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

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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: P1501127

Luminaire Tested: GSS-SB5C-827-U-T3LG

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: | P1501127 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB5C-827-U-T3LG |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 5SQUARE 252W 80CRI 2700K FIXTURE w/ TYPE III LOW GLARE DISTRIBUTION FIXTURE |
| Light Source: | (130) 2700K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 32104 lumens |
| Efficiency: | N/A |
| Efficacy: | 127.4 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G3 |

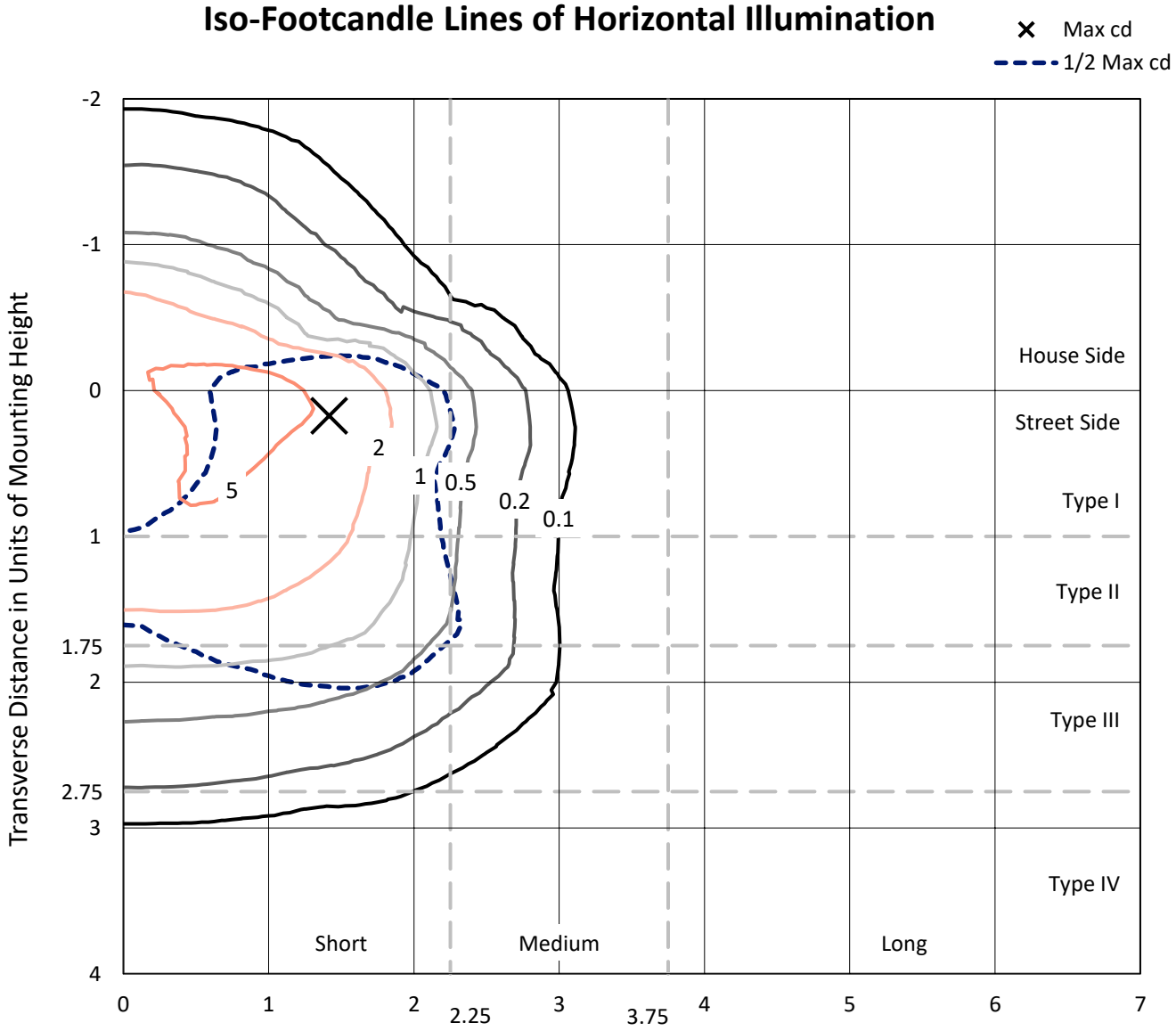
| | |
|---|---|
| Input Watts (W): | 252 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 7.9% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1501127
CATALOG NUMBER: GSS-SB5C-827-U-T3LG

## Iso-Footcandle Lines of Horizontal Illumination



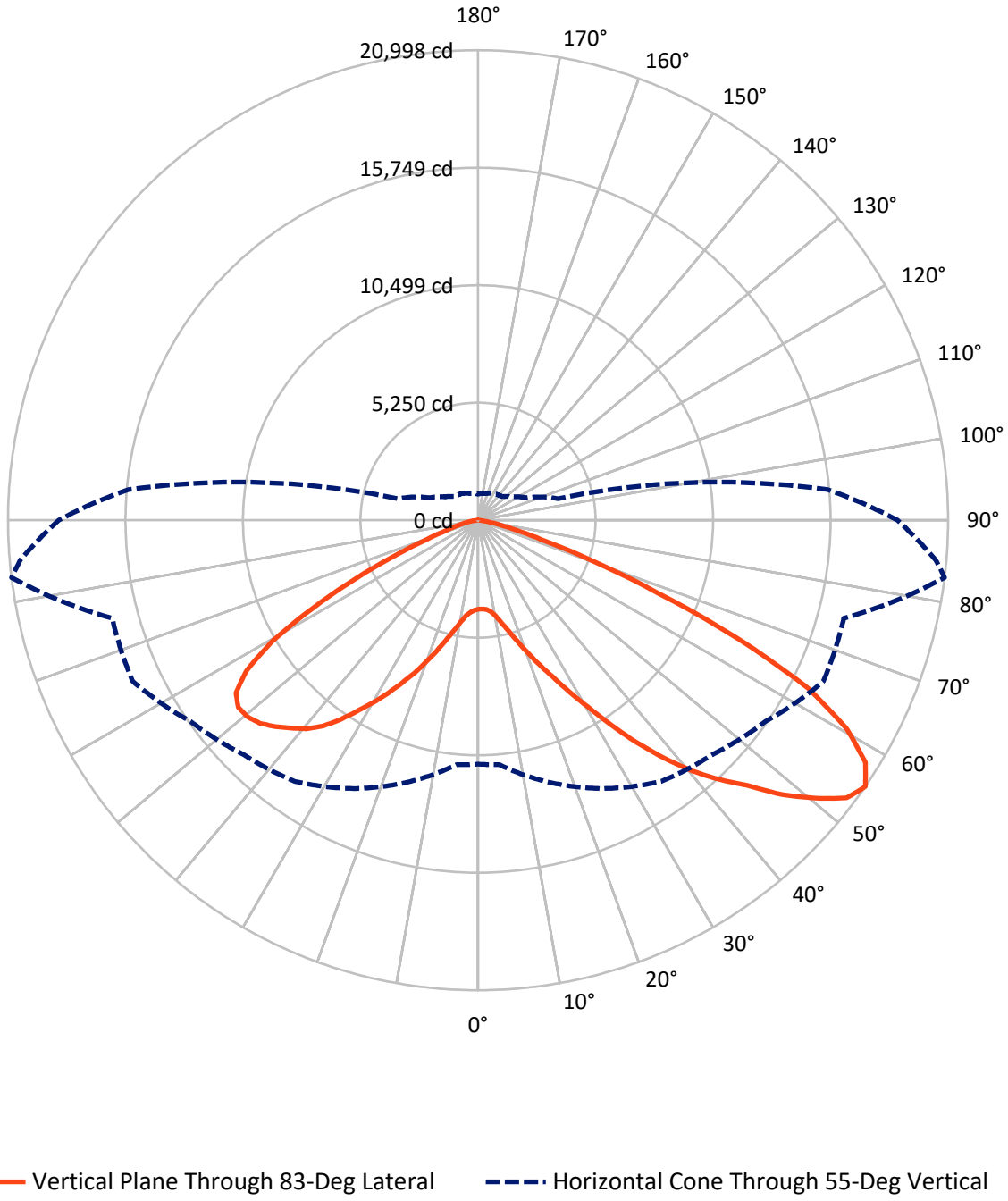

Based on 30 foot mounting height. Maximum calculated value = 7.5 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

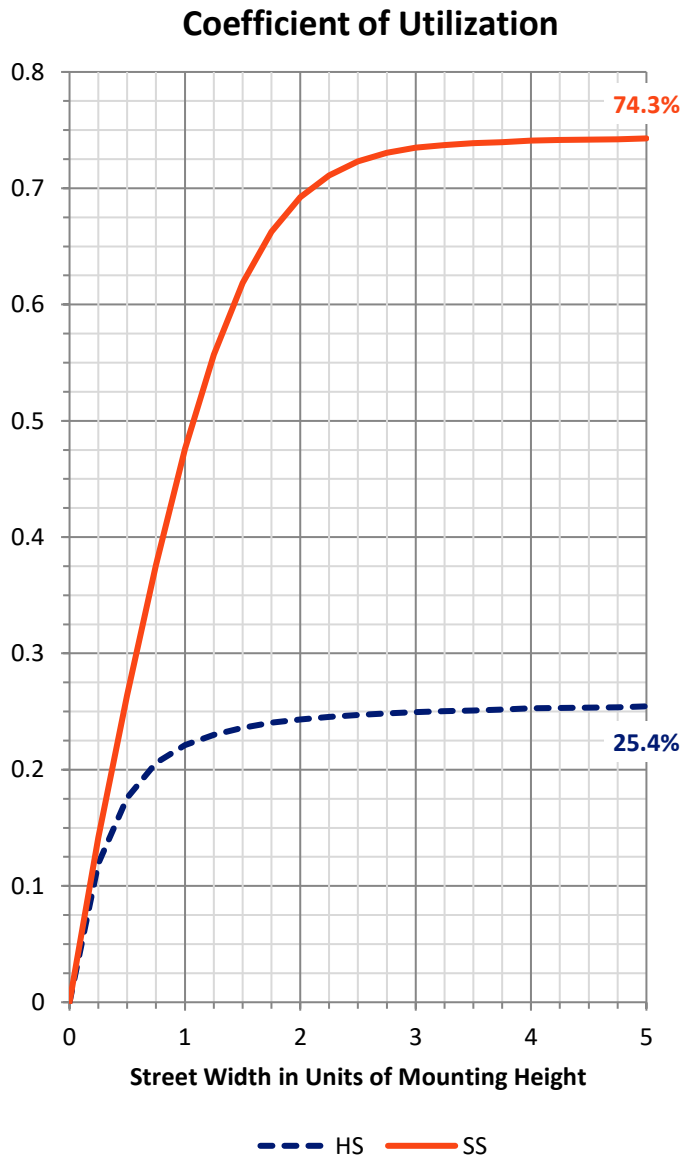
REPORT NUMBER: P1501127
CATALOG NUMBER: GSS-SB5C-827-U-T3LG

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 8238.6 | 0.0 | 8238.6 |
| | % Fixture | 25.7 | 0.0 | 25.7 |
| **Street Side** | Lumens | 23865.5 | 0.0 | 23865.5 |
| | % Fixture | 74.3 | 0.0 | 74.3 |
| **Total** | Lumens | 32104.0 | 0.0 | 32104.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 384.0 | 1.2 |
| 10°-20° | 1250.9 | 3.9 |
| 20°-30° | 2504.3 | 7.8 |
| 30°-40° | 4455.6 | 13.9 |
| 40°-50° | 6714.4 | 20.9 |
| 50°-60° | 8181.9 | 25.5 |
| 60°-70° | 6616.2 | 20.6 |
| 70°-80° | 1812.1 | 5.6 |
| 80°-90° | 184.6 | 0.6 |
| 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° | 32104.0 | 100.0 |
| 0°-180° | 32104.0 | 100.0 |



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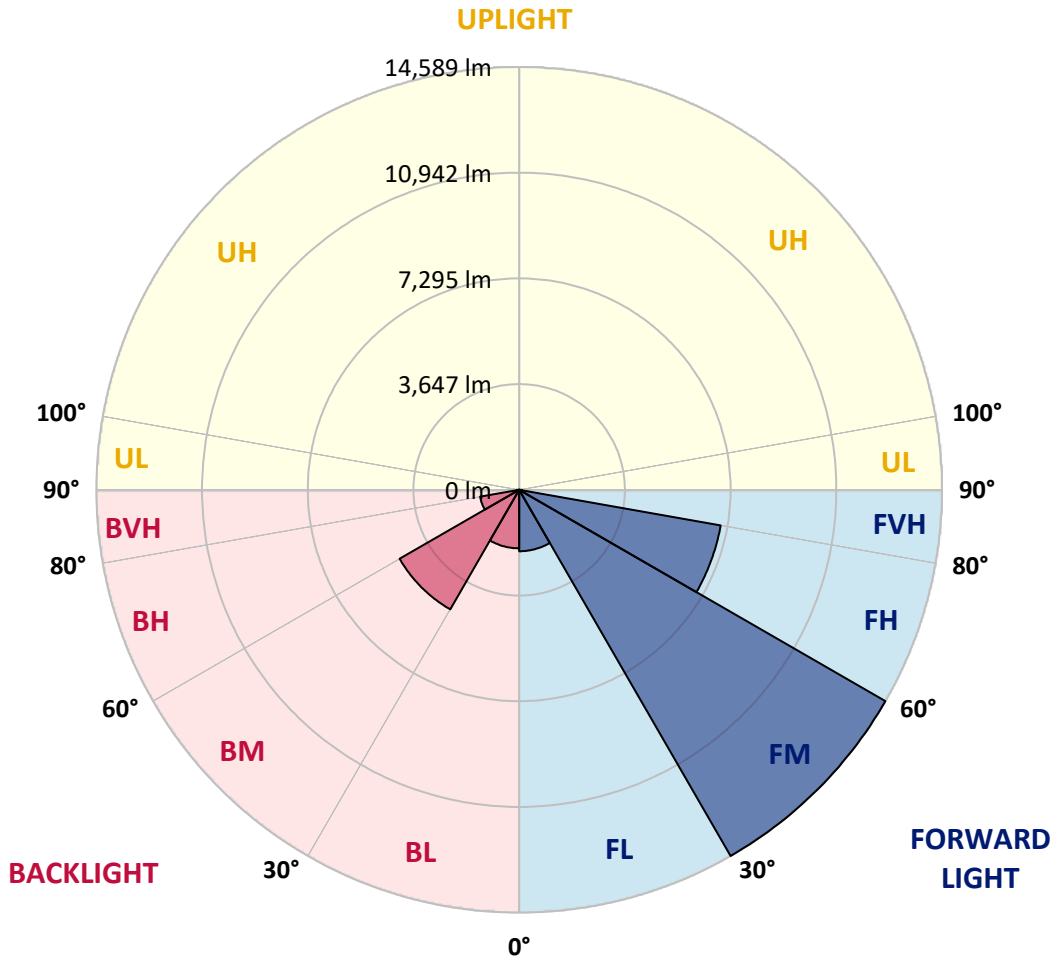
Scaled Data Report

REPORT NUMBER: P1501127
CATALOG NUMBER: GSS-SB5C-827-U-T3LG

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2119.8 | 6.6 | | | |
| FM | (30°-60°) | 14589.1 | 45.4 | | | |
| FH | (60°-80°) | 7060.5 | 22.0 | | | G3/7500 |
| FVH | (80°-90°) | 96.1 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 2019.5 | 6.3 | B3/2500 | | |
| BM | (30°-60°) | 4762.8 | 14.8 | B3/5000 | | |
| BH | (60°-80°) | 1367.8 | 4.3 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 88.4 | 0.3 | | | G1/100 |
| 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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REPORT NUMBER: P1501127
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 83° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | *3974.1* | 3974.1 |
| 2.5° | 3860.0 | 3852.8 | 3845.7 | 3838.6 | 3852.8 | 3874.2 | 3895.7 | 3909.9 | 3945.6 | *3974.1* | 3959.9 |
| 5° | 3553.2 | 3538.9 | 3553.2 | 3610.3 | 3660.2 | 3745.8 | 3831.4 | 3888.5 | 3967.0 | *4002.7* | 4016.9 |
| 7.5° | 3282.1 | 3267.8 | 3282.1 | 3353.4 | 3439.0 | 3574.6 | 3753.0 | 3895.7 | 4038.4 | *4124.0* | 4138.2 |
| 10° | 3282.1 | 3289.2 | 3289.2 | 3317.7 | 3360.5 | 3496.1 | 3710.1 | 3981.3 | 4231.0 | *4352.3* | 4380.8 |
| 12.5° | 3389.1 | 3389.1 | 3389.1 | 3424.8 | 3453.3 | 3560.3 | 3802.9 | 4138.2 | 4537.8 | *4716.2* | 4737.6 |
| 15° | 3531.8 | 3524.6 | 3546.0 | 3567.4 | 3617.4 | 3724.4 | 3967.0 | 4366.6 | 4873.1 | *5144.3* | 5172.8 |
| 17.5° | 3731.6 | 3717.3 | 3738.7 | 3788.6 | 3860.0 | 3981.3 | 4223.9 | 4680.5 | 5336.9 | *5679.4* | 5722.2 |
| 20° | 3952.7 | 3945.6 | 3988.4 | 4066.9 | 4166.8 | 4316.6 | 4594.9 | 5058.6 | 5864.9 | *6300.1* | 6378.6 |
| 22.5° | 4216.7 | 4202.5 | 4280.9 | 4423.6 | 4559.2 | 4730.4 | 5065.8 | 5551.0 | 6471.4 | *6992.2* | 7070.7 |
| 25° | 4516.4 | 4516.4 | 4623.4 | 4794.7 | 5001.6 | 5308.4 | 5643.7 | 6178.8 | 7184.8 | *7741.4* | 7862.7 |
| 27.5° | 5008.7 | 5044.4 | 5087.2 | 5265.6 | 5558.1 | 5971.9 | 6328.7 | 6935.1 | 7962.5 | *8661.8* | 8704.6 |
| 30° | 5807.8 | 5793.5 | 5864.9 | 5986.2 | 6228.8 | 6664.0 | 7199.1 | 7848.4 | 8947.2 | *9682.1* | 9789.1 |
| 32.5° | 6528.4 | 6549.8 | 6649.7 | 6878.0 | 7170.6 | 7541.6 | 8183.7 | 8982.8 | 10017.4 | *10866.4* | 10916.4 |
| 35° | 7256.2 | 7270.5 | 7463.1 | 7805.6 | 8240.8 | 8654.6 | 9353.9 | 10138.7 | 11180.4 | *12186.4* | 12322.0 |
| 37.5° | 8276.5 | 8262.2 | 8454.9 | 8747.4 | 9332.4 | 9974.6 | 10538.2 | 11287.4 | 12293.4 | *13470.7* | 13627.7 |
| 40° | 9039.9 | 9118.4 | 9482.3 | 9853.3 | 10402.7 | 11066.2 | 11544.3 | 12250.6 | 13206.7 | *14726.4* | 14869.1 |
| 42.5° | 9824.8 | 9889.0 | 10374.1 | 10930.7 | 11508.6 | 11958.1 | 12329.1 | 12985.5 | 13934.5 | *15839.5* | 15918.0 |
| 45° | 10474.0 | 10559.6 | 11116.2 | 11822.5 | 12421.9 | 12878.5 | 13006.9 | 13620.5 | 14676.5 | *16909.7* | 17031.0 |
| 47.5° | 10887.9 | 10980.6 | 11637.0 | 12464.7 | 13078.3 | 13563.4 | 13520.6 | 14384.0 | 15468.5 | *18329.6* | 18286.7 |
| 50° | 11173.3 | 11230.3 | 11943.8 | 12828.5 | 13627.7 | 13948.7 | 14134.2 | 15247.3 | 16281.8 | *19521.1* | 19364.1 |
| 52.5° | 11380.2 | 11472.9 | 12122.2 | 13092.5 | 13934.5 | 14355.4 | 14854.9 | 16246.2 | 16845.5 | *20612.7* | 20263.1 |
| 55° | *10895.0* | *10966.3* | *12107.9* | *13228.1* | *14248.4* | *14804.9* | *15675.4* | *17023.9* | *16916.8* | *20998.0* | *20527.1* |
| 57.5° | 10395.5 | 10452.6 | 11508.6 | 13192.4 | 14590.9 | 15361.4 | 16610.0 | 17123.8 | 16281.8 | *20405.8* | 19813.6 |
| 60° | 9767.7 | 9810.5 | 10866.4 | 12814.3 | 14598.0 | 15796.7 | 17088.1 | 16396.0 | 15104.6 | *18914.6* | 18351.0 |
| 62.5° | 8611.8 | 8611.8 | 9774.8 | 11794.0 | 14241.3 | 16017.8 | 16959.7 | 15019.0 | 13527.8 | *16567.2* | 15789.5 |
| 65° | 7470.2 | 7420.3 | 8205.1 | 9974.6 | 13292.3 | 15960.8 | 15996.4 | 13278.0 | 11080.5 | *12778.6* | 12172.1 |
| 67.5° | 6228.8 | 6235.9 | 6699.7 | 8098.1 | 10766.6 | 14769.2 | 13963.0 | 10260.0 | 7720.0 | *8604.7* | 8290.8 |
| 70° | 4216.7 | 4323.7 | 4794.7 | 5879.2 | 8119.5 | 10466.9 | 11116.2 | 6949.4 | 4816.1 | *5344.0* | 5087.2 |
| 72.5° | 1605.4 | 1626.8 | 2176.1 | 3082.3 | 5130.0 | 6293.0 | 7755.6 | 3888.5 | 2818.3 | *2946.7* | 2961.0 |
| 75° | 677.8 | 706.4 | 927.5 | 1298.6 | 2276.0 | 3431.9 | 4081.2 | 1969.2 | 1712.4 | *1762.3* | 1748.0 |
| 77.5° | 456.6 | 470.9 | 563.7 | 699.2 | 1027.4 | 1377.0 | 1705.2 | 1113.0 | 1048.8 | *984.6* | 956.1 |
| 80° | 342.5 | 342.5 | 406.7 | 470.9 | 577.9 | 706.4 | 742.0 | 563.7 | 627.9 | *520.8* | 506.6 |
| 82.5° | 221.2 | 235.5 | 256.9 | 278.3 | 328.2 | 349.6 | 299.7 | 306.8 | 363.9 | *271.1* | 256.9 |
| 85° | 107.0 | 114.2 | 121.3 | 128.4 | 128.4 | 121.3 | 107.0 | 135.6 | 185.5 | *114.2* | 107.0 |
| 87.5° | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 7.1 | 7.1 | 7.1 | *7.1* | 7.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 |

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Scaled Data Report

REPORT NUMBER: P1501127
CATALOG NUMBER: GSS-SB5C-827-U-T3LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 | 3974.1 |
| 2.5° | 3981.3 | 4009.8 | 4031.2 | 4045.5 | 4081.2 | 4074.0 | 4095.4 | 4109.7 | 4124.0 | 4145.4 | 4116.8 |
| 5° | 4052.6 | 4102.6 | 4159.6 | 4202.5 | 4245.3 | 4266.7 | 4273.8 | 4288.1 | 4295.2 | 4309.5 | 4302.3 |
| 7.5° | 4209.6 | 4266.7 | 4352.3 | 4395.1 | 4430.8 | 4430.8 | 4409.4 | 4402.2 | 4380.8 | 4395.1 | 4395.1 |
| 10° | 4473.6 | 4559.2 | 4652.0 | 4659.1 | 4616.3 | 4566.3 | 4487.9 | 4445.0 | 4388.0 | 4373.7 | 4359.4 |
| 12.5° | 4858.9 | 4973.0 | 5044.4 | 4994.4 | 4844.6 | 4659.1 | 4452.2 | 4259.5 | 4109.7 | 4045.5 | 4031.2 |
| 15° | 5294.1 | 5436.8 | 5451.1 | 5308.4 | 5037.2 | 4587.7 | 4152.5 | 3938.5 | 3860.0 | 3860.0 | 3852.8 |
| 17.5° | 5893.4 | 5993.3 | 5936.2 | 5593.8 | 4987.3 | 4252.4 | 3938.5 | 3902.8 | 3924.2 | 3952.7 | 3952.7 |
| 20° | 6521.3 | 6635.5 | 6400.0 | 5793.5 | 4680.5 | 4052.6 | 3959.9 | 3988.4 | 4038.4 | 4066.9 | 4059.8 |
| 22.5° | 7270.5 | 7327.5 | 6870.9 | 5800.7 | 4352.3 | 4002.7 | 4002.7 | 4038.4 | 4074.0 | 4116.8 | 4116.8 |
| 25° | 8041.0 | 8019.6 | 7306.1 | 5536.7 | 4166.8 | 3988.4 | 3974.1 | 4002.7 | 4016.9 | 4038.4 | 4031.2 |
| 27.5° | 8904.4 | 8790.2 | 7641.5 | 5115.7 | 4109.7 | 3945.6 | 3874.2 | 3845.7 | 3860.0 | 3881.4 | 3888.5 |
| 30° | 9896.1 | 9625.0 | 7912.6 | 4851.7 | 4088.3 | 3845.7 | 3674.5 | 3596.0 | 3581.7 | 3610.3 | 3610.3 |
| 32.5° | 11044.8 | 10459.8 | 8076.7 | 4816.1 | 4066.9 | 3667.3 | 3439.0 | 3289.2 | 3260.6 | 3274.9 | 3310.6 |
| 35° | 12222.1 | 11465.8 | 8033.9 | 4908.8 | 4074.0 | 3524.6 | 3189.3 | 2989.5 | 2961.0 | 2975.3 | 3010.9 |
| 37.5° | 13456.4 | 12421.9 | 7869.8 | 5051.5 | 4016.9 | 3332.0 | 2961.0 | 2718.4 | 2675.6 | 2704.1 | 2718.4 |
| 40° | 14412.5 | 13228.1 | 7463.1 | 5108.6 | 3917.1 | 3089.4 | 2697.0 | 2490.1 | 2375.9 | 2368.8 | 2404.5 |
| 42.5° | 15297.2 | 13863.1 | 7020.7 | 5015.8 | 3710.1 | 2832.6 | 2425.9 | 2219.0 | 2040.6 | 1905.0 | 1905.0 |
| 45° | 16181.9 | 14505.2 | 6571.2 | 4751.8 | 3367.7 | 2561.4 | 2140.5 | 1862.2 | 1655.3 | 1555.4 | 1562.5 |
| 47.5° | 17066.7 | 15126.0 | 6036.1 | 4352.3 | 3025.2 | 2276.0 | 1833.7 | 1612.5 | 1469.8 | 1391.3 | 1391.3 |
| 50° | 17887.2 | 15575.5 | 5351.2 | 3717.3 | 2632.8 | 1990.6 | 1619.6 | 1491.2 | 1384.2 | 1312.8 | 1298.6 |
| 52.5° | 18607.8 | 15875.1 | 4423.6 | 2946.7 | 2204.7 | 1669.6 | 1505.5 | 1405.6 | 1327.1 | 1248.6 | 1227.2 |
| 55° | *18736.2* | *15675.4* | *3703.0* | *2368.8* | *1819.4* | *1498.3* | *1419.8* | *1334.2* | *1227.2* | *1191.5* | *1170.1* |
| 57.5° | 17944.3 | 14619.4 | 3125.1 | 1997.8 | 1555.4 | 1377.0 | 1348.5 | 1248.6 | 1163.0 | 1127.3 | 1105.9 |
| 60° | 16595.8 | 12700.1 | 2582.8 | 1712.4 | 1384.2 | 1262.9 | 1298.6 | 1198.7 | 1063.1 | 1041.7 | 1020.3 |
| 62.5° | 14169.9 | 9910.4 | 2062.0 | 1441.2 | 1255.7 | 1177.3 | 1212.9 | 1070.2 | 956.1 | 927.5 | 920.4 |
| 65° | 11016.3 | 7092.1 | 1733.8 | 1270.0 | 1155.9 | 1091.6 | 1077.4 | 948.9 | 863.3 | 841.9 | 841.9 |
| 67.5° | 7691.4 | 4509.3 | 1448.4 | 1163.0 | 1027.4 | 984.6 | 977.5 | 891.9 | 834.8 | 813.4 | 813.4 |
| 70° | 4709.0 | 2732.7 | 1220.1 | 1063.1 | 906.1 | 827.6 | 877.6 | 863.3 | 777.7 | 756.3 | 749.2 |
| 72.5° | 2447.3 | 1633.9 | 1070.2 | 977.5 | 763.4 | 706.4 | 784.8 | 792.0 | 720.6 | 749.2 | 742.0 |
| 75° | 1419.8 | 1134.4 | 934.7 | 863.3 | 606.5 | 592.2 | 685.0 | 756.3 | 699.2 | 720.6 | 706.4 |
| 77.5° | 813.4 | 727.8 | 720.6 | 706.4 | 478.0 | 485.2 | 613.6 | 677.8 | 599.3 | 620.7 | 570.8 |
| 80° | 449.5 | 470.9 | 499.4 | 442.4 | 335.3 | 378.1 | 492.3 | 542.3 | 456.6 | 449.5 | 413.8 |
| 82.5° | 235.5 | 292.5 | 335.3 | 285.4 | 192.6 | 228.3 | 335.3 | 335.3 | 292.5 | 278.3 | 271.1 |
| 85° | 107.0 | 121.3 | 157.0 | 142.7 | 71.3 | 85.6 | 157.0 | 171.2 | 149.8 | 135.6 | 128.4 |
| 87.5° | 7.1 | 7.1 | 7.1 | 7.1 | 7.1 | 7.1 | 14.3 | 21.4 | 7.1 | 7.1 | 7.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-8

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

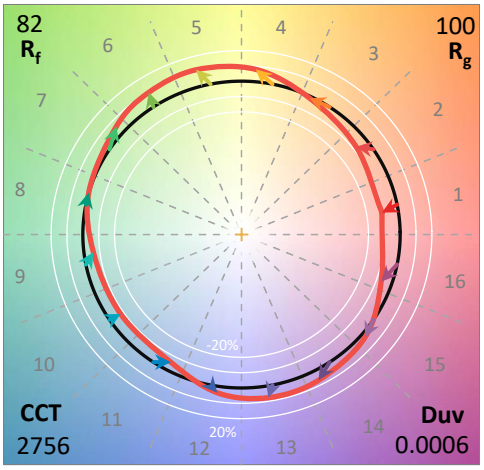
## Test Information

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

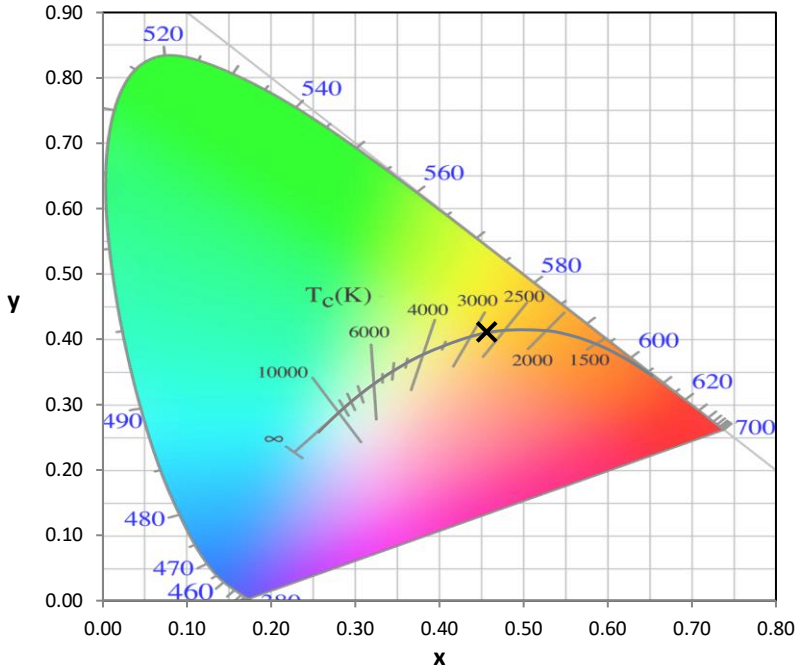
| | |
|---|---|
| Stabilization Time: | 29M |
| Operation Time: | 1H 29M |
| Sphere Temperature (°C): | 25.2 |

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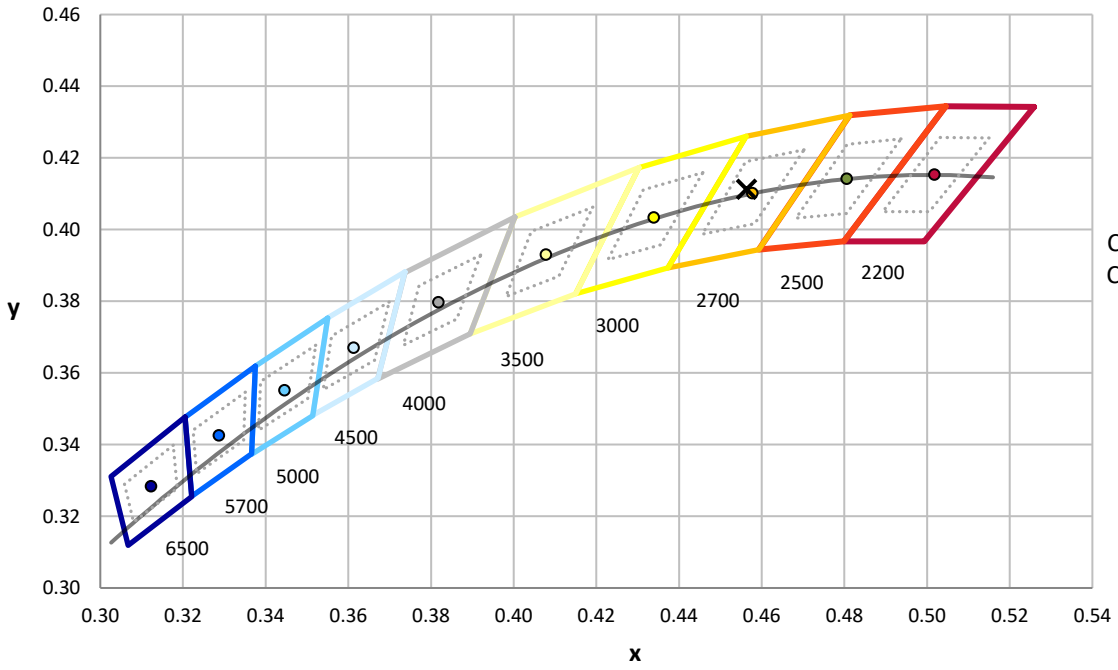
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

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## CIE 1931 Chromaticity Diagram




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

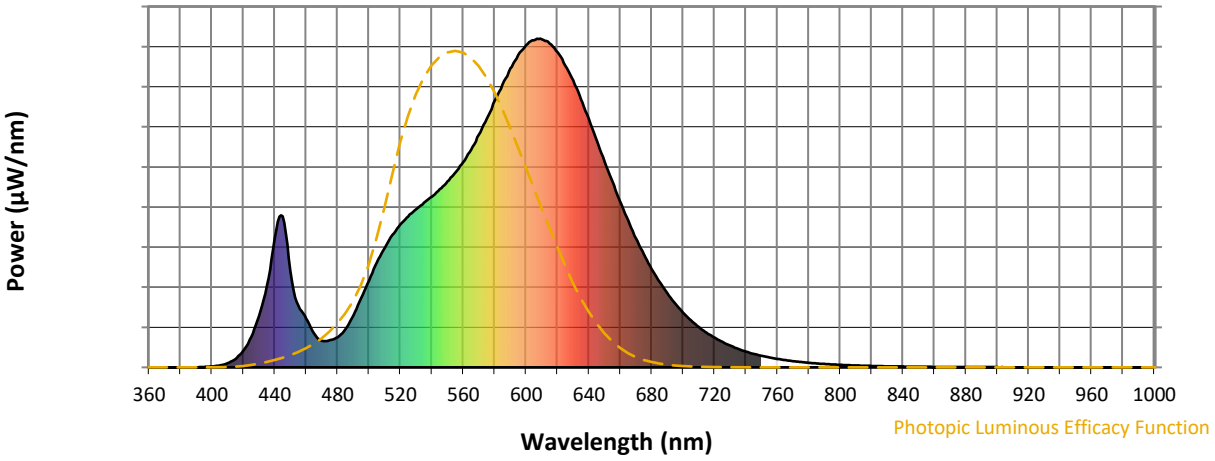



CCT = 2756K
CIE x = 0.4563
CIE y = 0.4112
Duv = 0.0006

Point lies inside the ANSI 2700K 4-step quadrangle

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## Photopic Flux vs. Wavelength

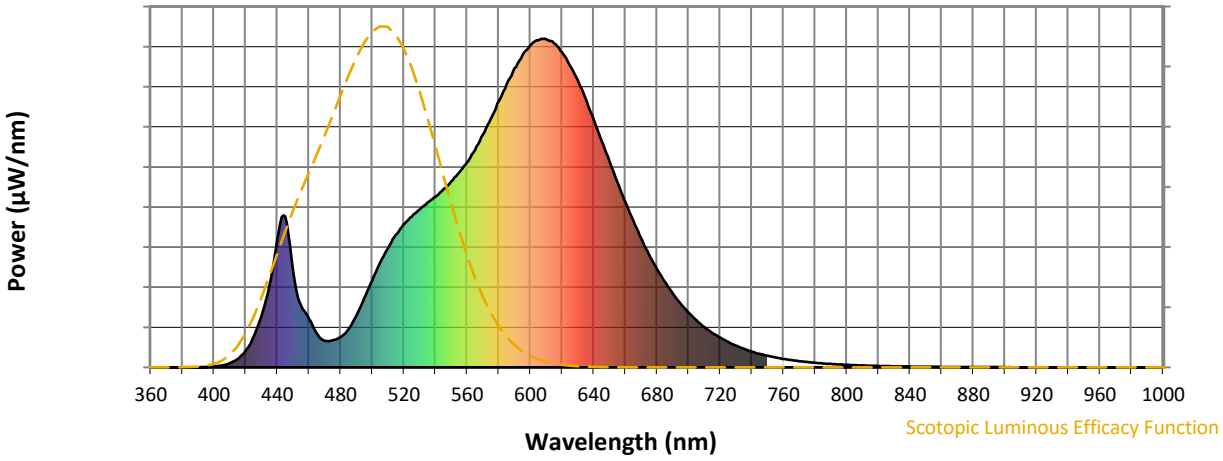



## Photopic Lumens: NR

| 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

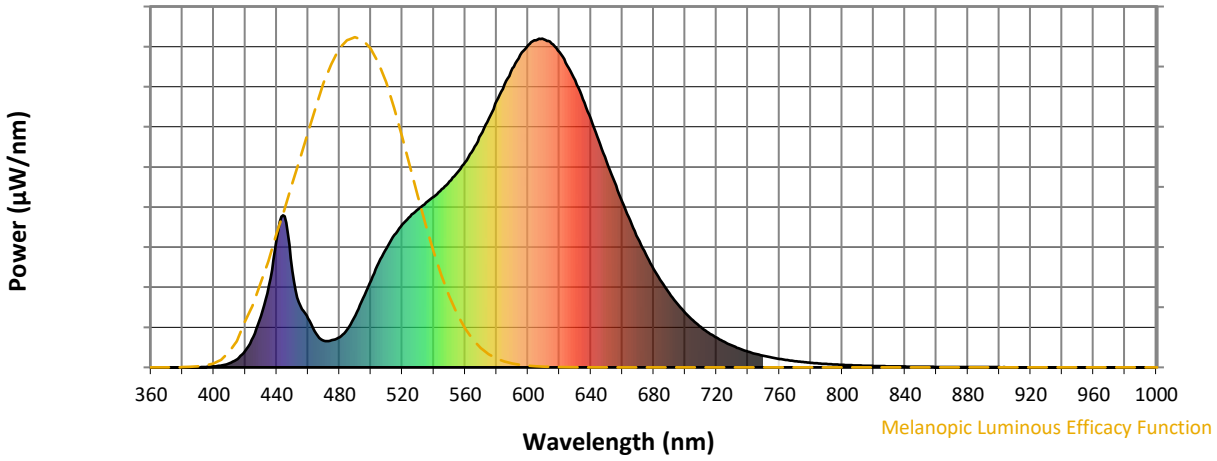



**Scotopic Lumens: NR** **S/P: 1.2**

| 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 | | | |

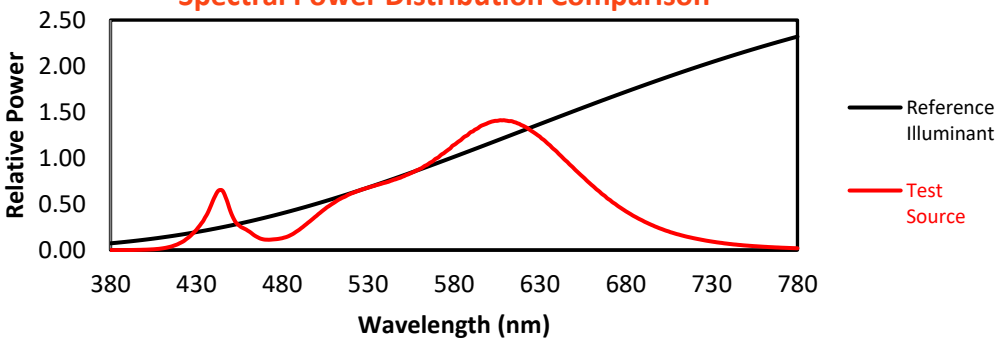
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**TM-30-18**

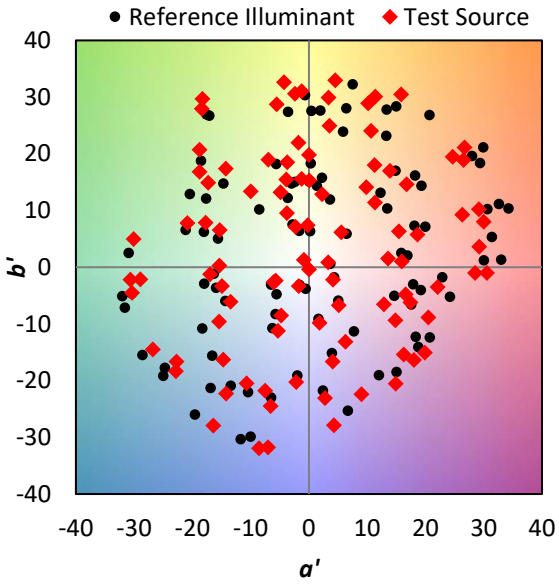
## Summary

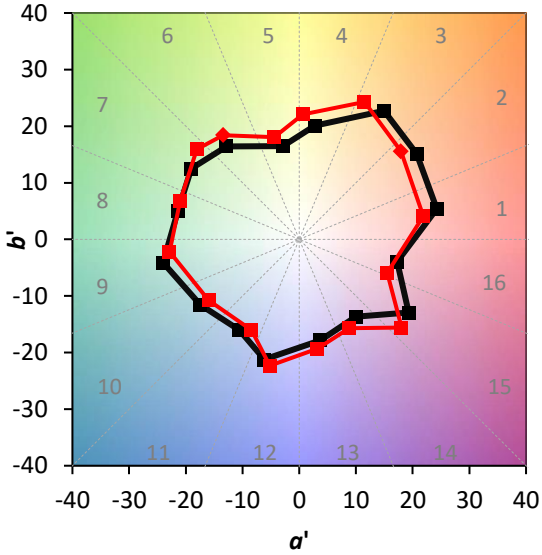
$R_f$ = 82.2
$R_g$ = 99.9
CIE $R_a$ = 82.9
$R_9$ = 10.8

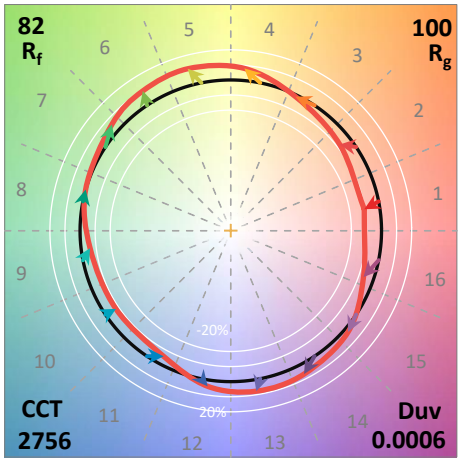
## Spectral Power Distribution Comparison

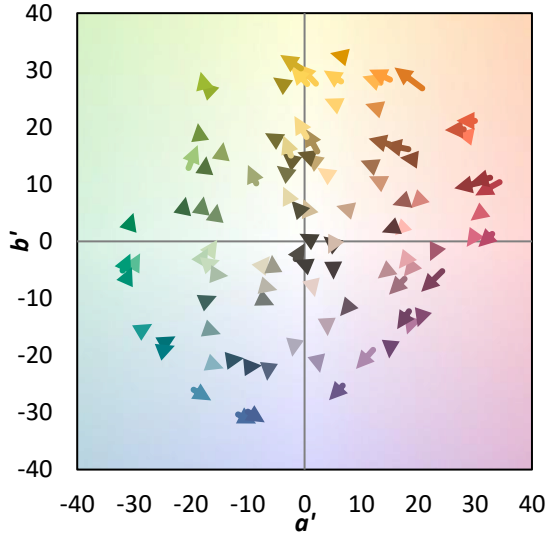



## Color Vector Graphics



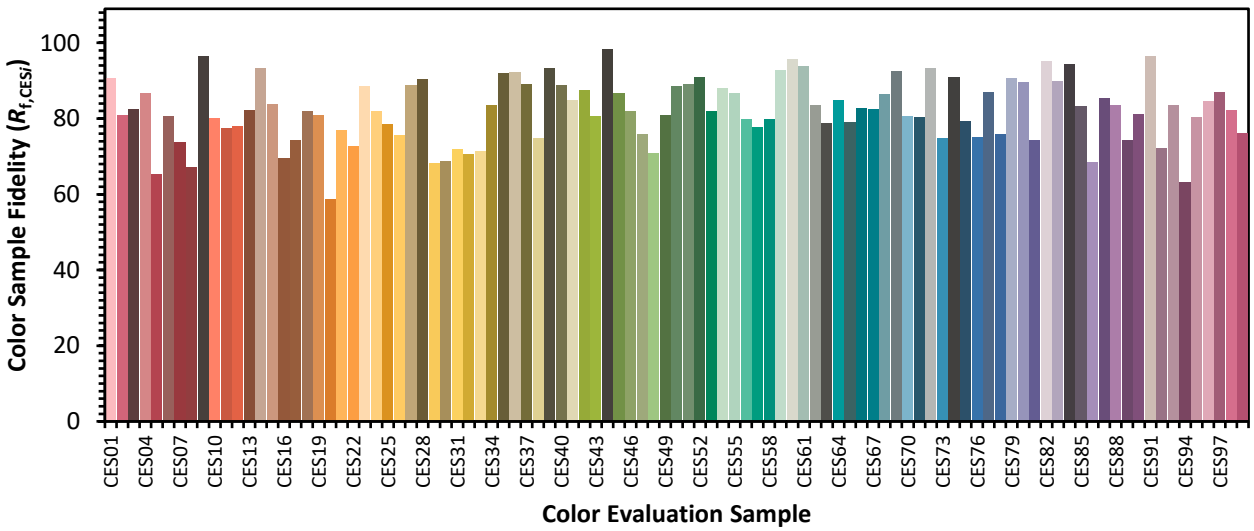



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**Individual Sample Fidelity Index ($R_{f,i}$)**

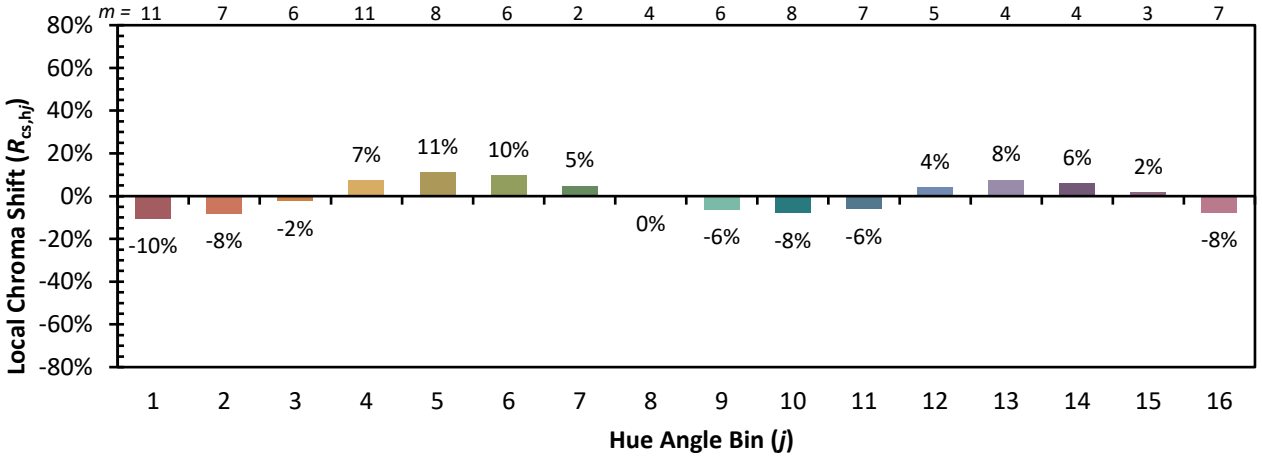
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 76 | CES51 = 89 | CES76 = 75 |
| CES02 = 63 | CES27 = 89 | CES52 = 91 | CES77 = 87 |
| CES03 = 31 | CES28 = 90 | CES53 = 82 | CES78 = 76 |
| CES04 = 71 | CES29 = 68 | CES54 = 88 | CES79 = 91 |
| CES05 = 50 | CES30 = 69 | CES55 = 87 | CES80 = 90 |
| CES06 = 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 | |

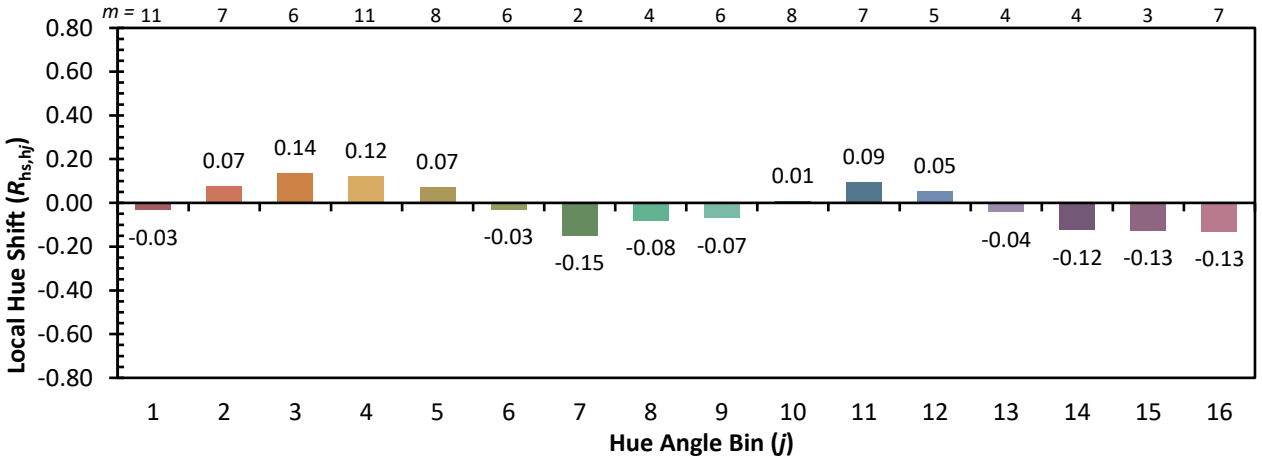


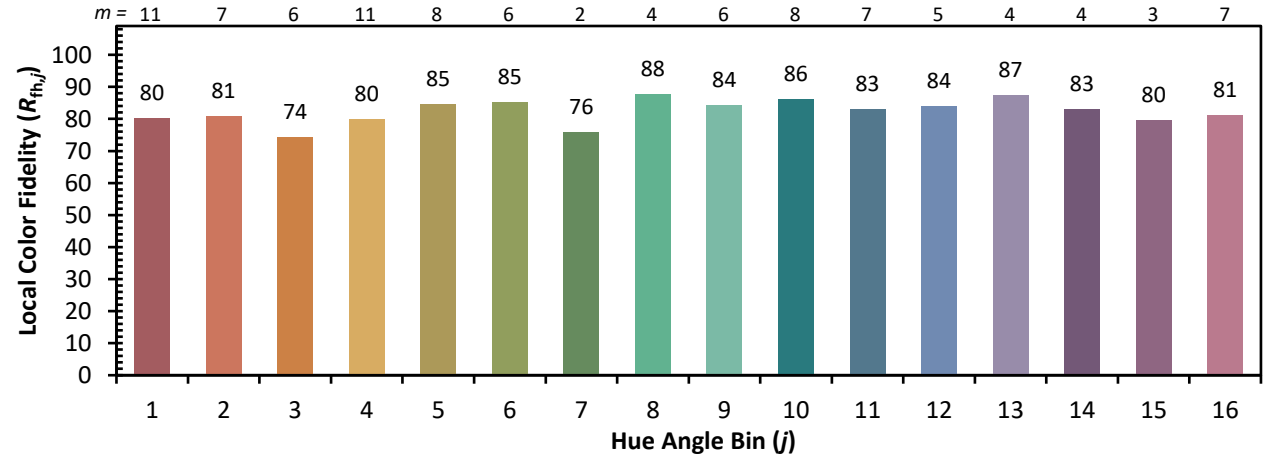
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## Color Rendition by Hue-Angle Bin



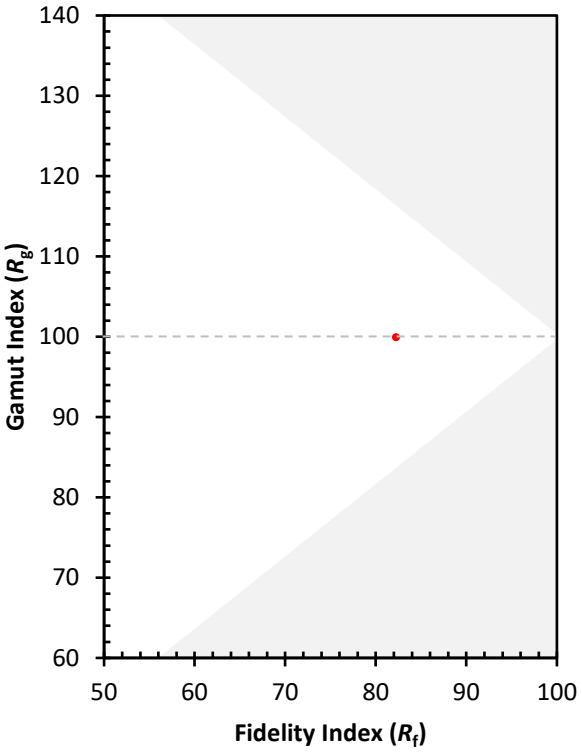



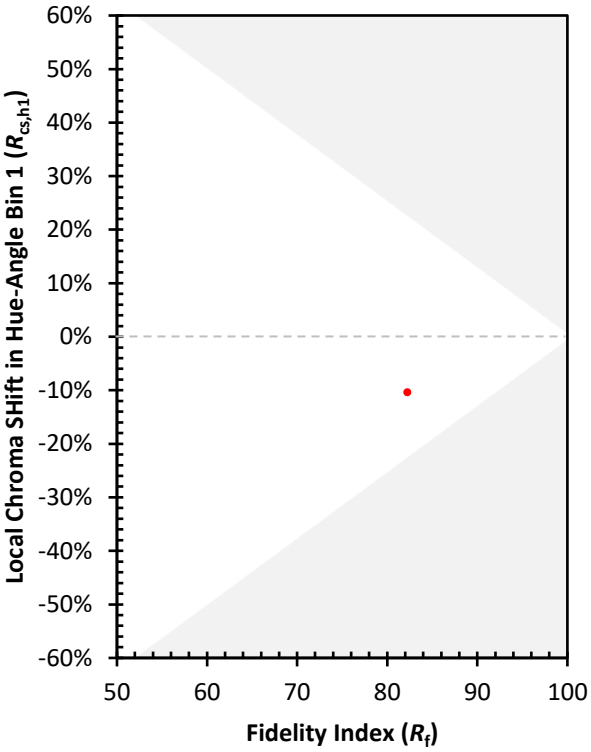



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## Measure Comparisons




(END OF REPORT)