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

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1121 Highway 74 South
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: STREETWORKS

Report Number: P1457759

Luminaire Tested: GLAN-SB7A-827-U-T2LG-HSS

Issue Date: 05/20/2026

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: | P1457759 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/21/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB7A-827-U-T2LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 350mA 7xLight Square PACKAGE 80CRI 2700K FIXTURE w/ TYPE II LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (182) 2700K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 20095.7 lumens |
| Efficiency: | N/A |
| Efficacy: | 100.9 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1.5' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B2 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 199.1 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.97 |
| Total Harmonic Distortion (THDi): | NR |
| 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: P1457759
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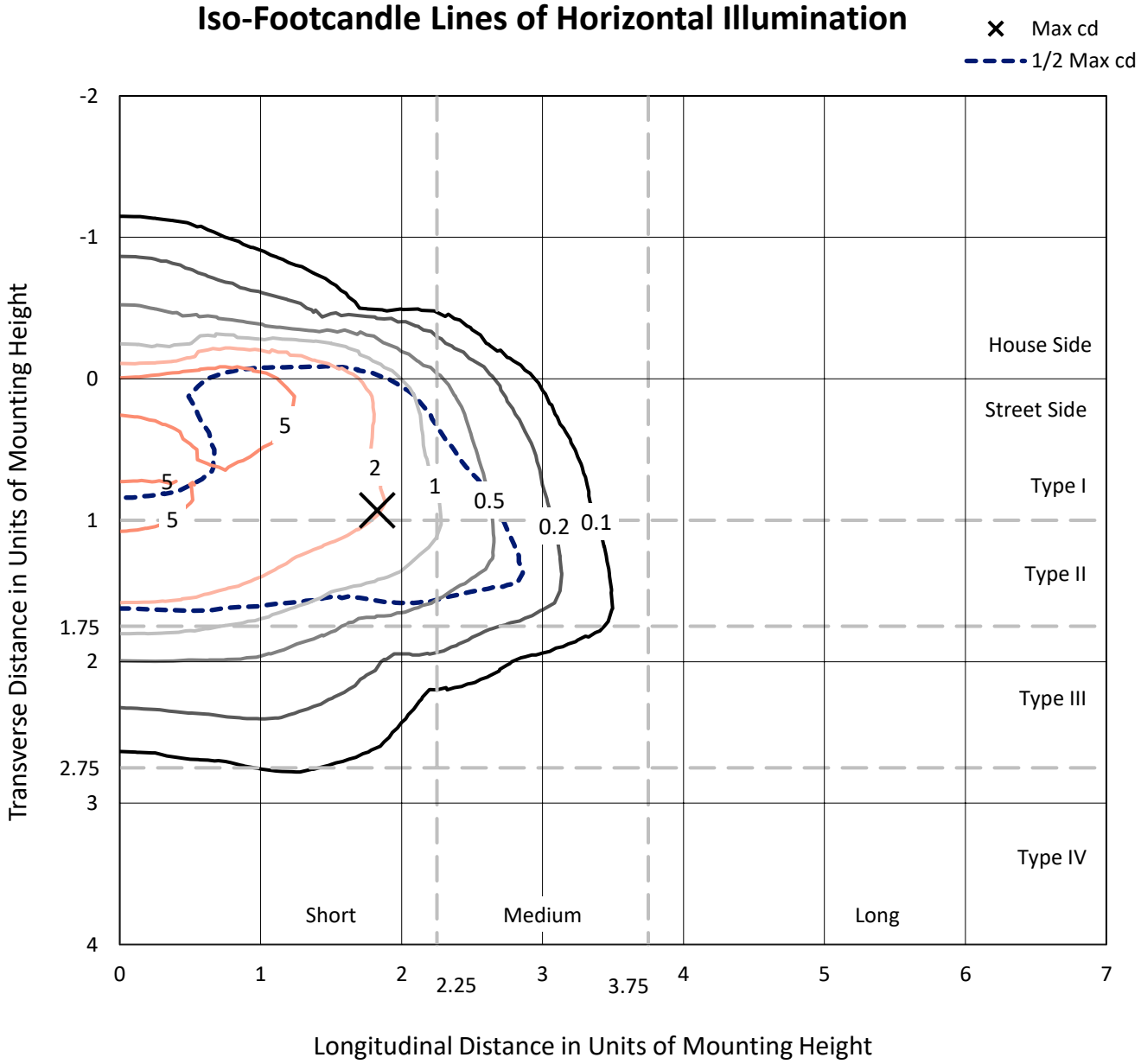
## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 9.2 fc
Type II - Short - N/A

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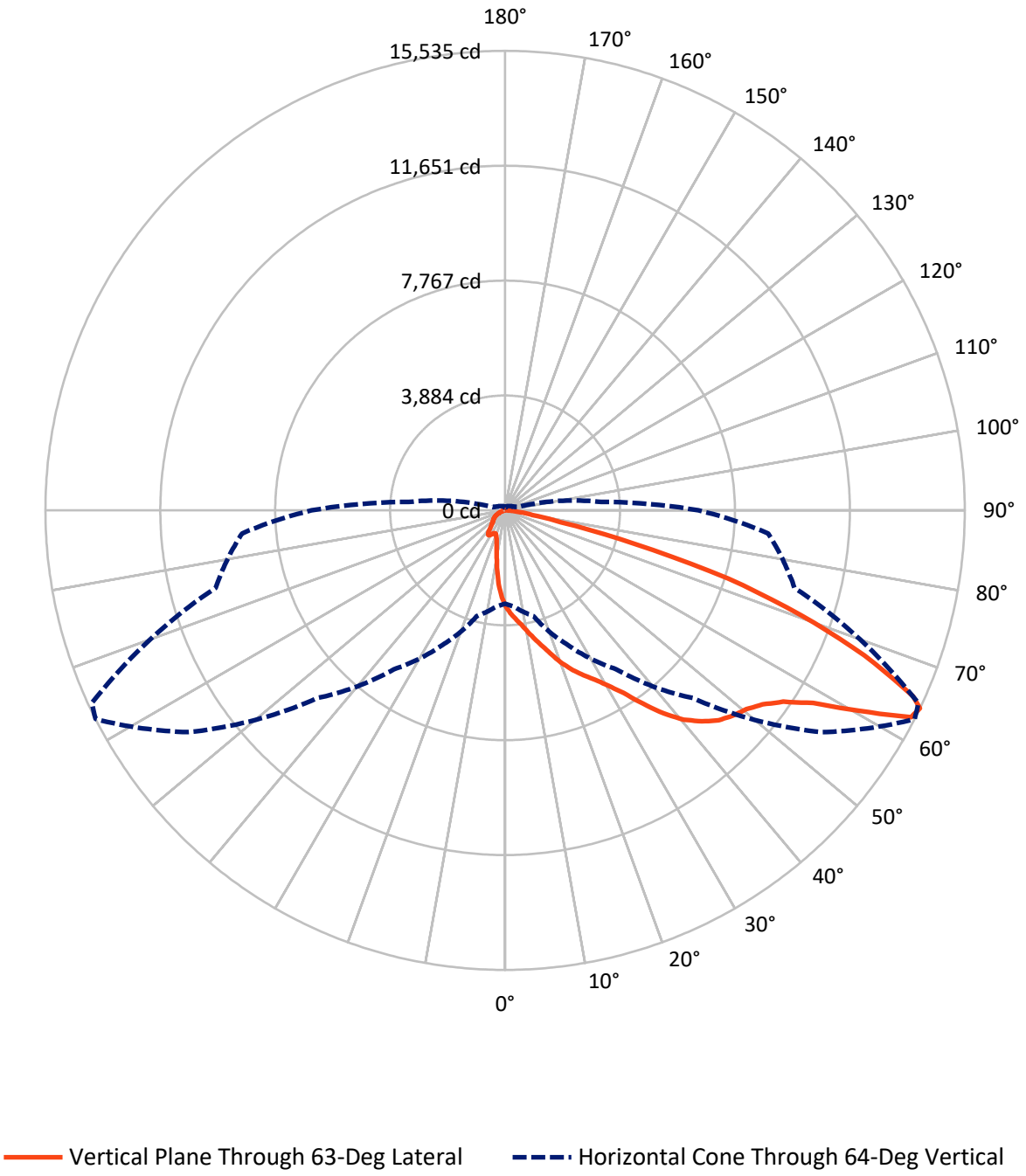
## Luminous Intensity Polar Plot



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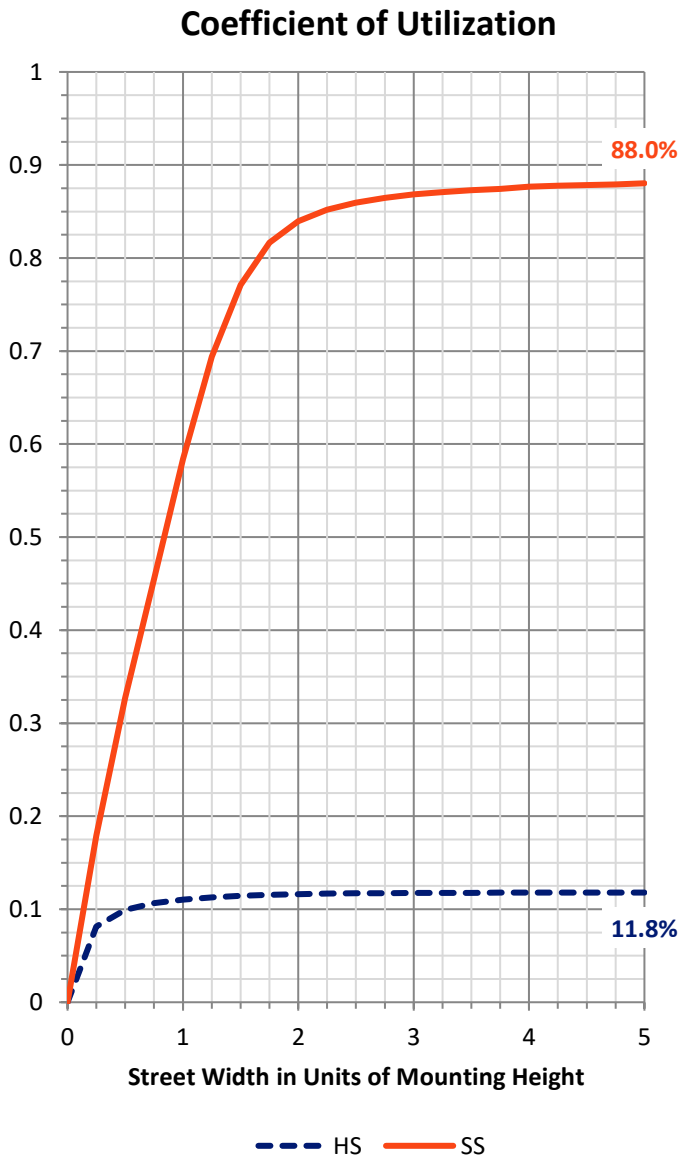
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 2384.7 | 0.0 | 2384.7 |
| | % Fixture | 11.9 | 0.0 | 11.9 |
| **Street Side** | Lumens | 17710.9 | 0.0 | 17710.9 |
| | % Fixture | 88.1 | 0.0 | 88.1 |
| **Total** | Lumens | 20095.7 | 0.0 | 20095.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 273.6 | 1.4 |
| 10°-20° | 768.9 | 3.8 |
| 20°-30° | 1369.4 | 6.8 |
| 30°-40° | 2615.6 | 13.0 |
| 40°-50° | 4335.5 | 21.6 |
| 50°-60° | 5404.2 | 26.9 |
| 60°-70° | 4029.7 | 20.1 |
| 70°-80° | 1155.7 | 5.8 |
| 80°-90° | 142.9 | 0.7 |
| 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° | 20095.7 | 100.0 |
| 0°-180° | 20095.7 | 100.0 |



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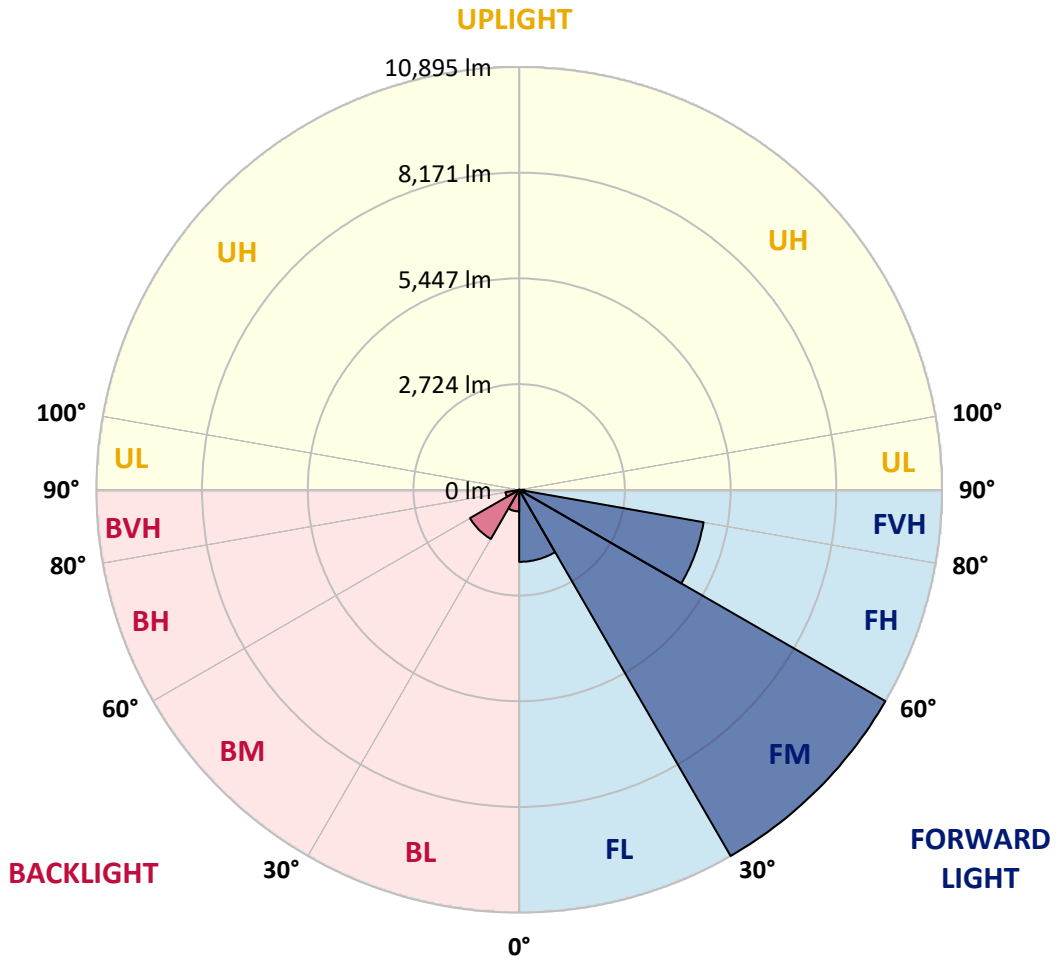
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1855.6 | 9.2 | | | |
| FM | (30°-60°) | 10894.7 | 54.2 | | | |
| FH | (60°-80°) | 4824.8 | 24.0 | | | G2/5000 |
| FVH | (80°-90°) | 135.9 | 0.7 | | | G2/225 |
| BL | (0°-30°) | 556.4 | 2.8 | B2/1000 | | |
| BM | (30°-60°) | 1460.7 | 7.3 | B2/2500 | | |
| BH | (60°-80°) | 360.7 | 1.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 7.0 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G2**
Type II Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 63° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 | *3249.2* | 3249.2 | 3249.2 | 3249.2 |
| 2.5° | 3641.1 | 3629.0 | 3617.0 | 3598.9 | 3574.8 | 3550.6 | 3520.5 | *3478.3* | 3460.2 | 3399.9 | 3327.6 |
| 5° | 3827.9 | 3827.9 | 3821.9 | 3809.9 | 3797.8 | 3773.7 | 3737.5 | *3683.3* | 3659.1 | 3574.8 | 3448.2 |
| 7.5° | 3876.2 | 3882.2 | 3900.3 | 3924.4 | 3960.6 | 3954.5 | 3954.5 | *3894.3* | 3882.2 | 3791.8 | 3623.0 |
| 10° | 3791.8 | 3797.8 | 3846.0 | 3912.3 | 4020.8 | 4123.3 | 4195.7 | *4159.5* | 4141.4 | 4051.0 | 3840.0 |
| 12.5° | 3671.2 | 3671.2 | 3749.6 | 3852.1 | 4020.8 | 4213.7 | 4424.7 | *4460.9* | 4466.9 | 4364.5 | 4111.3 |
| 15° | 3357.7 | 3369.8 | 3496.4 | 3701.3 | 3978.6 | 4280.1 | 4635.7 | *4774.4* | 4810.5 | 4744.2 | 4442.8 |
| 17.5° | 2941.8 | 2953.8 | 3080.4 | 3357.7 | 3773.7 | 4280.1 | 4816.6 | *5136.1* | 5184.3 | 5196.4 | 4864.8 |
| 20° | 2767.0 | 2767.0 | 2839.3 | 3050.3 | 3484.3 | 4165.5 | 4925.1 | *5521.9* | 5630.4 | 5763.0 | 5329.0 |
| 22.5° | 2791.1 | 2791.1 | 2833.3 | 2953.8 | 3303.5 | 4008.8 | 4991.4 | *5865.5* | 6088.5 | 6426.1 | 5925.8 |
| 25° | 2923.7 | 2923.7 | 2959.9 | 3038.2 | 3321.6 | 3984.7 | 5118.0 | *6172.9* | 6528.6 | 7167.6 | 6607.0 |
| 27.5° | 3134.7 | 3128.7 | 3158.8 | 3237.2 | 3496.4 | 4099.2 | 5329.0 | *6480.4* | 6878.2 | 7999.5 | 7390.6 |
| 30° | 3442.1 | 3424.0 | 3436.1 | 3526.5 | 3779.7 | 4364.5 | 5636.4 | *6872.2* | 7276.1 | 8909.8 | 8258.7 |
| 32.5° | 4153.5 | 4147.4 | 3972.6 | 3924.4 | 4195.7 | 4792.5 | 6058.4 | *7360.5* | 7812.6 | 9874.3 | 9150.9 |
| 35° | 5437.5 | 5521.9 | 5274.7 | 4641.8 | 4696.0 | 5365.1 | 6661.2 | *8023.6* | 8439.6 | 10899.1 | 10121.4 |
| 37.5° | 6739.6 | 6739.6 | 6637.1 | 5889.6 | 5509.8 | 5998.1 | 7312.3 | *8704.8* | 9138.8 | 11724.9 | 11055.8 |
| 40° | 7770.4 | 7824.7 | 7704.1 | 7143.5 | 6649.2 | 6721.5 | 7963.3 | *9301.6* | 9699.5 | 12231.3 | 11718.9 |
| 42.5° | 8536.0 | 8523.9 | 8475.7 | 8108.0 | 7830.7 | 7667.9 | 8554.1 | *9747.7* | 10127.5 | 12490.5 | 12134.9 |
| 45° | 9361.9 | 9361.9 | 9295.6 | 8994.2 | 8765.1 | 8626.4 | 8994.2 | *10121.4* | 10519.3 | 12647.3 | 12394.1 |
| 47.5° | 10223.9 | 10211.9 | 10145.5 | 9814.0 | 9566.8 | 9361.9 | 9440.2 | *10362.6* | 10760.4 | 12544.8 | 12436.3 |
| 50° | 10434.9 | 10422.8 | 10573.6 | 10585.6 | 10362.6 | 9970.7 | 9795.9 | *10567.5* | 10917.2 | 12550.8 | 12568.9 |
| 52.5° | 10187.7 | 10260.1 | 10483.1 | 10754.4 | 11007.6 | 10597.7 | 10175.7 | *10893.0* | 11254.7 | 12719.6 | 12900.5 |
| 55° | 9572.9 | 9603.0 | 10031.0 | 10465.0 | 11055.8 | 11200.5 | 10784.5 | *11411.5* | 11731.0 | 12882.4 | 13195.8 |
| 57.5° | 8427.5 | 8542.0 | 9000.2 | 9753.7 | 10651.9 | 11254.7 | 11845.5 | *12279.5* | 12520.7 | 12948.7 | 13033.1 |
| 60° | 6359.8 | 6420.1 | 7414.7 | 8391.3 | 9814.0 | 10820.7 | 12834.1 | *13750.4* | 13720.3 | 12201.2 | 11893.7 |
| 62.5° | 3870.1 | 3924.4 | 4635.7 | 6185.0 | 7975.4 | 9916.5 | 13165.7 | *15396.2* | 15233.4 | 10941.3 | 10012.9 |
| 64° | *3152.8* | *3255.3* | *3695.3* | *5021.5* | *6558.7* | *8970.0* | *13069.2* | *15534.8* | *15408.2* | *10127.5* | *8921.8* |
| 65° | 2694.6 | 2833.3 | 3285.4 | 4358.4 | 5576.1 | 7951.3 | 12804.0 | *15149.0* | 15064.6 | 9633.1 | 8017.6 |
| 67.5° | 1693.9 | 1760.2 | 2429.4 | 3387.9 | 3840.0 | 5087.8 | 11007.6 | *13099.4* | 13250.1 | 8584.2 | 5913.7 |
| 70° | 1259.9 | 1290.0 | 1669.8 | 2622.3 | 2996.0 | 2959.9 | 7559.4 | *10609.7* | 10645.9 | 6866.2 | 3568.7 |
| 72.5° | 916.3 | 922.3 | 1169.5 | 1941.1 | 2345.0 | 2019.5 | 3984.7 | *7885.0* | 7625.7 | 4020.8 | 1947.1 |
| 75° | 608.9 | 633.0 | 819.8 | 1368.4 | 1826.6 | 1482.9 | 1814.5 | *4491.0* | 4412.7 | 1965.2 | 1115.2 |
| 77.5° | 446.1 | 452.1 | 554.6 | 916.3 | 1434.7 | 1091.1 | 1097.1 | *1935.1* | 1995.4 | 1169.5 | 705.3 |
| 80° | 253.2 | 265.2 | 361.7 | 560.6 | 934.4 | 747.5 | 614.9 | *934.4* | 1073.0 | 795.7 | 470.2 |
| 82.5° | 150.7 | 162.8 | 259.2 | 367.7 | 639.0 | 307.4 | 313.5 | *512.4* | 639.0 | 572.7 | 253.2 |
| 85° | 90.4 | 96.5 | 162.8 | 198.9 | 379.8 | 205.0 | 114.5 | *253.2* | 331.6 | 337.6 | 138.6 |
| 87.5° | 60.3 | 60.3 | 90.4 | 84.4 | 108.5 | 96.5 | 48.2 | *66.3* | 84.4 | 114.5 | 54.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.0 | 0.0 |

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Scaled Data Report

REPORT NUMBER: P1457759
CATALOG NUMBER: GLAN-SB7A-827-U-T2LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 | 3249.2 |
| 2.5° | 3267.3 | 3231.1 | 3122.6 | 2978.0 | 2845.3 | 2742.9 | 2616.3 | 2531.9 | 2453.5 | 2453.5 | 2387.2 |
| 5° | 3345.7 | 3249.2 | 2984.0 | 2652.4 | 2296.8 | 1959.2 | 1742.2 | 1501.0 | 1422.7 | 1356.4 | 1368.4 |
| 7.5° | 3478.3 | 3303.5 | 2833.3 | 2236.5 | 1669.8 | 1308.1 | 1067.0 | 958.5 | 910.3 | 880.1 | 886.2 |
| 10° | 3641.1 | 3399.9 | 2652.4 | 1814.5 | 1229.8 | 958.5 | 844.0 | 801.8 | 783.7 | 777.6 | 777.6 |
| 12.5° | 3864.1 | 3514.5 | 2471.6 | 1458.8 | 970.5 | 825.9 | 765.6 | 741.5 | 723.4 | 711.3 | 711.3 |
| 15° | 4129.4 | 3659.1 | 2260.6 | 1199.6 | 850.0 | 759.6 | 711.3 | 687.2 | 663.1 | 657.1 | 657.1 |
| 17.5° | 4466.9 | 3809.9 | 2073.7 | 1030.8 | 789.7 | 711.3 | 663.1 | 633.0 | 614.9 | 608.9 | 608.9 |
| 20° | 4840.7 | 3996.7 | 1886.8 | 934.4 | 747.5 | 663.1 | 614.9 | 590.8 | 572.7 | 560.6 | 566.7 |
| 22.5° | 5316.9 | 4231.8 | 1766.3 | 886.2 | 711.3 | 620.9 | 572.7 | 548.6 | 530.5 | 518.4 | 524.5 |
| 25° | 5841.4 | 4527.2 | 1700.0 | 886.2 | 687.2 | 590.8 | 536.5 | 512.4 | 494.3 | 482.3 | 482.3 |
| 27.5° | 6480.4 | 4858.8 | 1706.0 | 922.3 | 681.2 | 566.7 | 506.4 | 482.3 | 464.2 | 446.1 | 446.1 |
| 30° | 7185.7 | 5250.6 | 1772.3 | 988.6 | 693.2 | 542.5 | 482.3 | 446.1 | 434.0 | 415.9 | 415.9 |
| 32.5° | 7933.2 | 5702.7 | 1941.1 | 1073.0 | 681.2 | 512.4 | 446.1 | 415.9 | 397.9 | 385.8 | 385.8 |
| 35° | 8722.9 | 6215.1 | 2152.1 | 1109.2 | 620.9 | 470.2 | 415.9 | 385.8 | 373.8 | 367.7 | 361.7 |
| 37.5° | 9476.4 | 6661.2 | 2266.6 | 1036.9 | 542.5 | 434.0 | 379.8 | 349.6 | 343.6 | 331.6 | 331.6 |
| 40° | 10061.2 | 7028.9 | 2200.3 | 886.2 | 500.3 | 397.9 | 349.6 | 319.5 | 307.4 | 295.4 | 295.4 |
| 42.5° | 10404.8 | 7161.6 | 1959.2 | 753.5 | 470.2 | 361.7 | 319.5 | 289.4 | 277.3 | 271.3 | 271.3 |
| 45° | 10603.7 | 7143.5 | 1675.9 | 675.2 | 440.1 | 331.6 | 289.4 | 271.3 | 253.2 | 247.2 | 241.1 |
| 47.5° | 10597.7 | 6956.6 | 1470.9 | 608.9 | 409.9 | 307.4 | 271.3 | 253.2 | 235.1 | 229.1 | 229.1 |
| 50° | 10555.5 | 6679.3 | 1241.8 | 560.6 | 385.8 | 289.4 | 253.2 | 241.1 | 223.0 | 217.0 | 211.0 |
| 52.5° | 10657.9 | 6522.6 | 1036.9 | 530.5 | 355.7 | 277.3 | 247.2 | 229.1 | 205.0 | 198.9 | 198.9 |
| 55° | 10784.5 | 6432.1 | 831.9 | 500.3 | 331.6 | 271.3 | 235.1 | 217.0 | 192.9 | 186.9 | 186.9 |
| 57.5° | 10416.8 | 6088.5 | 687.2 | 452.1 | 301.4 | 259.2 | 223.0 | 211.0 | 186.9 | 168.8 | 168.8 |
| 60° | 9259.4 | 5033.6 | 566.7 | 397.9 | 277.3 | 241.1 | 211.0 | 192.9 | 168.8 | 144.7 | 144.7 |
| 62.5° | 7529.3 | 3840.0 | 470.2 | 337.6 | 259.2 | 223.0 | 192.9 | 174.8 | 144.7 | 114.5 | 114.5 |
| 64° | *6540.7* | *3261.3* | *422.0* | *295.4* | *247.2* | *205.0* | *174.8* | *156.7* | *126.6* | *96.5* | *90.4* |
| 65° | 5865.5 | 2881.5 | 391.8 | 277.3 | 241.1 | 192.9 | 168.8 | 150.7 | 114.5 | 90.4 | 84.4 |
| 67.5° | 4129.4 | 1935.1 | 313.5 | 229.1 | 211.0 | 162.8 | 144.7 | 126.6 | 102.5 | 78.4 | 72.3 |
| 70° | 2405.3 | 1097.1 | 247.2 | 192.9 | 162.8 | 126.6 | 120.6 | 114.5 | 90.4 | 60.3 | 60.3 |
| 72.5° | 1308.1 | 548.6 | 186.9 | 156.7 | 126.6 | 90.4 | 102.5 | 90.4 | 72.3 | 48.2 | 42.2 |
| 75° | 801.8 | 337.6 | 138.6 | 114.5 | 84.4 | 66.3 | 78.4 | 66.3 | 42.2 | 30.1 | 24.1 |
| 77.5° | 536.5 | 217.0 | 102.5 | 78.4 | 54.3 | 42.2 | 54.3 | 36.2 | 18.1 | 6.0 | 6.0 |
| 80° | 331.6 | 150.7 | 66.3 | 48.2 | 30.1 | 18.1 | 12.1 | 6.0 | 6.0 | 0.0 | 0.0 |
| 82.5° | 144.7 | 96.5 | 36.2 | 24.1 | 12.1 | 6.0 | 6.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 78.4 | 30.1 | 12.1 | 6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 24.1 | 12.1 | 6.0 | 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: SP1-2407-184-8

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-827-U-5WQ

Data in this report applies to families of products including GSS-SB1A-827-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

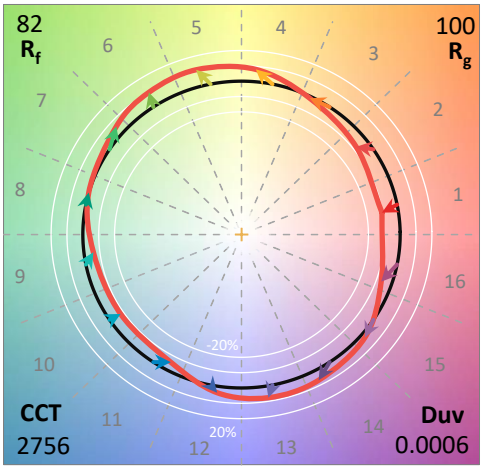
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-8 |
| 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-827-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 2700K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2756 |
| CIE u': | 0.2599 |
| CIE v': | 0.5271 |
| Duv: | 0.0006 |
| CIE x: | 0.4563 |
| CIE y: | 0.4112 |
| CIE z: | 0.1325 |
| Peak Wavelength (nm): | 609 |
| Dominant Wavelength (nm): | 583 |
| Purity: | 60.41121 |
| Rf: | 82.2 |
| Rg: | 99.9 |

| | |
|---|---|
| CRI (Ra): | 82.9 |
| R1: | 81.6 |
| R2: | 88.8 |
| R3: | 96.0 |
| R4: | 83.4 |
| R5: | 81.4 |
| R6: | 87.0 |
| R7: | 84.0 |
| R8: | 60.8 |
| R9: | 10.8 |
| R10: | 74.8 |
| R11: | 84.3 |
| R12: | 72.1 |
| R13: | 82.9 |
| R14: | 97.3 |
| R15: | 73.7 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 29M |
| Operation Time: | 1H 29M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-8

| 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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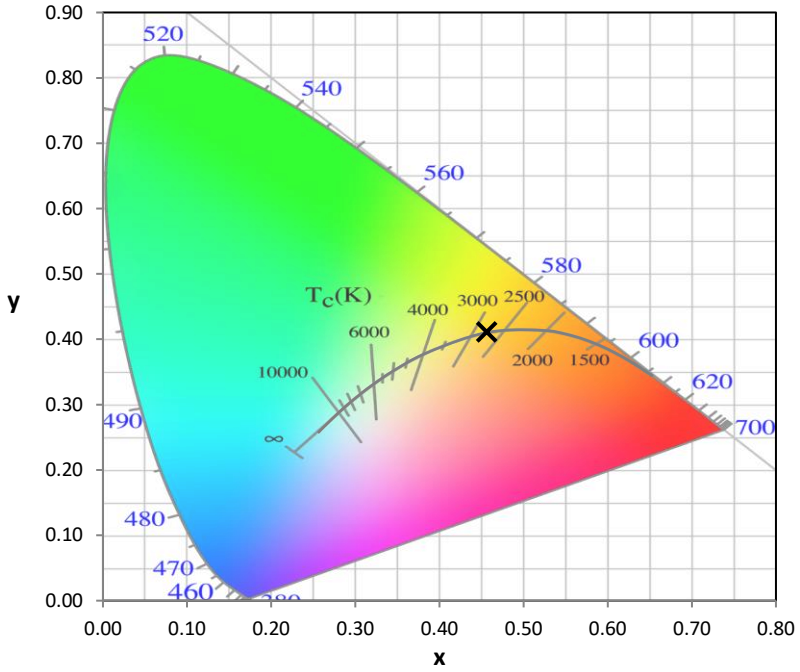
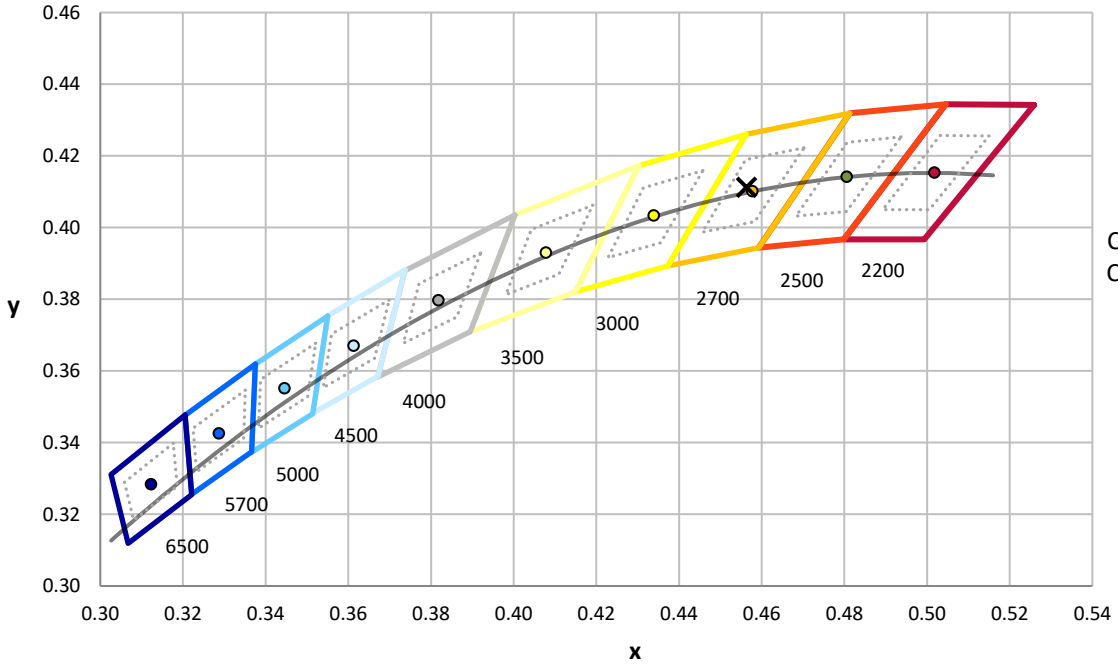
## CIE 1931 Chromaticity Diagram




## CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles




CCT = 2756K
CIE x = 0.4563
CIE y = 0.4112
Duv = 0.0006

Point lies inside the ANSI 2700K 4-step quadrangle

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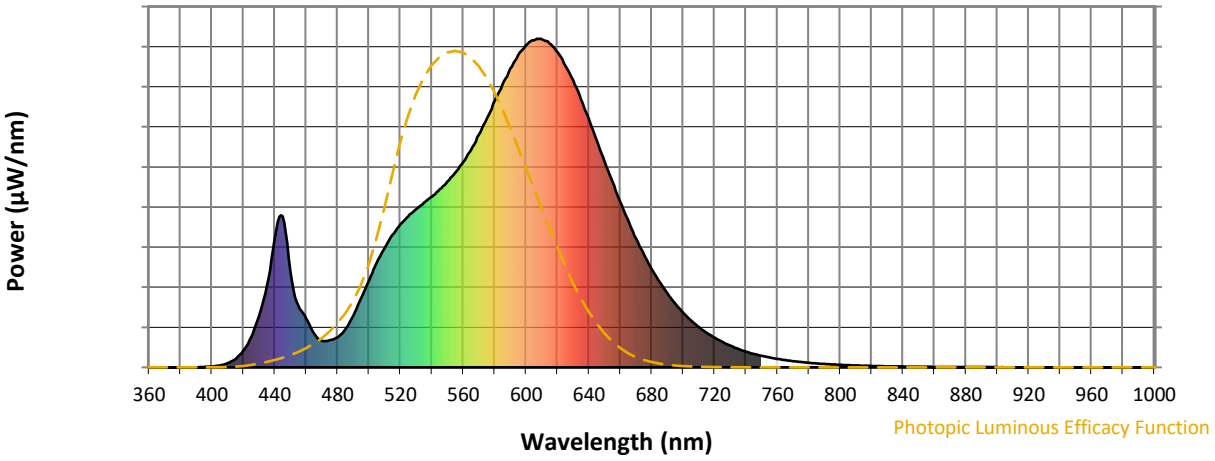
## Photopic Flux vs. Wavelength




## 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 | 158 | NR | 620 | 959 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 211 | NR | 625 | 918 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 264 | NR | 630 | 873 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 318 | NR | 635 | 816 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 363 | NR | 640 | 755 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 403 | NR | 645 | 689 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 435 | NR | 650 | 626 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 459 | NR | 655 | 564 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 481 | NR | 660 | 503 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 501 | NR | 665 | 447 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 519 | NR | 670 | 392 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 26 | NR | 545 | 542 | NR | 675 | 343 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 51 | NR | 550 | 565 | NR | 680 | 299 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 93 | NR | 555 | 593 | NR | 685 | 260 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 156 | NR | 560 | 624 | NR | 690 | 225 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 250 | NR | 565 | 662 | NR | 695 | 194 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 391 | NR | 570 | 707 | NR | 700 | 166 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 460 | NR | 575 | 756 | NR | 705 | 143 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 293 | NR | 580 | 810 | NR | 710 | 122 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 188 | NR | 585 | 860 | NR | 715 | 105 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 149 | NR | 590 | 910 | NR | 720 | 90 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 103 | NR | 595 | 950 | NR | 725 | 77 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 80 | NR | 600 | 980 | NR | 730 | 66 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 82 | NR | 605 | 995 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 92 | NR | 610 | 998 | NR | 740 | 48 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 116 | NR | 615 | 985 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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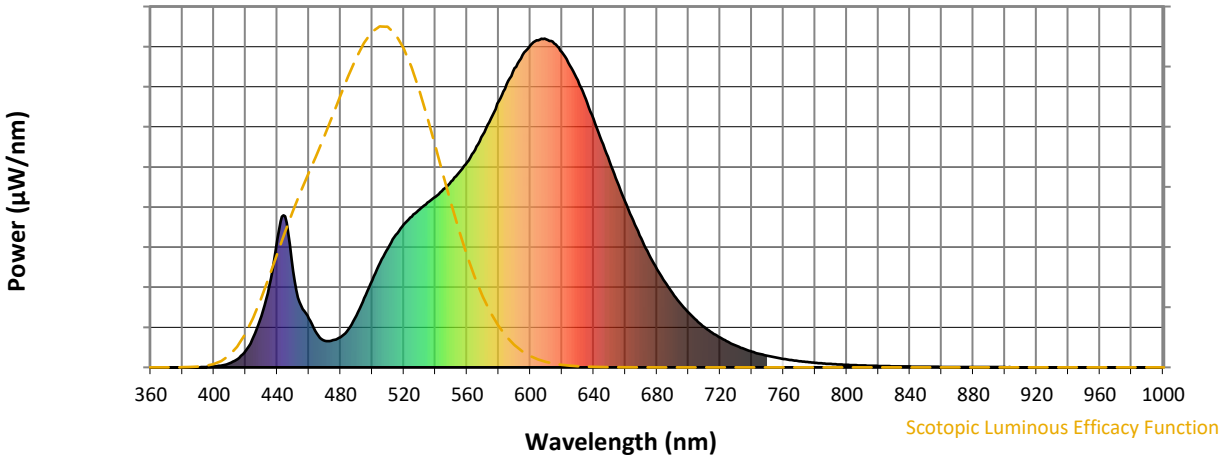
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.2**

| 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 | 158 | NR | 620 | 959 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 211 | NR | 625 | 918 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 264 | NR | 630 | 873 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 318 | NR | 635 | 816 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 363 | NR | 640 | 755 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 403 | NR | 645 | 689 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 435 | NR | 650 | 626 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 459 | NR | 655 | 564 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 481 | NR | 660 | 503 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 501 | NR | 665 | 447 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 519 | NR | 670 | 392 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 26 | NR | 545 | 542 | NR | 675 | 343 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 51 | NR | 550 | 565 | NR | 680 | 299 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 93 | NR | 555 | 593 | NR | 685 | 260 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 156 | NR | 560 | 624 | NR | 690 | 225 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 250 | NR | 565 | 662 | NR | 695 | 194 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 391 | NR | 570 | 707 | NR | 700 | 166 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 460 | NR | 575 | 756 | NR | 705 | 143 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 293 | NR | 580 | 810 | NR | 710 | 122 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 188 | NR | 585 | 860 | NR | 715 | 105 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 149 | NR | 590 | 910 | NR | 720 | 90 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 103 | NR | 595 | 950 | NR | 725 | 77 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 80 | NR | 600 | 980 | NR | 730 | 66 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 82 | NR | 605 | 995 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 92 | NR | 610 | 998 | NR | 740 | 48 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 116 | NR | 615 | 985 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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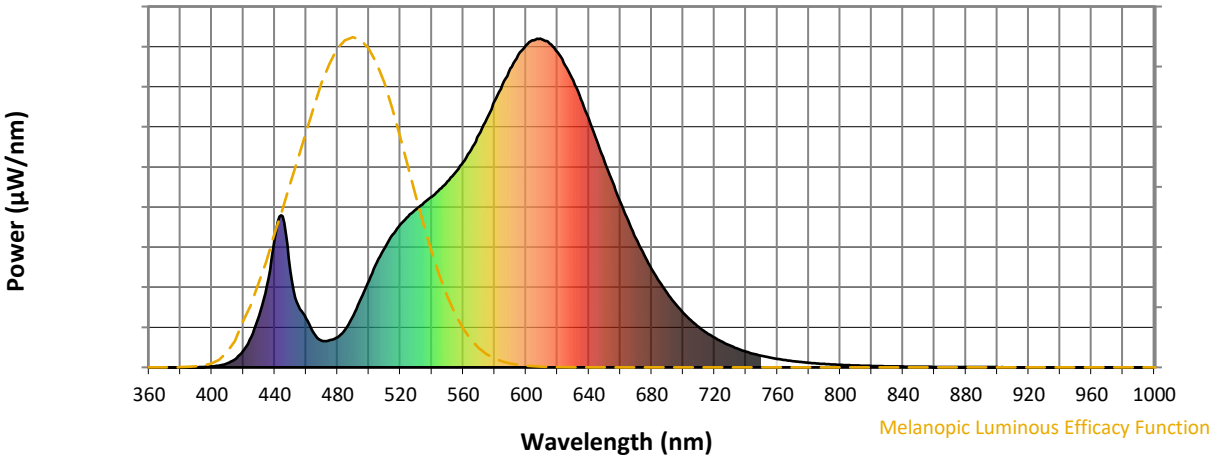
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.16**

| 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 | 158 | NR | 620 | 959 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 211 | NR | 625 | 918 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 264 | NR | 630 | 873 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 318 | NR | 635 | 816 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 363 | NR | 640 | 755 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 403 | NR | 645 | 689 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 435 | NR | 650 | 626 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 459 | NR | 655 | 564 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 481 | NR | 660 | 503 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 501 | NR | 665 | 447 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 519 | NR | 670 | 392 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 26 | NR | 545 | 542 | NR | 675 | 343 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 51 | NR | 550 | 565 | NR | 680 | 299 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 93 | NR | 555 | 593 | NR | 685 | 260 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 156 | NR | 560 | 624 | NR | 690 | 225 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 250 | NR | 565 | 662 | NR | 695 | 194 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 391 | NR | 570 | 707 | NR | 700 | 166 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 460 | NR | 575 | 756 | NR | 705 | 143 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 293 | NR | 580 | 810 | NR | 710 | 122 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 188 | NR | 585 | 860 | NR | 715 | 105 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 149 | NR | 590 | 910 | NR | 720 | 90 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 103 | NR | 595 | 950 | NR | 725 | 77 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 80 | NR | 600 | 980 | NR | 730 | 66 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 82 | NR | 605 | 995 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 92 | NR | 610 | 998 | NR | 740 | 48 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 116 | NR | 615 | 985 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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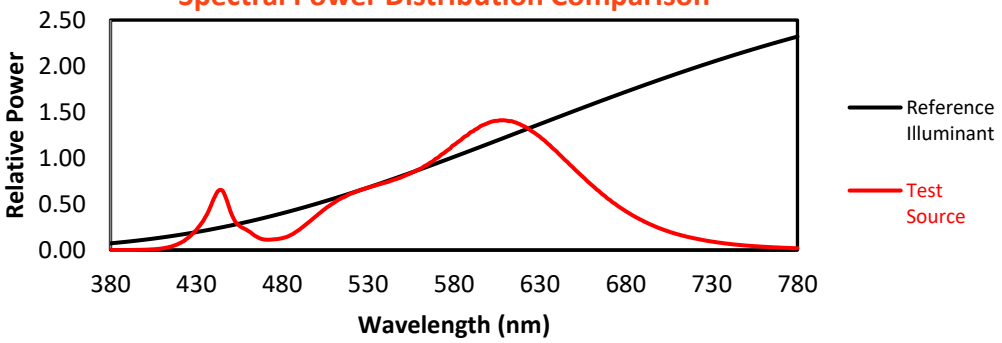
## TM-30-18

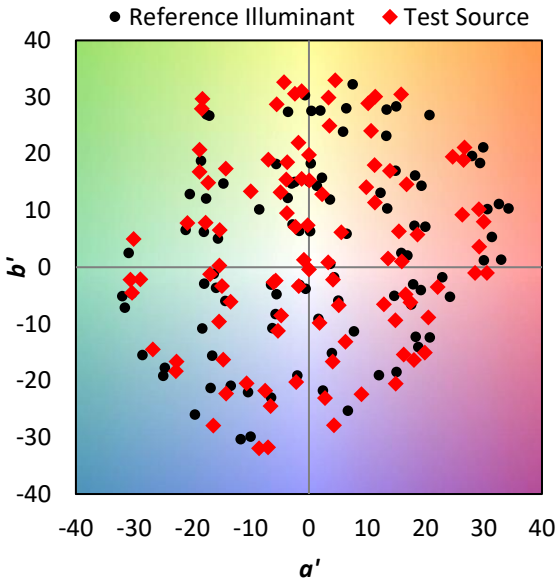
### Summary

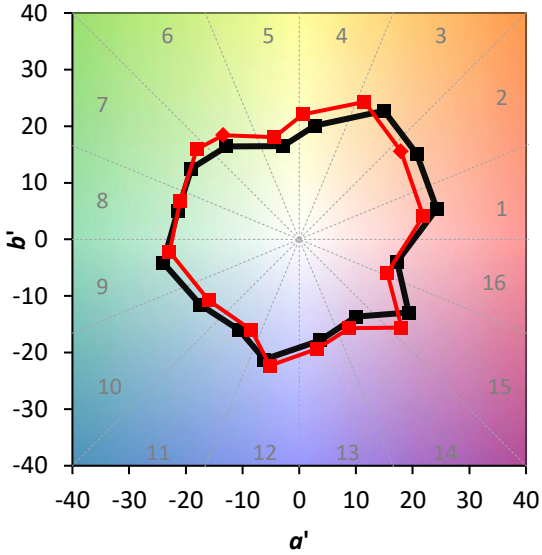
$R_f$ = 82.2
$R_g$ = 99.9
CIE $R_a$ = 82.9
$R_9$ = 10.8

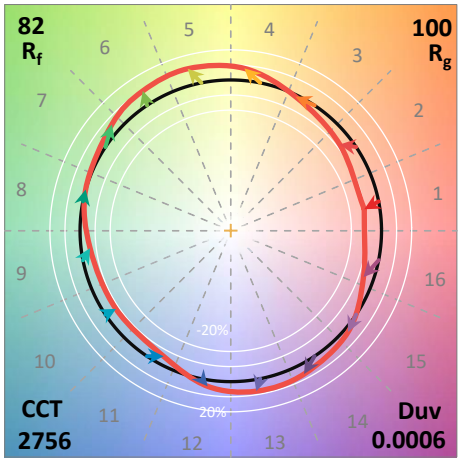
### Spectral Power Distribution Comparison

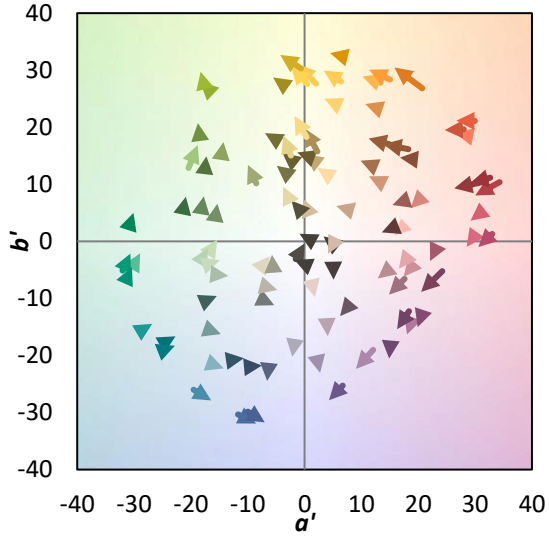



### Color Vector Graphics



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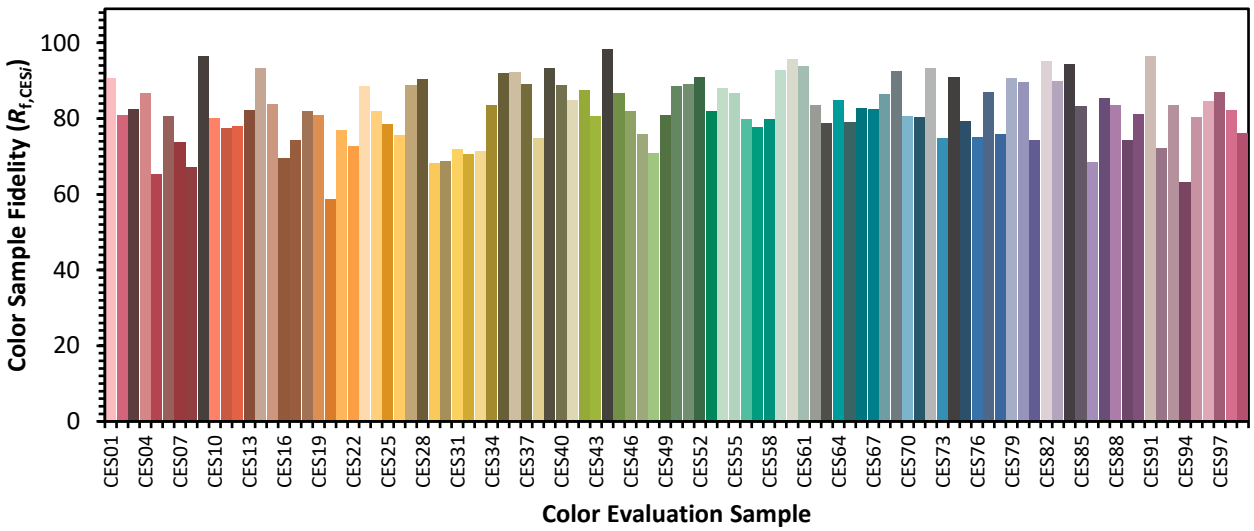
# TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 76 | CES51 = 89 | CES76 = 75 |
| CES02 = 63 | CES27 = 89 | CES52 = 91 | CES77 = 87 |
| CES03 = 31 | CES28 = 90 | CES53 = 82 | CES78 = 76 |
| CES04 = 71 | CES29 = 68 | CES54 = 88 | CES79 = 91 |
| CES05 = 50 | CES30 = 69 | CES55 = 87 | CES80 = 90 |
| CES06 = 52 | CES31 = 72 | CES56 = 80 | CES81 = 74 |
| CES07 = 43 | CES32 = 71 | CES57 = 78 | CES82 = 95 |
| CES08 = 42 | CES33 = 71 | CES58 = 80 | CES83 = 90 |
| CES09 = 29 | CES34 = 84 | CES59 = 93 | CES84 = 94 |
| CES10 = 77 | CES35 = 92 | CES60 = 96 | CES85 = 83 |
| CES11 = 59 | CES36 = 92 | CES61 = 94 | CES86 = 69 |
| CES12 = 66 | CES37 = 89 | CES62 = 84 | CES87 = 85 |
| CES13 = 44 | CES38 = 75 | CES63 = 79 | CES88 = 84 |
| CES14 = 74 | CES39 = 93 | CES64 = 85 | CES89 = 74 |
| CES15 = 72 | CES40 = 89 | CES65 = 79 | CES90 = 81 |
| CES16 = 48 | CES41 = 85 | CES66 = 83 | CES91 = 96 |
| CES17 = 50 | CES42 = 88 | CES67 = 82 | CES92 = 72 |
| CES18 = 57 | CES43 = 81 | CES68 = 86 | CES93 = 84 |
| CES19 = 73 | CES44 = 98 | CES69 = 92 | CES94 = 63 |
| CES20 = 67 | CES45 = 87 | CES70 = 81 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 81 | CES96 = 85 |
| CES22 = 79 | CES47 = 76 | CES72 = 93 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 75 | CES98 = 82 |
| CES24 = 91 | CES49 = 81 | CES74 = 91 | CES99 = 76 |
| CES25 = 72 | CES50 = 88 | CES75 = 79 | |



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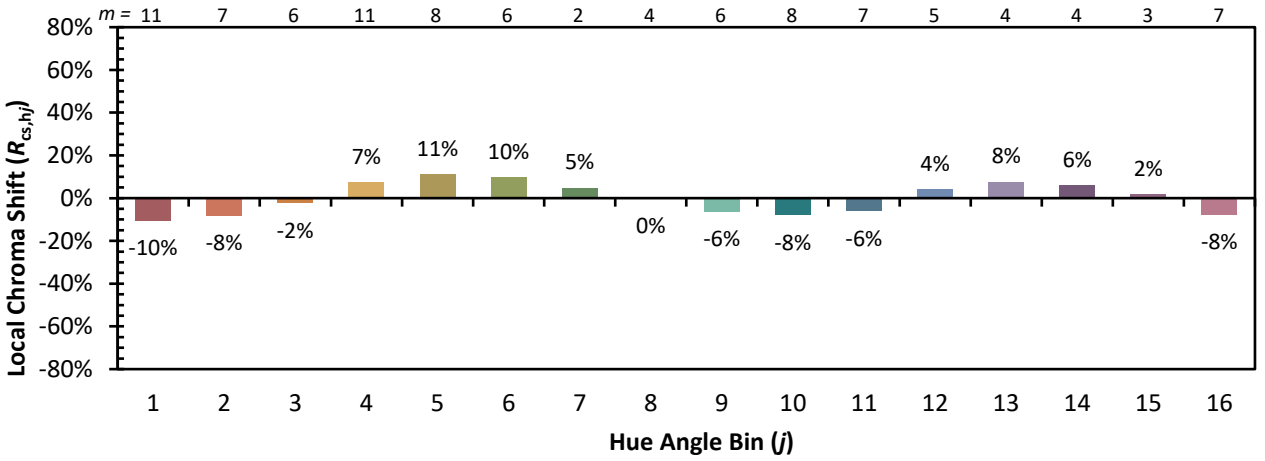
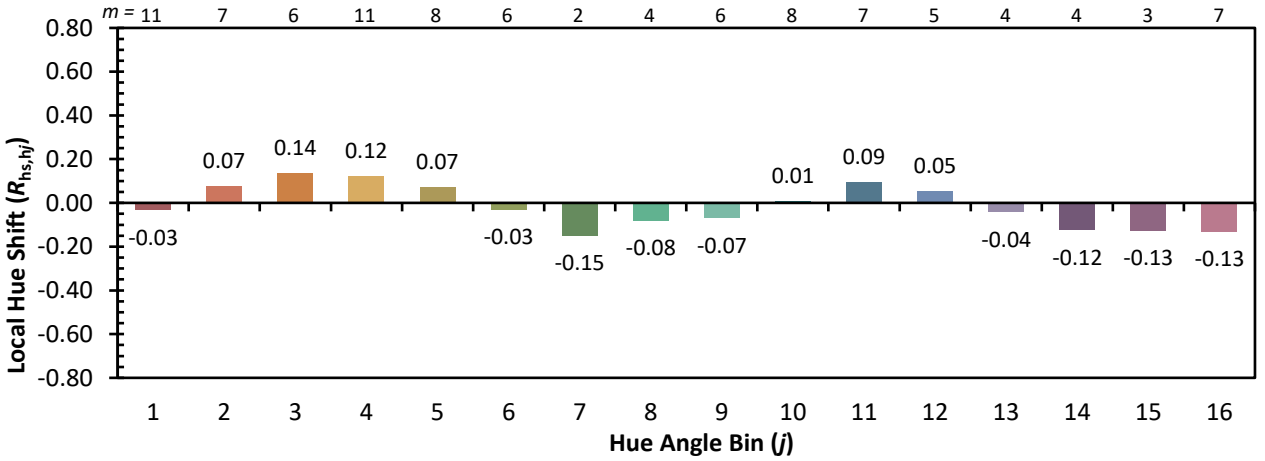
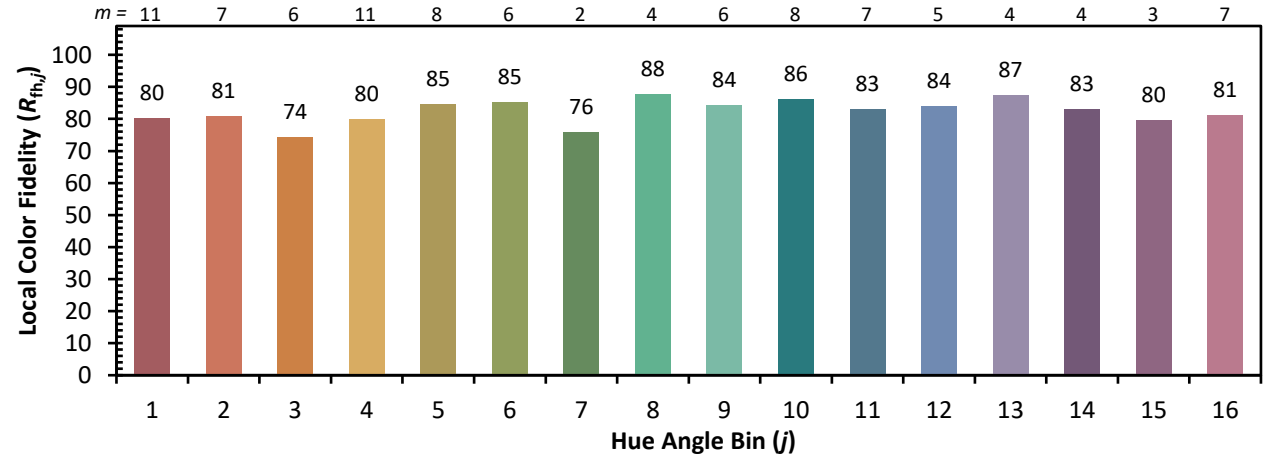
## Color Rendition by Hue-Angle Bin



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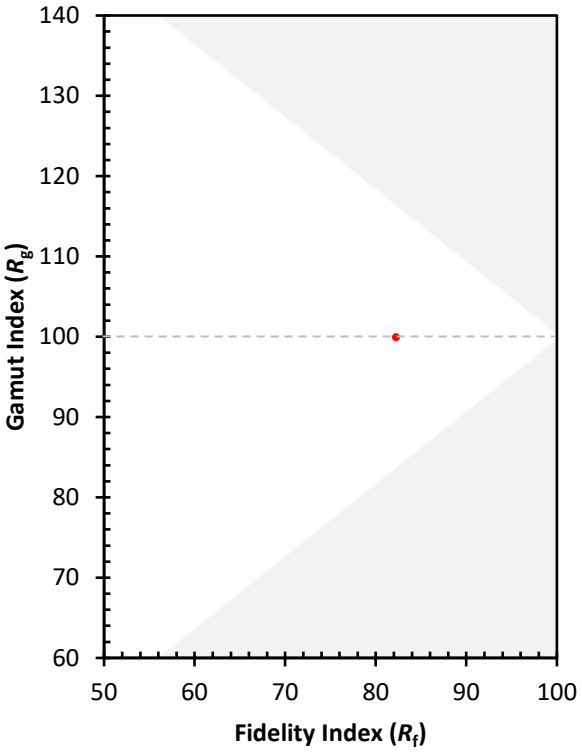
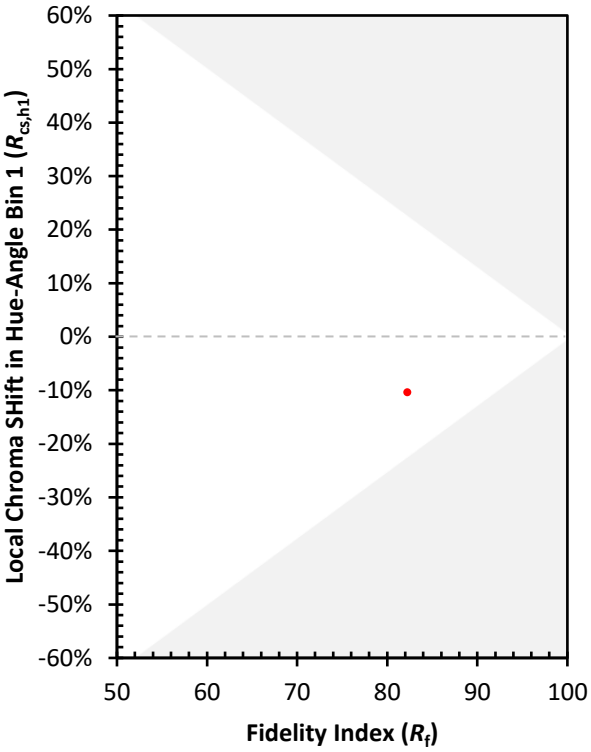
## Measure Comparisons




(END OF REPORT)