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

Scaled data based on original data using

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P1367300

Luminaire Tested: **GSS-SB4B-735-U-T4W**

Issue Date: 02/18/2026

Report Generated By 670245763

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P1367300 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB4B-735-U-T4W |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 4SQUARE 148W 70CRI 3500K FIXTURE w/ TYPE IV WIDE DISTRIBUTION OPTIC |
| Light Source: | (104) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 20981.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 141.8 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B3 - U0 - G4 |

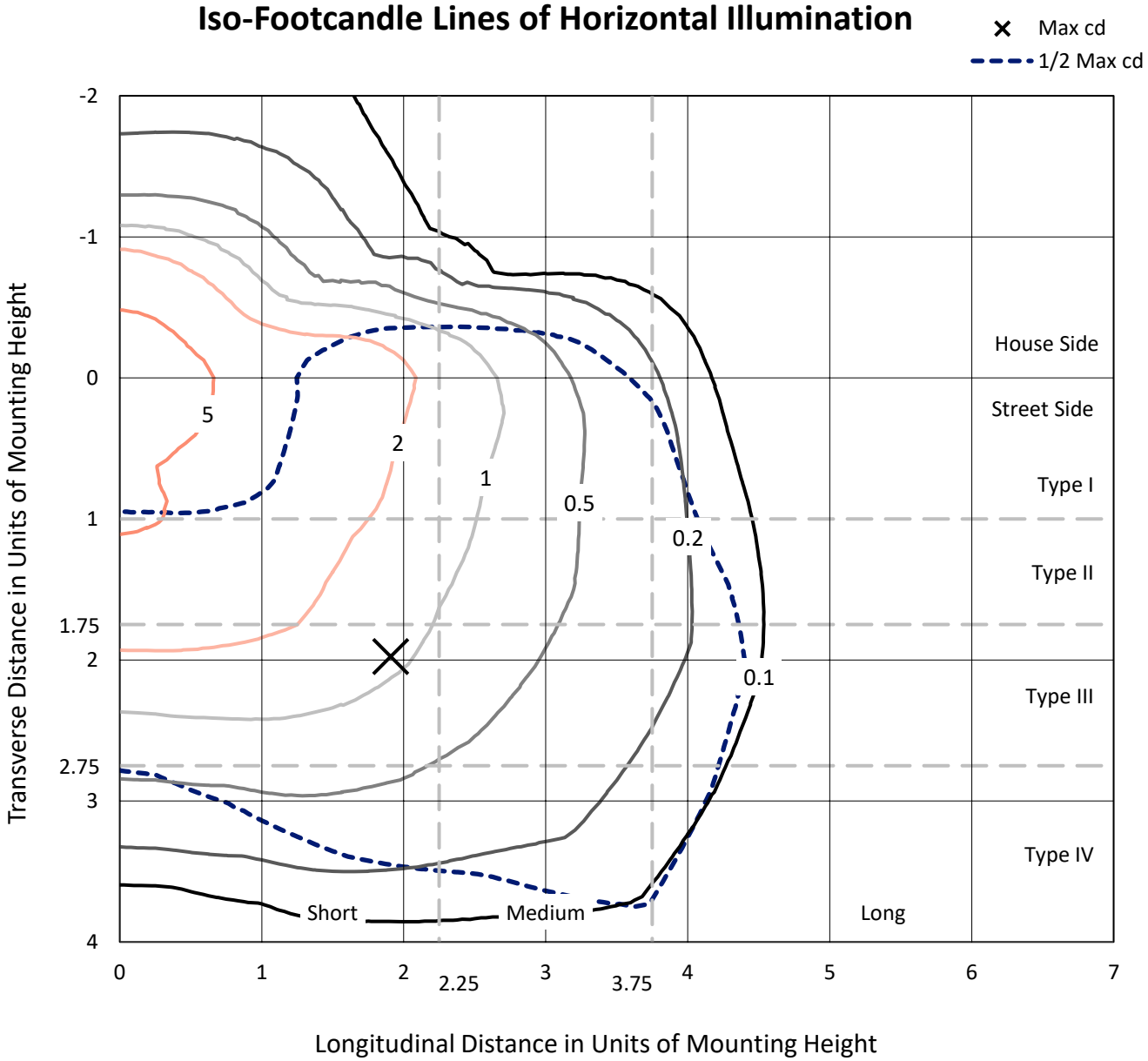
| | |
|---|---|
| Input Watts (W): | 148 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 13.6% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1367300
CATALOG NUMBER: GSS-SB4B-735-U-T4W

## Iso-Footcandle Lines of Horizontal Illumination



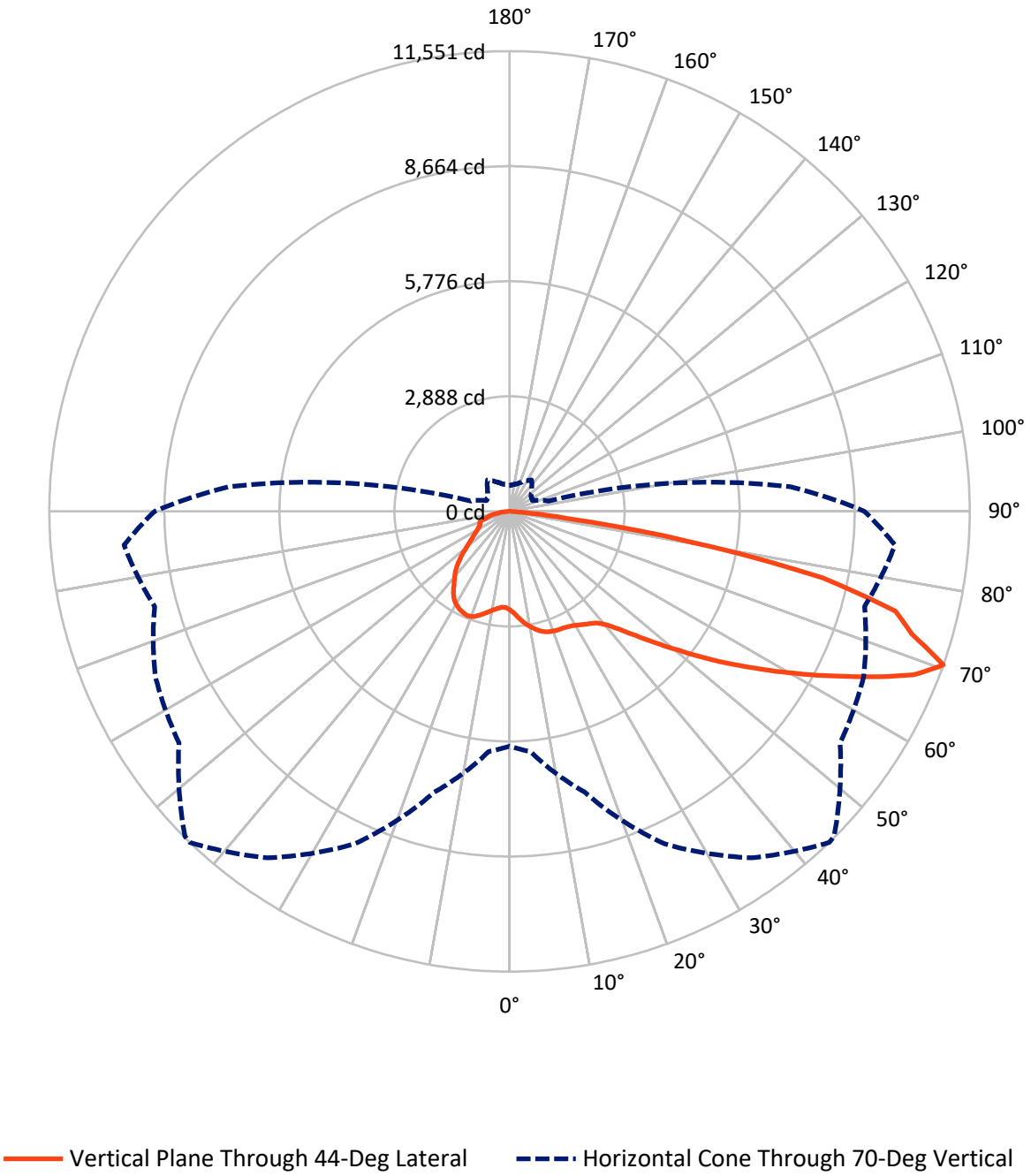

Based on 20 foot mounting height. Maximum calculated value = 7.6 fc
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

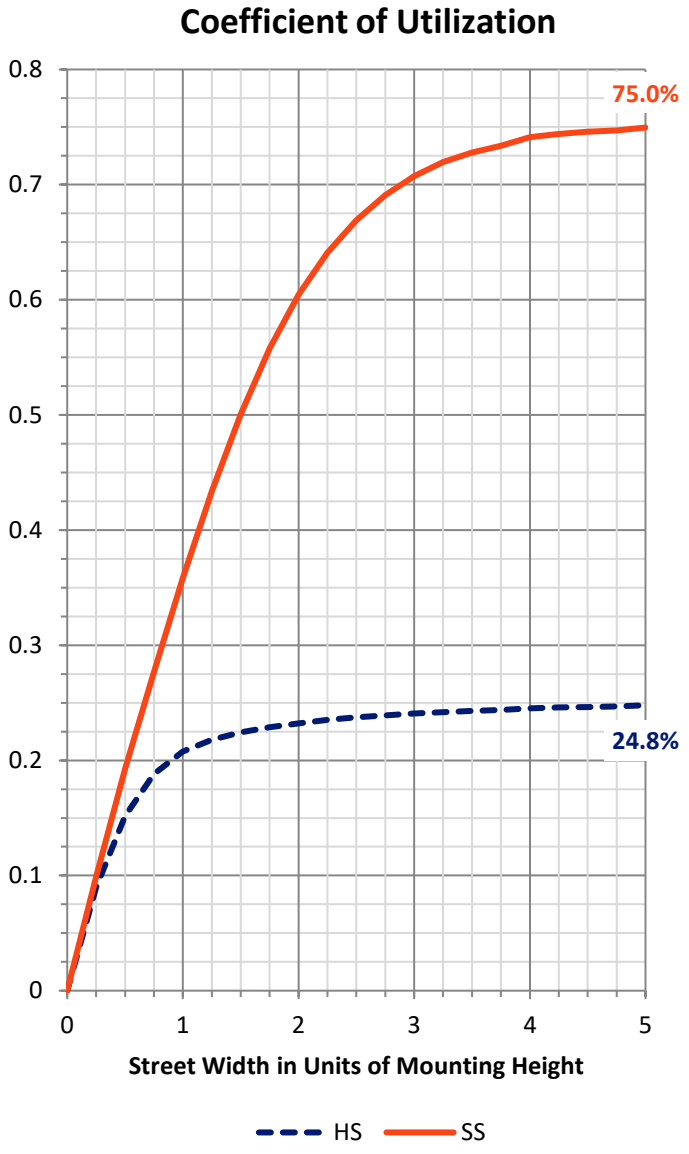
REPORT NUMBER: P1367300
CATALOG NUMBER: GSS-SB4B-735-U-T4W

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 5257.2 | 0.0 | 5257.2 |
| | % Fixture | 25.1 | 0.0 | 25.1 |
| **Street Side** | Lumens | 15723.9 | 0.0 | 15723.9 |
| | % Fixture | 74.9 | 0.0 | 74.9 |
| **Total** | Lumens | 20981.1 | 0.0 | 20981.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 250.2 | 1.2 |
| 10°-20° | 821.4 | 3.9 |
| 20°-30° | 1413.4 | 6.7 |
| 30°-40° | 1992.4 | 9.5 |
| 40°-50° | 2757.1 | 13.1 |
| 50°-60° | 4094.5 | 19.5 |
| 60°-70° | 5472.2 | 26.1 |
| 70°-80° | 3860.2 | 18.4 |
| 80°-90° | 319.7 | 1.5 |
| 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° | 20981.1 | 100.0 |
| 0°-180° | 20981.1 | 100.0 |



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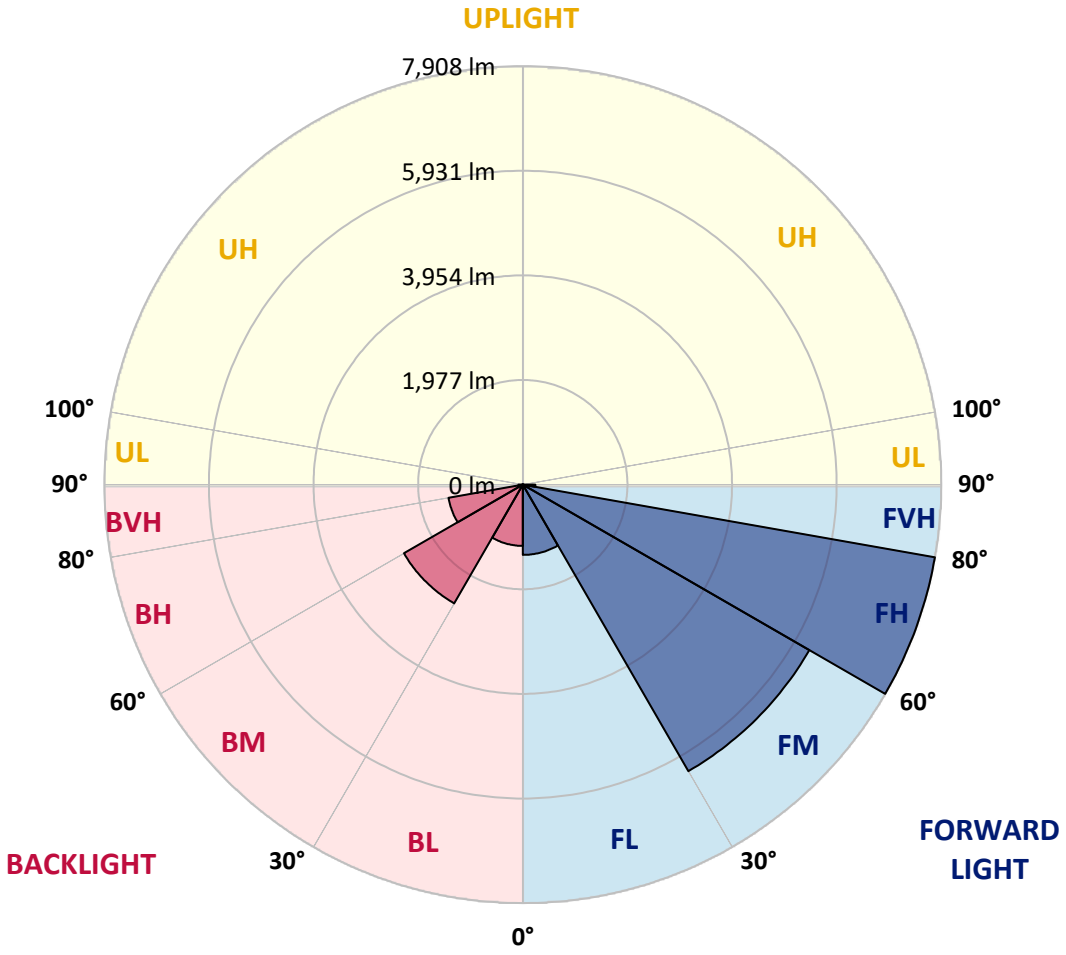
Scaled Data Report

REPORT NUMBER: P1367300
CATALOG NUMBER: GSS-SB4B-735-U-T4W

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1327.8 | 6.3 | | | |
| FM | (30°-60°) | 6251.9 | 29.8 | | | |
| FH | (60°-80°) | 7907.6 | 37.7 | | | G4/12000 |
| FVH | (80°-90°) | 236.6 | 1.1 | | | G3/500 |
| BL | (0°-30°) | 1157.2 | 5.5 | B3/2500 | | |
| BM | (30°-60°) | 2592.1 | 12.4 | B3/5000 | | |
| BH | (60°-80°) | 1424.8 | 6.8 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 83.1 | 0.4 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G4**
Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 44° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2479.3 | 2479.3 | 2479.3 | 2479.3 | 2479.3 | *2479.3* | 2479.3 | 2479.3 | 2479.3 | 2479.3 | 2479.3 |
| 2.5° | 2662.6 | 2647.3 | 2632.0 | 2626.9 | 2606.6 | *2576.0* | 2576.0 | 2565.8 | 2540.4 | 2520.0 | 2504.7 |
| 5° | 2835.7 | 2840.8 | 2815.3 | 2794.9 | 2764.4 | *2713.5* | 2718.6 | 2672.7 | 2621.8 | 2565.8 | 2525.1 |
| 7.5° | 3003.7 | 3003.7 | 2973.1 | 2947.7 | 2906.9 | *2845.8* | 2845.8 | 2774.6 | 2713.5 | 2637.1 | 2581.1 |
| 10° | 3156.4 | 3146.2 | 3105.5 | 3074.9 | 3018.9 | *2952.8* | 2947.7 | 2876.4 | 2800.0 | 2713.5 | 2637.1 |
| 12.5° | 3273.5 | 3273.5 | 3232.8 | 3181.8 | 3120.8 | *3049.5* | 3044.4 | 2968.0 | 2891.7 | 2800.0 | 2708.4 |
| 15° | 3385.5 | 3360.0 | 3324.4 | 3258.2 | 3186.9 | *3130.9* | 3120.8 | 3054.6 | 2978.2 | 2896.8 | 2794.9 |
| 17.5° | 3426.2 | 3416.0 | 3370.2 | 3304.0 | 3237.8 | *3176.8* | 3176.8 | 3115.7 | 3059.7 | 2978.2 | 2876.4 |
| 20° | 3416.0 | 3400.8 | 3360.0 | 3304.0 | 3253.1 | *3202.2* | 3202.2 | 3156.4 | 3125.8 | 3049.5 | 2957.8 |
| 22.5° | 3365.1 | 3349.8 | 3324.4 | 3273.5 | 3248.0 | *3217.5* | 3217.5 | 3192.0 | 3181.8 | 3136.0 | 3049.5 |
| 25° | 3349.8 | 3339.7 | 3304.0 | 3258.2 | 3232.8 | *3227.7* | 3232.8 | 3237.8 | 3248.0 | 3212.4 | 3141.1 |
| 27.5° | 3360.0 | 3360.0 | 3329.5 | 3283.7 | 3253.1 | *3258.2* | 3263.3 | 3293.8 | 3324.4 | 3304.0 | 3242.9 |
| 30° | 3426.2 | 3410.9 | 3390.6 | 3344.8 | 3309.1 | *3314.2* | 3314.2 | 3375.3 | 3405.8 | 3380.4 | 3334.6 |
| 32.5° | 3538.2 | 3522.9 | 3492.4 | 3395.7 | 3360.0 | *3385.5* | 3395.7 | 3446.6 | 3466.9 | 3441.5 | 3421.1 |
| 35° | 3797.9 | 3813.1 | 3711.3 | 3538.2 | 3441.5 | *3461.8* | 3472.0 | 3507.7 | 3533.1 | 3522.9 | 3502.6 |
| 37.5° | 4271.3 | 4276.4 | 4149.1 | 3838.6 | 3614.6 | *3553.5* | 3558.6 | 3609.5 | 3640.0 | 3604.4 | 3589.1 |
| 40° | 4861.9 | 4867.0 | 4688.8 | 4266.2 | 3889.5 | *3736.8* | 3731.7 | 3741.8 | 3787.7 | 3726.6 | 3716.4 |
| 42.5° | 5503.3 | 5432.0 | 5279.3 | 4795.7 | 4296.8 | *4042.2* | 3996.4 | 3965.9 | 4021.9 | 3945.5 | 3894.6 |
| 45° | 6114.2 | 6063.3 | 5854.6 | 5355.7 | 4785.5 | *4444.4* | 4398.6 | 4245.9 | 4337.5 | 4276.4 | 4184.8 |
| 47.5° | 6623.3 | 6582.6 | 6424.8 | 5961.5 | 5340.4 | *4928.0* | 4856.8 | 4617.5 | 4780.4 | 4749.9 | 4637.9 |
| 50° | 7000.1 | 6959.3 | 6852.4 | 6567.3 | 6043.0 | *5467.7* | 5401.5 | 5111.3 | 5279.3 | 5335.3 | 5248.8 |
| 52.5° | 7275.0 | 7264.8 | 7224.1 | 7178.2 | 6755.7 | *6093.9* | 6017.5 | 5656.0 | 5931.0 | 6037.9 | 6012.4 |
| 55° | 7692.4 | 7672.1 | 7687.3 | 7763.7 | 7519.3 | *6760.8* | 6648.8 | 6226.2 | 6603.0 | 6801.5 | 6842.2 |
| 57.5° | 8089.5 | 8089.5 | 8221.9 | 8420.4 | 8389.9 | *7478.6* | 7346.2 | 6893.1 | 7417.5 | 7514.2 | 7707.7 |
| 60° | 8461.2 | 8496.8 | 8680.1 | 9117.9 | 9204.4 | *8257.5* | 8099.7 | 7661.9 | 8191.3 | 8298.3 | 8649.5 |
| 62.5° | 8303.3 | 8389.9 | 8975.3 | 9683.0 | 9968.1 | *9092.4* | 8934.6 | 8507.0 | 9061.9 | 8934.6 | 9250.3 |
| 65° | 7499.0 | 7631.3 | 8537.5 | 9718.6 | 10711.4 | *10008.8* | 9876.4 | 9459.0 | 9540.4 | 9031.3 | 9586.3 |
| 67.5° | 6653.9 | 6847.3 | 7901.2 | 9285.9 | 10904.8 | *10945.5* | 10828.5 | 10044.4 | 9535.4 | 9133.2 | 9927.4 |
| 70° | *5895.3* | *6053.1* | *7295.3* | *9209.5* | *10614.6* | *11551.4* | *11525.9* | *10131.0* | *9810.3* | *9224.8* | *9713.5* |
| 72.5° | 4133.9 | 4352.8 | 5625.5 | 8501.9 | 10701.2 | *10563.7* | 10507.7 | 10736.8 | 10013.9 | 8888.8 | 8608.8 |
| 75° | 1486.6 | 1573.1 | 2917.1 | 5752.8 | 8507.0 | *10003.7* | 10049.5 | 9947.7 | 9815.4 | 7962.2 | 6470.6 |
| 77.5° | 442.9 | 473.5 | 829.8 | 2280.7 | 4770.2 | *8028.4* | 8104.8 | 7835.0 | 7376.8 | 4800.8 | 2448.7 |
| 80° | 239.3 | 259.6 | 392.0 | 666.9 | 1786.9 | *4530.9* | 4739.7 | 4011.7 | 2657.5 | 1267.6 | 549.8 |
| 82.5° | 117.1 | 127.3 | 203.6 | 325.8 | 768.7 | *1440.7* | 1445.8 | 1282.9 | 865.5 | 381.8 | 203.6 |
| 85° | 40.7 | 45.8 | 66.2 | 122.2 | 264.7 | *295.3* | 295.3 | 274.9 | 254.5 | 188.4 | 91.6 |
| 87.5° | 10.2 | 10.2 | 15.3 | 20.4 | 25.5 | *30.5* | 30.5 | 35.6 | 40.7 | 45.8 | 45.8 |
| 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: P1367300
CATALOG NUMBER: GSS-SB4B-735-U-T4W

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2479.3 | 2479.3 | 2479.3 | 2479.3 | 2479.3 | 2479.3 | 2479.3 | 2479.3 | 2479.3 | 2479.3 | 2479.3 |
| 2.5° | 2494.6 | 2474.2 | 2458.9 | 2443.7 | 2433.5 | 2413.1 | 2408.0 | 2408.0 | 2402.9 | 2408.0 | 2402.9 |
| 5° | 2509.8 | 2479.3 | 2453.8 | 2433.5 | 2423.3 | 2413.1 | 2413.1 | 2418.2 | 2413.1 | 2418.2 | 2413.1 |
| 7.5° | 2540.4 | 2520.0 | 2494.6 | 2464.0 | 2458.9 | 2453.8 | 2458.9 | 2469.1 | 2474.2 | 2479.3 | 2469.1 |
| 10° | 2601.5 | 2570.9 | 2535.3 | 2520.0 | 2509.8 | 2504.7 | 2520.0 | 2540.4 | 2545.5 | 2555.7 | 2545.5 |
| 12.5° | 2672.7 | 2637.1 | 2611.7 | 2576.0 | 2576.0 | 2581.1 | 2596.4 | 2621.8 | 2637.1 | 2652.4 | 2637.1 |
| 15° | 2754.2 | 2718.6 | 2682.9 | 2652.4 | 2647.3 | 2657.5 | 2682.9 | 2708.4 | 2713.5 | 2718.6 | 2708.4 |
| 17.5° | 2835.7 | 2800.0 | 2754.2 | 2718.6 | 2713.5 | 2738.9 | 2749.1 | 2749.1 | 2738.9 | 2738.9 | 2723.7 |
| 20° | 2917.1 | 2891.7 | 2845.8 | 2779.7 | 2800.0 | 2810.2 | 2779.7 | 2754.2 | 2738.9 | 2733.8 | 2718.6 |
| 22.5° | 3013.8 | 2973.1 | 2922.2 | 2850.9 | 2866.2 | 2825.5 | 2769.5 | 2759.3 | 2744.0 | 2749.1 | 2733.8 |
| 25° | 3105.5 | 3080.0 | 2998.6 | 2906.9 | 2866.2 | 2800.0 | 2764.4 | 2764.4 | 2749.1 | 2759.3 | 2754.2 |
| 27.5° | 3212.4 | 3181.8 | 3069.8 | 2937.5 | 2830.6 | 2759.3 | 2754.2 | 2754.2 | 2728.8 | 2733.8 | 2728.8 |
| 30° | 3319.3 | 3273.5 | 3125.8 | 2912.0 | 2744.0 | 2698.2 | 2713.5 | 2708.4 | 2698.2 | 2713.5 | 2723.7 |
| 32.5° | 3410.9 | 3375.3 | 3156.4 | 2850.9 | 2637.1 | 2616.7 | 2626.9 | 2652.4 | 2677.8 | 2693.1 | 2713.5 |
| 35° | 3507.7 | 3466.9 | 3181.8 | 2744.0 | 2520.0 | 2489.5 | 2484.4 | 2560.7 | 2606.6 | 2632.0 | 2647.3 |
| 37.5° | 3609.5 | 3558.6 | 3197.1 | 2626.9 | 2408.0 | 2316.4 | 2331.7 | 2392.7 | 2443.7 | 2489.5 | 2525.1 |
| 40° | 3746.9 | 3696.0 | 3217.5 | 2499.7 | 2290.9 | 2168.7 | 2148.4 | 2163.7 | 2199.3 | 2265.5 | 2301.1 |
| 42.5° | 3950.6 | 3869.1 | 3217.5 | 2336.7 | 2122.9 | 2036.4 | 1965.1 | 1909.1 | 1888.7 | 1929.5 | 1949.8 |
| 45° | 4230.6 | 4108.4 | 3197.1 | 2168.7 | 1929.5 | 1868.4 | 1751.3 | 1659.7 | 1578.2 | 1537.5 | 1527.3 |
| 47.5° | 4693.9 | 4480.0 | 3176.8 | 2005.8 | 1746.2 | 1669.8 | 1527.3 | 1420.4 | 1303.3 | 1196.4 | 1170.9 |
| 50° | 5315.0 | 4973.9 | 3181.8 | 1842.9 | 1562.9 | 1461.1 | 1333.8 | 1221.8 | 1084.4 | 982.6 | 967.3 |
| 52.5° | 6134.6 | 5666.2 | 3212.4 | 1664.7 | 1384.7 | 1293.1 | 1186.2 | 1074.2 | 936.7 | 860.4 | 855.3 |
| 55° | 7086.6 | 6501.1 | 3319.3 | 1466.2 | 1221.8 | 1150.6 | 1074.2 | 967.3 | 850.2 | 784.0 | 773.8 |
| 57.5° | 8196.4 | 7468.4 | 3533.1 | 1257.5 | 1074.2 | 1048.7 | 987.6 | 885.8 | 789.1 | 722.9 | 712.7 |
| 60° | 9291.0 | 8405.2 | 3696.0 | 1074.2 | 957.1 | 957.1 | 901.1 | 824.7 | 692.4 | 636.4 | 626.2 |
| 62.5° | 9800.1 | 8695.3 | 3385.5 | 926.6 | 865.5 | 880.7 | 845.1 | 738.2 | 697.5 | 672.0 | 656.7 |
| 65° | 9922.3 | 8532.4 | 2545.5 | 814.6 | 789.1 | 840.0 | 784.0 | 789.1 | 753.5 | 728.0 | 712.7 |
| 67.5° | 9774.6 | 8069.2 | 1629.1 | 717.8 | 733.1 | 789.1 | 865.5 | 870.6 | 753.5 | 697.5 | 687.3 |
| 70° | *8909.2* | *7076.4* | *1002.9* | *636.4* | *656.7* | *778.9* | *962.2* | *819.6* | *712.7* | *666.9* | *646.6* |
| 72.5° | 7432.8 | 5839.3 | 702.6 | 560.0 | 560.0 | 738.2 | 865.5 | 768.7 | 656.7 | 631.3 | 605.8 |
| 75° | 5218.2 | 3950.6 | 514.2 | 468.4 | 468.4 | 575.3 | 799.3 | 702.6 | 616.0 | 626.2 | 616.0 |
| 77.5° | 1776.7 | 1282.9 | 371.6 | 361.5 | 346.2 | 493.8 | 712.7 | 672.0 | 570.2 | 539.6 | 498.9 |
| 80° | 524.4 | 412.4 | 274.9 | 254.5 | 249.5 | 397.1 | 600.7 | 493.8 | 407.3 | 371.6 | 346.2 |
| 82.5° | 203.6 | 183.3 | 178.2 | 162.9 | 157.8 | 264.7 | 397.1 | 341.1 | 305.5 | 254.5 | 249.5 |
| 85° | 81.5 | 81.5 | 91.6 | 91.6 | 81.5 | 142.5 | 239.3 | 188.4 | 178.2 | 157.8 | 152.7 |
| 87.5° | 40.7 | 40.7 | 35.6 | 25.5 | 25.5 | 30.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 |
| 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: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

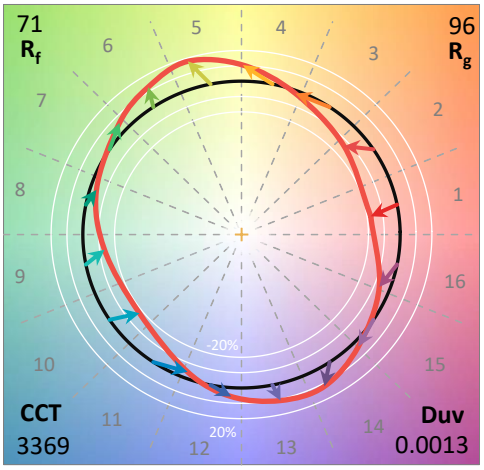
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-5 |
| 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-735-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3369 |
| CIE u': | 0.2386 |
| CIE v': | 0.5156 |
| Duv: | 0.0013 |
| CIE x: | 0.4143 |
| CIE y: | 0.3980 |
| CIE z: | 0.1877 |
| Peak Wavelength (nm): | 590 |
| Dominant Wavelength (nm): | 580 |
| Purity: | 43.80166 |
| Rf: | 71.4 |
| Rg: | 96 |

| | |
|---|---|
| CRI (Ra): | 70.1 |
| R1: | 66.6 |
| R2: | 77.6 |
| R3: | 88.5 |
| R4: | 69.5 |
| R5: | 66.4 |
| R6: | 69.6 |
| R7: | 77.5 |
| R8: | 44.9 |
| R9: | -40.2 |
| R10: | 49.1 |
| R11: | 66.3 |
| R12: | 45.7 |
| R13: | 68.0 |
| R14: | 93.4 |
| R15: | 57.6 |




## Test Conditions

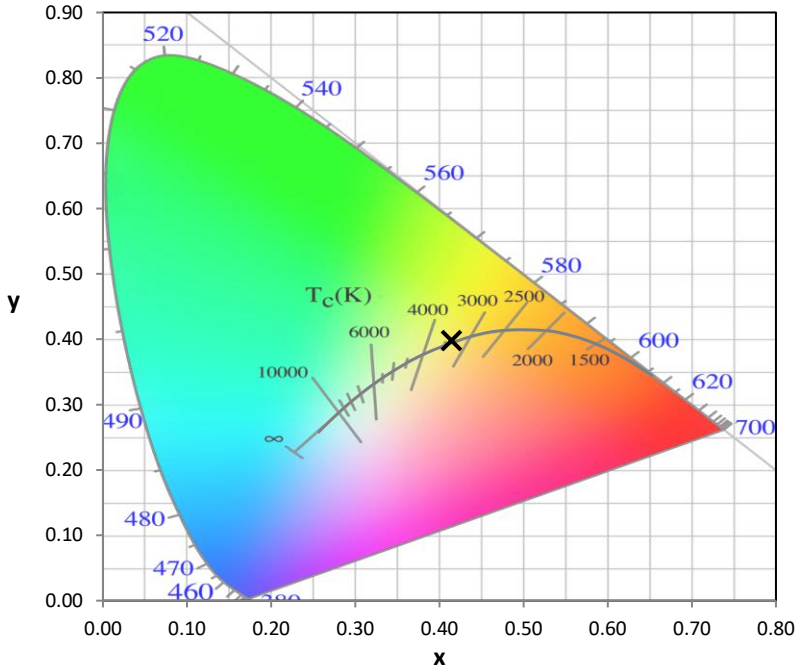
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

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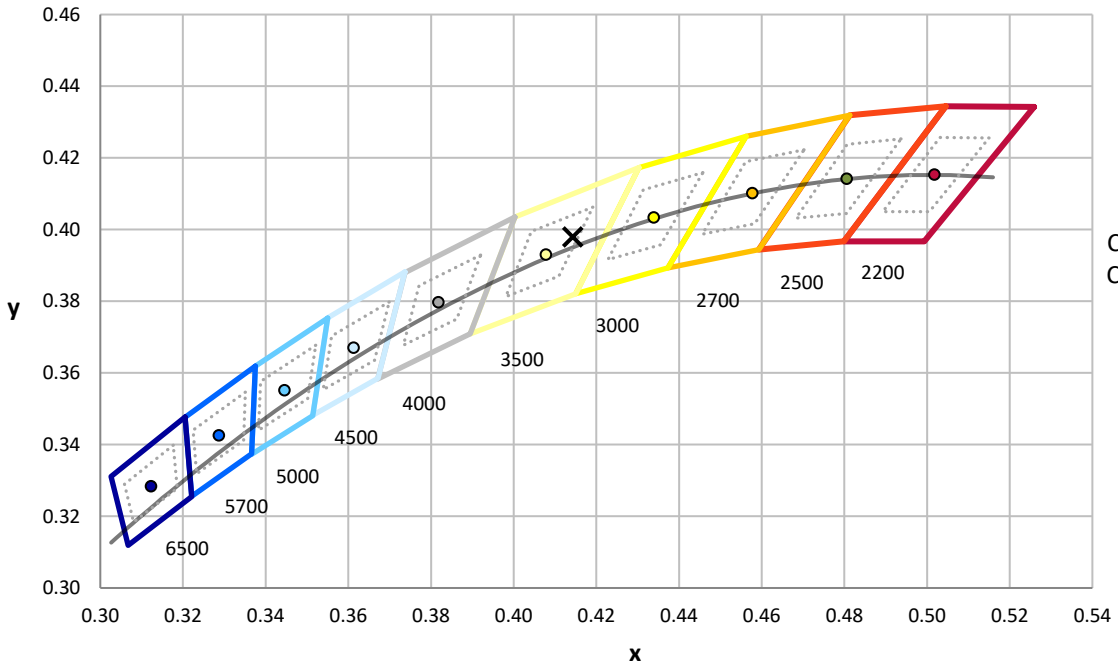
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

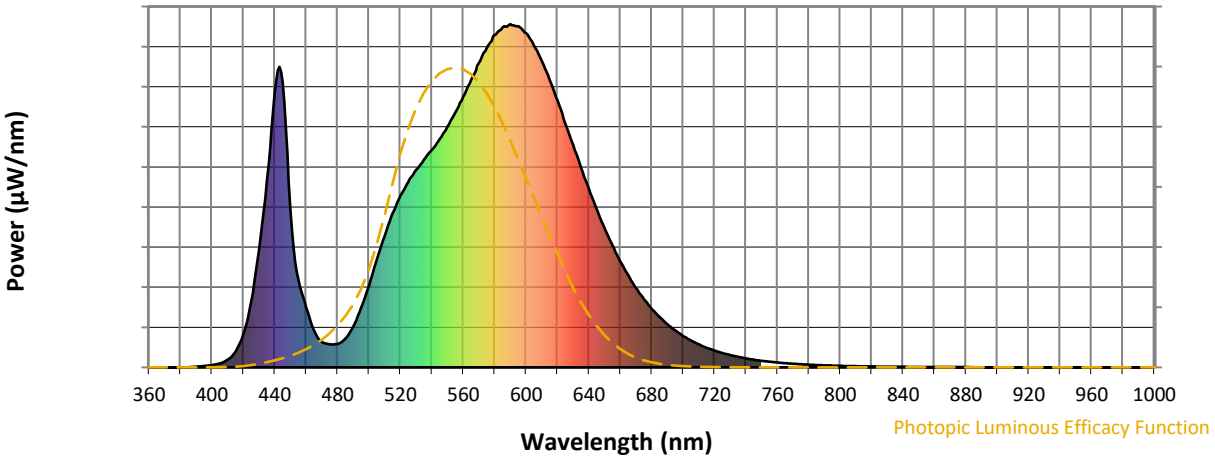



CCT = 3369K
CIE x = 0.4143
CIE y = 0.3980
Duv = 0.0013

Point lies inside the ANSI 3500K 4-step quadrangle

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## Photopic Flux vs. Wavelength

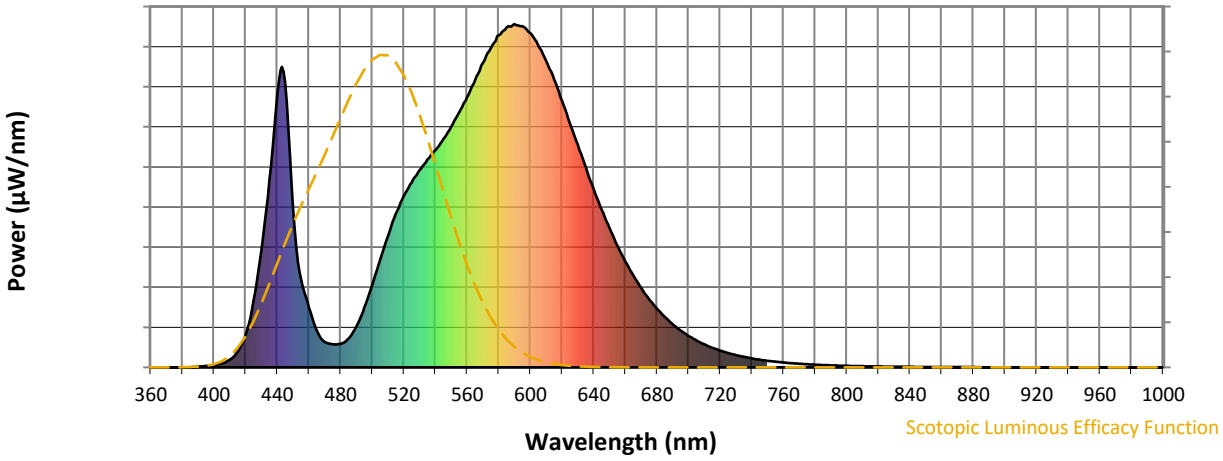



## Photopic Lumens: NR

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

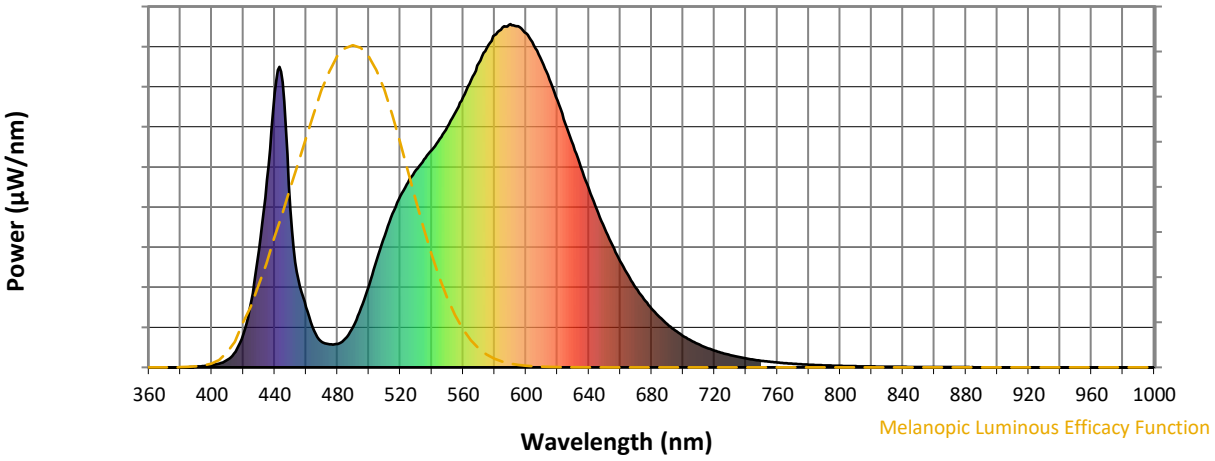



**Scotopic Lumens: NR** **S/P: 1.29**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.36**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

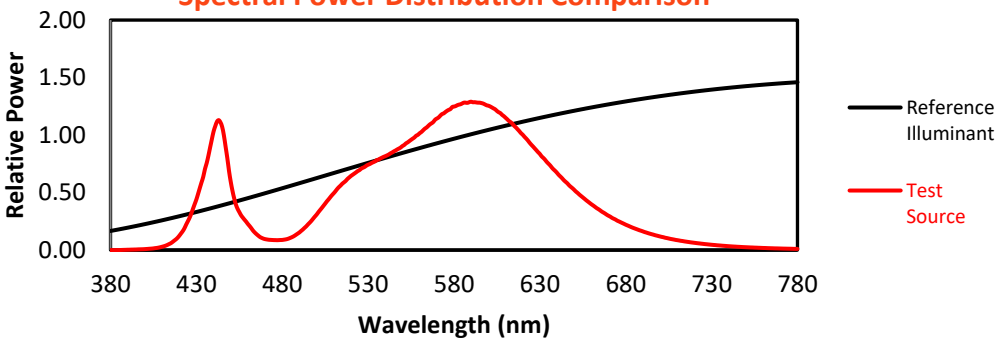
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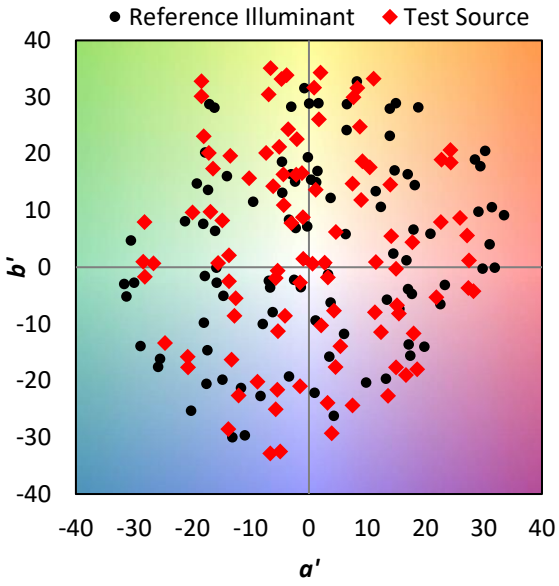
## Summary

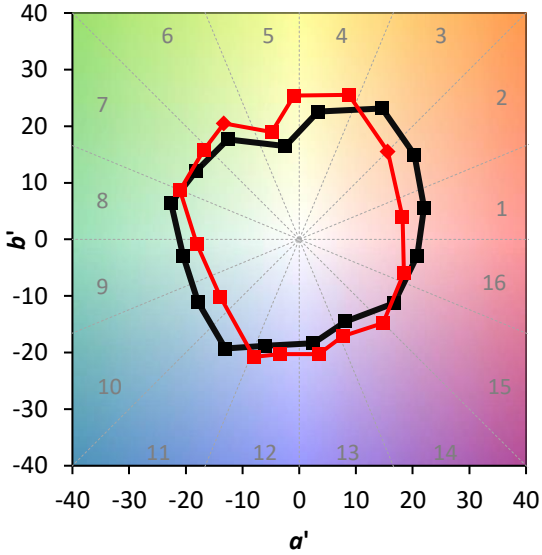
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

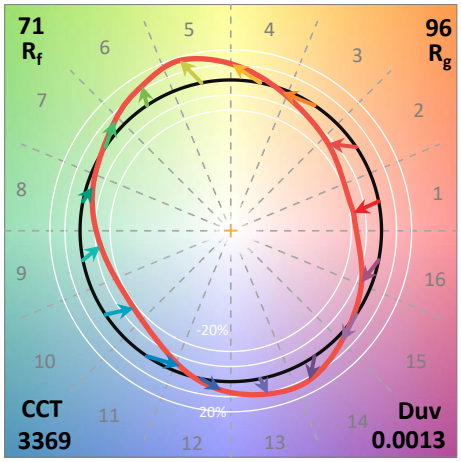
## Spectral Power Distribution Comparison

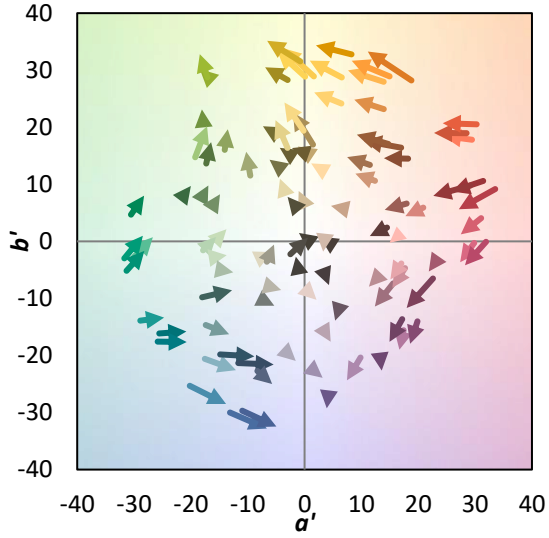



## Color Vector Graphics



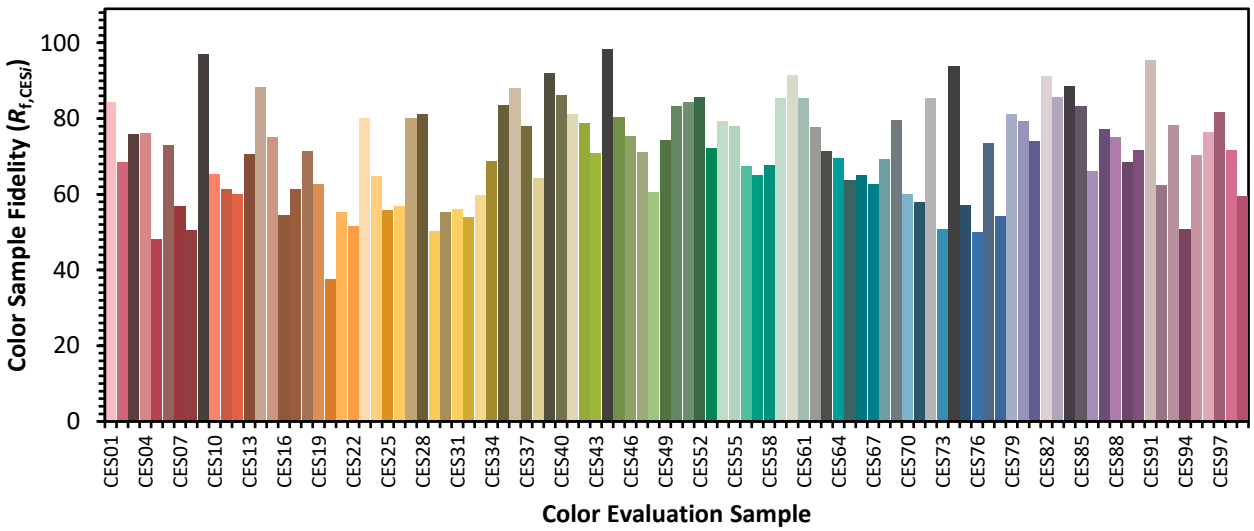



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## Individual Sample Fidelity Index ($R_{f,i}$)

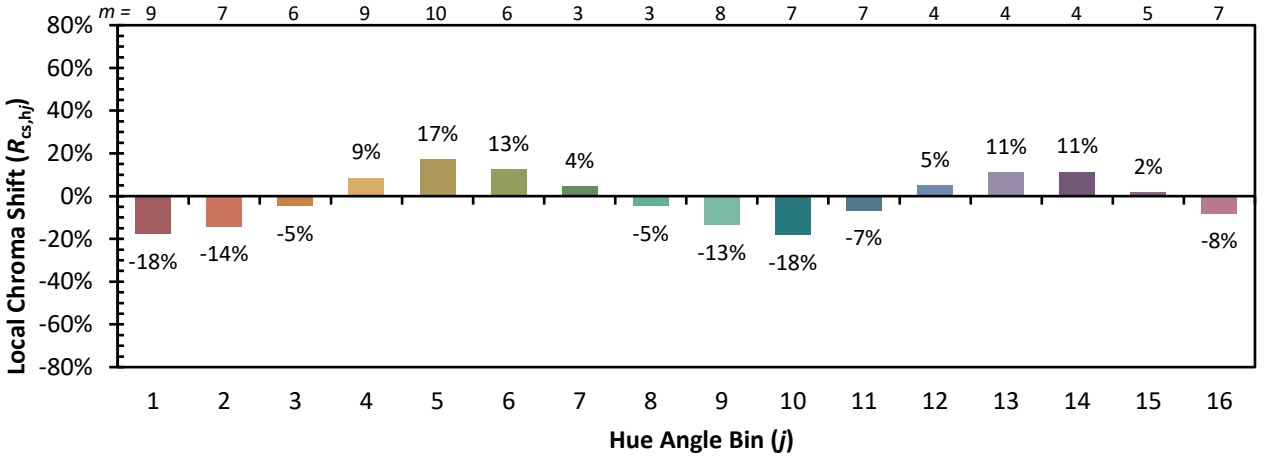
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 | |

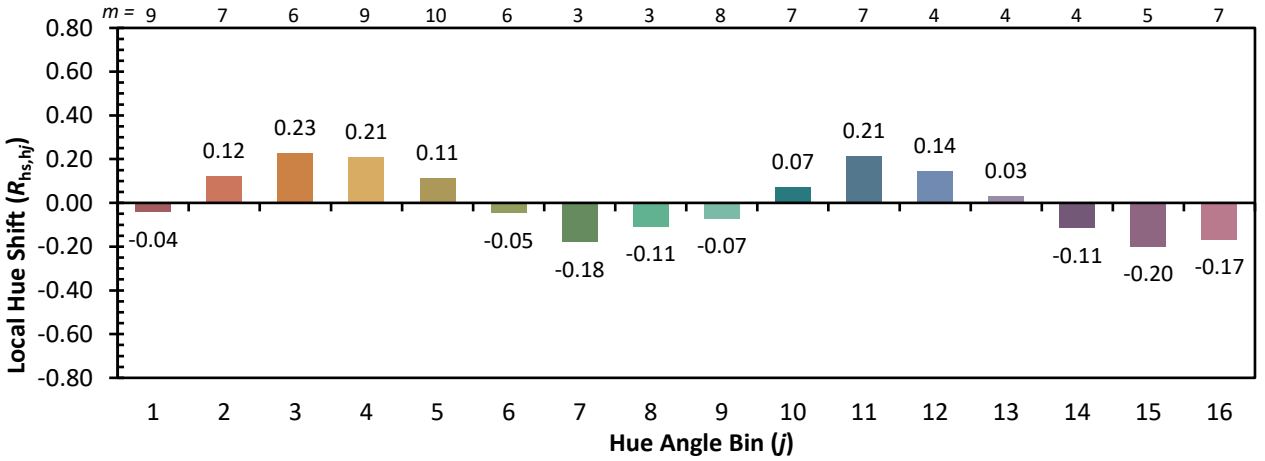


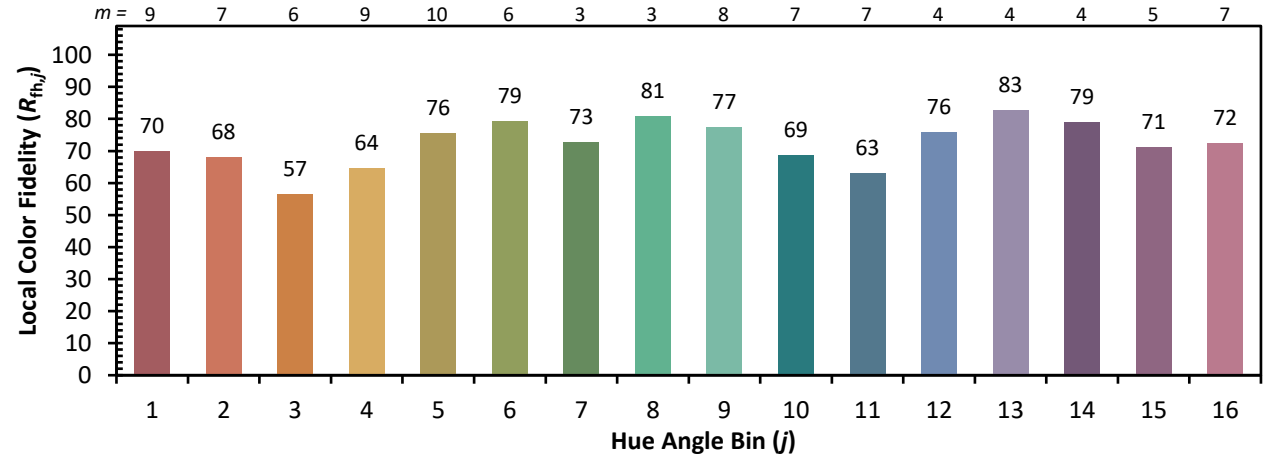
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## Color Rendition by Hue-Angle Bin



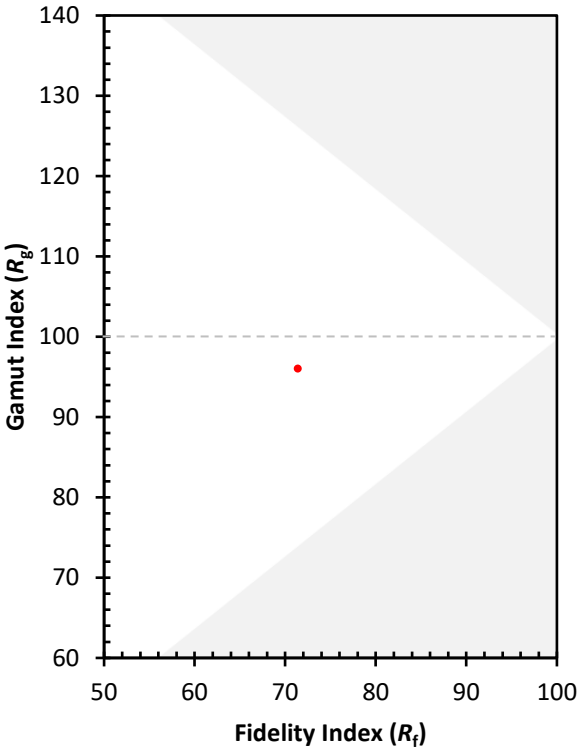



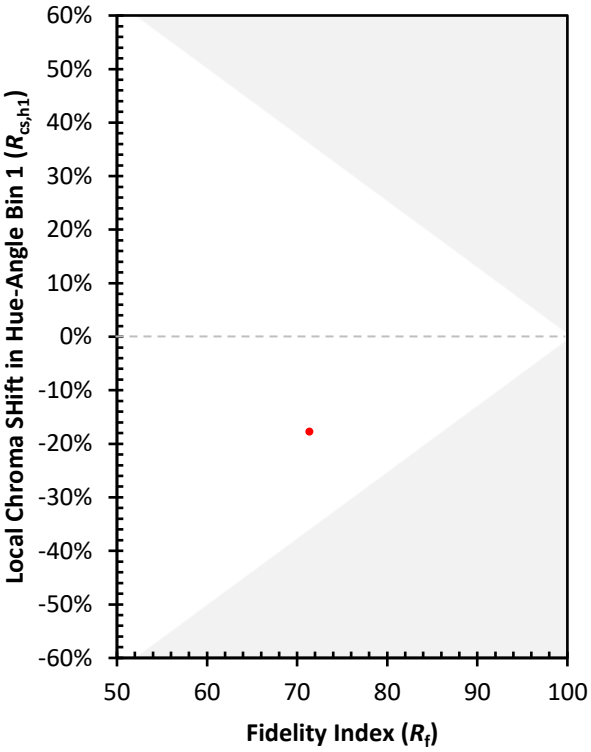



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## Measure Comparisons




(END OF REPORT)