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

Cooper Lighting Solutions Photometric Lab
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: McGRAW-EDISON

Report Number: P1500856

Luminaire Tested: GSS-SB3D-927-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: | P1500856 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB3D-927-U-T4LG |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 3SQUARE 219W 90CRI 2700K FIXTURE w/ TYPE IV LOW GLARE DISTRIBUTION FIXTURE |
| Light Source: | (78) 2700K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 17446.9 lumens |
| Efficiency: | N/A |
| Efficacy: | 79.7 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 0.5' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G2 |

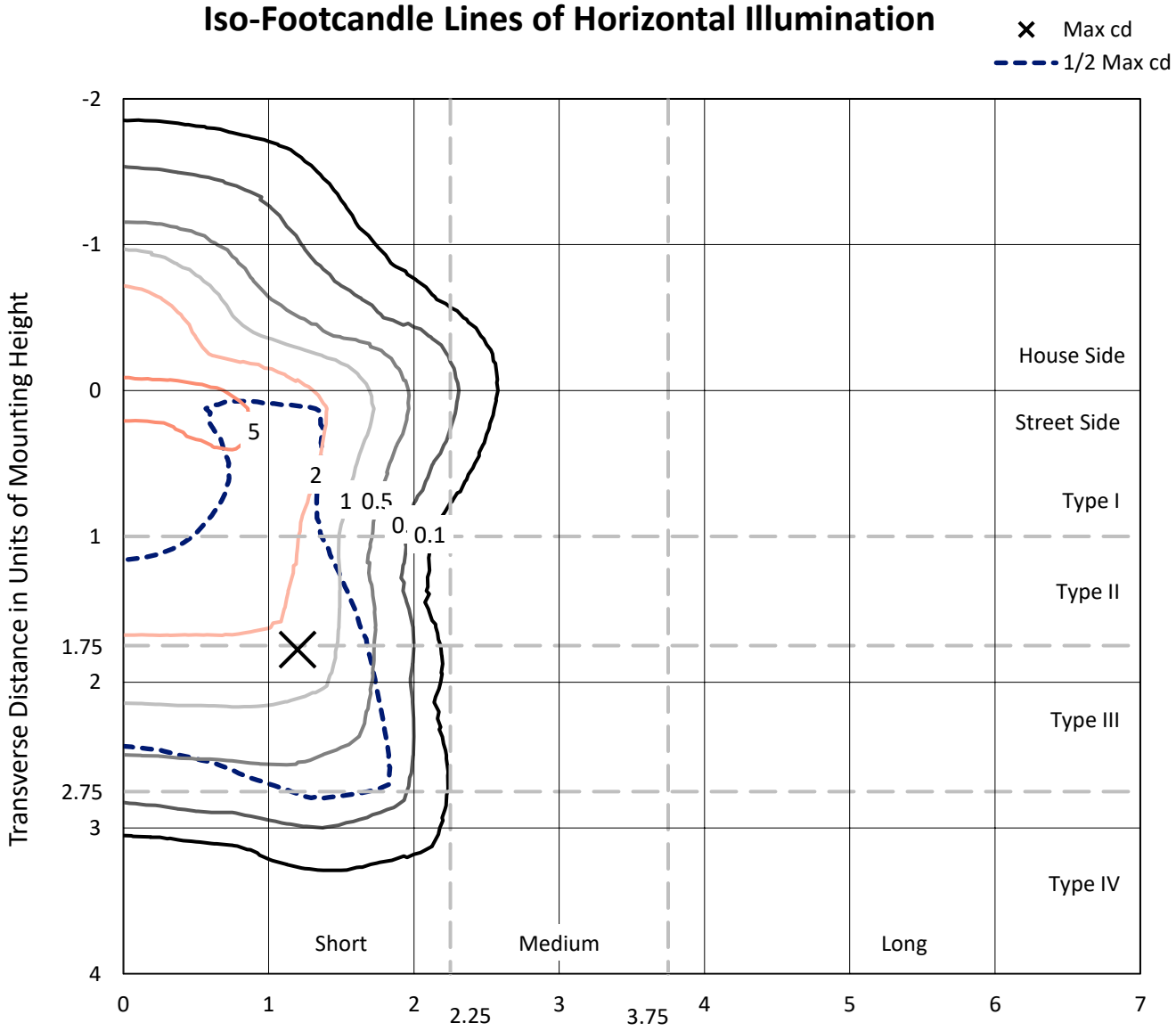
| | |
|---|---|
| Input Watts (W): | 219 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 2.5% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1500856
CATALOG NUMBER: GSS-SB3D-927-U-T4LG

## Iso-Footcandle Lines of Horizontal Illumination



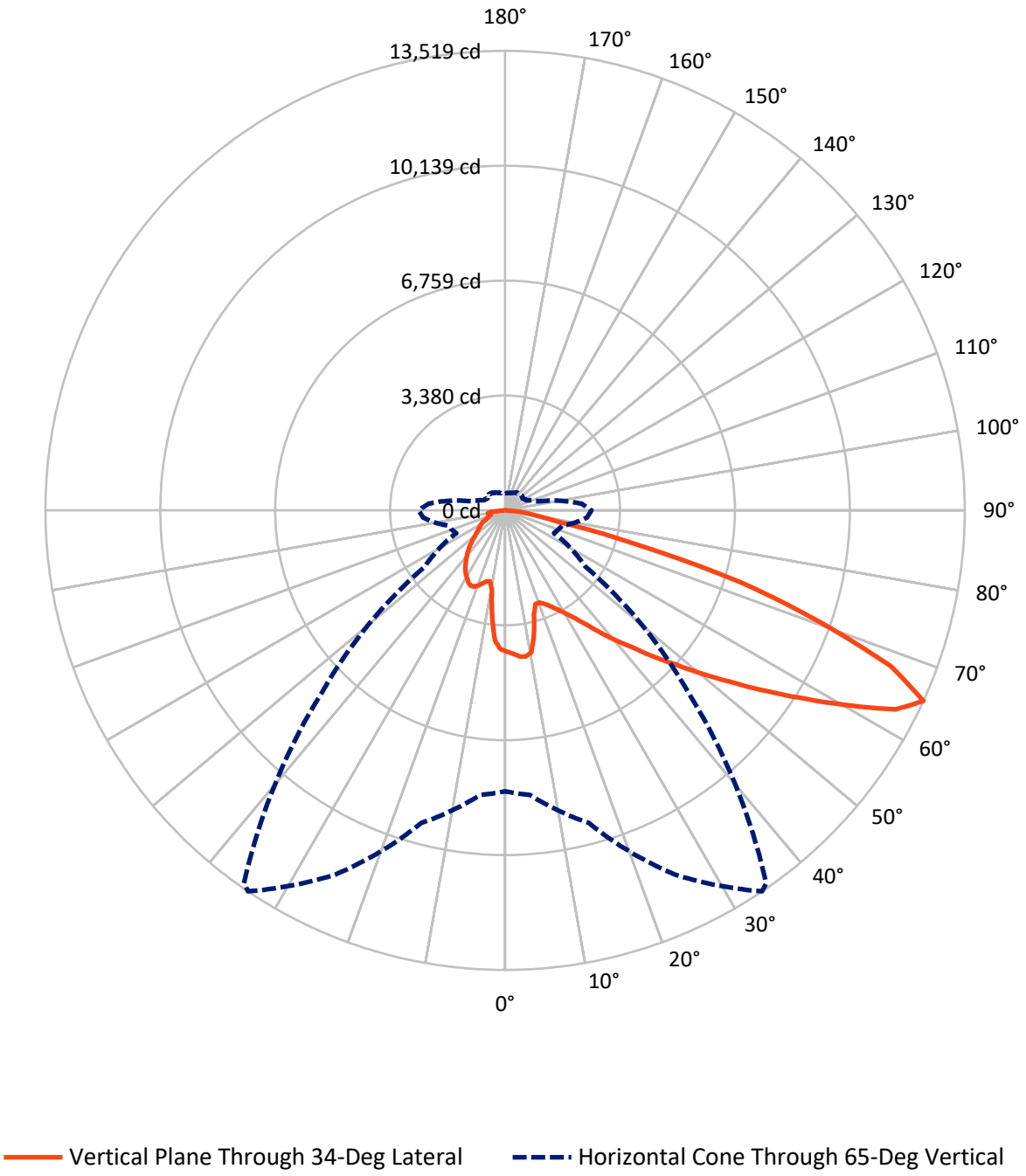

Based on 25 foot mounting height. Maximum calculated value = 7.1 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

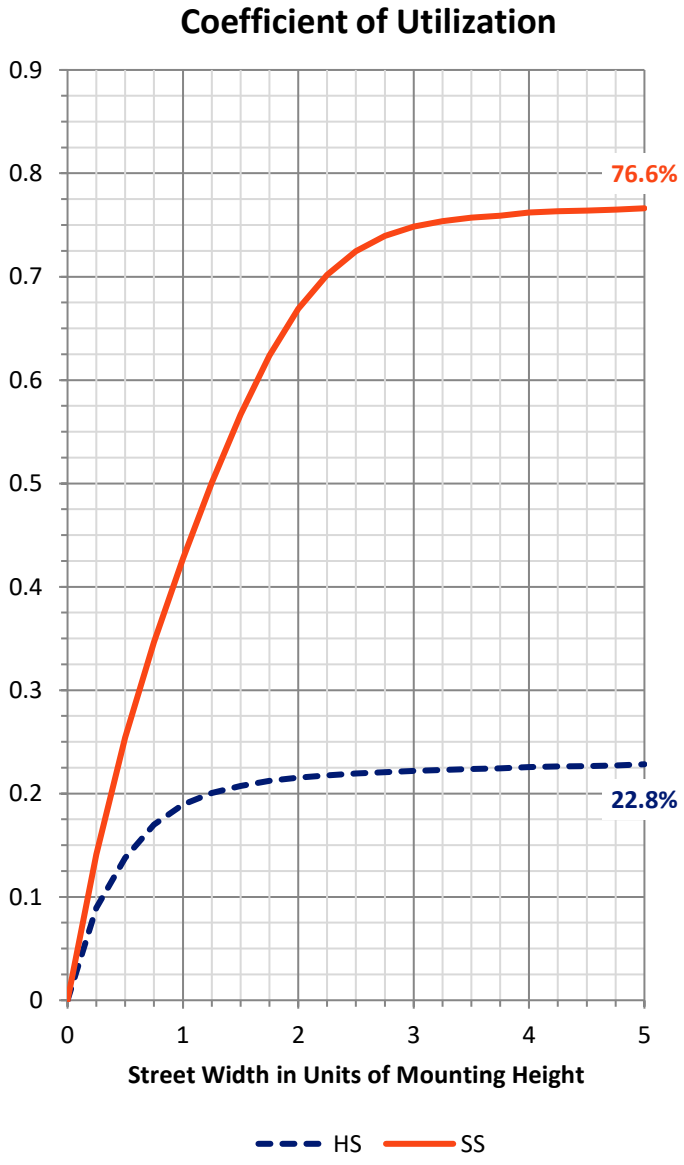
REPORT NUMBER: P1500856
CATALOG NUMBER: GSS-SB3D-927-U-T4LG

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 4059.1 | 0.0 | 4059.1 |
| | % Fixture | 23.3 | 0.0 | 23.3 |
| **Street Side** | Lumens | 13387.7 | 0.0 | 13387.7 |
| | % Fixture | 76.7 | 0.0 | 76.7 |
| **Total** | Lumens | 17446.9 | 0.0 | 17446.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 373.9 | 2.1 |
| 10°-20° | 941.2 | 5.4 |
| 20°-30° | 1560.1 | 8.9 |
| 30°-40° | 2346.3 | 13.4 |
| 40°-50° | 3287.2 | 18.8 |
| 50°-60° | 4144.6 | 23.8 |
| 60°-70° | 3564.7 | 20.4 |
| 70°-80° | 1059.8 | 6.1 |
| 80°-90° | 169.1 | 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° | 17446.9 | 100.0 |
| 0°-180° | 17446.9 | 100.0 |



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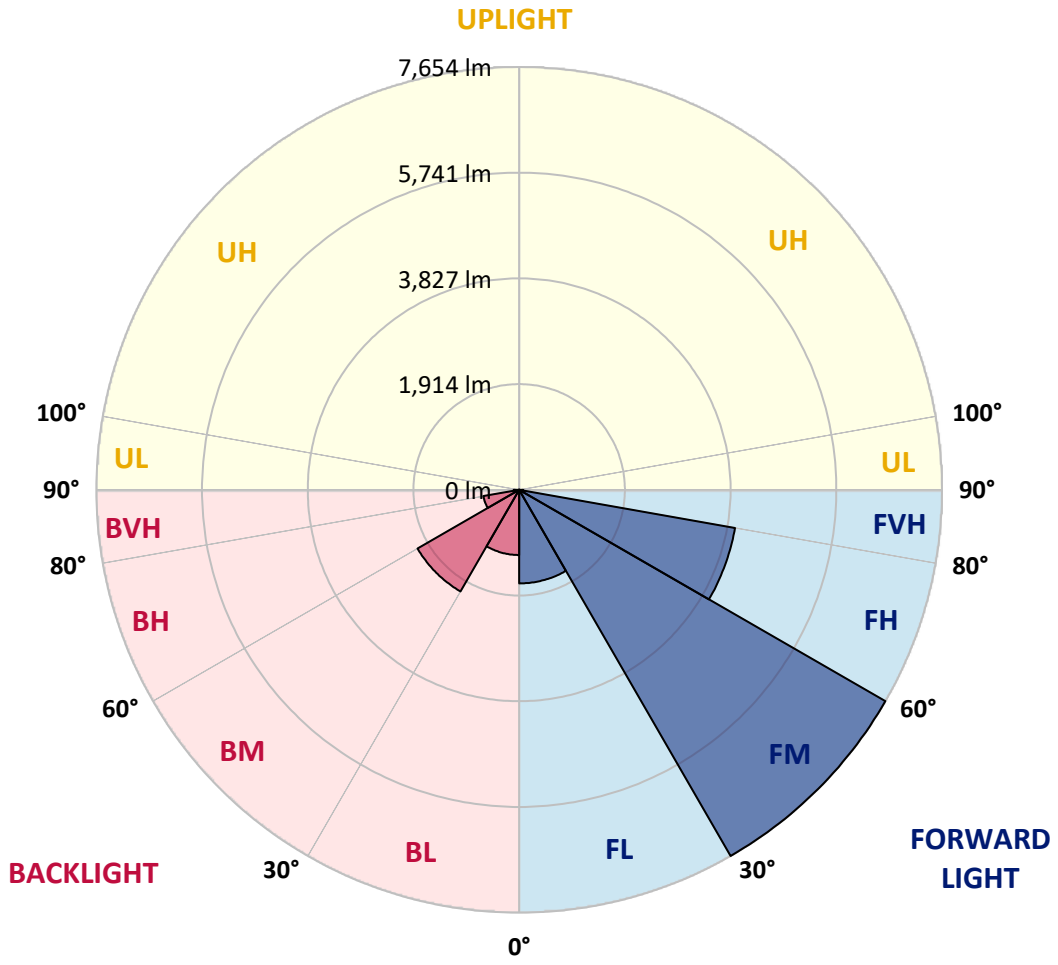
Scaled Data Report

REPORT NUMBER: P1500856
CATALOG NUMBER: GSS-SB3D-927-U-T4LG

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1694.2 | 9.7 | | | |
| FM | (30°-60°) | 7654.4 | 43.9 | | | |
| FH | (60°-80°) | 3967.5 | 22.7 | | | G2/5000 |
| FVH | (80°-90°) | 71.5 | 0.4 | | | G1/100 |
| BL | (0°-30°) | 1181.0 | 6.8 | B3/2500 | | |
| BM | (30°-60°) | 2123.6 | 12.2 | B2/2500 | | |
| BH | (60°-80°) | 656.9 | 3.8 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 97.6 | 0.6 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G2**
Type III Short



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REPORT NUMBER: P1500856
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 34° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4148.1 | 4148.1 | 4148.1 | 4148.1 | *4148.1* | 4148.1 | 4148.1 | 4148.1 | 4148.1 | 4148.1 | 4148.1 |
| 2.5° | 4227.1 | 4250.8 | 4223.1 | 4211.3 | *4215.2* | 4219.2 | 4199.4 | 4203.4 | 4179.7 | 4179.7 | 4159.9 |
| 5° | 4317.9 | 4321.9 | 4306.1 | 4317.9 | *4314.0* | 4310.0 | 4310.0 | 4306.1 | 4254.7 | 4242.9 | 4223.1 |
| 7.5° | 4266.6 | 4282.4 | 4290.3 | 4333.7 | *4345.6* | 4369.3 | 4385.1 | 4393.0 | 4353.5 | 4321.9 | 4270.5 |
| 10° | 3796.5 | 3808.3 | 3899.2 | 4096.7 | *4246.8* | 4274.5 | 4420.6 | 4503.6 | 4476.0 | 4460.2 | 4373.2 |
| 12.5° | 3034.0 | 3053.8 | 3156.5 | 3413.3 | *3764.9* | 3839.9 | 4306.1 | 4586.6 | 4649.8 | 4653.7 | 4527.3 |
| 15° | 2706.1 | 2706.1 | 2737.7 | 2883.9 | *3168.3* | 3227.6 | 3915.0 | 4610.3 | 4835.5 | 4863.1 | 4709.0 |
| 17.5° | 2639.0 | 2635.0 | 2654.8 | 2741.7 | *2891.8* | 2927.3 | 3464.6 | 4487.8 | 5056.7 | 5104.1 | 4906.6 |
| 20° | 2635.0 | 2623.2 | 2662.7 | 2761.4 | *2891.8* | 2923.4 | 3255.2 | 4274.5 | 5230.5 | 5380.6 | 5104.1 |
| 22.5° | 2639.0 | 2639.0 | 2694.3 | 2836.5 | *2986.6* | 3014.3 | 3294.7 | 4096.7 | 5372.7 | 5669.0 | 5313.5 |
| 25° | 2682.4 | 2674.5 | 2753.5 | 2927.3 | *3132.8* | 3152.5 | 3456.7 | 4088.8 | 5495.2 | 5993.0 | 5566.3 |
| 27.5° | 2753.5 | 2757.5 | 2864.1 | 3073.5 | *3306.6* | 3346.1 | 3681.9 | 4258.7 | 5645.3 | 6348.5 | 5811.2 |
| 30° | 2903.6 | 2907.6 | 3034.0 | 3247.3 | *3516.0* | 3567.3 | 3942.6 | 4511.5 | 5858.6 | 6731.7 | 6075.9 |
| 32.5° | 3073.5 | 3093.3 | 3247.3 | 3496.2 | *3784.6* | 3812.3 | 4262.6 | 4890.8 | 6178.6 | 7114.9 | 6360.4 |
| 35° | 3358.0 | 3377.7 | 3551.5 | 3812.3 | *4132.3* | 4171.8 | 4653.7 | 5329.3 | 6569.7 | 7502.1 | 6581.6 |
| 37.5° | 3725.4 | 3741.2 | 3911.0 | 4227.1 | *4566.8* | 4606.3 | 5088.3 | 5795.4 | 6964.8 | 7810.2 | 6779.1 |
| 40° | 4163.9 | 4199.4 | 4381.1 | 4689.3 | *5033.0* | 5056.7 | 5562.4 | 6245.8 | 7391.5 | 8023.5 | 6858.1 |
| 42.5° | 4641.9 | 4677.4 | 4863.1 | 5202.9 | *5518.9* | 5590.0 | 6075.9 | 6723.8 | 7739.1 | 8118.3 | 6794.9 |
| 45° | 5254.2 | 5246.3 | 5420.1 | 5775.7 | *6147.0* | 6174.7 | 6625.0 | 7118.9 | 7948.5 | 8039.3 | 6731.7 |
| 47.5° | 5996.9 | 6004.8 | 6115.4 | 6403.8 | *6787.0* | 6850.2 | 7197.9 | 7458.6 | 8070.9 | 7976.1 | 6660.6 |
| 50° | 6834.4 | 6854.2 | 6949.0 | 7158.4 | *7569.2* | 7612.7 | 7715.4 | 7695.6 | 8146.0 | 7841.8 | 6688.3 |
| 52.5° | 7671.9 | 7683.8 | 7810.2 | 8031.4 | *8430.4* | 8462.0 | 8236.9 | 7877.4 | 7865.5 | 7300.6 | 6629.0 |
| 55° | 8359.3 | 8355.4 | 8580.6 | 8920.3 | *9406.2* | 9386.5 | 8750.4 | 7739.1 | 6988.5 | 6459.1 | 6364.3 |
| 57.5° | 8955.9 | 8979.6 | 9271.9 | 9860.5 | *10472.9* | 10457.1 | 9299.6 | 7008.2 | 5708.5 | 5463.6 | 5933.7 |
| 60° | 9493.1 | 9548.4 | 10097.6 | 10978.5 | *11654.1* | 11559.3 | 9398.3 | 5906.1 | 4440.4 | 4278.4 | 5080.4 |
| 62.5° | 9260.1 | 9362.8 | 10243.7 | 11962.2 | *12890.6* | 12681.2 | 8789.9 | 4574.7 | 3006.4 | 2860.2 | 3591.0 |
| 65° | *8264.5* | *8402.8* | *9520.8* | *11820.0* | *13518.7* | *13388.4* | *7683.8* | *2876.0* | *1584.2* | *1738.2* | *2417.7* |
| 67.5° | 6941.1 | 7107.0 | 8315.9 | 10619.0 | *12230.9* | 11950.4 | 5969.3 | 1513.1 | 738.8 | 1145.7 | 1501.2 |
| 70° | 3804.4 | 4215.2 | 6012.7 | 9030.9 | *9797.3* | 9406.2 | 3452.8 | 715.0 | 537.3 | 715.0 | 896.8 |
| 72.5° | 1430.1 | 1528.9 | 2607.4 | 6072.0 | *7257.1* | 6775.2 | 1311.6 | 462.2 | 450.4 | 529.4 | 647.9 |
| 75° | 687.4 | 734.8 | 1133.8 | 2761.4 | *3962.4* | 3693.8 | 643.9 | 343.7 | 387.2 | 414.8 | 470.1 |
| 77.5° | 410.9 | 442.5 | 707.1 | 1603.9 | *1560.5* | 1434.0 | 395.1 | 264.7 | 312.1 | 296.3 | 276.5 |
| 80° | 244.9 | 272.6 | 430.6 | 912.6 | *940.2* | 833.6 | 241.0 | 185.7 | 217.3 | 189.6 | 169.9 |
| 82.5° | 142.2 | 154.1 | 225.2 | 410.9 | *596.5* | 549.1 | 138.3 | 110.6 | 158.0 | 126.4 | 94.8 |
| 85° | 71.1 | 75.1 | 102.7 | 177.8 | *296.3* | 225.2 | 59.3 | 51.4 | 75.1 | 55.3 | 31.6 |
| 87.5° | 15.8 | 15.8 | 15.8 | 19.8 | *27.7* | 27.7 | 7.9 | 4.0 | 4.0 | 4.0 | 4.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Scaled Data Report

REPORT NUMBER: P1500856
CATALOG NUMBER: GSS-SB3D-927-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4148.1 | 4148.1 | 4148.1 | 4148.1 | 4148.1 | 4148.1 | 4148.1 | 4148.1 | 4148.1 | 4148.1 | 4148.1 |
| 2.5° | 4156.0 | 4163.9 | 4136.2 | 4104.6 | 4096.7 | 4073.0 | 4080.9 | 4065.1 | 4041.4 | 4045.3 | 4049.3 |
| 5° | 4195.5 | 4179.7 | 4124.4 | 4053.2 | 3990.0 | 3918.9 | 3836.0 | 3741.2 | 3674.0 | 3646.3 | 3670.0 |
| 7.5° | 4231.0 | 4215.2 | 4120.4 | 3962.4 | 3749.1 | 3452.8 | 3144.6 | 2864.1 | 2670.6 | 2599.5 | 2615.3 |
| 10° | 4329.8 | 4266.6 | 4092.8 | 3749.1 | 3239.4 | 2678.5 | 2366.4 | 2192.5 | 2133.3 | 2101.7 | 2105.6 |
| 12.5° | 4460.2 | 4373.2 | 4041.4 | 3377.7 | 2607.4 | 2251.8 | 2141.2 | 2101.7 | 2081.9 | 2074.0 | 2081.9 |
| 15° | 4618.2 | 4483.9 | 3918.9 | 2911.5 | 2315.0 | 2176.7 | 2153.0 | 2157.0 | 2157.0 | 2160.9 | 2160.9 |
| 17.5° | 4756.4 | 4547.1 | 3697.7 | 2575.7 | 2255.8 | 2216.3 | 2240.0 | 2259.7 | 2259.7 | 2263.7 | 2259.7 |
| 20° | 4882.9 | 4578.7 | 3413.3 | 2433.5 | 2267.6 | 2287.4 | 2342.7 | 2362.4 | 2366.4 | 2362.4 | 2362.4 |
| 22.5° | 5017.2 | 4598.4 | 3128.8 | 2354.5 | 2295.3 | 2354.5 | 2413.8 | 2441.4 | 2449.3 | 2453.3 | 2457.2 |
| 25° | 5147.5 | 4558.9 | 2895.7 | 2291.3 | 2283.4 | 2366.4 | 2433.5 | 2469.1 | 2477.0 | 2477.0 | 2480.9 |
| 27.5° | 5277.9 | 4547.1 | 2737.7 | 2208.3 | 2228.1 | 2295.3 | 2374.3 | 2421.7 | 2453.3 | 2457.2 | 2461.2 |
| 30° | 5428.0 | 4511.5 | 2587.6 | 2097.7 | 2105.6 | 2188.6 | 2271.6 | 2354.5 | 2417.7 | 2445.4 | 2445.4 |
| 32.5° | 5530.7 | 4476.0 | 2453.3 | 1979.2 | 1979.2 | 2066.1 | 2168.8 | 2271.6 | 2362.4 | 2417.7 | 2429.6 |
| 35° | 5629.5 | 4444.4 | 2334.8 | 1860.7 | 1864.7 | 1947.6 | 2054.3 | 2164.9 | 2279.5 | 2346.6 | 2378.2 |
| 37.5° | 5680.9 | 4412.7 | 2251.8 | 1769.8 | 1754.0 | 1840.9 | 1912.1 | 2002.9 | 2125.4 | 2236.0 | 2263.7 |
| 40° | 5692.7 | 4412.7 | 2243.9 | 1706.6 | 1639.5 | 1738.2 | 1769.8 | 1833.0 | 1943.7 | 2062.2 | 2105.6 |
| 42.5° | 5613.7 | 4369.3 | 2283.4 | 1667.1 | 1521.0 | 1592.1 | 1627.6 | 1659.2 | 1730.3 | 1829.1 | 1864.7 |
| 45° | 5518.9 | 4310.0 | 2319.0 | 1611.8 | 1374.8 | 1430.1 | 1485.4 | 1489.4 | 1521.0 | 1544.7 | 1568.4 |
| 47.5° | 5439.9 | 4246.8 | 2255.8 | 1509.1 | 1224.7 | 1264.2 | 1323.4 | 1323.4 | 1307.6 | 1260.2 | 1244.4 |
| 50° | 5503.1 | 4266.6 | 2149.1 | 1362.9 | 1086.4 | 1114.1 | 1177.3 | 1141.7 | 1106.1 | 1007.4 | 995.5 |
| 52.5° | 5558.4 | 4341.6 | 2022.7 | 1220.7 | 967.9 | 995.5 | 1058.7 | 1003.4 | 932.3 | 853.3 | 841.5 |
| 55° | 5467.5 | 4345.6 | 1789.6 | 1062.7 | 884.9 | 908.6 | 967.9 | 900.7 | 833.6 | 786.2 | 778.3 |
| 57.5° | 5195.0 | 4227.1 | 1544.7 | 940.2 | 813.8 | 837.5 | 892.8 | 825.7 | 762.5 | 758.5 | 778.3 |
| 60° | 4594.5 | 3812.3 | 1319.5 | 861.2 | 746.7 | 774.3 | 829.6 | 758.5 | 675.5 | 640.0 | 651.8 |
| 62.5° | 3468.6 | 2931.3 | 1129.9 | 770.4 | 683.4 | 719.0 | 758.5 | 643.9 | 572.8 | 557.0 | 541.2 |
| 65° | *2536.2* | *2251.8* | *1015.3* | *699.2* | *624.2* | *667.6* | *636.0* | *572.8* | *525.4* | *509.6* | *501.7* |
| 67.5° | 1639.5 | 1528.9 | 873.1 | 632.1 | 568.9 | 604.4 | 561.0 | 529.4 | 478.0 | 470.1 | 482.0 |
| 70° | 1003.4 | 1039.0 | 730.8 | 557.0 | 513.6 | 505.7 | 513.6 | 482.0 | 426.7 | 438.5 | 454.3 |
| 72.5° | 711.1 | 766.4 | 628.1 | 485.9 | 438.5 | 422.7 | 458.3 | 438.5 | 399.0 | 410.9 | 426.7 |
| 75° | 509.6 | 568.9 | 517.5 | 399.0 | 371.4 | 363.4 | 426.7 | 438.5 | 410.9 | 418.8 | 430.6 |
| 77.5° | 300.2 | 363.4 | 367.4 | 308.1 | 280.5 | 323.9 | 454.3 | 505.7 | 485.9 | 462.2 | 450.4 |
| 80° | 193.6 | 217.3 | 260.7 | 197.5 | 197.5 | 280.5 | 497.8 | 616.3 | 529.4 | 470.1 | 462.2 |
| 82.5° | 98.8 | 114.6 | 169.9 | 126.4 | 118.5 | 209.4 | 489.9 | 588.6 | 584.7 | 521.5 | 509.6 |
| 85° | 27.7 | 35.6 | 79.0 | 55.3 | 47.4 | 110.6 | 367.4 | 442.5 | 395.1 | 288.4 | 292.3 |
| 87.5° | 4.0 | 4.0 | 0.0 | 0.0 | 4.0 | 15.8 | 43.5 | 7.9 | 7.9 | 7.9 | 7.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

McGRAW-EDISON

Report Number: SP1-2106-271-1

Luminaire Tested: GFLD-SA1-A-927-U-WR-X-BK

Test Date: 06/16/2021

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.09

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
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## Test Information

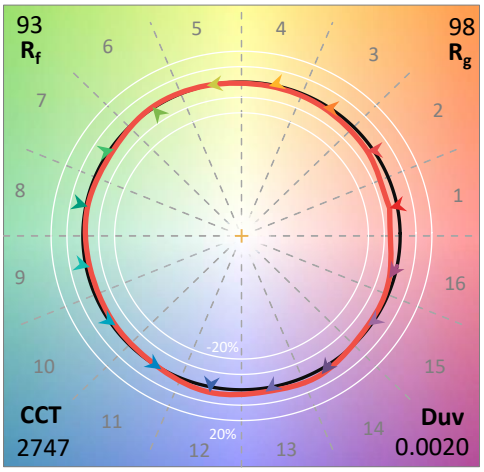
| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | SP1-2106-271-1 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 |
| Measurement Geometry: | 4π |
| Issue Date: | 06/16/2021 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | **GFLD-SA1-A-927-U-WR-X-BK** |
| Description: | MCGRAW EDISON |

N6, BLACK

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 2747 | CRI (Ra): | 92.5 | | |
| CIE u': | 0.2598 | R1: | 92.3 | R9: | 58.3 |
| CIE v': | 0.5293 | R2: | 95.5 | R10: | 88.5 |
| Duv: | 0.0020 | R3: | 97.5 | R11: | 93.7 |
| CIE x: | 0.4594 | R4: | 93.1 | R12: | 84.9 |
| CIE y: | 0.4160 | R5: | 91.8 | R13: | 93.0 |
| CIE z: | 0.1246 | R6: | 95.1 | R14: | 97.8 |
| Peak Wavelength (nm): | 624 | R7: | 92.9 | | |
| Dominant Wavelength (nm): | 583 | R8: | 81.7 | | |
| Purity: | 63 | | | | |

| | |
|---|---|
| Rf: | 93.1 |
| Rg: | 98.2 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 198M |
| Operation Time: | 12H |
| Room Temperature (°C) / RH%: | 24.3/43% |
| Sphere Temperature (°C): | 24.2 |

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1121 Highway 74 South
Peachtree City, GA 30269

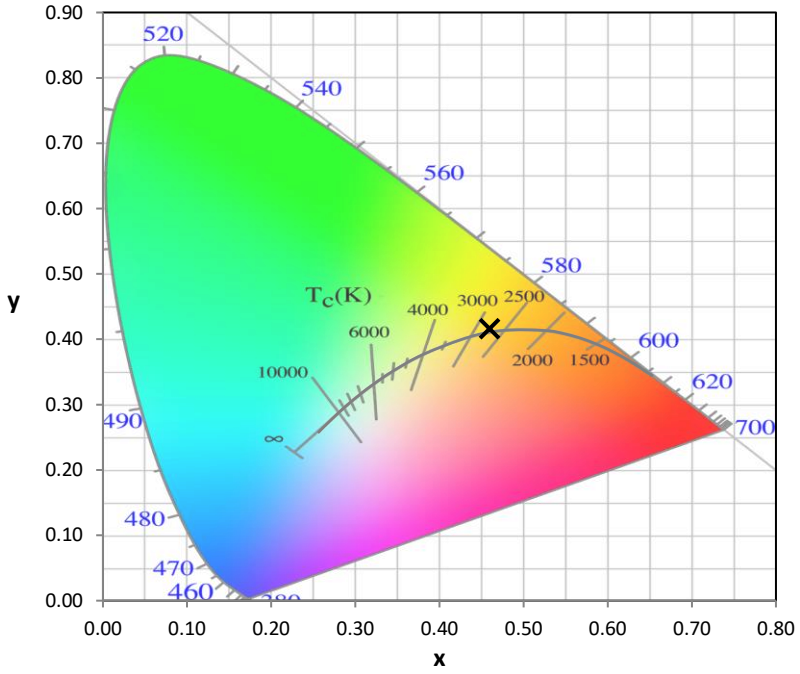
REPORT NUMBER: SP1-2106-271-1

| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | XITRON 2801 IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | CHROMA 61603 IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | AGILENT E3634A IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | ONSET IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | ONSET IN0046 | 12/1/2020 | 12/1/2021 |

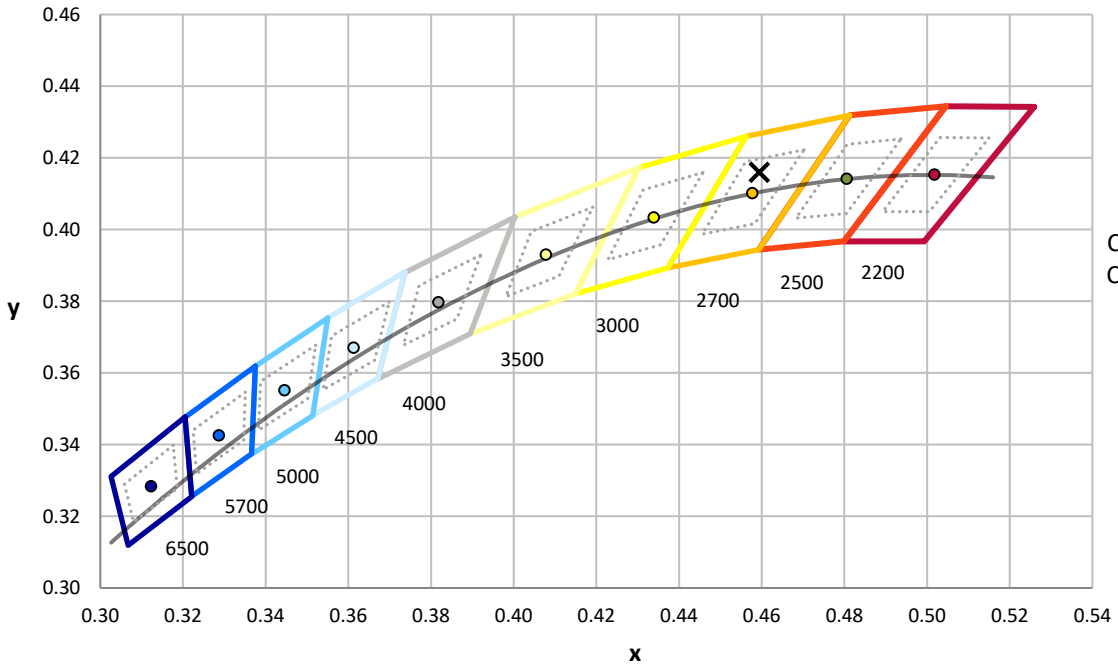
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Peachtree City, GA 30269

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## CIE 1931 Chromaticity Diagram




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



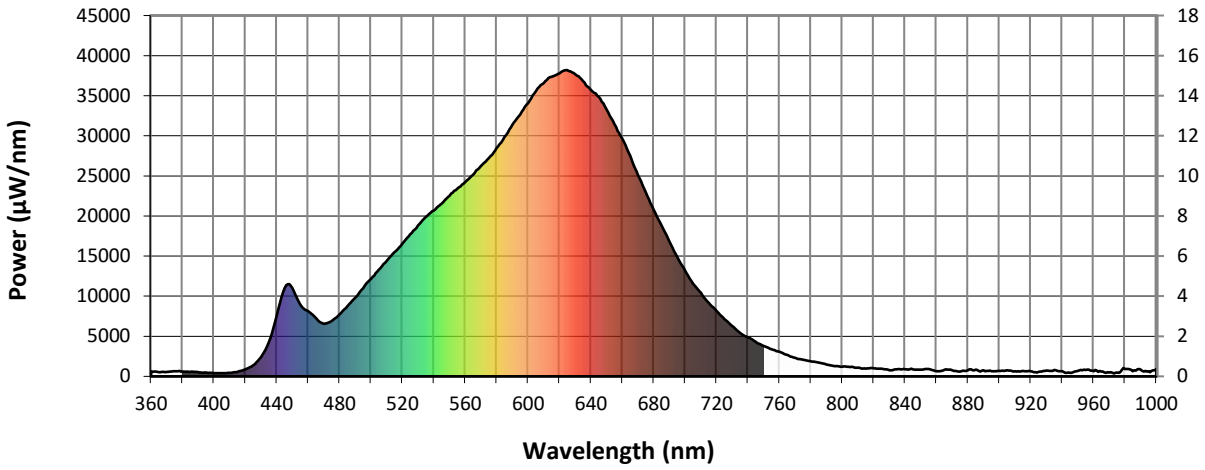

CCT = 2747K
CIE x = 0.4594
CIE y = 0.4160
Duv = 0.0020

Point lies inside the ANSI 2700K 4-step quadrangle

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## Photopic Flux vs. Wavelength



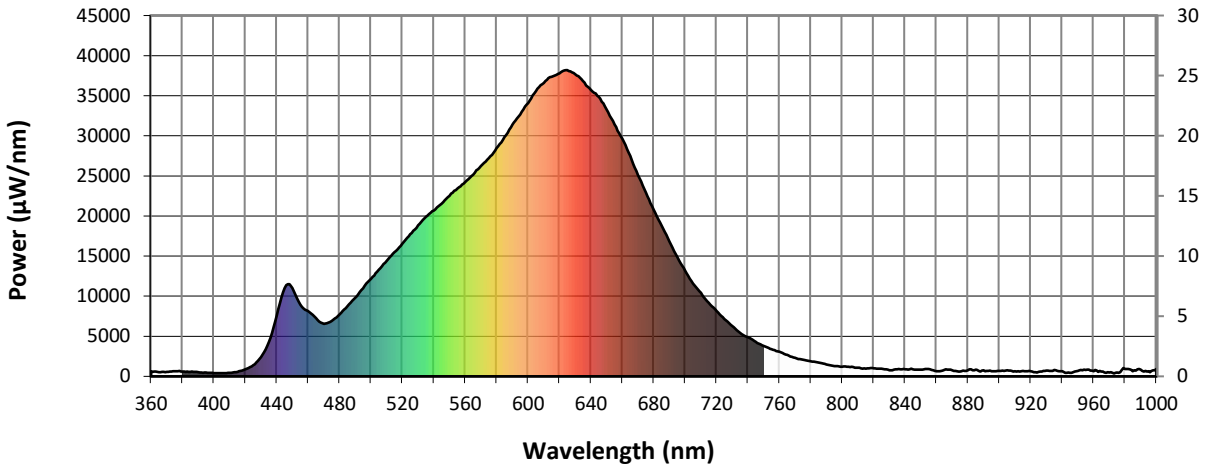

######

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 649 | NR | 490 | 9819 | NR | 620 | 37806 | NR | 750 | 3792 | NR | 880 | 778 | NR |
| 365 | 535 | NR | 495 | 10995 | NR | 625 | 38173 | NR | 755 | 3383 | NR | 885 | 829 | NR |
| 370 | 546 | NR | 500 | 12186 | NR | 630 | 37677 | NR | 760 | 3071 | NR | 890 | 745 | NR |
| 375 | 624 | NR | 505 | 13274 | NR | 635 | 36852 | NR | 765 | 2656 | NR | 895 | 648 | NR |
| 380 | 611 | NR | 510 | 14396 | NR | 640 | 35711 | NR | 770 | 2297 | NR | 900 | 661 | NR |
| 385 | 569 | NR | 515 | 15467 | NR | 645 | 34820 | NR | 775 | 2076 | NR | 905 | 740 | NR |
| 390 | 512 | NR | 520 | 16543 | NR | 650 | 33278 | NR | 780 | 1860 | NR | 910 | 635 | NR |
| 395 | 465 | NR | 525 | 17716 | NR | 655 | 31397 | NR | 785 | 1717 | NR | 915 | 683 | NR |
| 400 | 418 | NR | 530 | 18837 | NR | 660 | 29663 | NR | 790 | 1494 | NR | 920 | 620 | NR |
| 405 | 411 | NR | 535 | 19916 | NR | 665 | 27479 | NR | 795 | 1276 | NR | 925 | 580 | NR |
| 410 | 439 | NR | 540 | 20679 | NR | 670 | 25115 | NR | 800 | 1183 | NR | 930 | 717 | NR |
| 415 | 565 | NR | 545 | 21563 | NR | 675 | 22916 | NR | 805 | 1161 | NR | 935 | 780 | NR |
| 420 | 866 | NR | 550 | 22521 | NR | 680 | 20799 | NR | 810 | 1065 | NR | 940 | 630 | NR |
| 425 | 1393 | NR | 555 | 23411 | NR | 685 | 18810 | NR | 815 | 970 | NR | 945 | 433 | NR |
| 430 | 2399 | NR | 560 | 24238 | NR | 690 | 16831 | NR | 820 | 1013 | NR | 950 | 676 | NR |
| 435 | 4305 | NR | 565 | 25148 | NR | 695 | 14867 | NR | 825 | 970 | NR | 955 | 802 | NR |
| 440 | 7544 | NR | 570 | 26216 | NR | 700 | 13210 | NR | 830 | 769 | NR | 960 | 645 | NR |
| 445 | 11003 | NR | 575 | 27219 | NR | 705 | 11593 | NR | 835 | 894 | NR | 965 | 620 | NR |
| 450 | 11015 | NR | 580 | 28466 | NR | 710 | 10403 | NR | 840 | 893 | NR | 970 | 474 | NR |
| 455 | 8956 | NR | 585 | 29834 | NR | 715 | 9162 | NR | 845 | 864 | NR | 975 | 478 | NR |
| 460 | 8133 | NR | 590 | 31413 | NR | 720 | 8146 | NR | 850 | 828 | NR | 980 | 905 | NR |
| 465 | 7252 | NR | 595 | 32655 | NR | 725 | 7155 | NR | 855 | 921 | NR | 985 | 639 | NR |
| 470 | 6556 | NR | 600 | 34084 | NR | 730 | 6272 | NR | 860 | 633 | NR | 990 | 838 | NR |
| 475 | 6915 | NR | 605 | 35555 | NR | 735 | 5418 | NR | 865 | 816 | NR | 995 | 621 | NR |
| 480 | 7734 | NR | 610 | 36593 | NR | 740 | 4870 | NR | 870 | 767 | NR | 1000 | 903 | NR |
| 485 | 8748 | NR | 615 | 37350 | NR | 745 | 4295 | NR | 875 | 601 | NR | | | |

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## Scotopic Flux vs. Wavelength



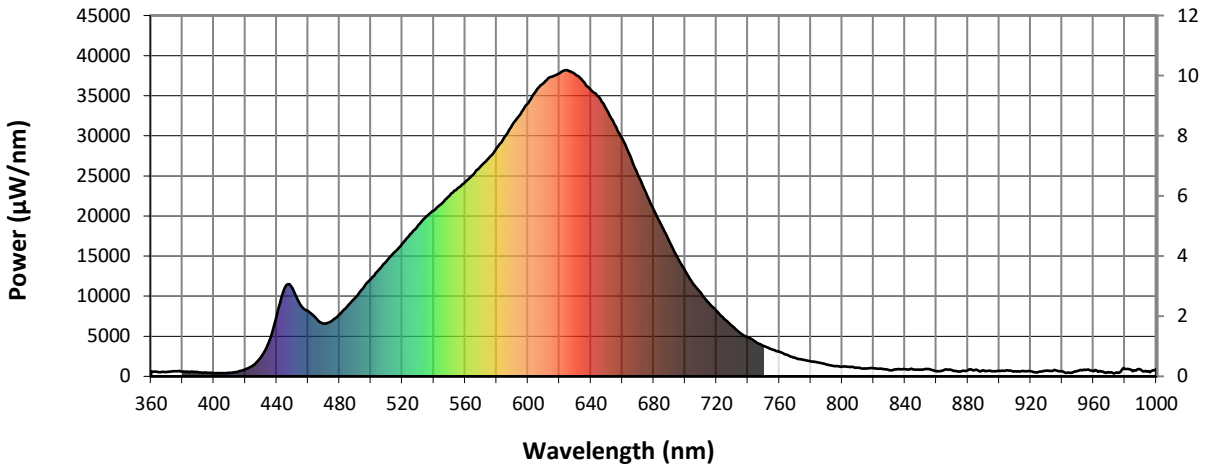

**Scotopic Lumens: 2290.1** **S/P: 1.28**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 649 | NR | 490 | 9819 | NR | 620 | 37806 | NR | 750 | 3792 | NR | 880 | 778 | NR |
| 365 | 535 | NR | 495 | 10995 | NR | 625 | 38173 | NR | 755 | 3383 | NR | 885 | 829 | NR |
| 370 | 546 | NR | 500 | 12186 | NR | 630 | 37677 | NR | 760 | 3071 | NR | 890 | 745 | NR |
| 375 | 624 | NR | 505 | 13274 | NR | 635 | 36852 | NR | 765 | 2656 | NR | 895 | 648 | NR |
| 380 | 611 | NR | 510 | 14396 | NR | 640 | 35711 | NR | 770 | 2297 | NR | 900 | 661 | NR |
| 385 | 569 | NR | 515 | 15467 | NR | 645 | 34820 | NR | 775 | 2076 | NR | 905 | 740 | NR |
| 390 | 512 | NR | 520 | 16543 | NR | 650 | 33278 | NR | 780 | 1860 | NR | 910 | 635 | NR |
| 395 | 465 | NR | 525 | 17716 | NR | 655 | 31397 | NR | 785 | 1717 | NR | 915 | 683 | NR |
| 400 | 418 | NR | 530 | 18837 | NR | 660 | 29663 | NR | 790 | 1494 | NR | 920 | 620 | NR |
| 405 | 411 | NR | 535 | 19916 | NR | 665 | 27479 | NR | 795 | 1276 | NR | 925 | 580 | NR |
| 410 | 439 | NR | 540 | 20679 | NR | 670 | 25115 | NR | 800 | 1183 | NR | 930 | 717 | NR |
| 415 | 565 | NR | 545 | 21563 | NR | 675 | 22916 | NR | 805 | 1161 | NR | 935 | 780 | NR |
| 420 | 866 | NR | 550 | 22521 | NR | 680 | 20799 | NR | 810 | 1065 | NR | 940 | 630 | NR |
| 425 | 1393 | NR | 555 | 23411 | NR | 685 | 18810 | NR | 815 | 970 | NR | 945 | 433 | NR |
| 430 | 2399 | NR | 560 | 24238 | NR | 690 | 16831 | NR | 820 | 1013 | NR | 950 | 676 | NR |
| 435 | 4305 | NR | 565 | 25148 | NR | 695 | 14867 | NR | 825 | 970 | NR | 955 | 802 | NR |
| 440 | 7544 | NR | 570 | 26216 | NR | 700 | 13210 | NR | 830 | 769 | NR | 960 | 645 | NR |
| 445 | 11003 | NR | 575 | 27219 | NR | 705 | 11593 | NR | 835 | 894 | NR | 965 | 620 | NR |
| 450 | 11015 | NR | 580 | 28466 | NR | 710 | 10403 | NR | 840 | 893 | NR | 970 | 474 | NR |
| 455 | 8956 | NR | 585 | 29834 | NR | 715 | 9162 | NR | 845 | 864 | NR | 975 | 478 | NR |
| 460 | 8133 | NR | 590 | 31413 | NR | 720 | 8146 | NR | 850 | 828 | NR | 980 | 905 | NR |
| 465 | 7252 | NR | 595 | 32655 | NR | 725 | 7155 | NR | 855 | 921 | NR | 985 | 639 | NR |
| 470 | 6556 | NR | 600 | 34084 | NR | 730 | 6272 | NR | 860 | 633 | NR | 990 | 838 | NR |
| 475 | 6915 | NR | 605 | 35555 | NR | 735 | 5418 | NR | 865 | 816 | NR | 995 | 621 | NR |
| 480 | 7734 | NR | 610 | 36593 | NR | 740 | 4870 | NR | 870 | 767 | NR | 1000 | 903 | NR |
| 485 | 8748 | NR | 615 | 37350 | NR | 745 | 4295 | NR | 875 | 601 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: 849.3** **S/P: 0.48**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 649 | NR | 490 | 9819 | NR | 620 | 37806 | NR | 750 | 3792 | NR | 880 | 778 | NR |
| 365 | 535 | NR | 495 | 10995 | NR | 625 | 38173 | NR | 755 | 3383 | NR | 885 | 829 | NR |
| 370 | 546 | NR | 500 | 12186 | NR | 630 | 37677 | NR | 760 | 3071 | NR | 890 | 745 | NR |
| 375 | 624 | NR | 505 | 13274 | NR | 635 | 36852 | NR | 765 | 2656 | NR | 895 | 648 | NR |
| 380 | 611 | NR | 510 | 14396 | NR | 640 | 35711 | NR | 770 | 2297 | NR | 900 | 661 | NR |
| 385 | 569 | NR | 515 | 15467 | NR | 645 | 34820 | NR | 775 | 2076 | NR | 905 | 740 | NR |
| 390 | 512 | NR | 520 | 16543 | NR | 650 | 33278 | NR | 780 | 1860 | NR | 910 | 635 | NR |
| 395 | 465 | NR | 525 | 17716 | NR | 655 | 31397 | NR | 785 | 1717 | NR | 915 | 683 | NR |
| 400 | 418 | NR | 530 | 18837 | NR | 660 | 29663 | NR | 790 | 1494 | NR | 920 | 620 | NR |
| 405 | 411 | NR | 535 | 19916 | NR | 665 | 27479 | NR | 795 | 1276 | NR | 925 | 580 | NR |
| 410 | 439 | NR | 540 | 20679 | NR | 670 | 25115 | NR | 800 | 1183 | NR | 930 | 717 | NR |
| 415 | 565 | NR | 545 | 21563 | NR | 675 | 22916 | NR | 805 | 1161 | NR | 935 | 780 | NR |
| 420 | 866 | NR | 550 | 22521 | NR | 680 | 20799 | NR | 810 | 1065 | NR | 940 | 630 | NR |
| 425 | 1393 | NR | 555 | 23411 | NR | 685 | 18810 | NR | 815 | 970 | NR | 945 | 433 | NR |
| 430 | 2399 | NR | 560 | 24238 | NR | 690 | 16831 | NR | 820 | 1013 | NR | 950 | 676 | NR |
| 435 | 4305 | NR | 565 | 25148 | NR | 695 | 14867 | NR | 825 | 970 | NR | 955 | 802 | NR |
| 440 | 7544 | NR | 570 | 26216 | NR | 700 | 13210 | NR | 830 | 769 | NR | 960 | 645 | NR |
| 445 | 11003 | NR | 575 | 27219 | NR | 705 | 11593 | NR | 835 | 894 | NR | 965 | 620 | NR |
| 450 | 11015 | NR | 580 | 28466 | NR | 710 | 10403 | NR | 840 | 893 | NR | 970 | 474 | NR |
| 455 | 8956 | NR | 585 | 29834 | NR | 715 | 9162 | NR | 845 | 864 | NR | 975 | 478 | NR |
| 460 | 8133 | NR | 590 | 31413 | NR | 720 | 8146 | NR | 850 | 828 | NR | 980 | 905 | NR |
| 465 | 7252 | NR | 595 | 32655 | NR | 725 | 7155 | NR | 855 | 921 | NR | 985 | 639 | NR |
| 470 | 6556 | NR | 600 | 34084 | NR | 730 | 6272 | NR | 860 | 633 | NR | 990 | 838 | NR |
| 475 | 6915 | NR | 605 | 35555 | NR | 735 | 5418 | NR | 865 | 816 | NR | 995 | 621 | NR |
| 480 | 7734 | NR | 610 | 36593 | NR | 740 | 4870 | NR | 870 | 767 | NR | 1000 | 903 | NR |
| 485 | 8748 | NR | 615 | 37350 | NR | 745 | 4295 | NR | 875 | 601 | NR | | | |

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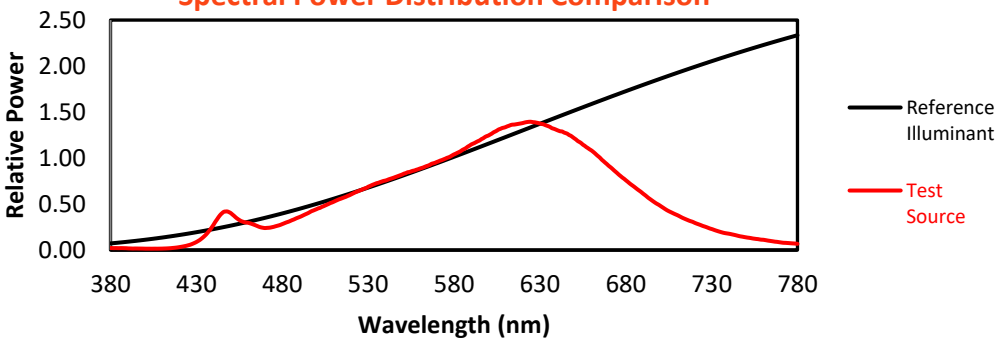
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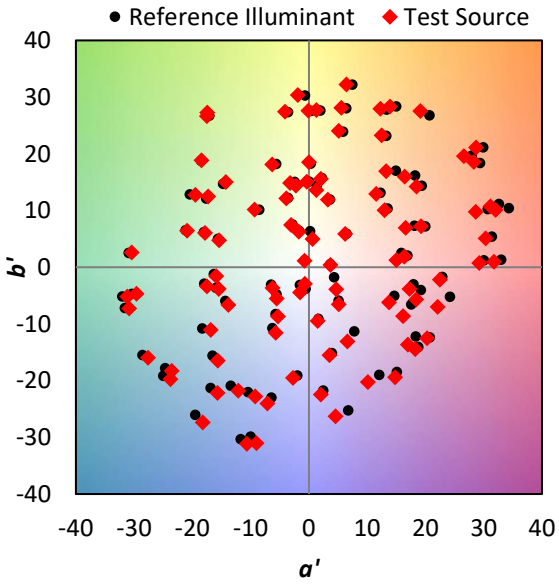
## Summary

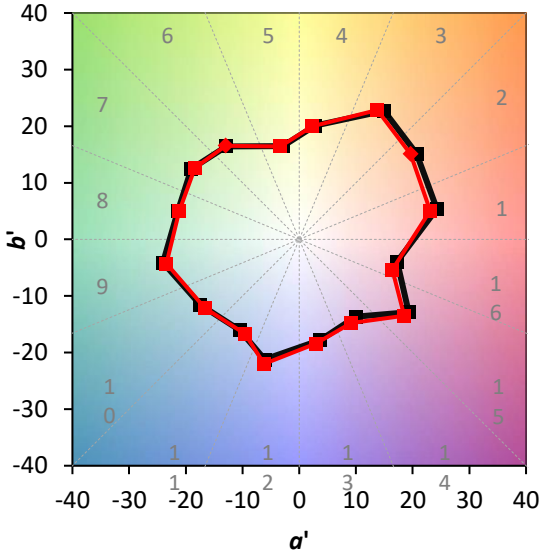
$R_f$ = 93.1
$R_g$ = 98.2
CIE $R_a$ = 92.5
$R_9$ = 58.3

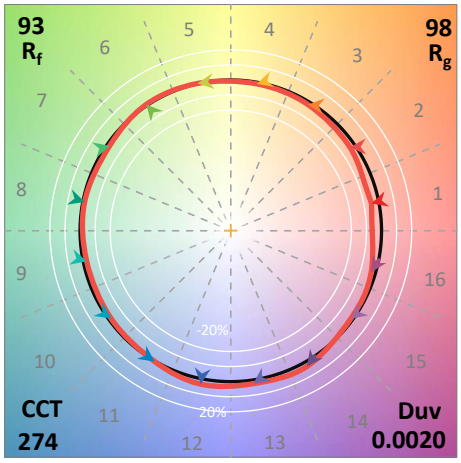
## Spectral Power Distribution Comparison

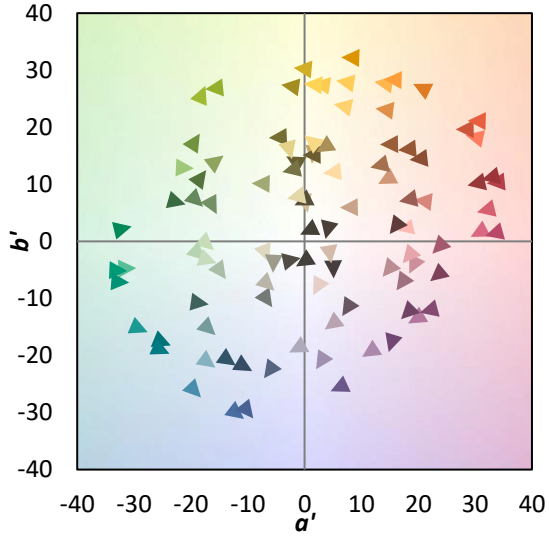



## Color Vector Graphics



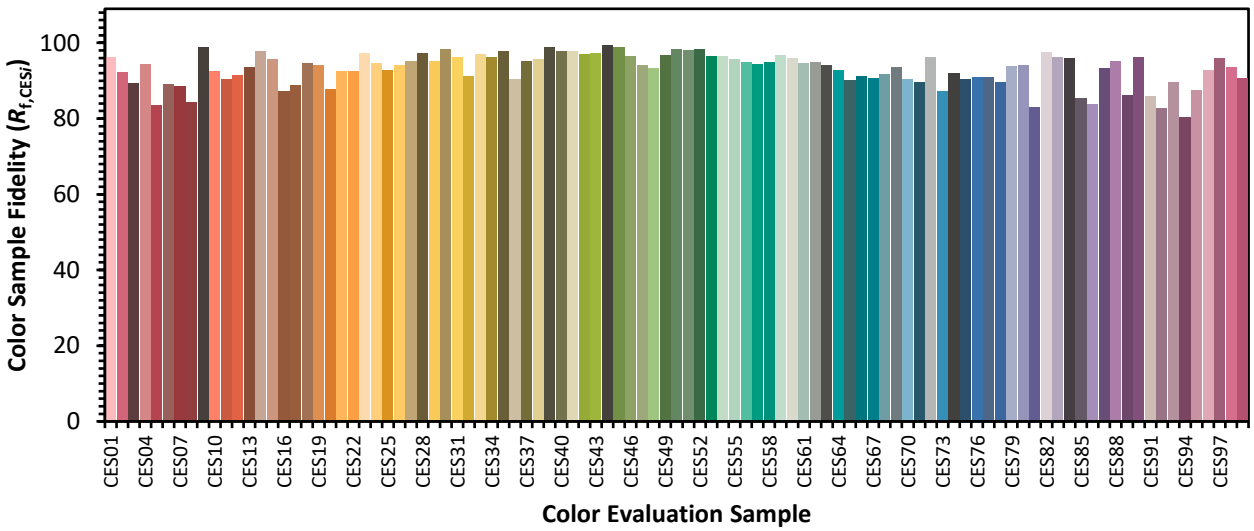
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**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 98 | CES76 = 91 |
| CES02 = 64 | CES27 = 95 | CES52 = 98 | CES77 = 91 |
| CES03 = 32 | CES28 = 97 | CES53 = 96 | CES78 = 90 |
| CES04 = 70 | CES29 = 95 | CES54 = 96 | CES79 = 94 |
| CES05 = 51 | CES30 = 98 | CES55 = 96 | CES80 = 94 |
| CES06 = 52 | CES31 = 96 | CES56 = 95 | CES81 = 83 |
| CES07 = 44 | CES32 = 91 | CES57 = 94 | CES82 = 97 |
| CES08 = 43 | CES33 = 97 | CES58 = 95 | CES83 = 96 |
| CES09 = 29 | CES34 = 96 | CES59 = 97 | CES84 = 96 |
| CES10 = 76 | CES35 = 98 | CES60 = 96 | CES85 = 85 |
| CES11 = 59 | CES36 = 91 | CES61 = 95 | CES86 = 84 |
| CES12 = 66 | CES37 = 95 | CES62 = 95 | CES87 = 93 |
| CES13 = 44 | CES38 = 96 | CES63 = 94 | CES88 = 95 |
| CES14 = 74 | CES39 = 99 | CES64 = 93 | CES89 = 86 |
| CES15 = 72 | CES40 = 98 | CES65 = 90 | CES90 = 96 |
| CES16 = 48 | CES41 = 98 | CES66 = 91 | CES91 = 86 |
| CES17 = 50 | CES42 = 97 | CES67 = 91 | CES92 = 83 |
| CES18 = 57 | CES43 = 97 | CES68 = 92 | CES93 = 90 |
| CES19 = 72 | CES44 = 99 | CES69 = 94 | CES94 = 80 |
| CES20 = 68 | CES45 = 99 | CES70 = 90 | CES95 = 87 |
| CES21 = 87 | CES46 = 96 | CES71 = 90 | CES96 = 93 |
| CES22 = 79 | CES47 = 94 | CES72 = 96 | CES97 = 96 |
| CES23 = 92 | CES48 = 93 | CES73 = 87 | CES98 = 94 |
| CES24 = 91 | CES49 = 97 | CES74 = 92 | CES99 = 91 |
| CES25 = 72 | CES50 = 98 | CES75 = 90 | |

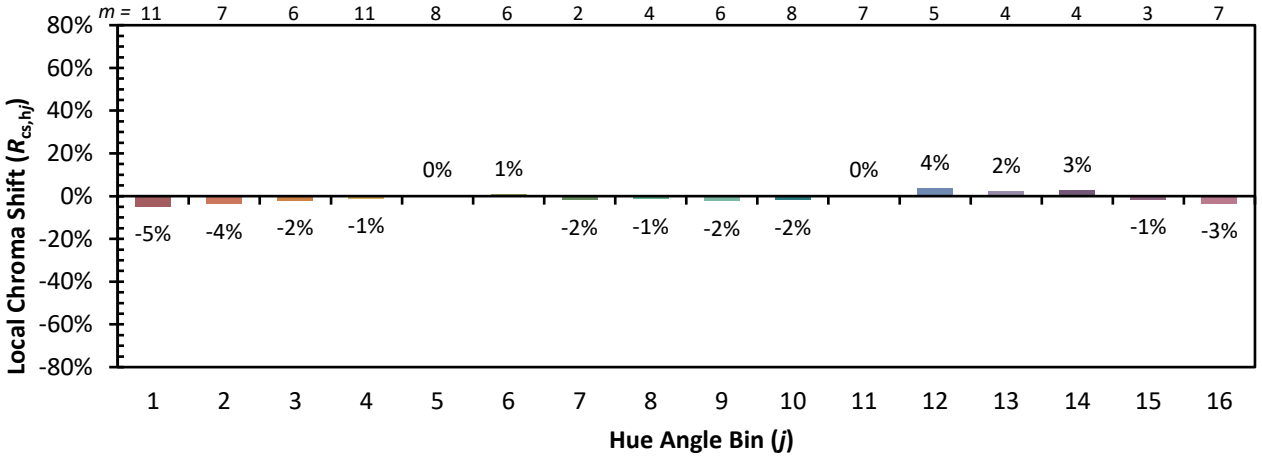


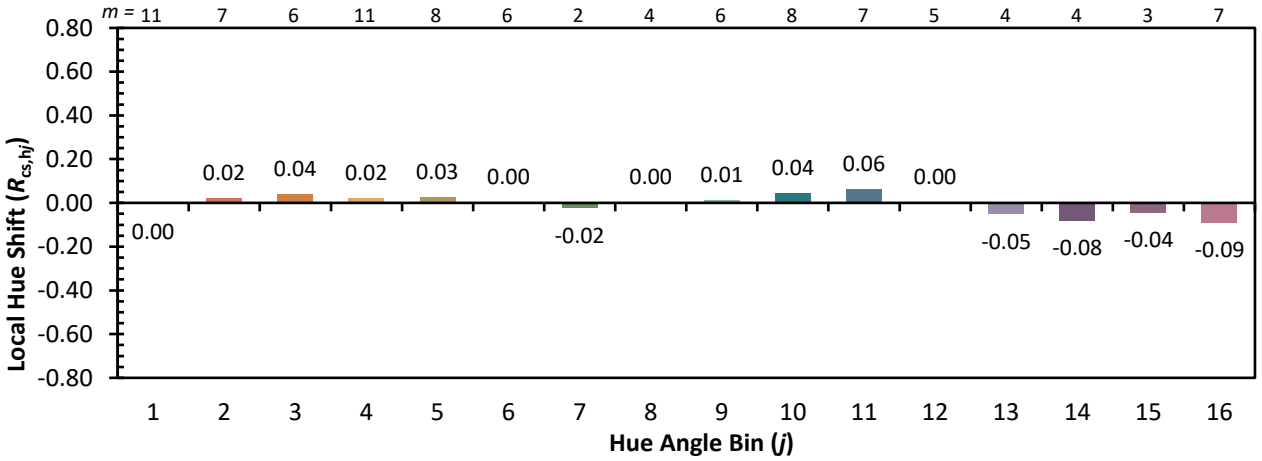
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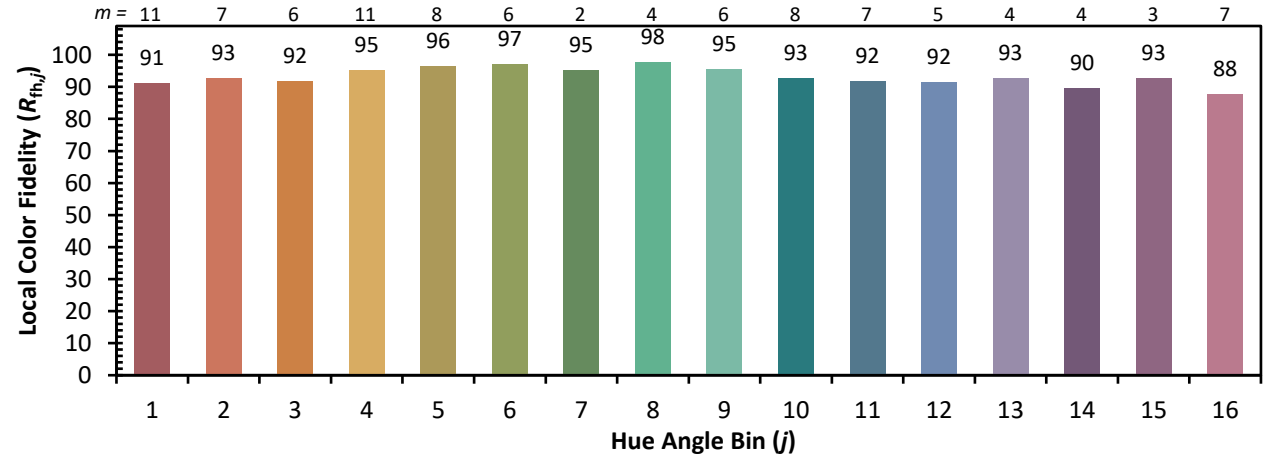
REPORT NUMBER: SP1-2106-271-1

**TM-30-18**

## Color Rendition by Hue-Angle Bin



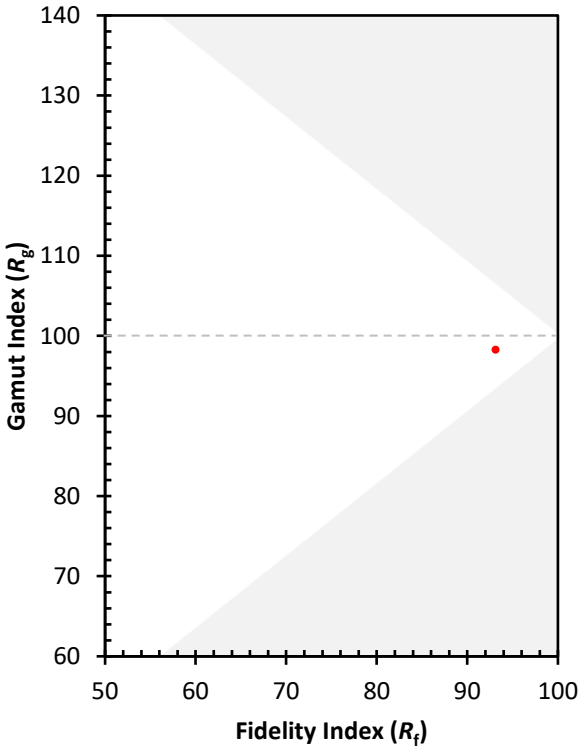



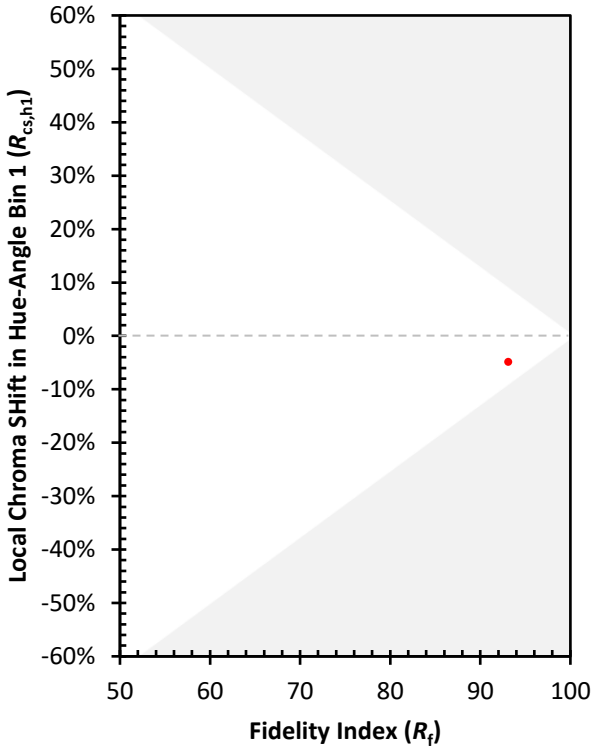
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### Measure Comparisons




(END OF REPORT)