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: P1502378

Luminaire Tested: GSS-SB6B-850-U-T3LG-HSS

Issue Date: 07/20/2026

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1502378 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB6B-850-U-T3LG-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 6SQUARE 219W 80CRI 5000K FIXTURE w/ TYPE III LOW GLARE DISTRIBUTION FIXTURE W/ HOUSE SIDE SHIELD |
| Light Source: | (156) 5000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 26344.8 lumens |
| Efficiency: | N/A |
| Efficacy: | 120.3 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G3 |

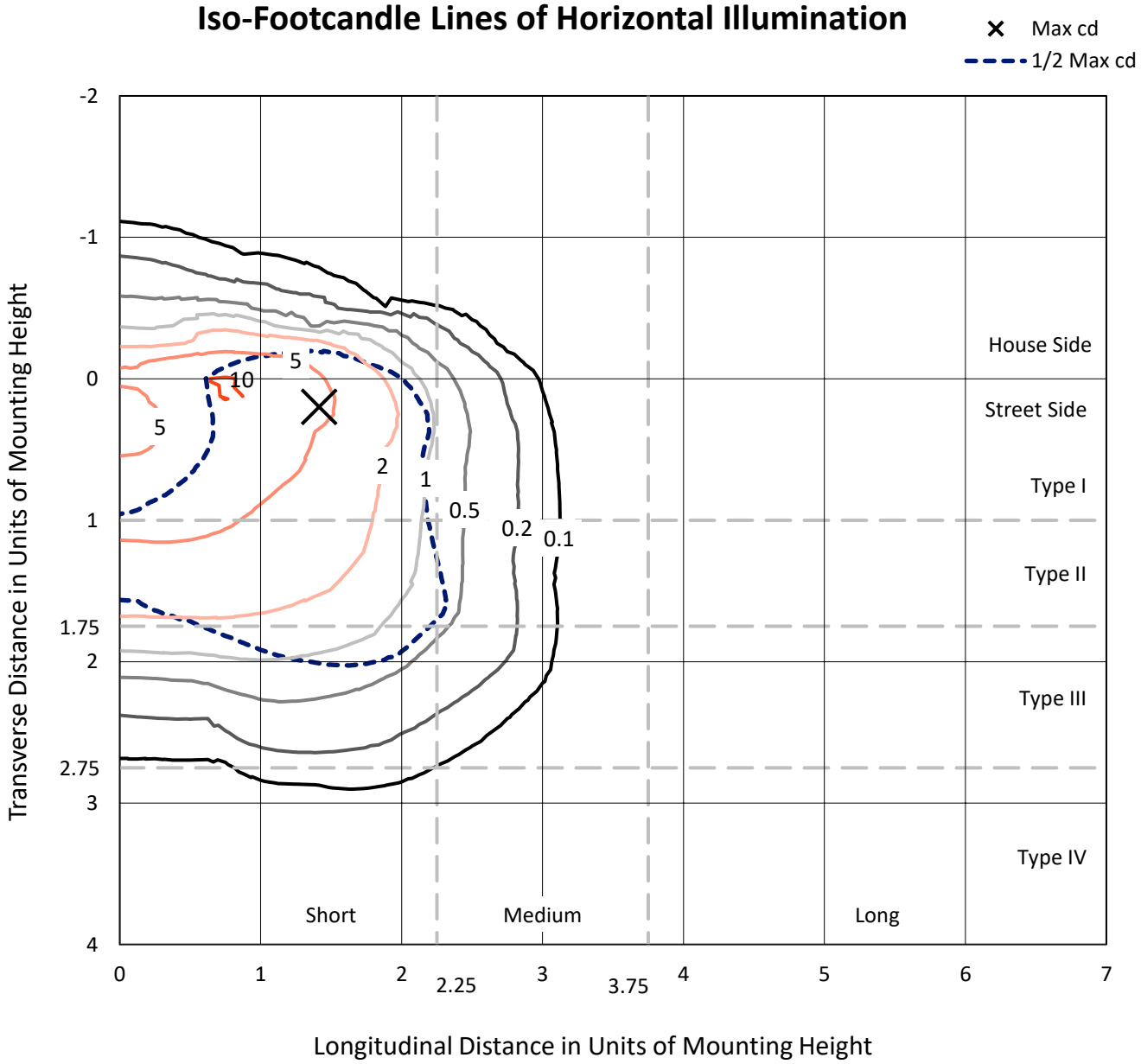
| | |
|---|---|
| Input Watts (W): | 219 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 8.7% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1502378
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## Iso-Footcandle Lines of Horizontal Illumination



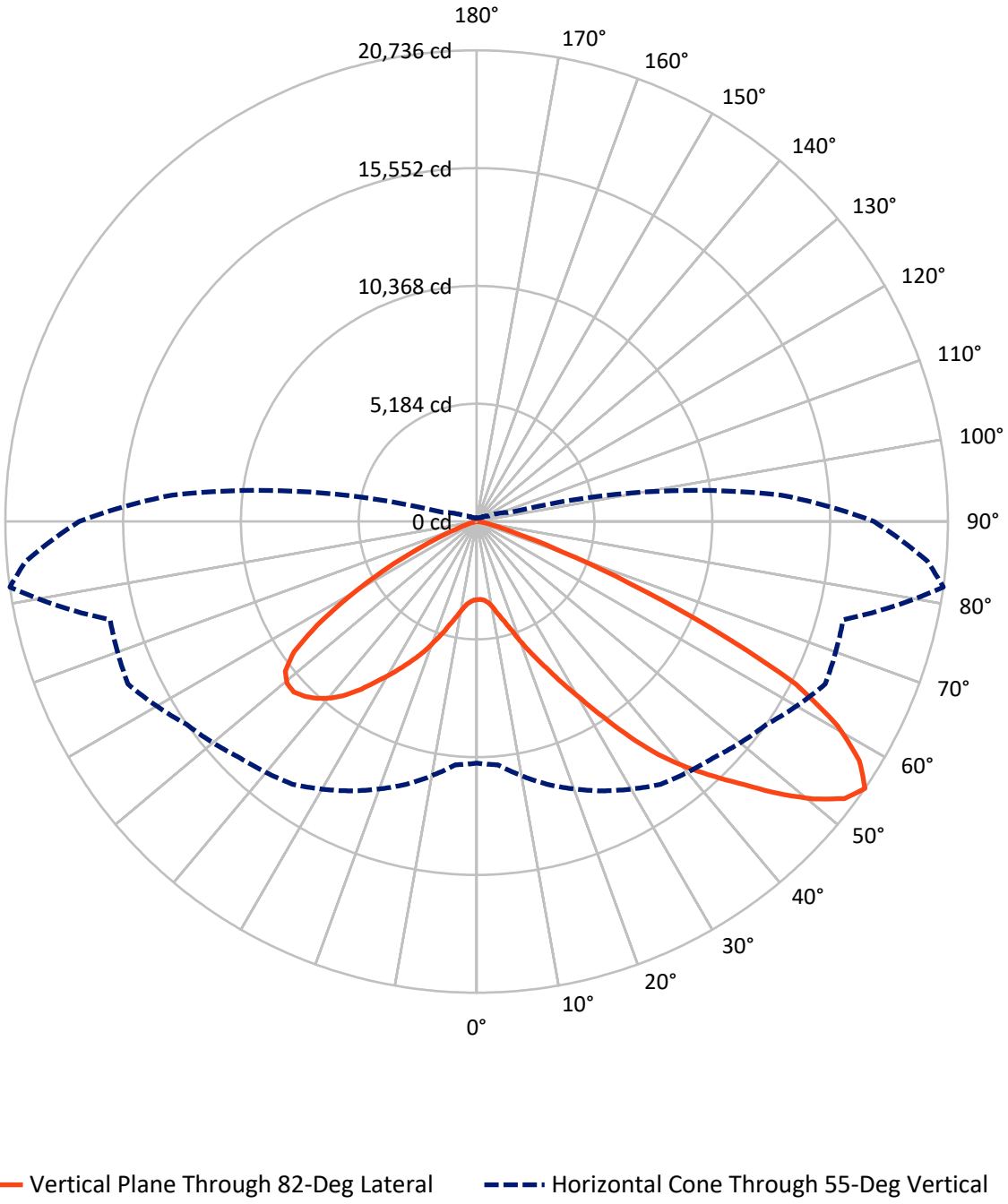

Based on 25 foot mounting height. Maximum calculated value = 10.3 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

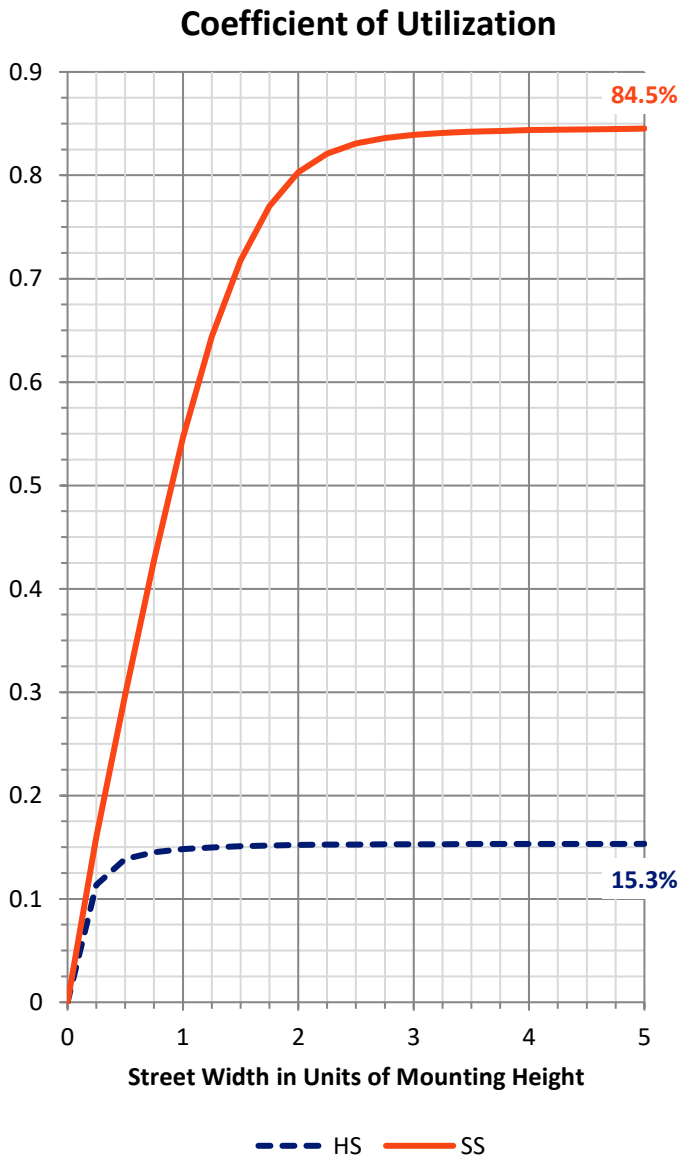
REPORT NUMBER: P1502378
CATALOG NUMBER: GSS-SB6B-850-U-T3LG-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 4072.1 | 0.0 | 4072.1 |
| | % Fixture | 15.5 | 0.0 | 15.5 |
| **Street Side** | Lumens | 22272.7 | 0.0 | 22272.7 |
| | % Fixture | 84.5 | 0.0 | 84.5 |
| **Total** | Lumens | 26344.8 | 0.0 | 26344.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 311.8 | 1.2 |
| 10°-20° | 844.0 | 3.2 |
| 20°-30° | 1687.2 | 6.4 |
| 30°-40° | 3493.8 | 13.3 |
| 40°-50° | 5836.5 | 22.2 |
| 50°-60° | 7402.5 | 28.1 |
| 60°-70° | 5533.8 | 21.0 |
| 70°-80° | 1172.2 | 4.4 |
| 80°-90° | 63.1 | 0.2 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 26344.8 | 100.0 |
| 0°-180° | 26344.8 | 100.0 |



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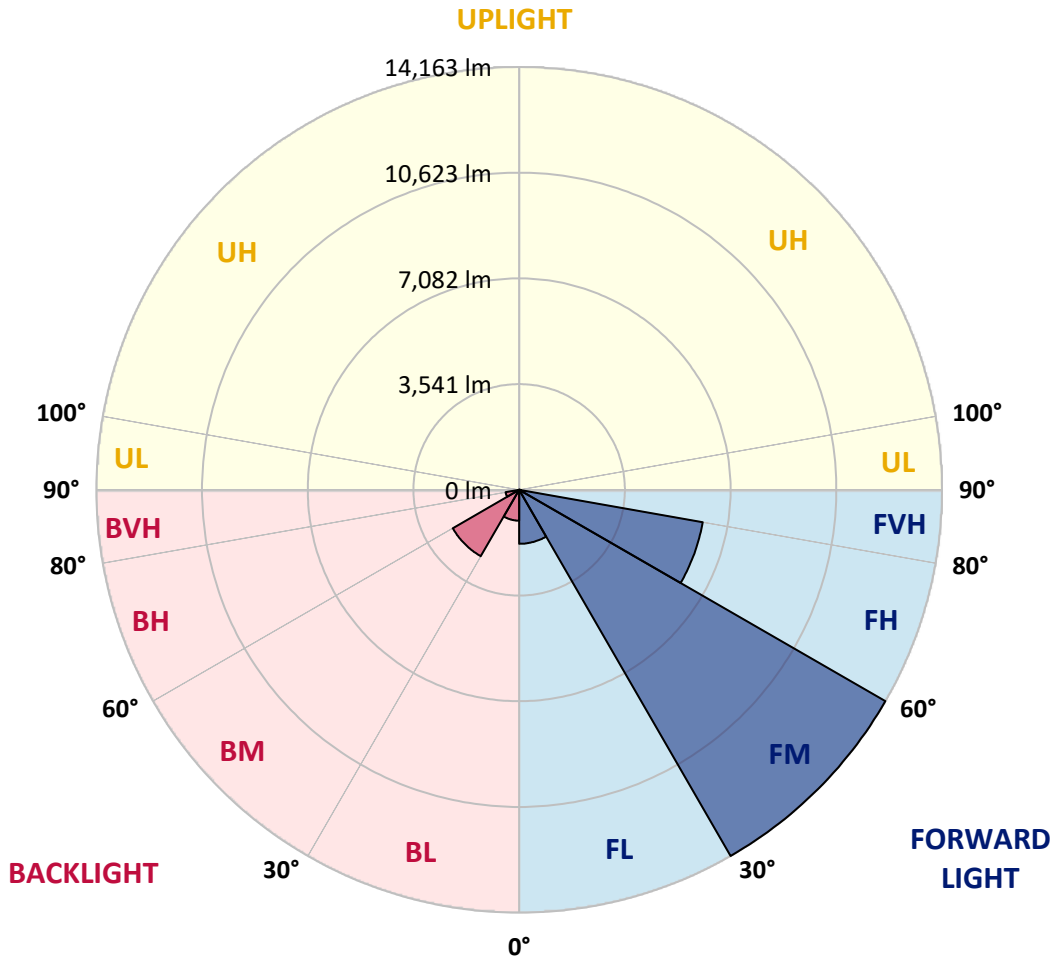
Scaled Data Report

REPORT NUMBER: P1502378
CATALOG NUMBER: GSS-SB6B-850-U-T3LG-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1809.3 | 6.9 | | | |
| FM | (30°-60°) | 14163.4 | 53.8 | | | |
| FH | (60°-80°) | 6243.6 | 23.7 | | | G3/7500 |
| FVH | (80°-90°) | 56.4 | 0.2 | | | G1/100 |
| BL | (0°-30°) | 1033.7 | 3.9 | B3/2500 | | |
| BM | (30°-60°) | 2569.3 | 9.8 | B3/5000 | | |
| BH | (60°-80°) | 462.4 | 1.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 6.7 | 0.0 | | | G0/10 |
| 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° | 35° | 45° | 55° | 65° | 75° | 82° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | *3439.3* | 3439.3 |
| 2.5° | 3346.3 | 3353.5 | 3339.2 | 3346.3 | 3360.6 | 3353.5 | 3382.1 | 3403.5 | 3425.0 | *3432.1* | 3439.3 |
| 5° | 3053.2 | 3060.3 | 3067.5 | 3124.7 | 3160.4 | 3246.2 | 3324.9 | 3374.9 | 3446.4 | *3482.2* | 3489.4 |
| 7.5° | 2702.8 | 2702.8 | 2731.4 | 2802.9 | 2895.9 | 3060.3 | 3239.1 | 3382.1 | 3518.0 | *3589.5* | 3603.8 |
| 10° | 2638.5 | 2645.6 | 2645.6 | 2695.7 | 2774.3 | 2938.8 | 3167.6 | 3453.6 | 3696.7 | *3804.0* | 3839.7 |
| 12.5° | 2652.8 | 2659.9 | 2667.1 | 2717.1 | 2795.8 | 2938.8 | 3231.9 | 3603.8 | 3982.7 | *4161.5* | 4182.9 |
| 15° | 2688.5 | 2702.8 | 2724.3 | 2788.6 | 2874.4 | 3060.3 | 3367.8 | 3818.3 | 4325.9 | *4554.7* | 4612.0 |
| 17.5° | 2795.8 | 2802.9 | 2838.7 | 2910.2 | 3046.0 | 3231.9 | 3568.0 | 4097.1 | 4805.0 | *5055.3* | 5162.5 |
| 20° | 2960.2 | 2974.5 | 3024.6 | 3124.7 | 3282.0 | 3518.0 | 3889.8 | 4461.8 | 5319.8 | *5705.9* | 5791.8 |
| 22.5° | 3167.6 | 3167.6 | 3239.1 | 3396.4 | 3618.1 | 3882.6 | 4333.1 | 4948.0 | 5949.1 | *6399.5* | 6542.5 |
| 25° | 3510.8 | 3503.7 | 3560.9 | 3739.6 | 4004.2 | 4390.3 | 4847.9 | 5527.2 | 6606.9 | *7143.2* | 7293.3 |
| 27.5° | 4297.3 | 4275.9 | 4254.4 | 4261.6 | 4490.4 | 4983.8 | 5512.9 | 6256.5 | 7422.0 | *8051.3* | 8165.7 |
| 30° | 5212.6 | 5241.2 | 5212.6 | 5141.1 | 5176.8 | 5634.4 | 6292.3 | 7150.3 | 8337.3 | *9045.1* | 9195.3 |
| 32.5° | 6013.4 | 6027.7 | 6149.3 | 6227.9 | 6256.5 | 6471.0 | 7193.2 | 8230.0 | 9502.8 | *10275.0* | 10468.1 |
| 35° | 6885.7 | 6907.2 | 7043.1 | 7207.5 | 7464.9 | 7658.0 | 8323.0 | 9481.3 | 10689.7 | *11662.2* | 11805.2 |
| 37.5° | 7901.1 | 7936.8 | 8115.6 | 8351.6 | 8709.1 | 9152.4 | 9509.9 | 10618.2 | 11898.1 | *13020.7* | 13170.9 |
| 40° | 8794.9 | 8909.3 | 9216.8 | 9517.1 | 9896.0 | 10396.6 | 10632.5 | 11612.1 | 12791.9 | *14222.0* | 14472.2 |
| 42.5° | 9638.6 | 9703.0 | 10196.3 | 10661.1 | 11111.6 | 11519.2 | 11748.0 | 12391.5 | 13585.6 | *15337.4* | 15616.3 |
| 45° | 10339.3 | 10389.4 | 10940.0 | 11554.9 | 12112.6 | 12520.2 | 12555.9 | 13149.4 | 14372.1 | *16517.2* | 16731.7 |
| 47.5° | 10768.4 | 10847.0 | 11554.9 | 12255.6 | 12870.6 | 13249.5 | 13192.3 | 14114.7 | 15230.2 | *17890.1* | 17918.7 |
| 50° | 11025.8 | 11075.8 | 11798.0 | 12706.1 | 13464.0 | 13728.6 | 13850.2 | 15037.1 | 16009.5 | *19191.4* | 19019.8 |
| 52.5° | 11211.7 | 11290.3 | 11998.2 | 12963.5 | 13814.4 | 14171.9 | 14608.1 | 16073.9 | 16624.5 | *20256.8* | 19799.2 |
| 55° | *10632.5* | *10746.9* | *11969.6* | *13077.9* | *14114.7* | *14715.3* | *15573.4* | *16924.8* | *16696.0* | *20735.9* | *19899.3* |
| 57.5° | 9981.8 | 10003.3 | 11211.7 | 13042.2 | 14450.8 | 15287.4 | 16460.0 | 16989.1 | 16031.0 | *19863.6* | 18884.0 |
| 60° | 9023.7 | 9152.4 | 10389.4 | 12577.4 | 14508.0 | 15745.0 | 17060.6 | 16209.8 | 14815.4 | *18247.6* | 16774.6 |
| 62.5° | 6335.2 | 6535.4 | 8151.4 | 11354.7 | 14100.4 | 15995.2 | 16960.5 | 14851.2 | 13292.4 | *15752.1* | 14100.4 |
| 65° | 3546.6 | 3718.2 | 5041.0 | 9159.5 | 12977.8 | 15938.0 | 15930.9 | 13035.0 | 10847.0 | *11383.3* | 10081.9 |
| 67.5° | 1944.9 | 2080.7 | 2617.0 | 6892.9 | 10296.4 | 14715.3 | 13764.3 | 9946.1 | 7271.9 | *7229.0* | 6292.3 |
| 70° | 1358.6 | 1365.7 | 1651.7 | 4654.9 | 7400.6 | 10267.8 | 10761.2 | 6671.2 | 4511.8 | *3989.9* | 3367.8 |
| 72.5° | 665.0 | 672.1 | 822.3 | 2195.1 | 4526.1 | 5691.6 | 7379.1 | 3467.9 | 2531.2 | *1980.6* | 1687.5 |
| 75° | 336.1 | 328.9 | 450.5 | 822.3 | 1873.4 | 2774.3 | 3253.4 | 1737.5 | 1473.0 | *1086.8* | 965.3 |
| 77.5° | 214.5 | 221.7 | 264.6 | 450.5 | 843.7 | 1079.7 | 1001.0 | 943.8 | 865.2 | *636.4* | 550.6 |
| 80° | 143.0 | 143.0 | 178.8 | 286.0 | 414.7 | 514.8 | 307.5 | 436.2 | 507.7 | *371.8* | 321.8 |
| 82.5° | 42.9 | 42.9 | 107.3 | 157.3 | 200.2 | 207.4 | 135.9 | 200.2 | 286.0 | *207.4* | 157.3 |
| 85° | 28.6 | 28.6 | 57.2 | 78.7 | 85.8 | 71.5 | 42.9 | 85.8 | 135.9 | *93.0* | 78.7 |
| 87.5° | 0.0 | 0.0 | 0.0 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | *7.2* | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 |

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Scaled Data Report

REPORT NUMBER: P1502378
CATALOG NUMBER: GSS-SB6B-850-U-T3LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 | 3439.3 |
| 2.5° | 3446.4 | 3453.6 | 3475.1 | 3482.2 | 3496.5 | 3503.7 | 3503.7 | 3503.7 | 3496.5 | 3503.7 | 3518.0 |
| 5° | 3503.7 | 3539.4 | 3568.0 | 3560.9 | 3560.9 | 3525.1 | 3496.5 | 3439.3 | 3410.7 | 3403.5 | 3410.7 |
| 7.5° | 3646.7 | 3675.3 | 3703.9 | 3661.0 | 3553.7 | 3389.2 | 3210.5 | 3067.5 | 2945.9 | 2888.7 | 2910.2 |
| 10° | 3904.1 | 3939.8 | 3939.8 | 3739.6 | 3439.3 | 3053.2 | 2731.4 | 2466.9 | 2266.6 | 2159.4 | 2209.4 |
| 12.5° | 4275.9 | 4304.5 | 4233.0 | 3811.1 | 3239.1 | 2602.7 | 2066.4 | 1623.1 | 1365.7 | 1237.0 | 1208.4 |
| 15° | 4704.9 | 4747.8 | 4504.7 | 3796.8 | 2924.5 | 1944.9 | 1287.1 | 965.3 | 872.3 | 843.7 | 850.9 |
| 17.5° | 5255.5 | 5276.9 | 4805.0 | 3682.4 | 2381.1 | 1272.8 | 915.2 | 822.3 | 800.8 | 786.5 | 786.5 |
| 20° | 5934.8 | 5870.4 | 5048.1 | 3489.4 | 1737.5 | 1001.0 | 843.7 | 772.2 | 750.8 | 743.6 | 750.8 |
| 22.5° | 6664.1 | 6564.0 | 5248.3 | 3124.7 | 1315.7 | 943.8 | 808.0 | 729.3 | 700.7 | 693.6 | 693.6 |
| 25° | 7429.2 | 7200.4 | 5405.6 | 2588.4 | 1229.9 | 929.5 | 765.1 | 665.0 | 636.4 | 622.1 | 622.1 |
| 27.5° | 8301.5 | 7908.2 | 5491.4 | 2166.5 | 1251.3 | 908.1 | 715.0 | 607.8 | 564.9 | 550.6 | 550.6 |
| 30° | 9266.8 | 8694.8 | 5498.6 | 2080.7 | 1294.2 | 879.5 | 665.0 | 543.4 | 500.5 | 479.1 | 486.2 |
| 32.5° | 10439.5 | 9495.6 | 5477.1 | 2216.6 | 1322.8 | 858.0 | 607.8 | 479.1 | 443.3 | 421.9 | 421.9 |
| 35° | 11655.0 | 10468.1 | 5391.3 | 2474.0 | 1337.1 | 793.7 | 536.3 | 421.9 | 379.0 | 371.8 | 379.0 |
| 37.5° | 12863.4 | 11390.4 | 5269.8 | 2617.0 | 1265.6 | 650.7 | 436.2 | 364.7 | 336.1 | 336.1 | 336.1 |
| 40° | 13964.6 | 12191.3 | 5105.3 | 2495.5 | 1008.2 | 471.9 | 357.5 | 314.6 | 300.3 | 293.2 | 300.3 |
| 42.5° | 14786.8 | 12906.3 | 4805.0 | 2102.2 | 715.0 | 379.0 | 314.6 | 278.9 | 264.6 | 264.6 | 271.7 |
| 45° | 15687.8 | 13592.7 | 4225.8 | 1544.5 | 543.4 | 328.9 | 271.7 | 243.1 | 236.0 | 236.0 | 243.1 |
| 47.5° | 16595.9 | 14143.3 | 3668.1 | 1029.6 | 471.9 | 293.2 | 243.1 | 221.7 | 214.5 | 207.4 | 214.5 |
| 50° | 17289.5 | 14407.9 | 2938.8 | 750.8 | 429.0 | 264.6 | 221.7 | 207.4 | 193.1 | 185.9 | 185.9 |
| 52.5° | 17782.8 | 14336.4 | 2152.2 | 643.5 | 393.3 | 243.1 | 207.4 | 193.1 | 171.6 | 171.6 | 171.6 |
| 55° | *17482.5* | *13421.1* | *1551.6* | *579.2* | *364.7* | *228.8* | *200.2* | *178.8* | *164.5* | *157.3* | *157.3* |
| 57.5° | 16023.8 | 11440.5 | 1122.6 | 522.0 | 321.8 | 214.5 | 193.1 | 171.6 | 150.2 | 143.0 | 143.0 |
| 60° | 13928.8 | 8909.3 | 836.6 | 457.6 | 278.9 | 207.4 | 171.6 | 164.5 | 143.0 | 128.7 | 128.7 |
| 62.5° | 11383.3 | 6485.3 | 650.7 | 393.3 | 250.3 | 178.8 | 164.5 | 150.2 | 128.7 | 114.4 | 107.3 |
| 65° | 7901.1 | 4140.0 | 500.5 | 321.8 | 236.0 | 157.3 | 150.2 | 128.7 | 107.3 | 85.8 | 85.8 |
| 67.5° | 4876.5 | 2459.7 | 386.1 | 250.3 | 185.9 | 135.9 | 128.7 | 114.4 | 93.0 | 71.5 | 71.5 |
| 70° | 2695.7 | 1301.4 | 264.6 | 185.9 | 143.0 | 107.3 | 100.1 | 100.1 | 78.7 | 64.4 | 57.2 |
| 72.5° | 1294.2 | 707.9 | 178.8 | 157.3 | 107.3 | 71.5 | 78.7 | 78.7 | 64.4 | 50.1 | 50.1 |
| 75° | 779.4 | 421.9 | 121.6 | 121.6 | 71.5 | 57.2 | 57.2 | 64.4 | 50.1 | 35.8 | 35.8 |
| 77.5° | 443.3 | 250.3 | 71.5 | 93.0 | 50.1 | 35.8 | 42.9 | 35.8 | 28.6 | 21.5 | 21.5 |
| 80° | 250.3 | 143.0 | 42.9 | 64.4 | 28.6 | 21.5 | 21.5 | 14.3 | 14.3 | 7.2 | 7.2 |
| 82.5° | 121.6 | 78.7 | 21.5 | 21.5 | 14.3 | 7.2 | 7.2 | 7.2 | 7.2 | 0.0 | 0.0 |
| 85° | 57.2 | 14.3 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-12

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-850-U-5WQ

Data in this report applies to families of products including GSS-SB1A-850-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

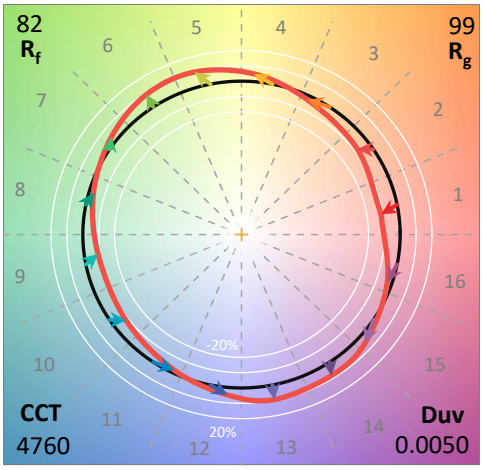
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-12 |
| 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-850-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 5000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 4760 |
| CIE u': | 0.2107 |
| CIE v': | 0.4939 |
| Duv: | 0.0050 |
| CIE x: | 0.3537 |
| CIE y: | 0.3685 |
| CIE z: | 0.2779 |
| Peak Wavelength (nm): | 443 |
| Dominant Wavelength (nm): | 571 |
| Purity: | 16.69598 |
| Rf: | 82 |
| Rg: | 99.4 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 81.1 | | | | |
| R1: | 79.8 | R9: | 8.7 | | |
| R2: | 83.5 | R10: | 62.4 | | |
| R3: | 87.9 | R11: | 83.8 | | |
| R4: | 83.1 | R12: | 63.0 | | |
| R5: | 80.5 | R13: | 79.9 | | |
| R6: | 79.1 | R14: | 93.3 | | |
| R7: | 86.1 | R15: | 72.7 | | |
| R8: | 69.0 | | | | |




## Test Conditions

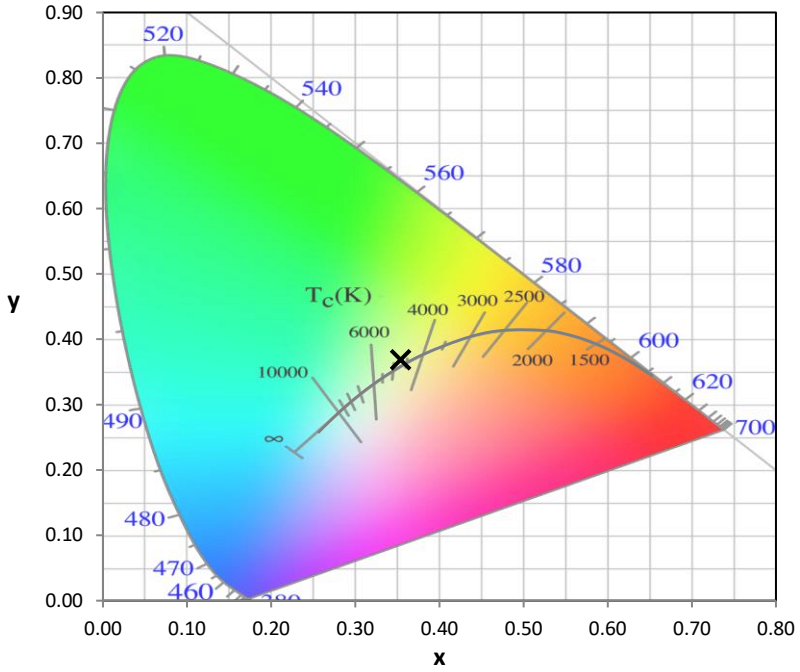
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-12

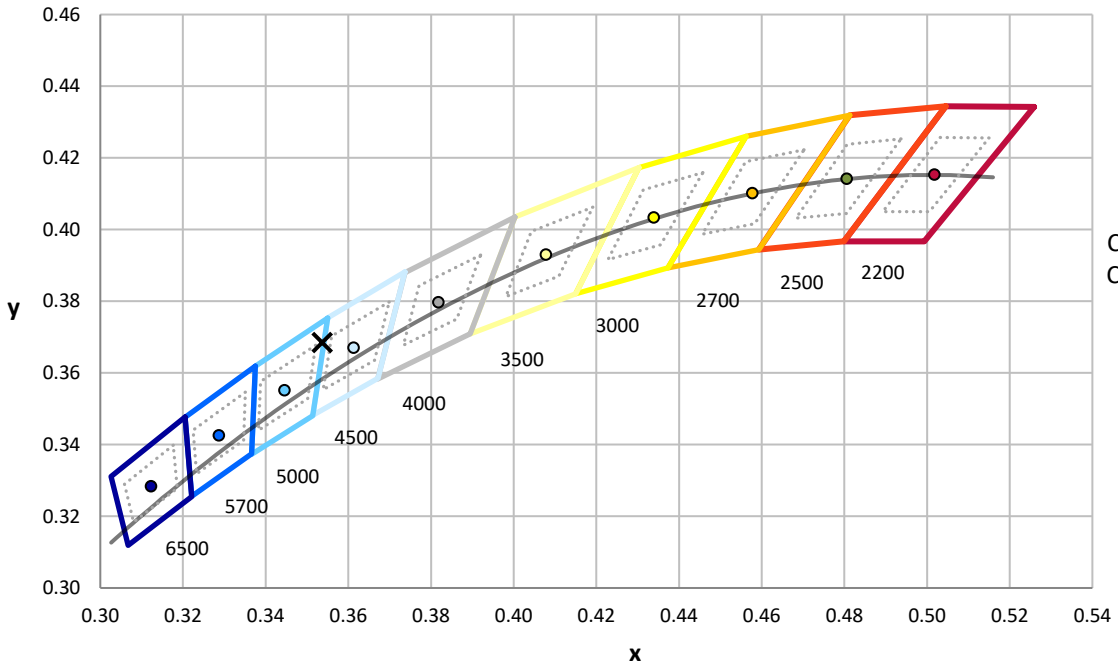
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

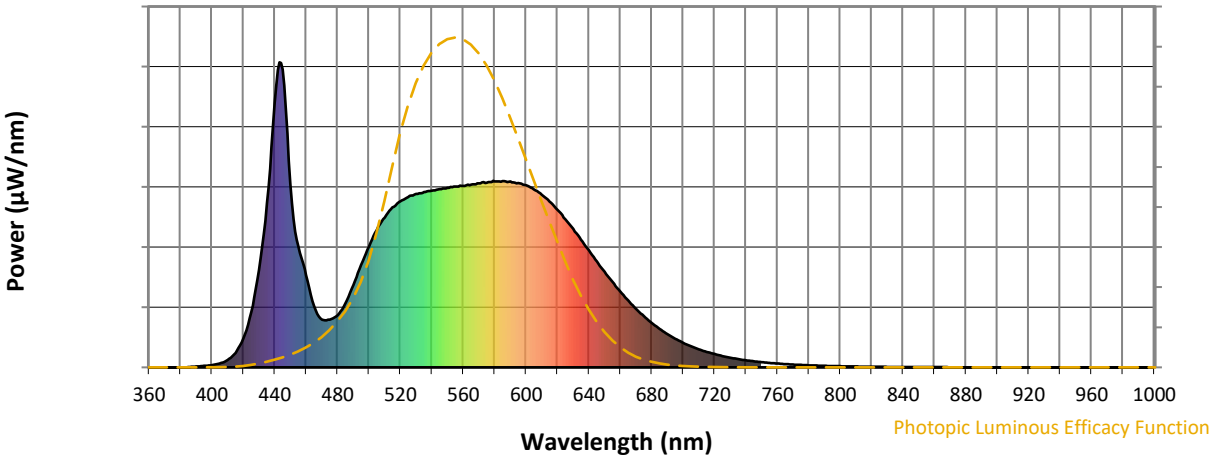



CCT = 4760K
CIE x = 0.3537
CIE y = 0.3685
Duv = 0.0050

Point lies inside the ANSI 5000K 7-step quadrangle

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## Photopic Flux vs. Wavelength

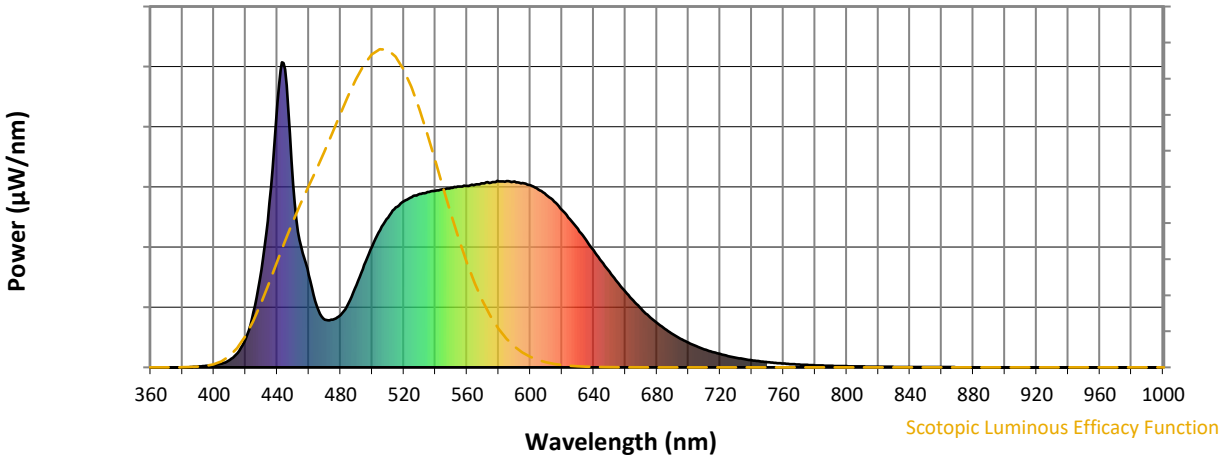



## Photopic Lumens: NR

| 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 | 270 | NR | 620 | 517 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 335 | NR | 625 | 486 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 397 | NR | 630 | 454 | NR | 760 | 12 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 451 | NR | 635 | 419 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 492 | NR | 640 | 384 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 524 | NR | 645 | 347 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 545 | NR | 650 | 313 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 558 | NR | 655 | 280 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 568 | NR | 660 | 248 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 13 | NR | 535 | 575 | NR | 665 | 219 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 24 | NR | 540 | 579 | NR | 670 | 192 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 47 | NR | 545 | 585 | NR | 675 | 167 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 95 | NR | 550 | 588 | NR | 680 | 146 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 181 | NR | 555 | 593 | NR | 685 | 126 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 319 | NR | 560 | 595 | NR | 690 | 109 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 539 | NR | 565 | 600 | NR | 695 | 94 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 868 | NR | 570 | 603 | NR | 700 | 80 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 977 | NR | 575 | 606 | NR | 705 | 69 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 601 | NR | 580 | 609 | NR | 710 | 59 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 397 | NR | 585 | 611 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 302 | NR | 590 | 610 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 201 | NR | 595 | 604 | NR | 725 | 37 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 596 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 157 | NR | 605 | 583 | NR | 735 | 27 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 171 | NR | 610 | 566 | NR | 740 | 23 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 210 | NR | 615 | 543 | NR | 745 | 20 | NR | 875 | 0 | NR | | | |

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## Scotopic Flux vs. Wavelength

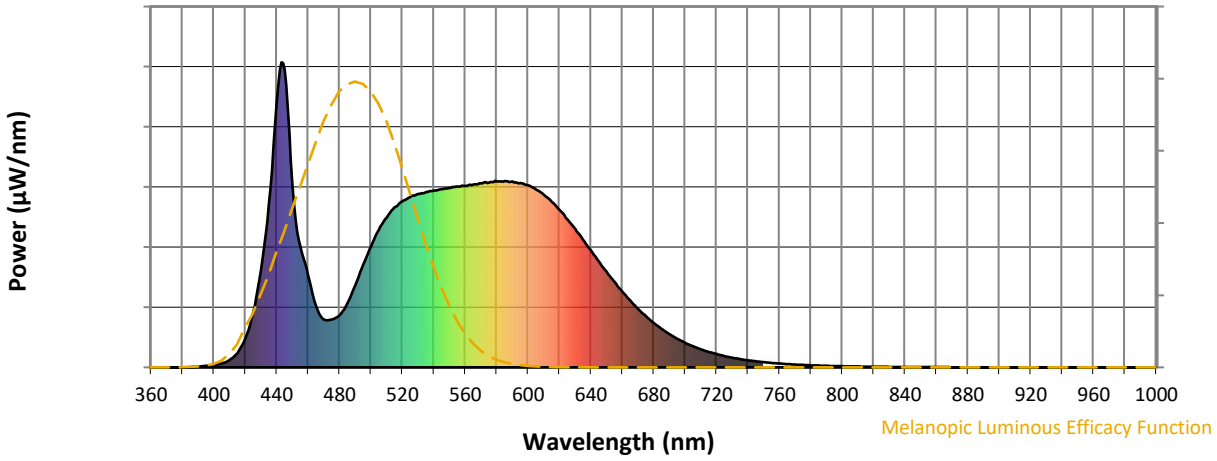



**Scotopic Lumens: NR** **S/P: 1.83**

| 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 | 270 | NR | 620 | 517 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 335 | NR | 625 | 486 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 397 | NR | 630 | 454 | NR | 760 | 12 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 451 | NR | 635 | 419 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 492 | NR | 640 | 384 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 524 | NR | 645 | 347 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 545 | NR | 650 | 313 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 558 | NR | 655 | 280 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 568 | NR | 660 | 248 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 13 | NR | 535 | 575 | NR | 665 | 219 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 24 | NR | 540 | 579 | NR | 670 | 192 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 47 | NR | 545 | 585 | NR | 675 | 167 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 95 | NR | 550 | 588 | NR | 680 | 146 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 181 | NR | 555 | 593 | NR | 685 | 126 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 319 | NR | 560 | 595 | NR | 690 | 109 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 539 | NR | 565 | 600 | NR | 695 | 94 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 868 | NR | 570 | 603 | NR | 700 | 80 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 977 | NR | 575 | 606 | NR | 705 | 69 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 601 | NR | 580 | 609 | NR | 710 | 59 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 397 | NR | 585 | 611 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 302 | NR | 590 | 610 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 201 | NR | 595 | 604 | NR | 725 | 37 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 596 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 157 | NR | 605 | 583 | NR | 735 | 27 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 171 | NR | 610 | 566 | NR | 740 | 23 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 210 | NR | 615 | 543 | NR | 745 | 20 | NR | 875 | 0 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.74**

| 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 | 270 | NR | 620 | 517 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 335 | NR | 625 | 486 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 397 | NR | 630 | 454 | NR | 760 | 12 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 451 | NR | 635 | 419 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 492 | NR | 640 | 384 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 524 | NR | 645 | 347 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 545 | NR | 650 | 313 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 558 | NR | 655 | 280 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 568 | NR | 660 | 248 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 13 | NR | 535 | 575 | NR | 665 | 219 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 24 | NR | 540 | 579 | NR | 670 | 192 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 47 | NR | 545 | 585 | NR | 675 | 167 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 95 | NR | 550 | 588 | NR | 680 | 146 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 181 | NR | 555 | 593 | NR | 685 | 126 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 319 | NR | 560 | 595 | NR | 690 | 109 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 539 | NR | 565 | 600 | NR | 695 | 94 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 868 | NR | 570 | 603 | NR | 700 | 80 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 977 | NR | 575 | 606 | NR | 705 | 69 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 601 | NR | 580 | 609 | NR | 710 | 59 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 397 | NR | 585 | 611 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 302 | NR | 590 | 610 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 201 | NR | 595 | 604 | NR | 725 | 37 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 596 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 157 | NR | 605 | 583 | NR | 735 | 27 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 171 | NR | 610 | 566 | NR | 740 | 23 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 210 | NR | 615 | 543 | NR | 745 | 20 | NR | 875 | 0 | NR | | | |

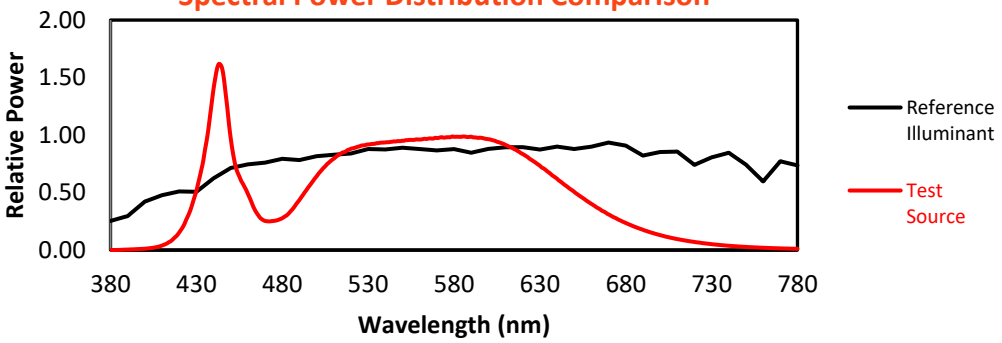
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# TM-30-18

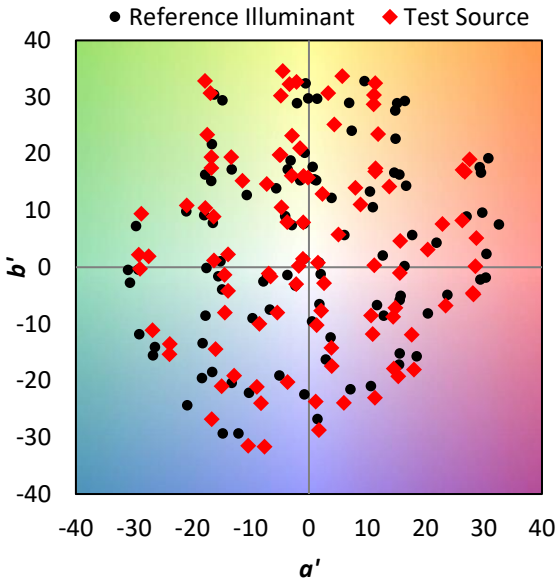
## Summary

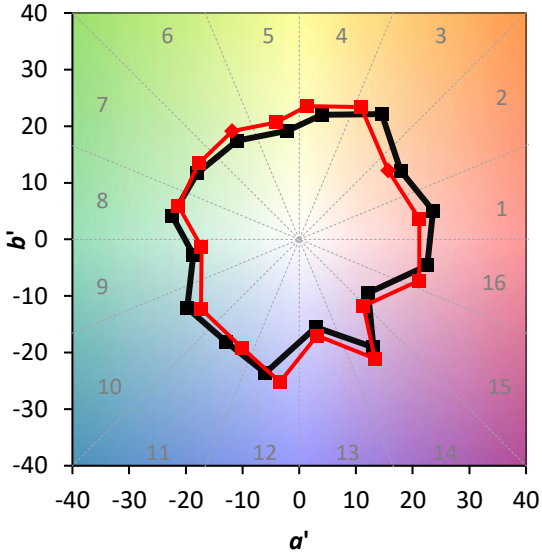
$R_f$ = 82
$R_g$ = 99.4
CIE $R_a$ = 81.1
$R_9$ = 8.7

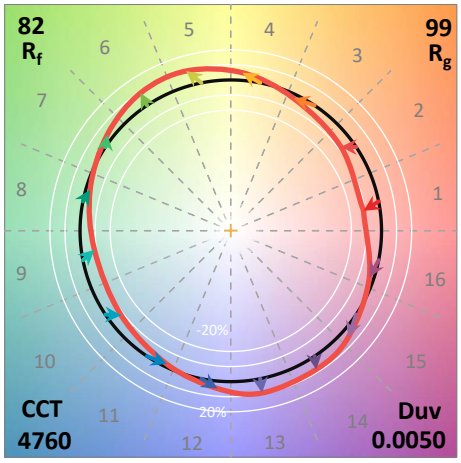
## Spectral Power Distribution Comparison

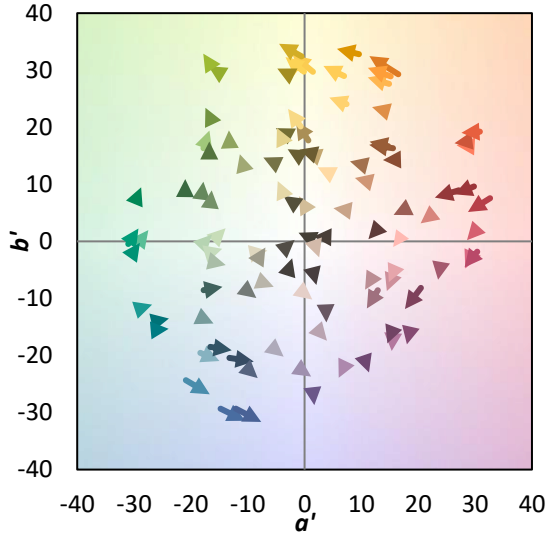



## Color Vector Graphics



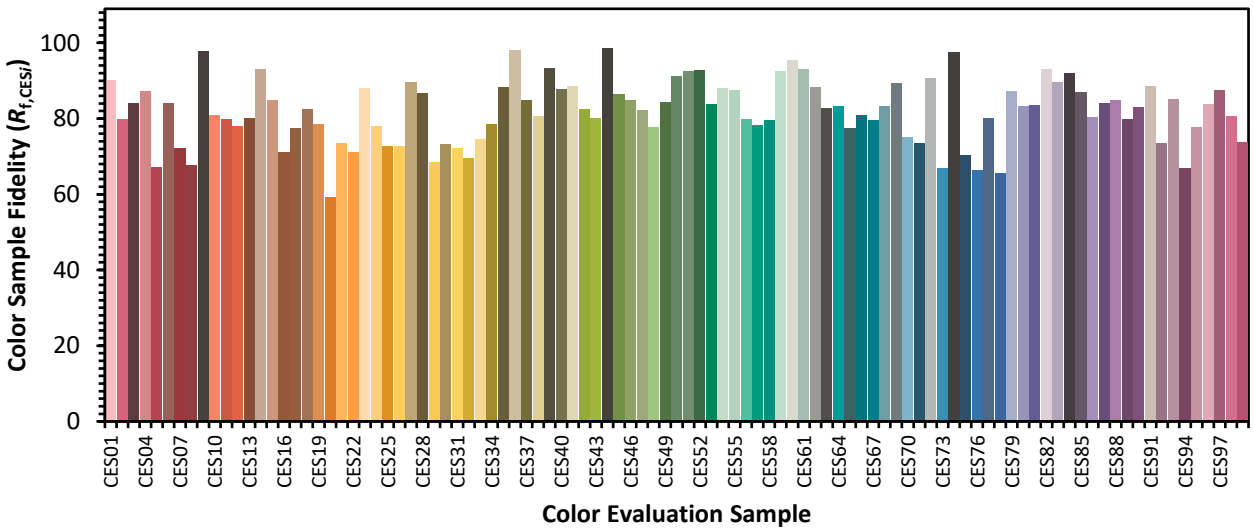



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# TM-30-18

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

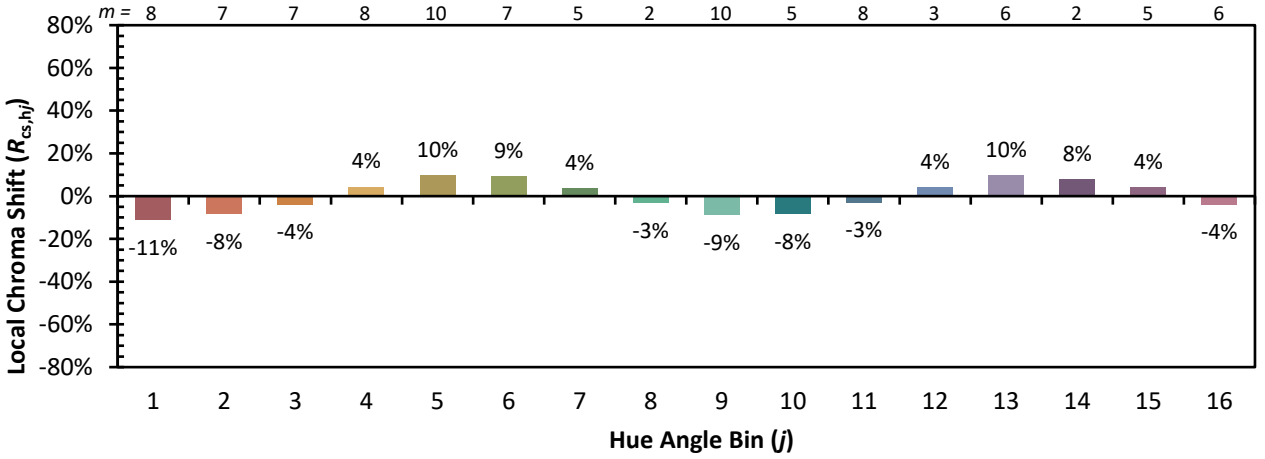
| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 73 | CES51 = 92 | CES76 = 66 |
| CES02 = 60 | CES27 = 90 | CES52 = 93 | CES77 = 80 |
| CES03 = 30 | CES28 = 87 | CES53 = 84 | CES78 = 65 |
| CES04 = 69 | CES29 = 69 | CES54 = 88 | CES79 = 87 |
| CES05 = 47 | CES30 = 73 | CES55 = 88 | CES80 = 83 |
| CES06 = 50 | CES31 = 72 | CES56 = 80 | CES81 = 84 |
| CES07 = 40 | CES32 = 69 | CES57 = 78 | CES82 = 93 |
| CES08 = 39 | CES33 = 75 | CES58 = 80 | CES83 = 90 |
| CES09 = 29 | CES34 = 78 | CES59 = 93 | CES84 = 92 |
| CES10 = 73 | CES35 = 88 | CES60 = 95 | CES85 = 87 |
| CES11 = 56 | CES36 = 98 | CES61 = 93 | CES86 = 80 |
| CES12 = 62 | CES37 = 85 | CES62 = 88 | CES87 = 84 |
| CES13 = 42 | CES38 = 81 | CES63 = 83 | CES88 = 85 |
| CES14 = 74 | CES39 = 93 | CES64 = 83 | CES89 = 80 |
| CES15 = 71 | CES40 = 88 | CES65 = 77 | CES90 = 83 |
| CES16 = 46 | CES41 = 89 | CES66 = 81 | CES91 = 89 |
| CES17 = 48 | CES42 = 82 | CES67 = 80 | CES92 = 73 |
| CES18 = 55 | CES43 = 80 | CES68 = 83 | CES93 = 85 |
| CES19 = 70 | CES44 = 99 | CES69 = 89 | CES94 = 67 |
| CES20 = 64 | CES45 = 87 | CES70 = 75 | CES95 = 78 |
| CES21 = 85 | CES46 = 85 | CES71 = 73 | CES96 = 84 |
| CES22 = 77 | CES47 = 82 | CES72 = 91 | CES97 = 87 |
| CES23 = 91 | CES48 = 78 | CES73 = 67 | CES98 = 81 |
| CES24 = 90 | CES49 = 84 | CES74 = 98 | CES99 = 74 |
| CES25 = 71 | CES50 = 91 | CES75 = 70 | |

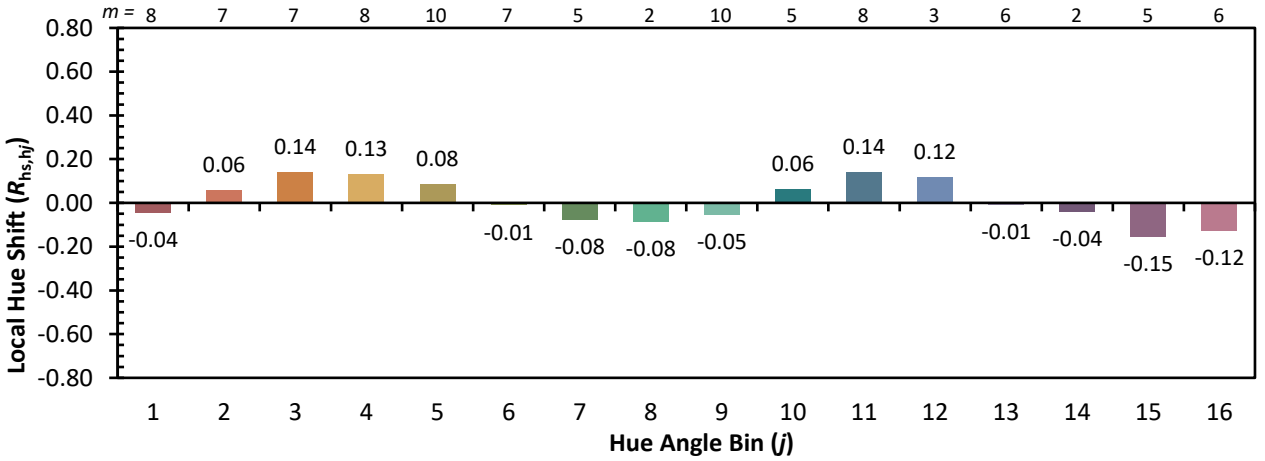


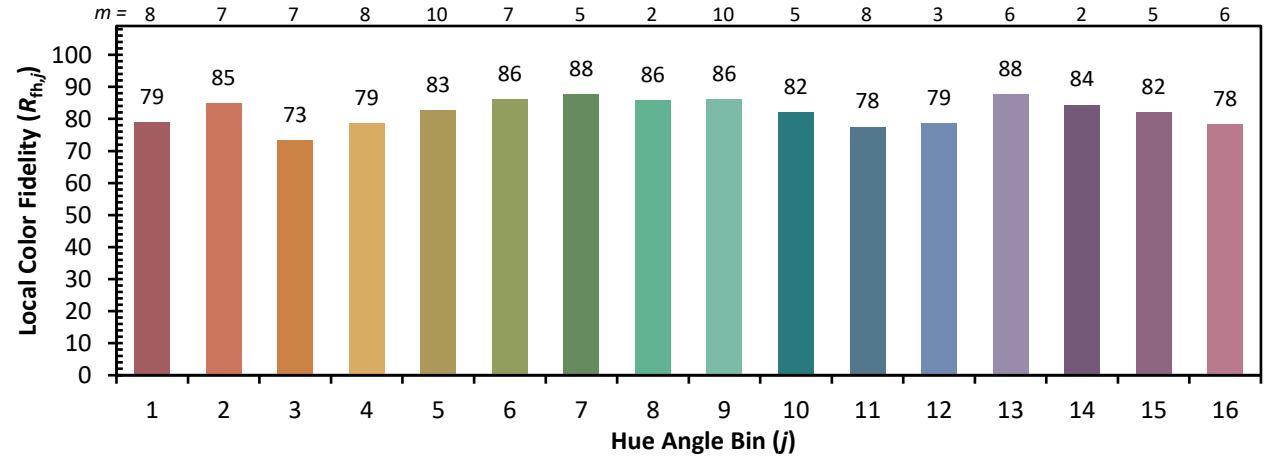
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## Color Rendition by Hue-Angle Bin



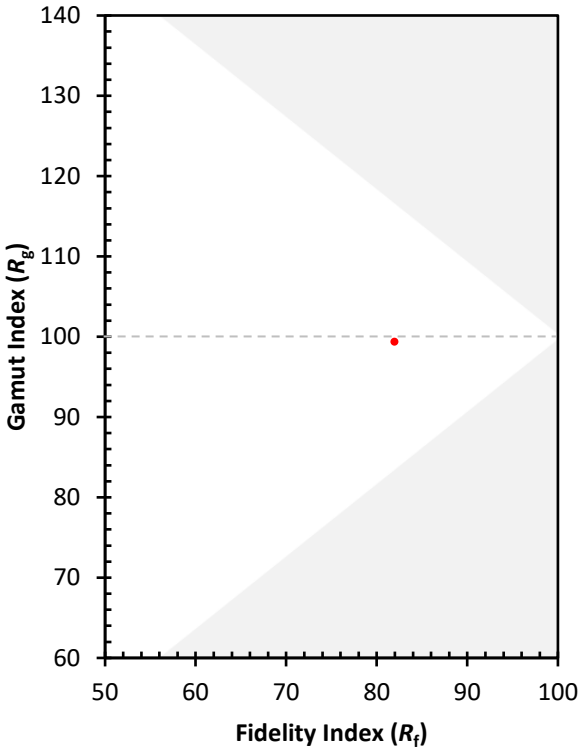



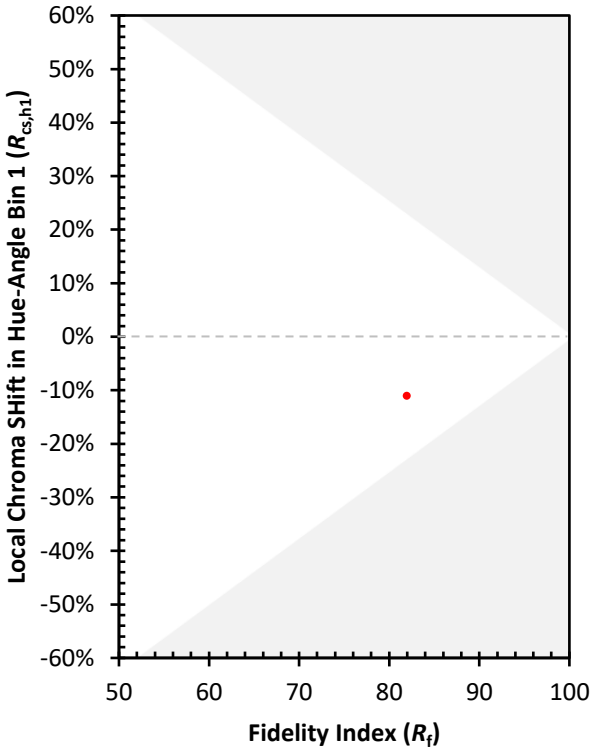



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## Measure Comparisons




(END OF REPORT)