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: P1500769

Luminaire Tested: GSS-SB6A-830-U-T4LG

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: | P1500769 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB6A-830-U-T4LG |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 6SQUARE 170W 80CRI 3000K FIXTURE w/ TYPE IV LOW GLARE DISTRIBUTION FIXTURE |
| Light Source: | (156) 3000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 23523.7 lumens |
| Efficiency: | N/A |
| Efficacy: | 138.4 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G3 |

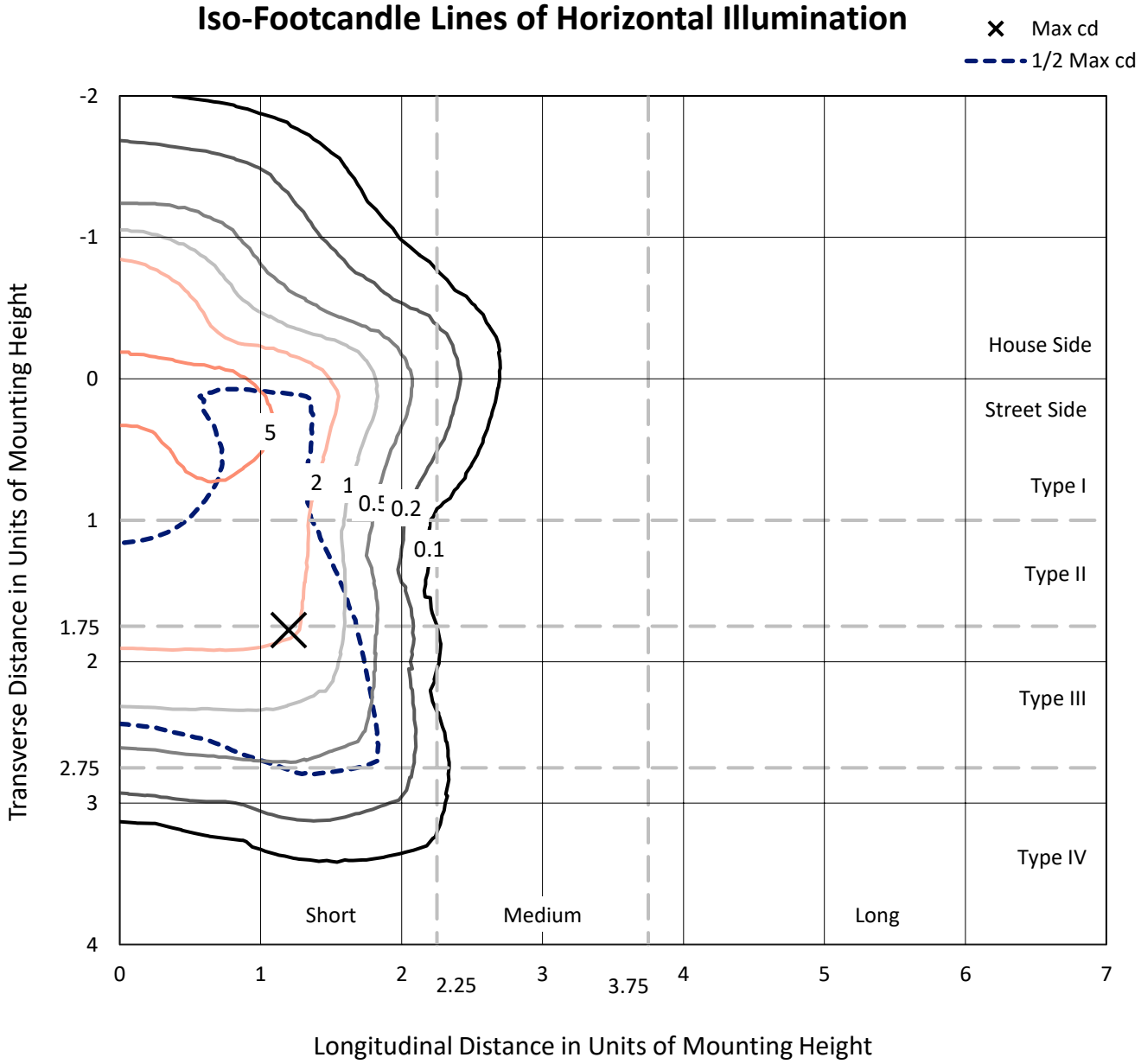
| | |
|---|---|
| Input Watts (W): | 170 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 12.0% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1500769
CATALOG NUMBER: GSS-SB6A-830-U-T4LG

## Iso-Footcandle Lines of Horizontal Illumination



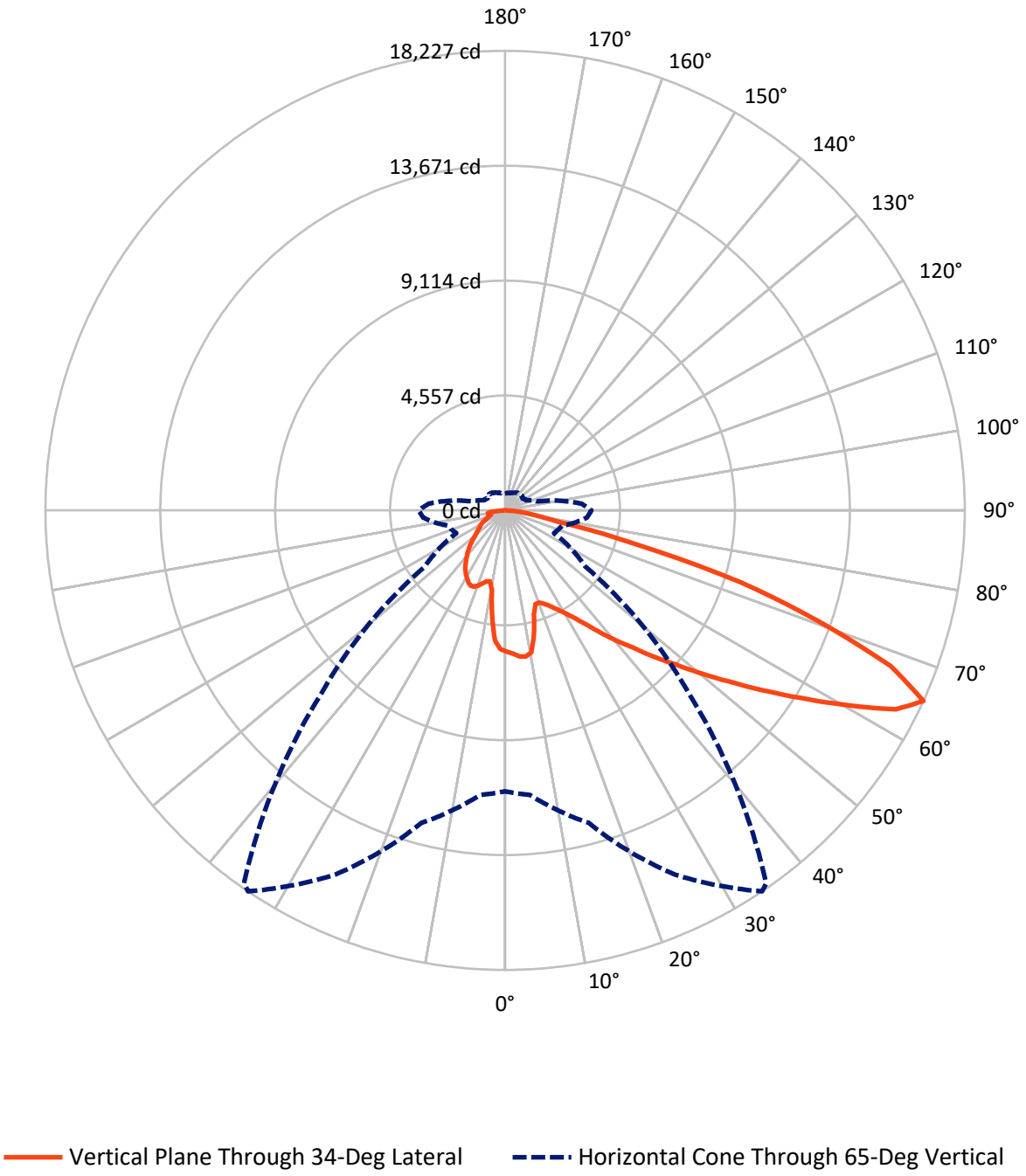

Based on 25 foot mounting height. Maximum calculated value = 9.5 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

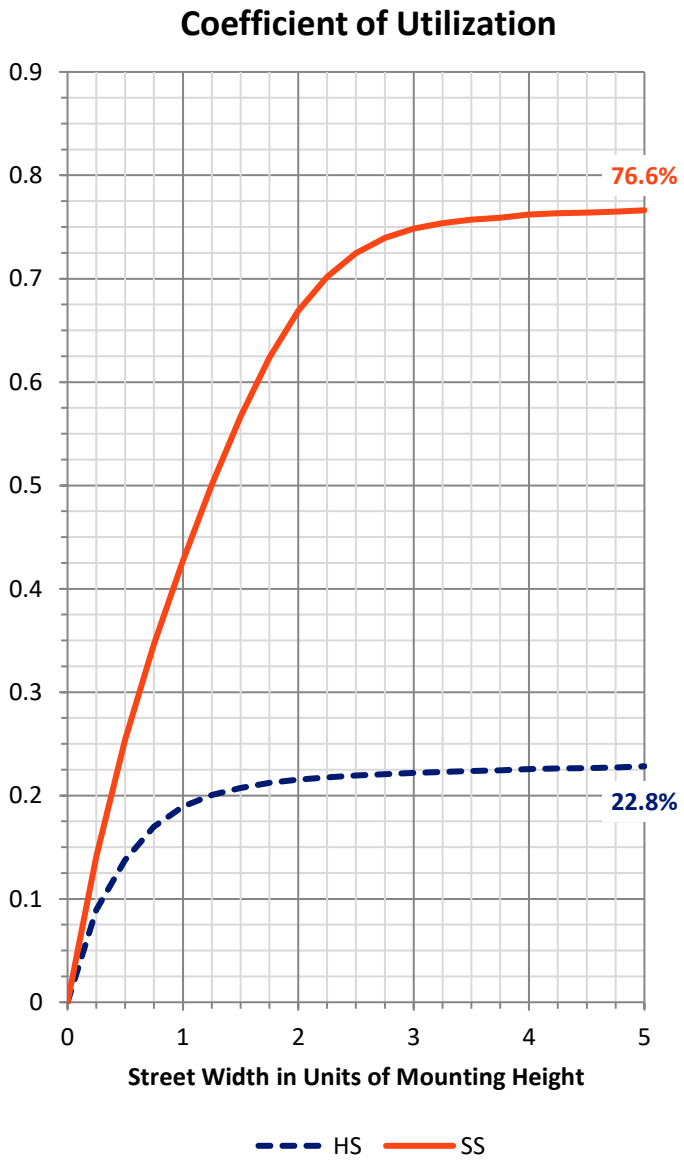
REPORT NUMBER: P1500769
CATALOG NUMBER: GSS-SB6A-830-U-T4LG

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 5472.9 | 0.0 | 5472.9 |
| | % Fixture | 23.3 | 0.0 | 23.3 |
| **Street Side** | Lumens | 18050.7 | 0.0 | 18050.7 |
| | % Fixture | 76.7 | 0.0 | 76.7 |
| **Total** | Lumens | 23523.7 | 0.0 | 23523.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 504.2 | 2.1 |
| 10°-20° | 1269.0 | 5.4 |
| 20°-30° | 2103.5 | 8.9 |
| 30°-40° | 3163.6 | 13.4 |
| 40°-50° | 4432.1 | 18.8 |
| 50°-60° | 5588.1 | 23.8 |
| 60°-70° | 4806.3 | 20.4 |
| 70°-80° | 1428.9 | 6.1 |
| 80°-90° | 228.0 | 1.0 |
| 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° | 23523.7 | 100.0 |
| 0°-180° | 23523.7 | 100.0 |



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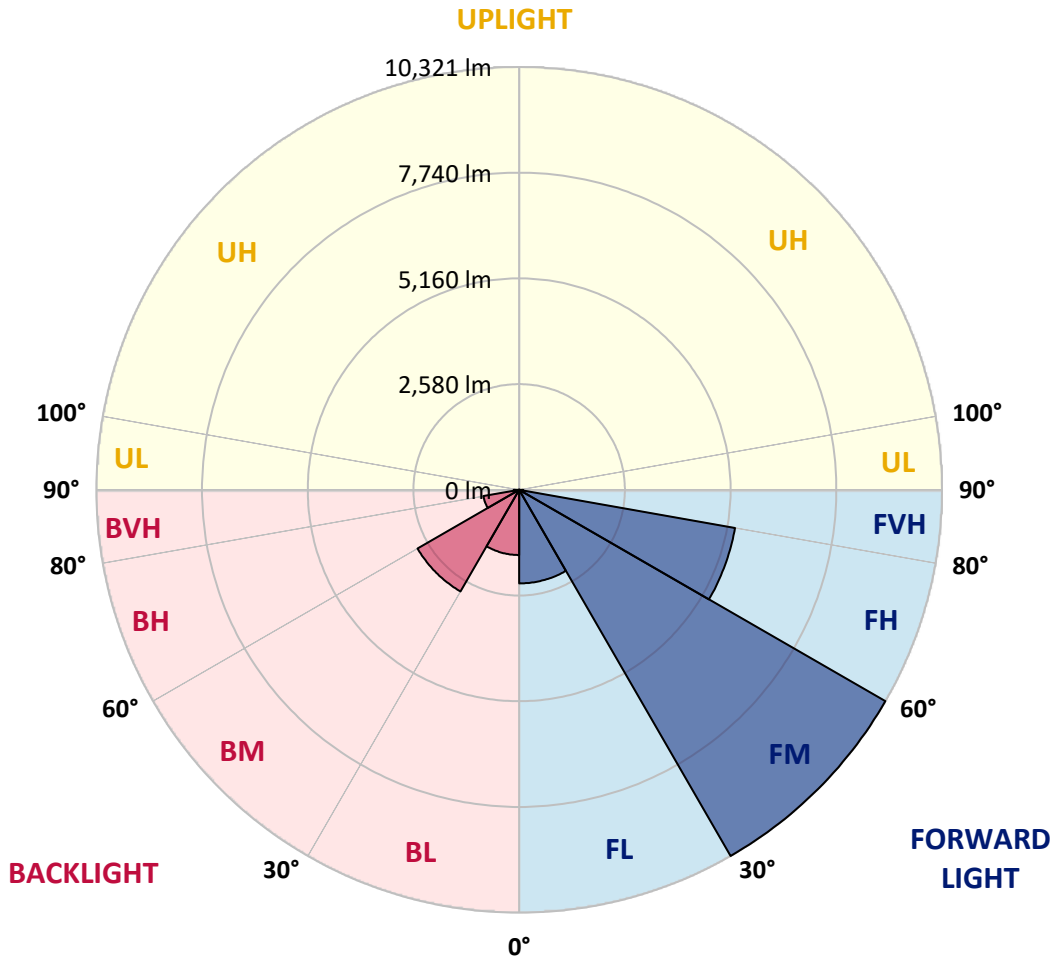
Scaled Data Report

REPORT NUMBER: P1500769
CATALOG NUMBER: GSS-SB6A-830-U-T4LG

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2284.3 | 9.7 | | | |
| FM | (30°-60°) | 10320.5 | 43.9 | | | |
| FH | (60°-80°) | 5349.4 | 22.7 | | | G3/7500 |
| FVH | (80°-90°) | 96.5 | 0.4 | | | G1/100 |
| BL | (0°-30°) | 1592.4 | 6.8 | B3/2500 | | |
| BM | (30°-60°) | 2863.3 | 12.2 | B3/5000 | | |
| BH | (60°-80°) | 885.8 | 3.8 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 131.5 | 0.6 | | | G2/225 |
| 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: P1500769
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 34° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 |
| 2.5° | 5699.4 | 5731.3 | 5694.1 | 5678.1 | 5683.4 | 5688.7 | 5662.1 | 5667.4 | 5635.5 | 5635.5 | 5608.8 |
| 5° | 5821.9 | 5827.2 | 5805.9 | 5821.9 | 5816.6 | 5811.2 | 5811.2 | 5805.9 | 5736.7 | 5720.7 | 5694.1 |
| 7.5° | 5752.6 | 5774.0 | 5784.6 | 5843.2 | 5859.2 | 5891.1 | 5912.4 | 5923.1 | 5869.8 | 5827.2 | 5758.0 |
| 10° | 5118.8 | 5134.8 | 5257.3 | 5523.6 | 5726.0 | 5763.3 | 5960.4 | 6072.2 | 6034.9 | 6013.6 | 5896.5 |
| 12.5° | 4090.8 | 4117.4 | 4255.9 | 4602.1 | 5076.2 | 5177.4 | 5805.9 | 6184.1 | 6269.3 | 6274.6 | 6104.2 |
| 15° | 3648.7 | 3648.7 | 3691.3 | 3888.4 | 4271.9 | 4351.8 | 5278.6 | 6216.1 | 6519.7 | 6556.9 | 6349.2 |
| 17.5° | 3558.1 | 3552.8 | 3579.4 | 3696.6 | 3899.0 | 3947.0 | 4671.4 | 6050.9 | 6817.9 | 6881.9 | 6615.5 |
| 20° | 3552.8 | 3536.8 | 3590.1 | 3723.2 | 3899.0 | 3941.6 | 4389.1 | 5763.3 | 7052.3 | 7254.7 | 6881.9 |
| 22.5° | 3558.1 | 3558.1 | 3632.7 | 3824.4 | 4026.9 | 4064.1 | 4442.3 | 5523.6 | 7244.1 | 7643.6 | 7164.2 |
| 25° | 3616.7 | 3606.1 | 3712.6 | 3947.0 | 4223.9 | 4250.6 | 4660.7 | 5513.0 | 7409.2 | 8080.3 | 7505.1 |
| 27.5° | 3712.6 | 3717.9 | 3861.7 | 4144.0 | 4458.3 | 4511.6 | 4964.3 | 5742.0 | 7611.6 | 8559.7 | 7835.3 |
| 30° | 3915.0 | 3920.3 | 4090.8 | 4378.4 | 4740.6 | 4809.8 | 5315.9 | 6082.9 | 7899.2 | 9076.4 | 8192.2 |
| 32.5° | 4144.0 | 4170.7 | 4378.4 | 4714.0 | 5102.8 | 5140.1 | 5747.3 | 6594.2 | 8330.7 | 9593.1 | 8575.7 |
| 35° | 4527.5 | 4554.2 | 4788.5 | 5140.1 | 5571.5 | 5624.8 | 6274.6 | 7185.5 | 8858.0 | 10115.1 | 8874.0 |
| 37.5° | 5022.9 | 5044.2 | 5273.3 | 5699.4 | 6157.5 | 6210.7 | 6860.6 | 7814.0 | 9390.7 | 10530.5 | 9140.3 |
| 40° | 5614.2 | 5662.1 | 5907.1 | 6322.6 | 6786.0 | 6817.9 | 7499.7 | 8421.2 | 9965.9 | 10818.2 | 9246.8 |
| 42.5° | 6258.7 | 6306.6 | 6556.9 | 7015.0 | 7441.2 | 7537.0 | 8192.2 | 9065.7 | 10434.7 | 10946.0 | 9161.6 |
| 45° | 7084.3 | 7073.6 | 7308.0 | 7787.4 | 8288.1 | 8325.4 | 8932.6 | 9598.4 | 10717.0 | 10839.5 | 9076.4 |
| 47.5° | 8085.7 | 8096.3 | 8245.5 | 8634.3 | 9151.0 | 9236.2 | 9704.9 | 10056.5 | 10882.1 | 10754.2 | 8980.5 |
| 50° | 9214.9 | 9241.5 | 9369.4 | 9651.7 | 10205.6 | 10264.2 | 10402.7 | 10376.1 | 10983.3 | 10573.1 | 9017.8 |
| 52.5° | 10344.1 | 10360.1 | 10530.5 | 10828.8 | 11366.8 | 11409.4 | 11105.8 | 10621.1 | 10605.1 | 9843.4 | 8937.9 |
| 55° | 11270.9 | 11265.6 | 11569.2 | 12027.3 | 12682.4 | 12655.8 | 11798.2 | 10434.7 | 9422.6 | 8708.9 | 8581.0 |
| 57.5° | 12075.2 | 12107.2 | 12501.3 | 13295.0 | 14120.6 | 14099.3 | 12538.6 | 9449.3 | 7696.8 | 7366.6 | 8000.4 |
| 60° | 12799.6 | 12874.2 | 13614.6 | 14802.4 | 15713.2 | 15585.4 | 12671.8 | 7963.2 | 5987.0 | 5768.6 | 6849.9 |
| 62.5° | 12485.4 | 12623.9 | 13811.7 | 16128.7 | 17380.4 | 17098.1 | 11851.5 | 6168.1 | 4053.5 | 3856.4 | 4841.8 |
| 65° | 11143.1 | 11329.5 | 12836.9 | 15937.0 | 18227.4 | 18051.6 | 10360.1 | 3877.7 | 2135.9 | 2343.7 | 3259.8 |
| 67.5° | 9358.7 | 9582.4 | 11212.3 | 14317.7 | 16490.9 | 16112.7 | 8048.4 | 2040.1 | 996.1 | 1544.7 | 2024.1 |
| 70° | 5129.4 | 5683.4 | 8107.0 | 12176.4 | 13209.8 | 12682.4 | 4655.4 | 964.1 | 724.4 | 964.1 | 1209.1 |
| 72.5° | 1928.2 | 2061.4 | 3515.5 | 8186.9 | 9784.8 | 9135.0 | 1768.4 | 623.2 | 607.2 | 713.8 | 873.5 |
| 75° | 926.8 | 990.7 | 1528.7 | 3723.2 | 5342.5 | 4980.3 | 868.2 | 463.4 | 522.0 | 559.3 | 633.9 |
| 77.5° | 554.0 | 596.6 | 953.4 | 2162.6 | 2104.0 | 1933.5 | 532.7 | 356.9 | 420.8 | 399.5 | 372.9 |
| 80° | 330.2 | 367.5 | 580.6 | 1230.4 | 1267.7 | 1123.9 | 324.9 | 250.3 | 293.0 | 255.7 | 229.0 |
| 82.5° | 191.8 | 207.7 | 303.6 | 554.0 | 804.3 | 740.4 | 186.4 | 149.1 | 213.1 | 170.4 | 127.8 |
| 85° | 95.9 | 101.2 | 138.5 | 239.7 | 399.5 | 303.6 | 79.9 | 69.2 | 101.2 | 74.6 | 42.6 |
| 87.5° | 21.3 | 21.3 | 21.3 | 26.6 | 37.3 | 37.3 | 10.7 | 5.3 | 5.3 | 5.3 | 5.3 |
| 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: P1500769
CATALOG NUMBER: GSS-SB6A-830-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 | 5592.8 |
| 2.5° | 5603.5 | 5614.2 | 5576.9 | 5534.3 | 5523.6 | 5491.6 | 5502.3 | 5481.0 | 5449.0 | 5454.4 | 5459.7 |
| 5° | 5656.8 | 5635.5 | 5560.9 | 5465.0 | 5379.8 | 5283.9 | 5172.1 | 5044.2 | 4953.7 | 4916.4 | 4948.3 |
| 7.5° | 5704.7 | 5683.4 | 5555.6 | 5342.5 | 5054.9 | 4655.4 | 4239.9 | 3861.7 | 3600.7 | 3504.9 | 3526.2 |
| 10° | 5837.9 | 5752.6 | 5518.3 | 5054.9 | 4367.7 | 3611.4 | 3190.6 | 2956.2 | 2876.3 | 2833.7 | 2839.0 |
| 12.5° | 6013.6 | 5896.5 | 5449.0 | 4554.2 | 3515.5 | 3036.1 | 2887.0 | 2833.7 | 2807.1 | 2796.4 | 2807.1 |
| 15° | 6226.7 | 6045.6 | 5283.9 | 3925.6 | 3121.3 | 2934.9 | 2903.0 | 2908.3 | 2908.3 | 2913.6 | 2913.6 |
| 17.5° | 6413.1 | 6130.8 | 4985.6 | 3472.9 | 3041.4 | 2988.2 | 3020.1 | 3046.8 | 3046.8 | 3052.1 | 3046.8 |
| 20° | 6583.6 | 6173.4 | 4602.1 | 3281.1 | 3057.4 | 3084.1 | 3158.6 | 3185.3 | 3190.6 | 3185.3 | 3185.3 |
| 22.5° | 6764.7 | 6200.1 | 4218.6 | 3174.6 | 3094.7 | 3174.6 | 3254.5 | 3291.8 | 3302.4 | 3307.8 | 3313.1 |
| 25° | 6940.5 | 6146.8 | 3904.3 | 3089.4 | 3078.7 | 3190.6 | 3281.1 | 3329.1 | 3339.7 | 3339.7 | 3345.1 |
| 27.5° | 7116.2 | 6130.8 | 3691.3 | 2977.5 | 3004.2 | 3094.7 | 3201.2 | 3265.2 | 3307.8 | 3313.1 | 3318.4 |
| 30° | 7318.6 | 6082.9 | 3488.9 | 2828.4 | 2839.0 | 2950.9 | 3062.8 | 3174.6 | 3259.8 | 3297.1 | 3297.1 |
| 32.5° | 7457.1 | 6034.9 | 3307.8 | 2668.6 | 2668.6 | 2785.8 | 2924.3 | 3062.8 | 3185.3 | 3259.8 | 3275.8 |
| 35° | 7590.3 | 5992.3 | 3148.0 | 2508.8 | 2514.1 | 2626.0 | 2769.8 | 2918.9 | 3073.4 | 3164.0 | 3206.6 |
| 37.5° | 7659.5 | 5949.7 | 3036.1 | 2386.3 | 2365.0 | 2482.2 | 2578.0 | 2700.5 | 2865.7 | 3014.8 | 3052.1 |
| 40° | 7675.5 | 5949.7 | 3025.5 | 2301.1 | 2210.5 | 2343.7 | 2386.3 | 2471.5 | 2620.6 | 2780.4 | 2839.0 |
| 42.5° | 7569.0 | 5891.1 | 3078.7 | 2247.8 | 2050.7 | 2146.6 | 2194.5 | 2237.1 | 2333.0 | 2466.2 | 2514.1 |
| 45° | 7441.2 | 5811.2 | 3126.7 | 2173.2 | 1853.6 | 1928.2 | 2002.8 | 2008.1 | 2050.7 | 2082.7 | 2114.6 |
| 47.5° | 7334.6 | 5726.0 | 3041.4 | 2034.7 | 1651.2 | 1704.5 | 1784.4 | 1784.4 | 1763.1 | 1699.2 | 1677.9 |
| 50° | 7419.8 | 5752.6 | 2897.6 | 1837.7 | 1464.8 | 1502.1 | 1587.3 | 1539.4 | 1491.4 | 1358.3 | 1342.3 |
| 52.5° | 7494.4 | 5853.8 | 2727.2 | 1645.9 | 1305.0 | 1342.3 | 1427.5 | 1352.9 | 1257.1 | 1150.5 | 1134.5 |
| 55° | 7371.9 | 5859.2 | 2412.9 | 1432.8 | 1193.1 | 1225.1 | 1305.0 | 1214.4 | 1123.9 | 1060.0 | 1049.3 |
| 57.5° | 7004.4 | 5699.4 | 2082.7 | 1267.7 | 1097.3 | 1129.2 | 1203.8 | 1113.2 | 1028.0 | 1022.7 | 1049.3 |
| 60° | 6194.7 | 5140.1 | 1779.1 | 1161.2 | 1006.7 | 1044.0 | 1118.6 | 1022.7 | 910.8 | 862.9 | 878.9 |
| 62.5° | 4676.7 | 3952.3 | 1523.4 | 1038.7 | 921.5 | 969.4 | 1022.7 | 868.2 | 772.3 | 751.0 | 729.7 |
| 65° | *3419.6* | *3036.1* | *1368.9* | *942.8* | *841.6* | *900.2* | *857.6* | *772.3* | *708.4* | *687.1* | *676.5* |
| 67.5° | 2210.5 | 2061.4 | 1177.2 | 852.2 | 767.0 | 815.0 | 756.4 | 713.8 | 644.5 | 633.9 | 649.8 |
| 70° | 1352.9 | 1400.9 | 985.4 | 751.0 | 692.4 | 681.8 | 692.4 | 649.8 | 575.3 | 591.2 | 612.6 |
| 72.5° | 958.8 | 1033.3 | 846.9 | 655.2 | 591.2 | 569.9 | 617.9 | 591.2 | 538.0 | 554.0 | 575.3 |
| 75° | 687.1 | 767.0 | 697.8 | 538.0 | 500.7 | 490.0 | 575.3 | 591.2 | 554.0 | 564.6 | 580.6 |
| 77.5° | 404.8 | 490.0 | 495.4 | 415.5 | 378.2 | 436.8 | 612.6 | 681.8 | 655.2 | 623.2 | 607.2 |
| 80° | 261.0 | 293.0 | 351.6 | 266.3 | 266.3 | 378.2 | 671.1 | 830.9 | 713.8 | 633.9 | 623.2 |
| 82.5° | 133.2 | 154.5 | 229.0 | 170.4 | 159.8 | 282.3 | 660.5 | 793.7 | 788.3 | 703.1 | 687.1 |
| 85° | 37.3 | 47.9 | 106.5 | 74.6 | 63.9 | 149.1 | 495.4 | 596.6 | 532.7 | 388.8 | 394.2 |
| 87.5° | 5.3 | 5.3 | 0.0 | 0.0 | 5.3 | 21.3 | 58.6 | 10.7 | 10.7 | 10.7 | 10.7 |
| 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: SP1-2407-184-9

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-830-U-5WQ

Data in this report applies to families of products including GSS-SB1A-830-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

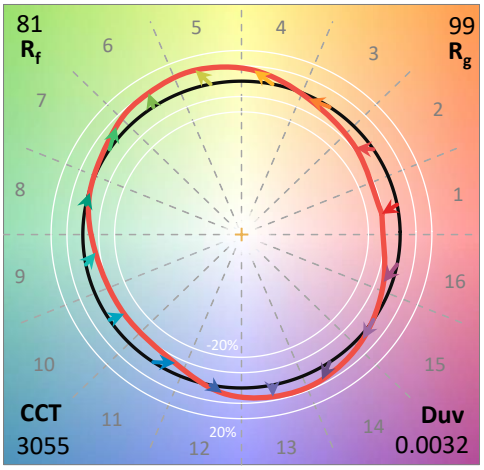
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-9 |
| 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-830-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3055 |
| CIE u': | 0.2475 |
| CIE v': | 0.5247 |
| Duv: | 0.0032 |
| CIE x: | 0.4377 |
| CIE y: | 0.4124 |
| CIE z: | 0.1499 |
| Peak Wavelength (nm): | 604 |
| Dominant Wavelength (nm): | 581 |
| Purity: | 55.16339 |
| Rf: | 81.5 |
| Rg: | 99.2 |

| | |
|---|---|
| CRI (Ra): | 80.9 |
| R1: | 79.5 |
| R2: | 85.6 |
| R3: | 92.1 |
| R4: | 82.4 |
| R5: | 78.9 |
| R6: | 81.7 |
| R7: | 85.1 |
| R8: | 61.9 |
| R9: | 6.8 |
| R10: | 67.1 |
| R11: | 82.5 |
| R12: | 63.4 |
| R13: | 80.2 |
| R14: | 95.1 |
| R15: | 71.7 |




## Test Conditions

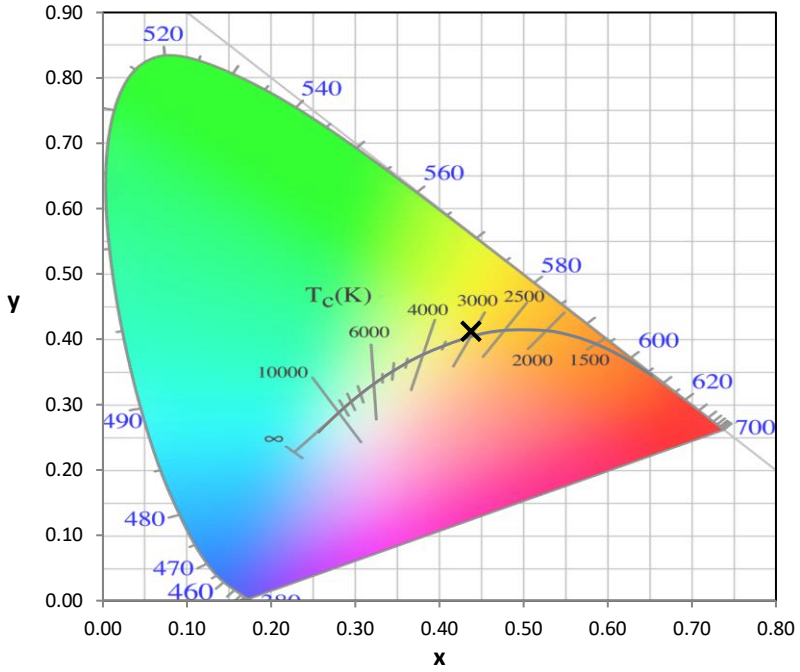
| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-9

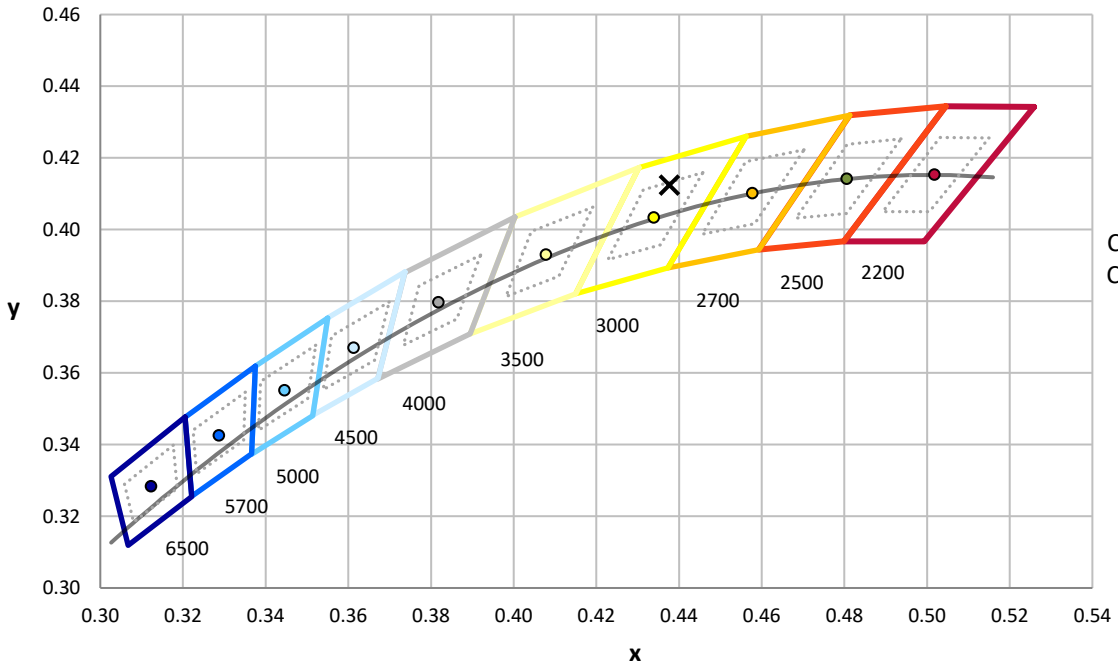
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

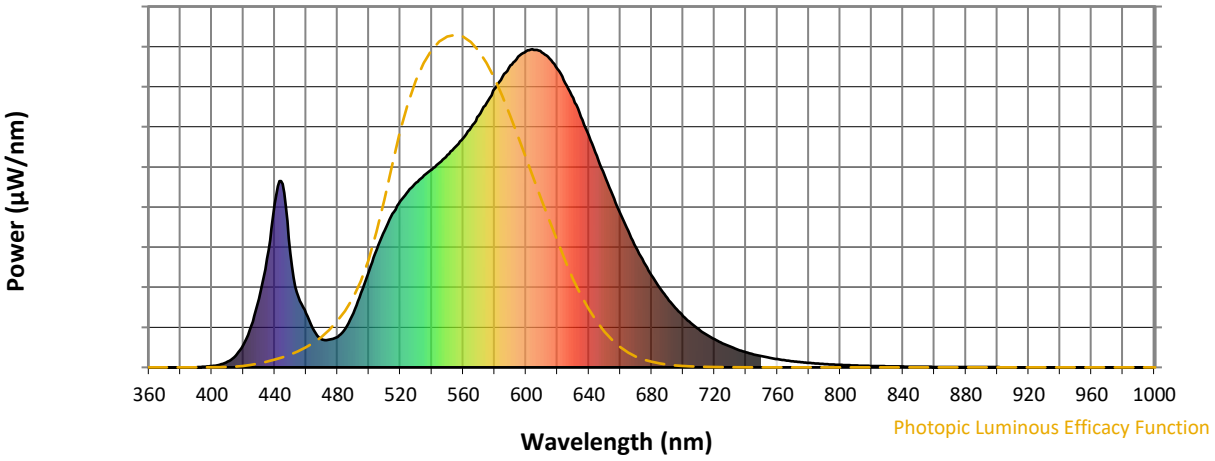



CCT = 3055K
CIE x = 0.4377
CIE y = 0.4124
Duv = 0.0032

Point lies inside the ANSI 3000K 4-step quadrangle

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## Photopic Flux vs. Wavelength

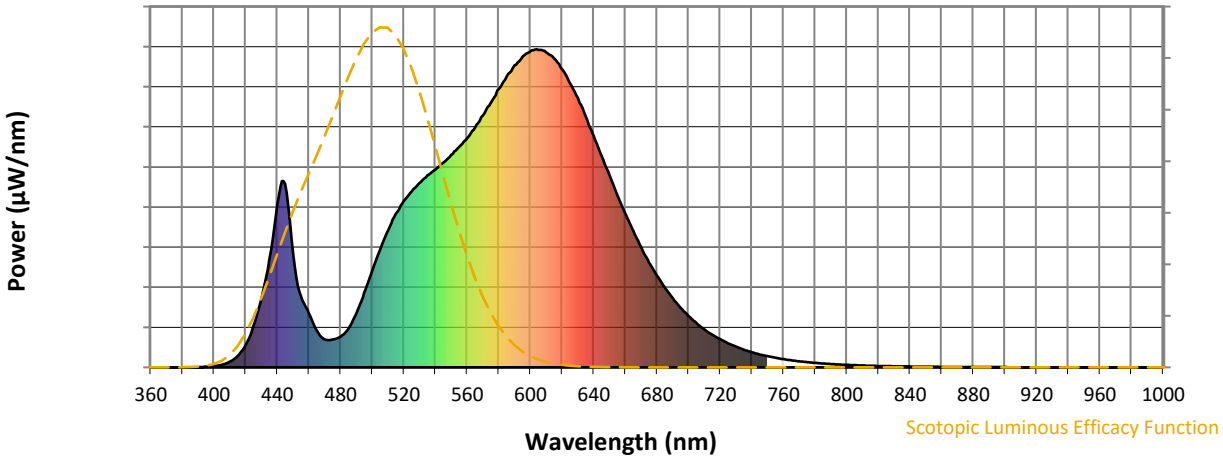



## Photopic Lumens: NR

| 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 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

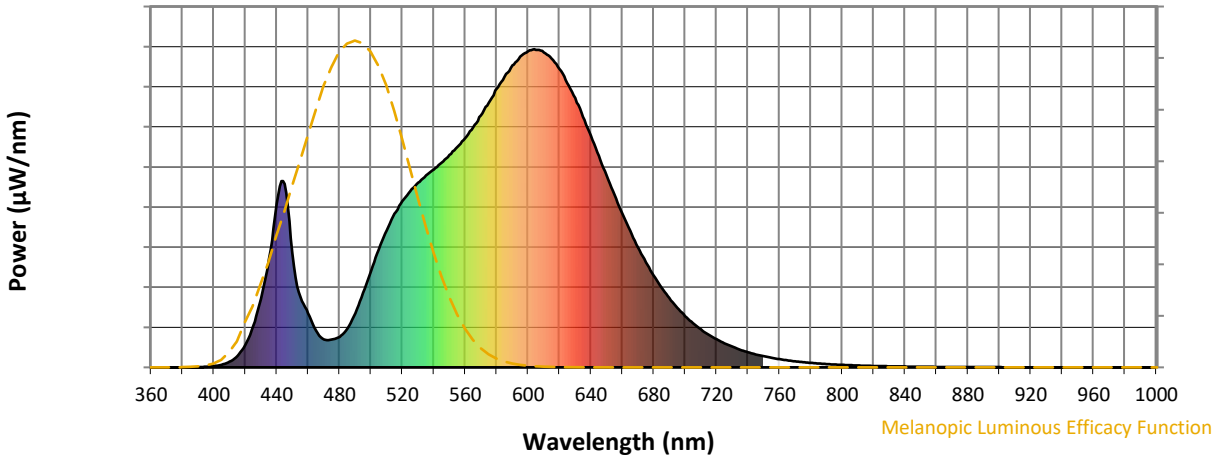



**Scotopic Lumens: NR** **S/P: 1.28**

| 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 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.33**

| 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 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

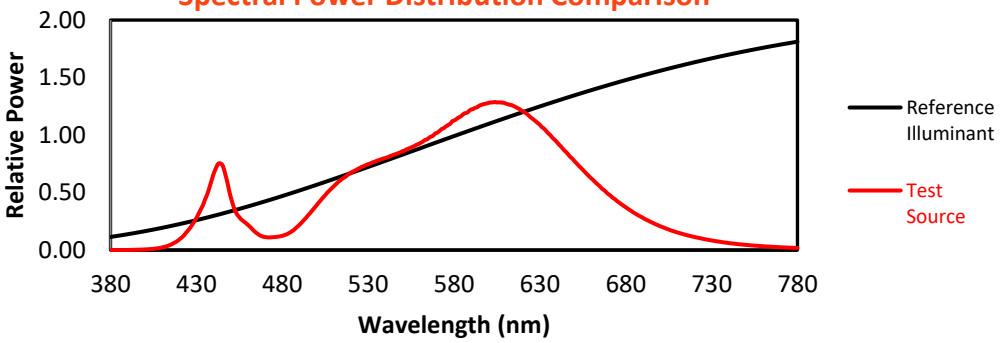
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# TM-30-18

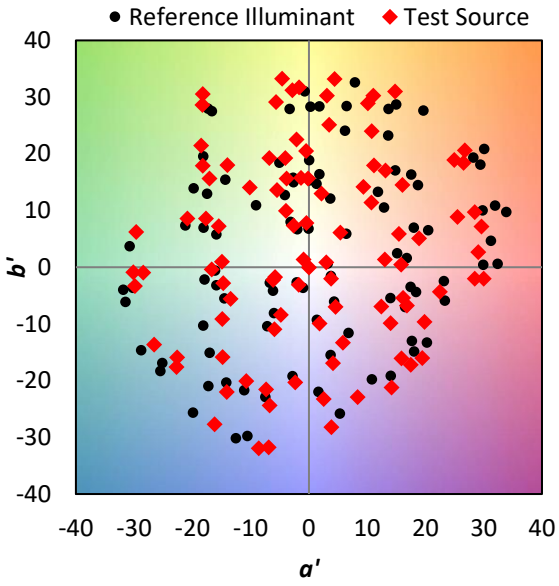
## Summary

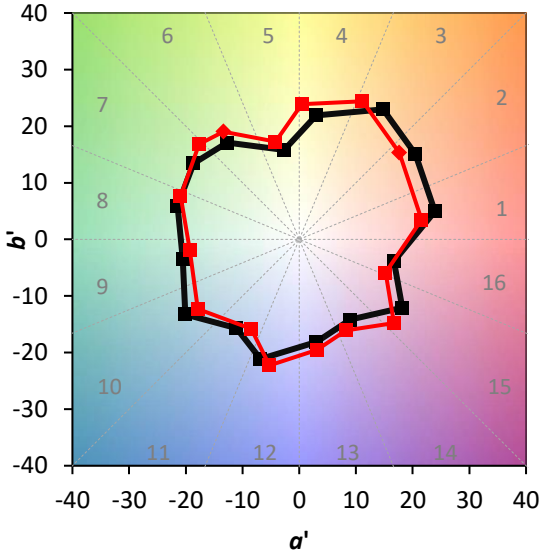
$R_f$ = 81.5
$R_g$ = 99.2
CIE $R_a$ = 80.9
$R_9$ = 6.8

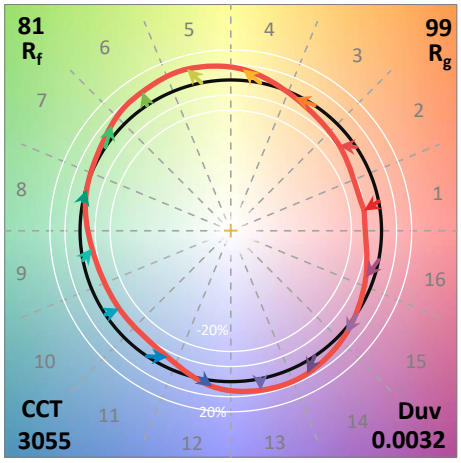
## Spectral Power Distribution Comparison

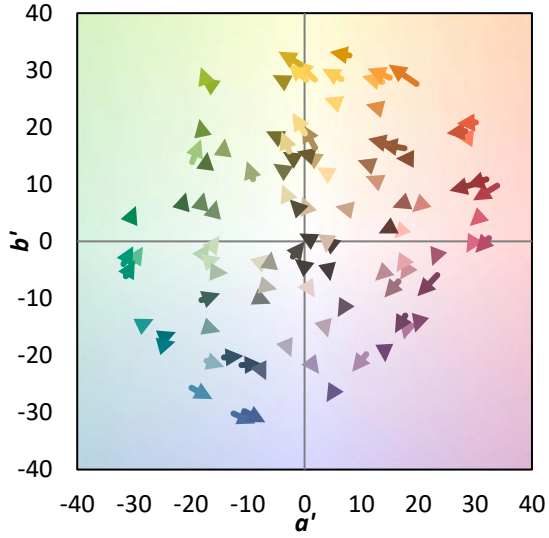



## Color Vector Graphics



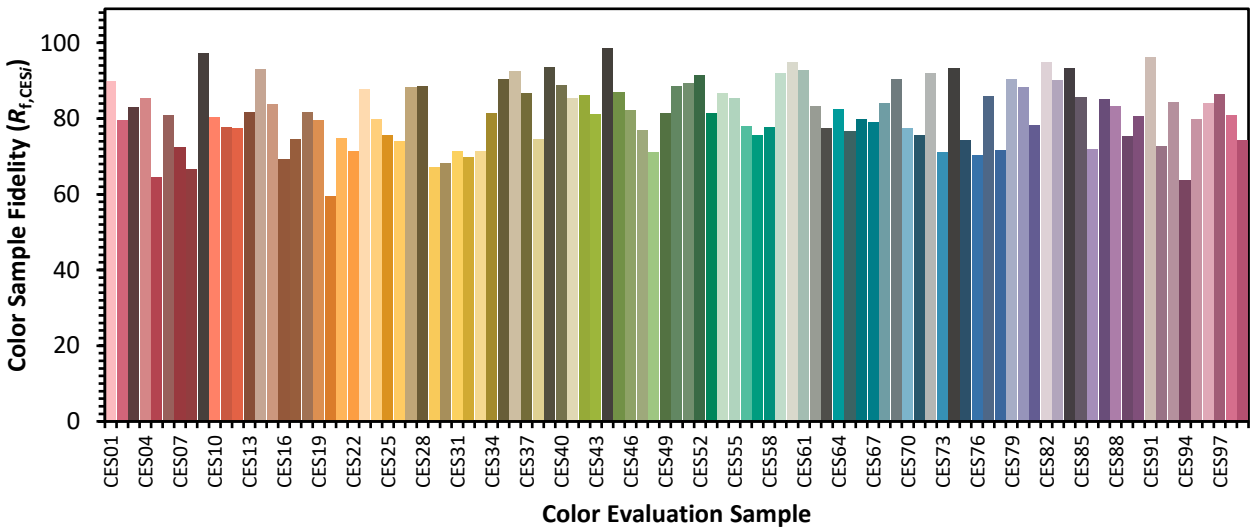



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# TM-30-18

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

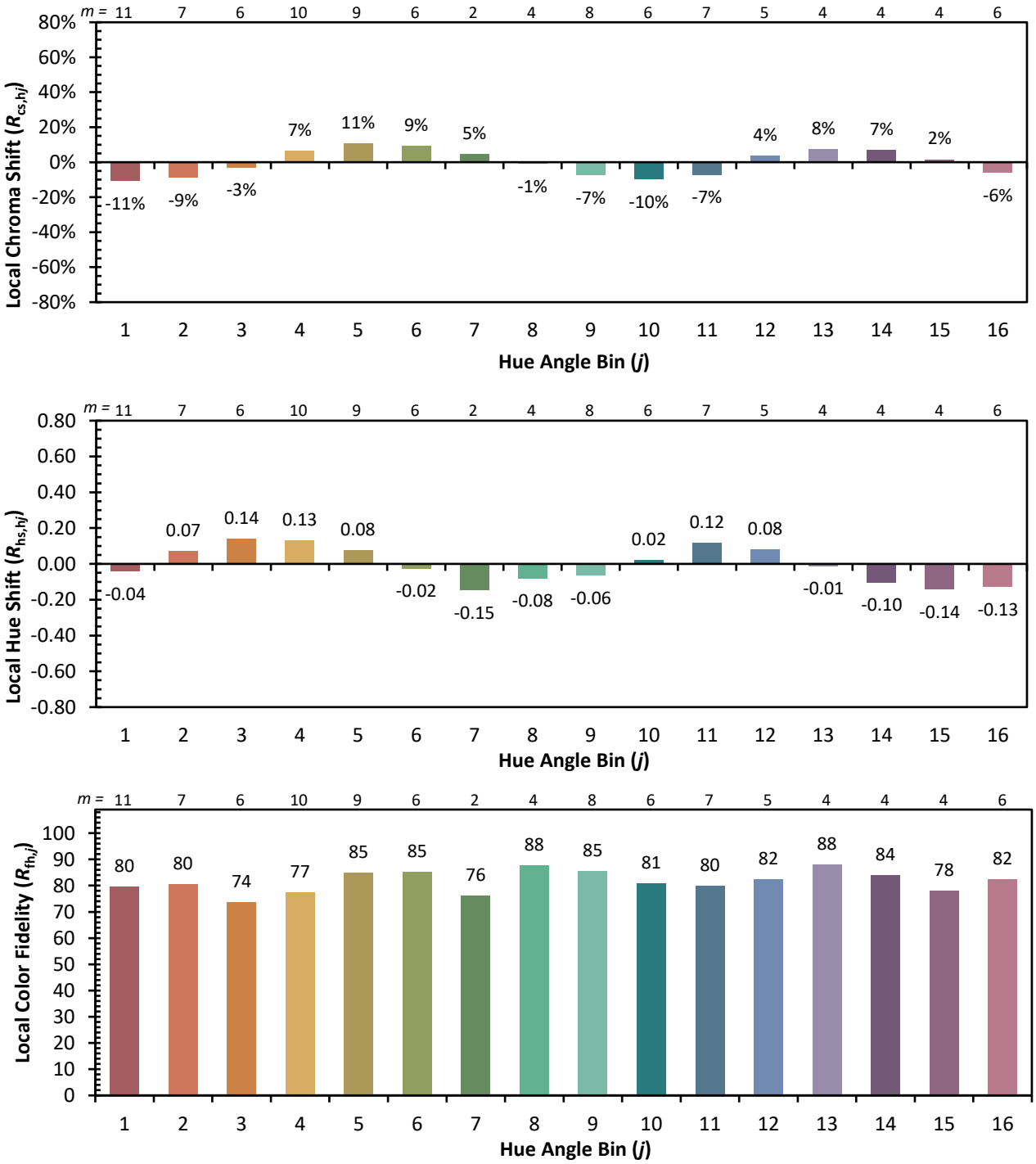
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 91 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 51 | CES31 = 71 | CES56 = 78 | CES81 = 78 |
| CES07 = 42 | CES32 = 70 | CES57 = 76 | CES82 = 95 |
| CES08 = 41 | CES33 = 71 | CES58 = 78 | CES83 = 90 |
| CES09 = 29 | CES34 = 82 | CES59 = 92 | CES84 = 93 |
| CES10 = 76 | CES35 = 90 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 93 | CES61 = 93 | CES86 = 72 |
| CES12 = 65 | CES37 = 87 | CES62 = 83 | CES87 = 85 |
| CES13 = 43 | CES38 = 75 | CES63 = 77 | CES88 = 83 |
| CES14 = 74 | CES39 = 94 | CES64 = 83 | CES89 = 75 |
| CES15 = 71 | CES40 = 89 | CES65 = 77 | CES90 = 81 |
| CES16 = 47 | CES41 = 85 | CES66 = 80 | CES91 = 96 |
| CES17 = 50 | CES42 = 86 | CES67 = 79 | CES92 = 73 |
| CES18 = 56 | CES43 = 81 | CES68 = 84 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 90 | CES94 = 64 |
| CES20 = 66 | CES45 = 87 | CES70 = 77 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 76 | CES96 = 84 |
| CES22 = 79 | CES47 = 77 | CES72 = 92 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 71 | CES98 = 81 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 74 |
| CES25 = 72 | CES50 = 89 | CES75 = 74 | |



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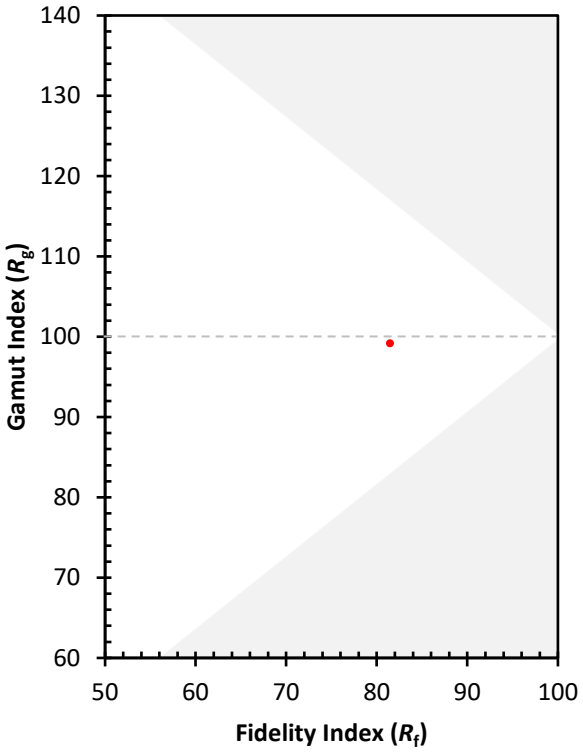
## Color Rendition by Hue-Angle Bin

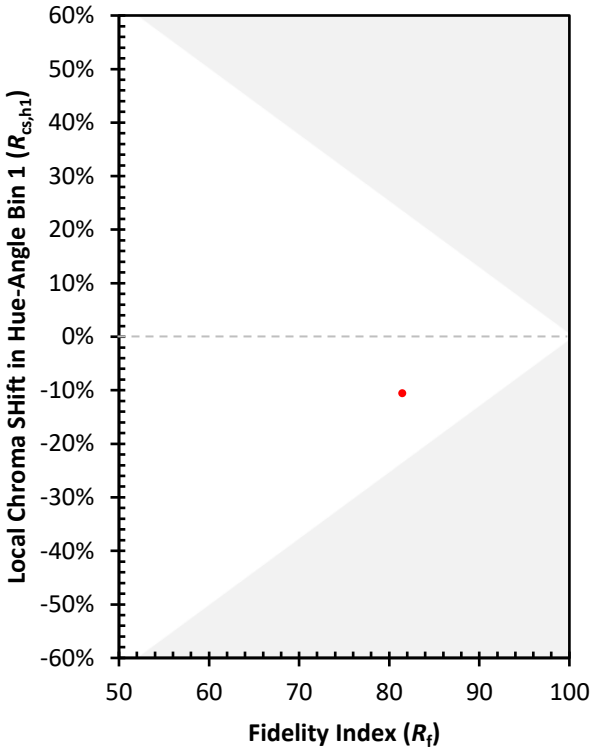


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# TM-30-18

## Measure Comparisons




(END OF REPORT)