GSS-SB4A-727-U-T2R-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 | 1522.4 |
| 2.5° | 1537.4 | 1473.7 | 1357.4 | 1252.4 | 1147.4 | 1050.0 | 971.2 | 933.7 | 881.2 | 888.7 | 881.2 |
| 5° | 1578.7 | 1451.2 | 1207.4 | 990.0 | 828.7 | 701.2 | 618.7 | 573.7 | 536.2 | 528.7 | 536.2 |
| 7.5° | 1642.4 | 1443.7 | 1080.0 | 791.2 | 607.5 | 525.0 | 491.2 | 476.2 | 465.0 | 461.2 | 465.0 |
| 10° | 1724.9 | 1447.4 | 963.7 | 641.2 | 513.7 | 476.2 | 453.7 | 438.7 | 427.5 | 427.5 | 423.7 |
| 12.5° | 1814.9 | 1451.2 | 847.5 | 543.7 | 468.7 | 442.5 | 420.0 | 405.0 | 393.7 | 390.0 | 390.0 |
| 15° | 1901.2 | 1451.2 | 750.0 | 487.5 | 438.7 | 412.5 | 393.7 | 375.0 | 363.7 | 356.2 | 360.0 |
| 17.5° | 1987.4 | 1443.7 | 656.2 | 453.7 | 412.5 | 386.2 | 363.7 | 345.0 | 333.7 | 326.2 | 326.2 |
| 20° | 2084.9 | 1436.2 | 573.7 | 423.7 | 386.2 | 360.0 | 333.7 | 318.7 | 307.5 | 300.0 | 300.0 |
| 22.5° | 2186.1 | 1421.2 | 510.0 | 393.7 | 356.2 | 330.0 | 307.5 | 288.7 | 277.5 | 270.0 | 270.0 |
| 25° | 2283.6 | 1406.2 | 453.7 | 367.5 | 333.7 | 303.7 | 281.2 | 262.5 | 247.5 | 243.7 | 243.7 |
| 27.5° | 2388.6 | 1387.4 | 412.5 | 341.2 | 307.5 | 281.2 | 255.0 | 236.2 | 225.0 | 221.2 | 221.2 |
| 30° | 2516.1 | 1398.7 | 397.5 | 315.0 | 285.0 | 258.7 | 236.2 | 217.5 | 206.2 | 206.2 | 206.2 |
| 32.5° | 2636.1 | 1406.2 | 416.2 | 303.7 | 262.5 | 236.2 | 213.7 | 198.7 | 191.2 | 191.2 | 191.2 |
| 35° | 2771.1 | 1421.2 | 435.0 | 315.0 | 247.5 | 217.5 | 198.7 | 187.5 | 176.2 | 176.2 | 176.2 |
| 37.5° | 2928.6 | 1424.9 | 450.0 | 330.0 | 243.7 | 202.5 | 191.2 | 176.2 | 168.7 | 168.7 | 168.7 |
| 40° | 3198.6 | 1484.9 | 450.0 | 341.2 | 243.7 | 187.5 | 172.5 | 161.2 | 153.7 | 153.7 | 153.7 |
| 42.5° | 3532.3 | 1672.4 | 442.5 | 345.0 | 247.5 | 183.7 | 161.2 | 153.7 | 146.2 | 146.2 | 146.2 |
| 45° | 3884.8 | 1889.9 | 491.2 | 326.2 | 247.5 | 183.7 | 150.0 | 150.0 | 138.7 | 138.7 | 138.7 |
| 47.5° | 4297.3 | 2107.4 | 540.0 | 296.2 | 251.2 | 183.7 | 146.2 | 135.0 | 131.2 | 131.2 | 131.2 |
| 50° | 4833.5 | 2249.9 | 555.0 | 262.5 | 243.7 | 183.7 | 138.7 | 131.2 | 123.7 | 127.5 | 127.5 |
| 52.5° | 5249.8 | 2246.1 | 536.2 | 228.7 | 228.7 | 180.0 | 131.2 | 127.5 | 123.7 | 123.7 | 123.7 |
| 55° | 5594.7 | 2186.1 | 438.7 | 195.0 | 202.5 | 153.7 | 127.5 | 127.5 | 120.0 | 120.0 | 120.0 |
| 57.5° | 5864.7 | 1998.7 | 315.0 | 165.0 | 168.7 | 127.5 | 123.7 | 123.7 | 120.0 | 116.2 | 116.2 |
| 60° | 5988.5 | 1694.9 | 217.5 | 142.5 | 138.7 | 116.2 | 116.2 | 116.2 | 112.5 | 108.7 | 108.7 |
| 62.5° | 5767.2 | 1387.4 | 157.5 | 123.7 | 112.5 | 105.0 | 108.7 | 108.7 | 101.2 | 93.7 | 90.0 |
| 63° | *5643.5* | *1323.7* | *150.0* | *120.0* | *108.7* | *105.0* | *108.7* | *108.7* | *101.2* | *90.0* | *86.2* |
| 65° | 5234.8 | 1068.7 | 131.2 | 108.7 | 97.5 | 93.7 | 101.2 | 97.5 | 86.2 | 67.5 | 67.5 |
| 67.5° | 4683.5 | 708.7 | 112.5 | 97.5 | 86.2 | 82.5 | 86.2 | 86.2 | 75.0 | 60.0 | 56.2 |
| 70° | 3993.6 | 446.2 | 93.7 | 78.7 | 71.2 | 63.7 | 67.5 | 75.0 | 63.7 | 48.7 | 45.0 |
| 72.5° | 3277.3 | 311.2 | 75.0 | 63.7 | 56.2 | 45.0 | 56.2 | 63.7 | 52.5 | 37.5 | 37.5 |
| 75° | 2208.6 | 198.7 | 60.0 | 48.7 | 41.2 | 37.5 | 45.0 | 48.7 | 41.2 | 26.2 | 26.2 |
| 77.5° | 697.5 | 101.2 | 48.7 | 37.5 | 30.0 | 26.2 | 30.0 | 33.7 | 22.5 | 15.0 | 15.0 |
| 80° | 153.7 | 60.0 | 33.7 | 26.2 | 22.5 | 18.7 | 18.7 | 11.2 | 7.5 | 7.5 | 3.7 |
| 82.5° | 56.2 | 37.5 | 26.2 | 18.7 | 15.0 | 11.2 | 7.5 | 7.5 | 3.7 | 0.0 | 0.0 |
| 85° | 30.0 | 22.5 | 15.0 | 11.2 | 11.2 | 7.5 | 7.5 | 3.7 | 0.0 | 0.0 | 0.0 |
| 87.5° | 18.7 | 15.0 | 11.2 | 11.2 | 7.5 | 7.5 | 3.7 | 3.7 | 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: SP1-2407-184-3

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

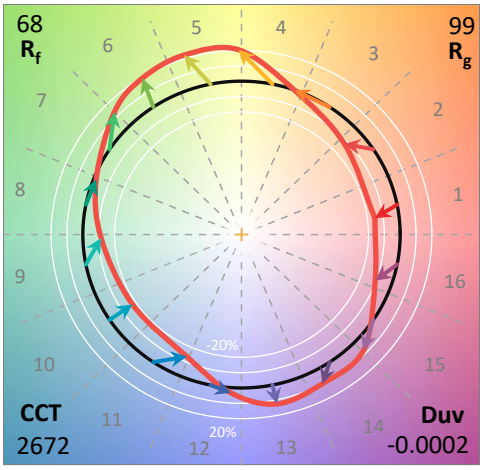
## Test Information

| | |
|---|---|
| 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

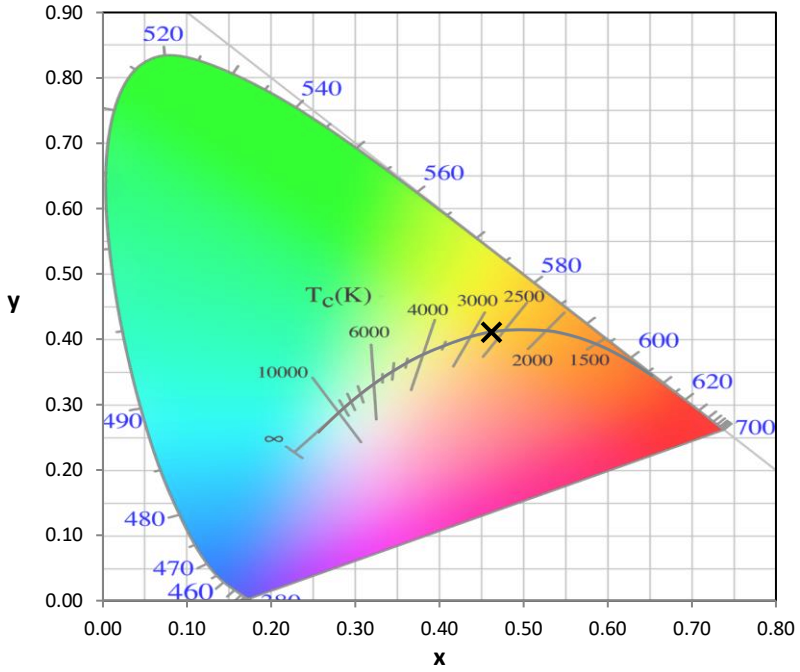
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-3

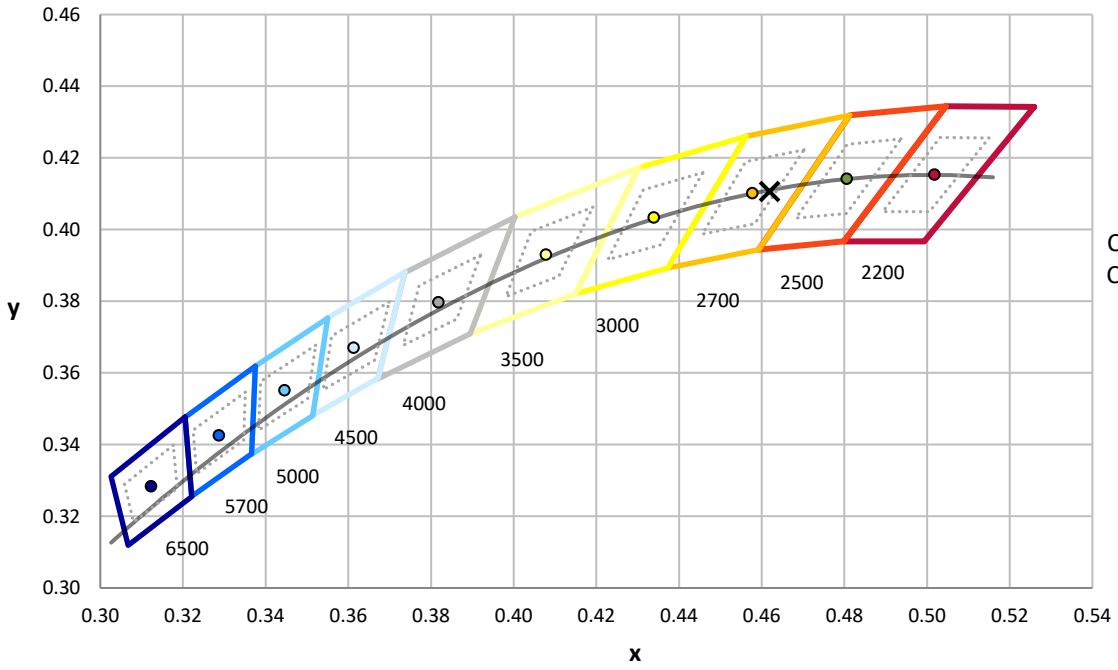
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

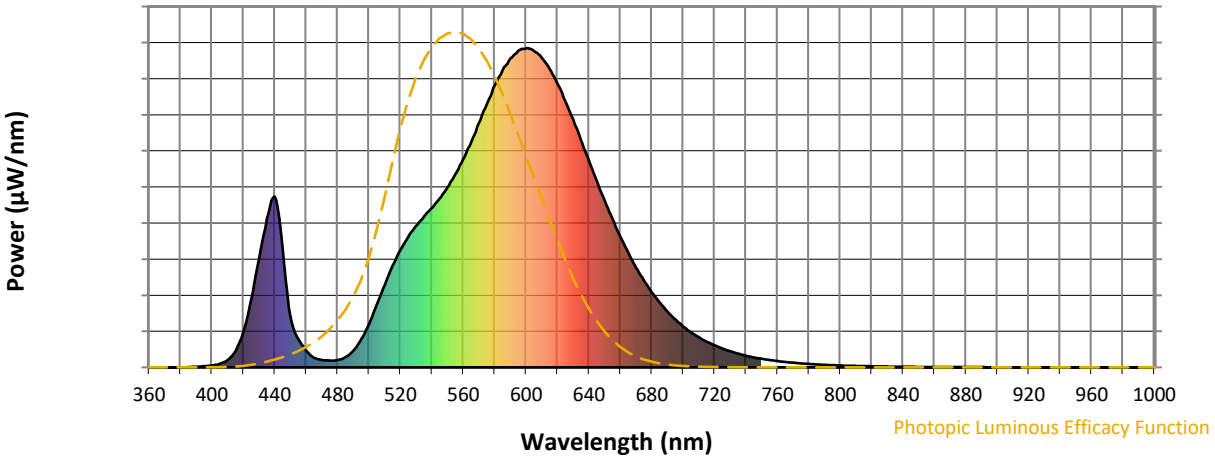



CCT = 2672K
CIE x = 0.4619
CIE y = 0.4106
Duv = -0.0002

Point lies inside the ANSI 2700K 4-step quadrangle

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## Photopic Flux vs. Wavelength

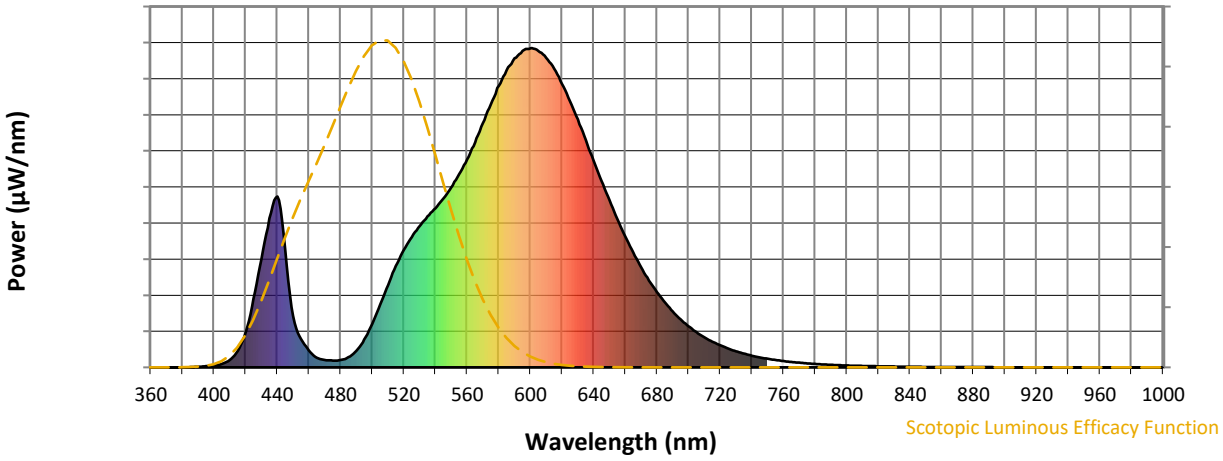



## Photopic Lumens: NR

| 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

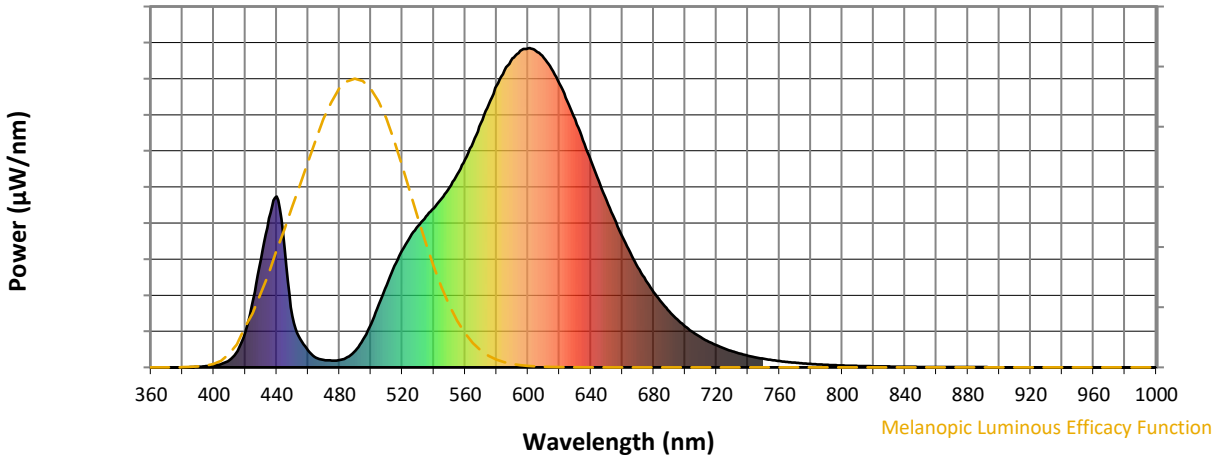



**Scotopic Lumens: NR** **S/P: 1.02**

| 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 | | | |

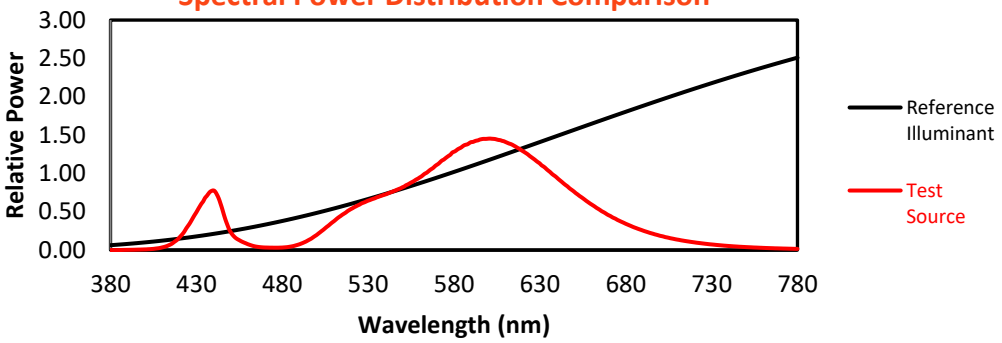
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# TM-30-18

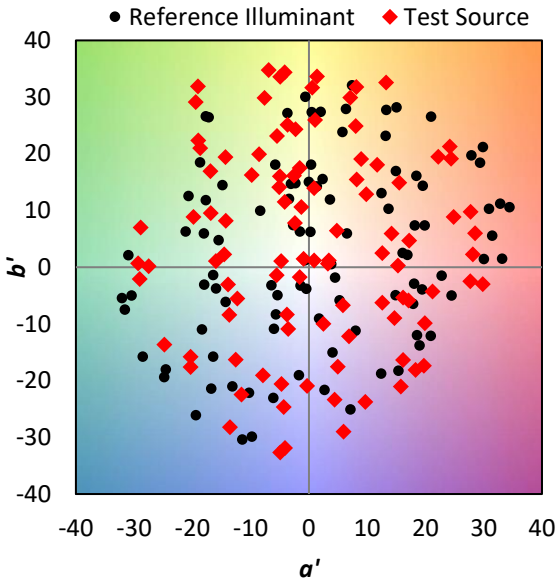
## Summary

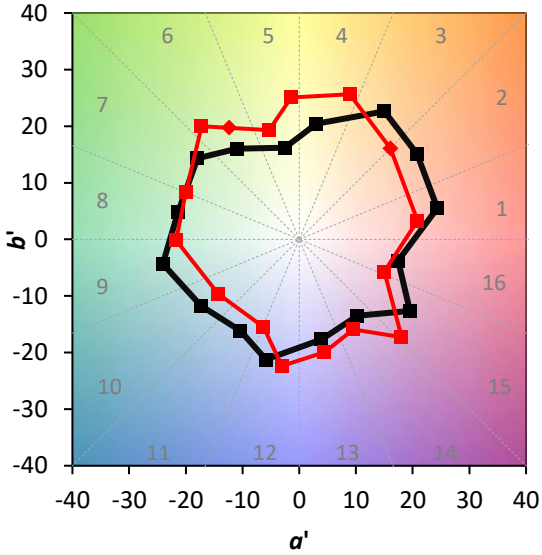
$R_f$ = 67.9
$R_g$ = 98.6
CIE $R_a$ = 71.1
$R_9$ = -27.8

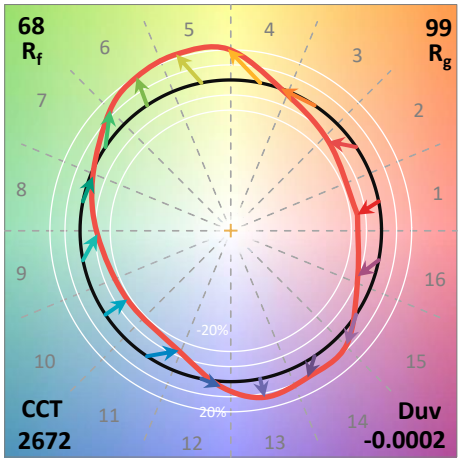
## Spectral Power Distribution Comparison

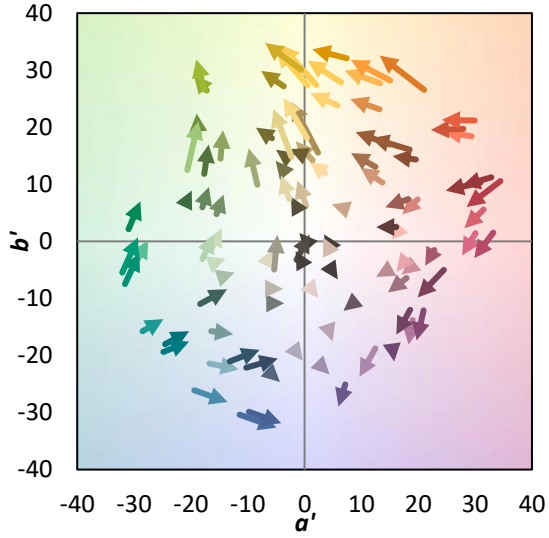



## Color Vector Graphics



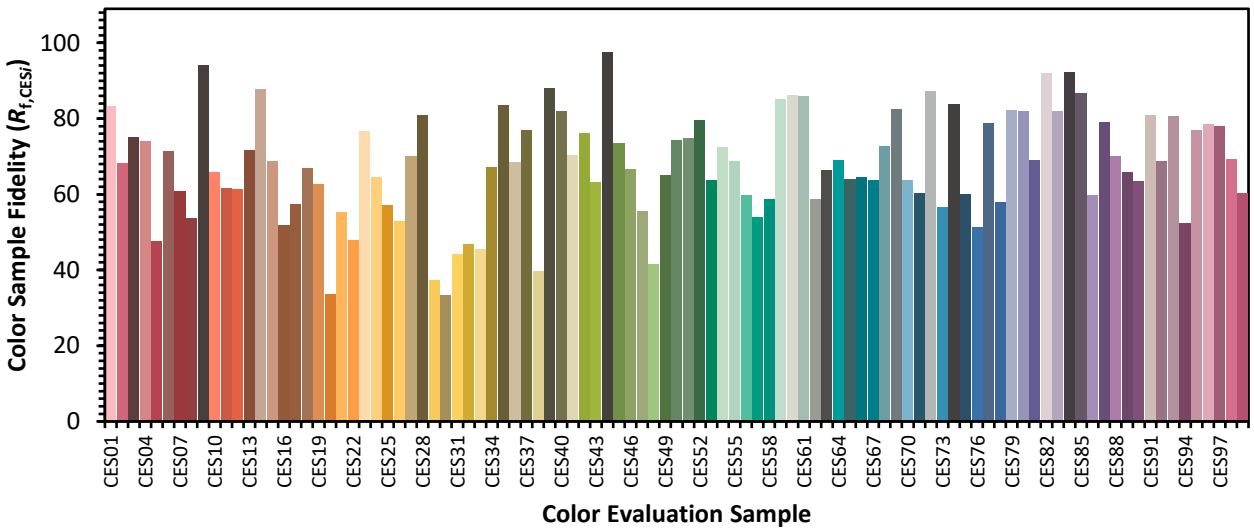



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**Individual Sample Fidelity Index ($R_{f,i}$)**

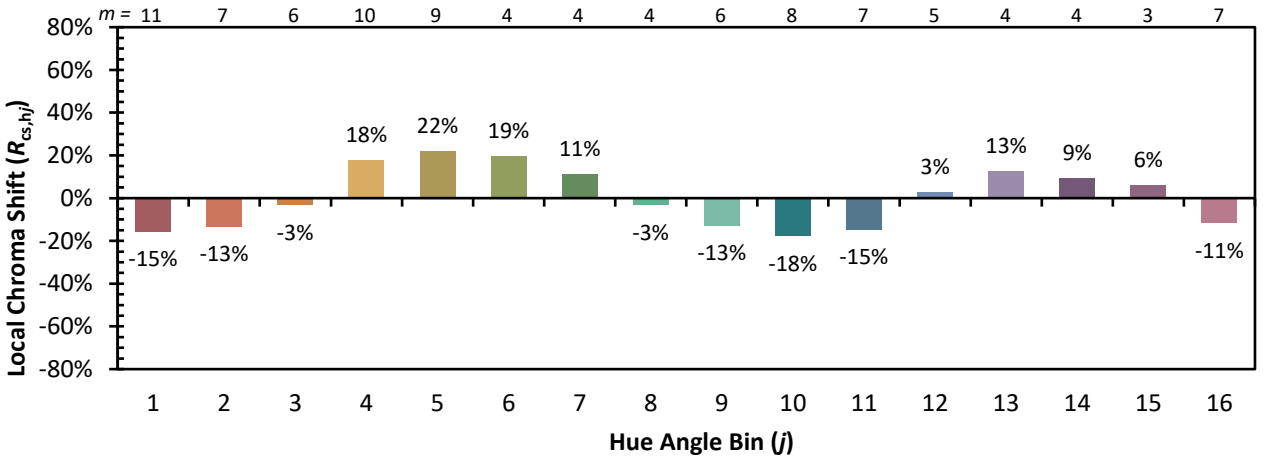
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 53 | CES51 = 75 | CES76 = 51 |
| CES02 = 63 | CES27 = 70 | CES52 = 80 | CES77 = 79 |
| CES03 = 31 | CES28 = 81 | CES53 = 64 | CES78 = 58 |
| CES04 = 71 | CES29 = 37 | CES54 = 73 | CES79 = 82 |
| CES05 = 50 | CES30 = 33 | CES55 = 69 | CES80 = 82 |
| CES06 = 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 | |

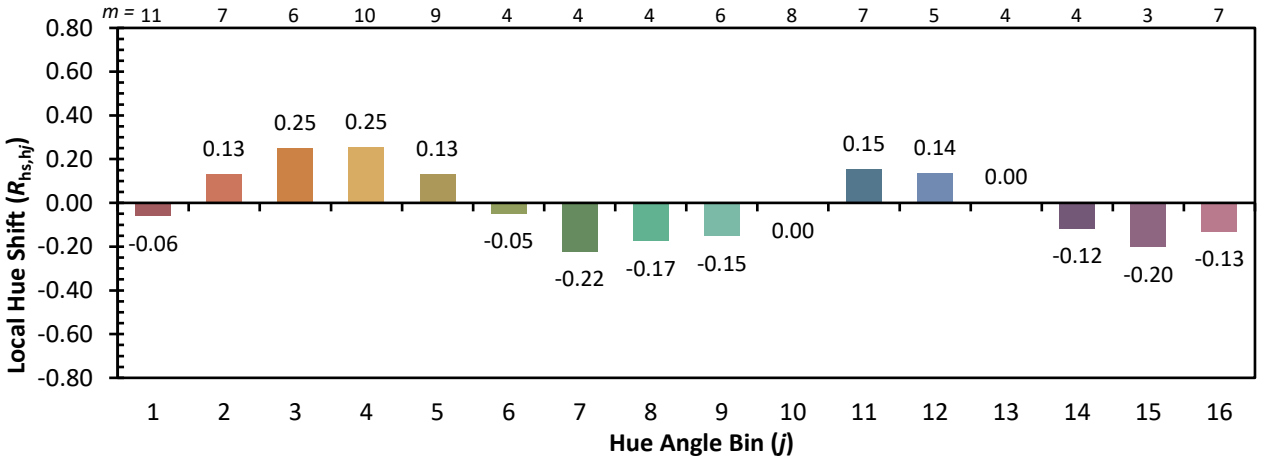


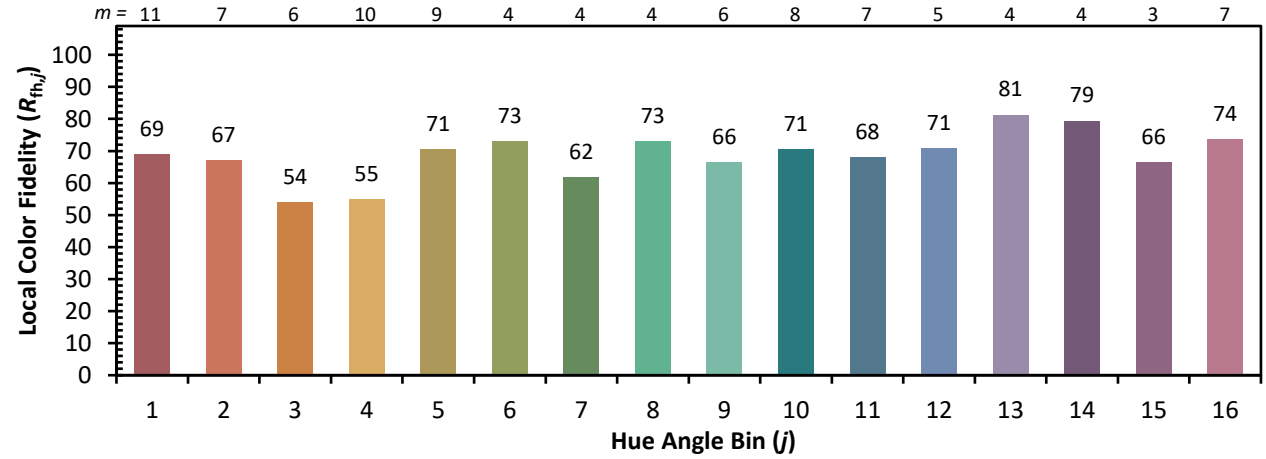
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## Color Rendition by Hue-Angle Bin



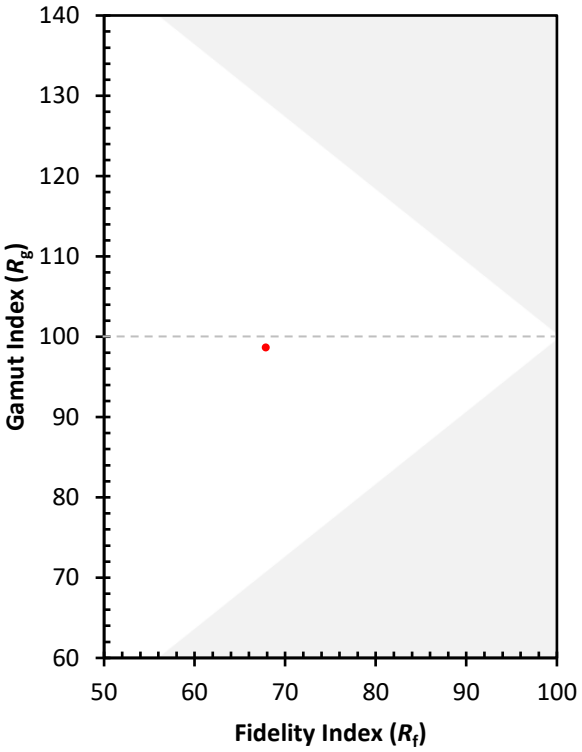



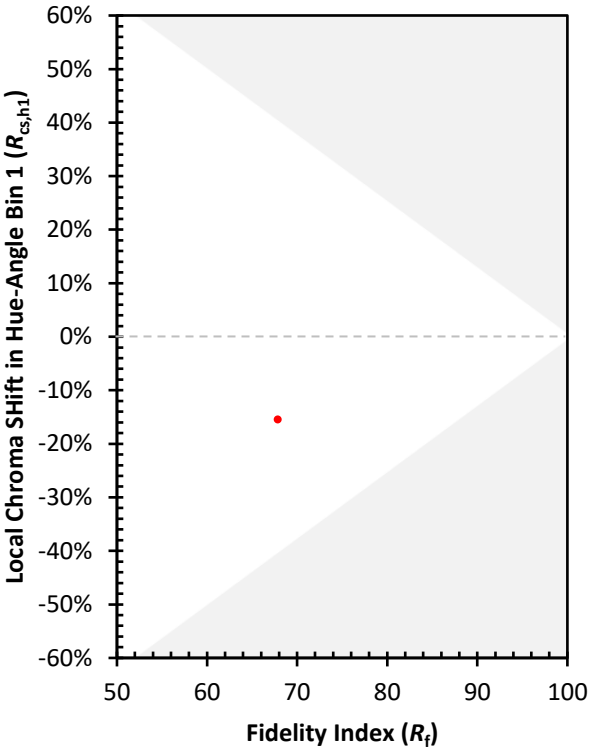



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## Measure Comparisons




(END OF REPORT)