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: STREETWORKS

Report Number: P1457968

Luminaire Tested: GLAN-SB5B-930-U-T2LG-HSS

Issue Date: 05/20/2026

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1457968 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB5B-930-U-T2LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 450mA 5xLight Square PACKAGE 90CRI 3000K FIXTURE w/ TYPE II LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (130) 3000K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 14343.3 lumens |
| Efficiency: | N/A |
| Efficacy: | 78.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B2 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 182.7 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.97 |
| Total Harmonic Distortion (THDi): | NR |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1457968
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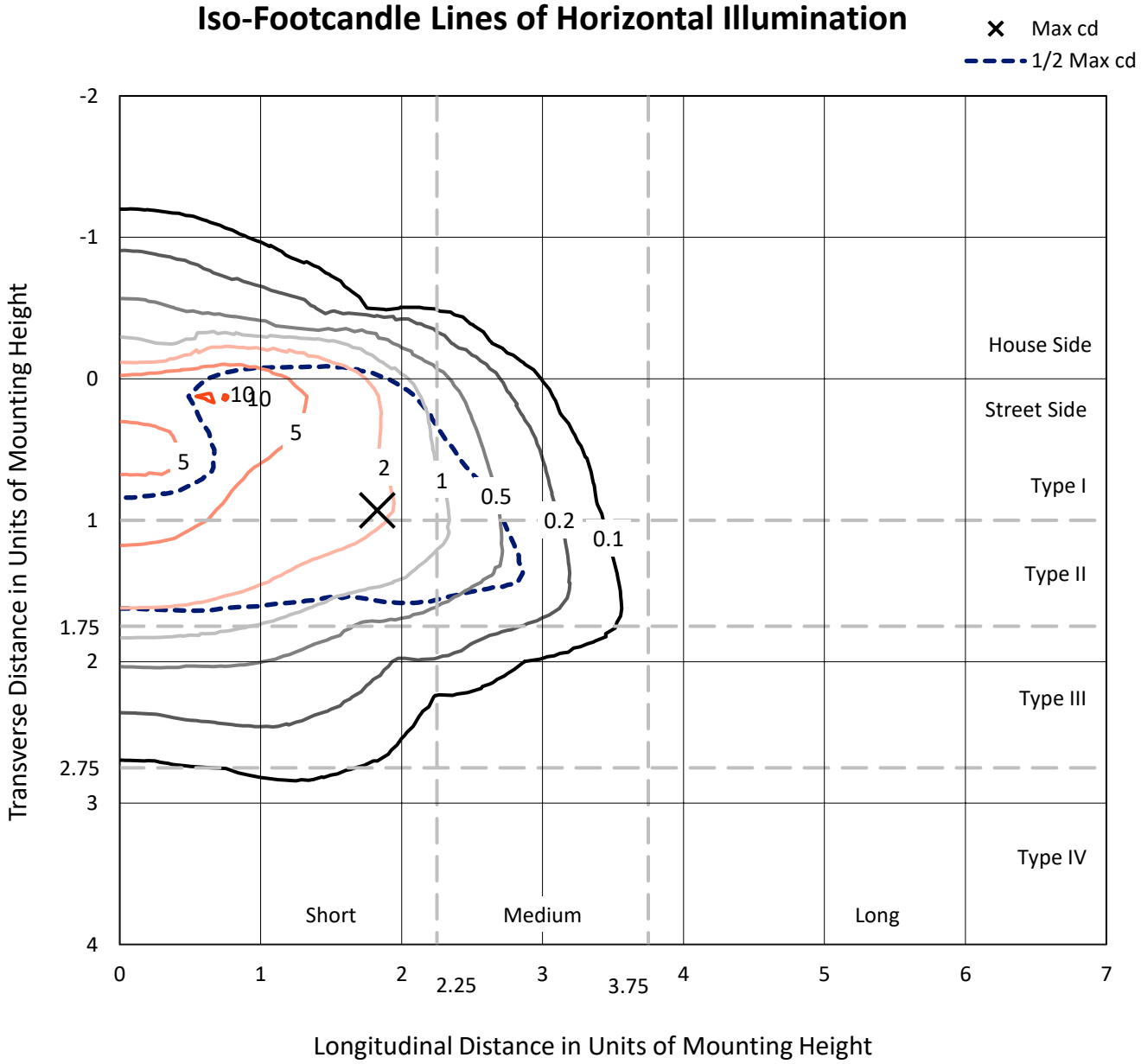
## Iso-Footcandle Lines of Horizontal Illumination




Based on 20 foot mounting height. Maximum calculated value = 10.3 fc
Type II - Short - N/A

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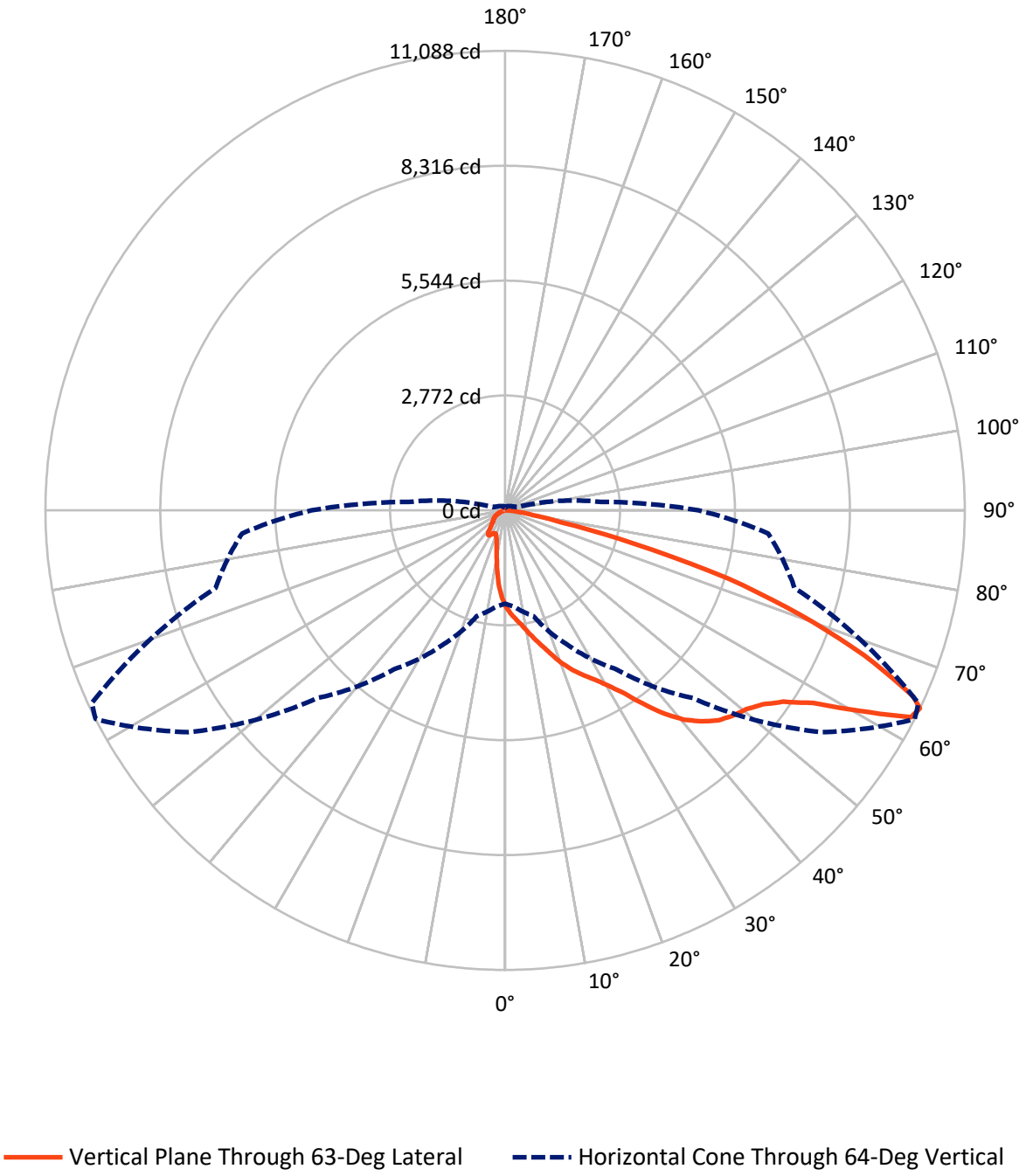
## Luminous Intensity Polar Plot



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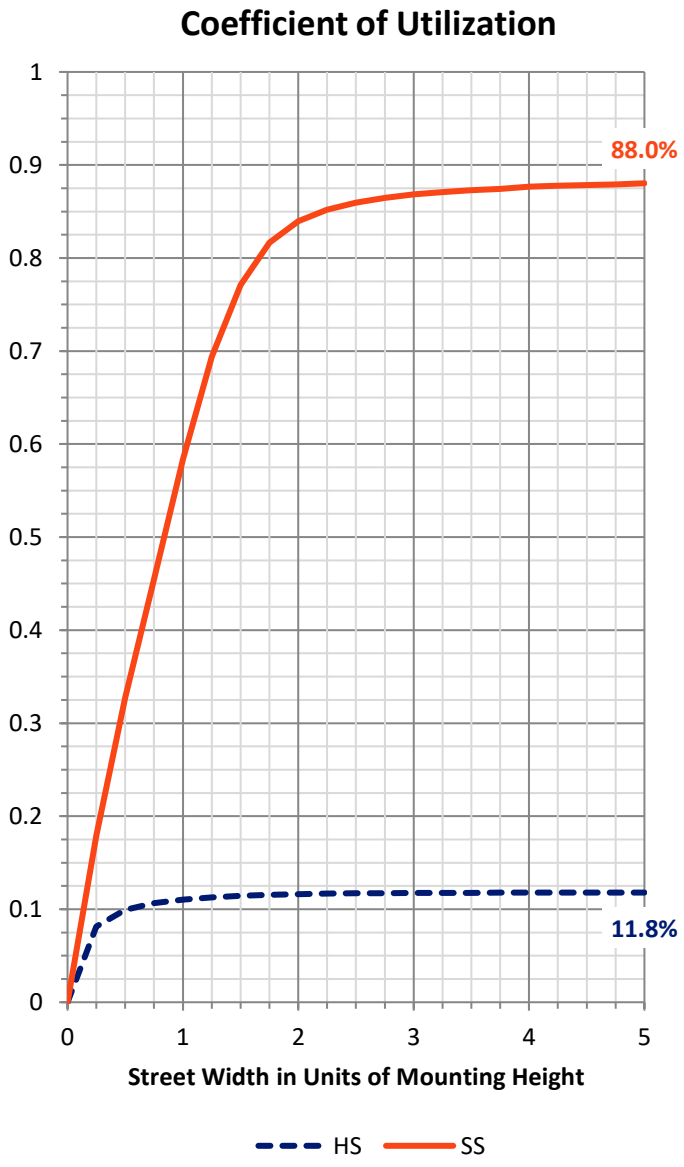
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1702.1 | 0.0 | 1702.1 |
| | % Fixture | 11.9 | 0.0 | 11.9 |
| **Street Side** | Lumens | 12641.2 | 0.0 | 12641.2 |
| | % Fixture | 88.1 | 0.0 | 88.1 |
| **Total** | Lumens | 14343.3 | 0.0 | 14343.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 195.3 | 1.4 |
| 10°-20° | 548.8 | 3.8 |
| 20°-30° | 977.4 | 6.8 |
| 30°-40° | 1866.9 | 13.0 |
| 40°-50° | 3094.5 | 21.6 |
| 50°-60° | 3857.3 | 26.9 |
| 60°-70° | 2876.2 | 20.1 |
| 70°-80° | 824.9 | 5.8 |
| 80°-90° | 102.0 | 0.7 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 14343.3 | 100.0 |
| 0°-180° | 14343.3 | 100.0 |



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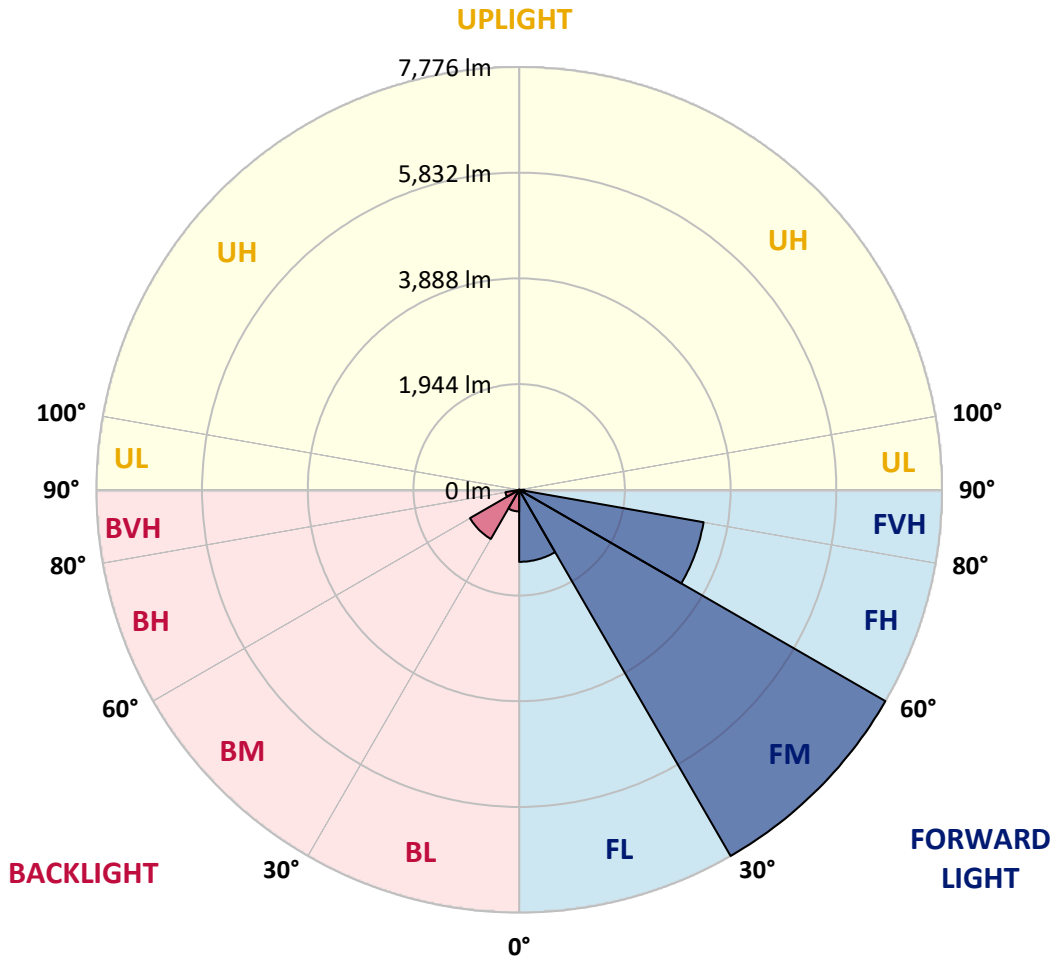
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1324.4 | 9.2 | | | |
| FM | (30°-60°) | 7776.1 | 54.2 | | | |
| FH | (60°-80°) | 3443.7 | 24.0 | | | G2/5000 |
| FVH | (80°-90°) | 97.0 | 0.7 | | | G1/100 |
| BL | (0°-30°) | 397.1 | 2.8 | B1/500 | | |
| BM | (30°-60°) | 1042.5 | 7.3 | B2/2500 | | |
| BH | (60°-80°) | 257.4 | 1.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 5.0 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

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



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 63° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 | *2319.1* | 2319.1 | 2319.1 | 2319.1 |
| 2.5° | 2598.8 | 2590.2 | 2581.6 | 2568.7 | 2551.5 | 2534.3 | 2512.8 | *2482.6* | 2469.7 | 2426.7 | 2375.1 |
| 5° | 2732.2 | 2732.2 | 2727.9 | 2719.3 | 2710.7 | 2693.5 | 2667.7 | *2628.9* | 2611.7 | 2551.5 | 2461.1 |
| 7.5° | 2766.6 | 2770.9 | 2783.8 | 2801.0 | 2826.9 | 2822.6 | 2822.6 | *2779.5* | 2770.9 | 2706.4 | 2585.9 |
| 10° | 2706.4 | 2710.7 | 2745.1 | 2792.4 | 2869.9 | 2943.0 | 2994.7 | *2968.9* | 2955.9 | 2891.4 | 2740.8 |
| 12.5° | 2620.3 | 2620.3 | 2676.3 | 2749.4 | 2869.9 | 3007.6 | 3158.2 | *3184.0* | 3188.3 | 3115.1 | 2934.4 |
| 15° | 2396.6 | 2405.2 | 2495.6 | 2641.8 | 2839.8 | 3054.9 | 3308.8 | *3407.7* | 3433.5 | 3386.2 | 3171.1 |
| 17.5° | 2099.7 | 2108.3 | 2198.7 | 2396.6 | 2693.5 | 3054.9 | 3437.8 | *3665.9* | 3700.3 | 3708.9 | 3472.3 |
| 20° | 1974.9 | 1974.9 | 2026.6 | 2177.2 | 2487.0 | 2973.2 | 3515.3 | *3941.3* | 4018.7 | 4113.4 | 3803.6 |
| 22.5° | 1992.1 | 1992.1 | 2022.3 | 2108.3 | 2357.9 | 2861.3 | 3562.6 | *4186.5* | 4345.7 | 4586.7 | 4229.5 |
| 25° | 2086.8 | 2086.8 | 2112.6 | 2168.6 | 2370.8 | 2844.1 | 3653.0 | *4405.9* | 4659.8 | 5115.9 | 4715.7 |
| 27.5° | 2237.4 | 2233.1 | 2254.6 | 2310.5 | 2495.6 | 2925.8 | 3803.6 | *4625.4* | 4909.4 | 5709.7 | 5275.1 |
| 30° | 2456.8 | 2443.9 | 2452.5 | 2517.1 | 2697.8 | 3115.1 | 4023.0 | *4905.1* | 5193.3 | 6359.4 | 5894.7 |
| 32.5° | 2964.5 | 2960.2 | 2835.5 | 2801.0 | 2994.7 | 3420.6 | 4324.2 | *5253.6* | 5576.3 | 7047.8 | 6531.5 |
| 35° | 3881.0 | 3941.3 | 3764.8 | 3313.1 | 3351.8 | 3829.4 | 4754.5 | *5726.9* | 6023.8 | 7779.2 | 7224.2 |
| 37.5° | 4810.4 | 4810.4 | 4737.3 | 4203.7 | 3932.7 | 4281.2 | 5219.2 | *6213.1* | 6522.9 | 8368.7 | 7891.1 |
| 40° | 5546.2 | 5584.9 | 5498.8 | 5098.7 | 4745.9 | 4797.5 | 5683.8 | *6639.0* | 6923.0 | 8730.1 | 8364.4 |
| 42.5° | 6092.6 | 6084.0 | 6049.6 | 5787.1 | 5589.2 | 5473.0 | 6105.5 | *6957.4* | 7228.5 | 8915.2 | 8661.3 |
| 45° | 6682.1 | 6682.1 | 6634.7 | 6419.6 | 6256.1 | 6157.1 | 6419.6 | *7224.2* | 7508.2 | 9027.0 | 8846.3 |
| 47.5° | 7297.3 | 7288.7 | 7241.4 | 7004.8 | 6828.4 | 6682.1 | 6738.0 | *7396.3* | 7680.3 | 8953.9 | 8876.4 |
| 50° | 7447.9 | 7439.3 | 7546.9 | 7555.5 | 7396.3 | 7116.6 | 6991.9 | *7542.6* | 7792.2 | 8958.2 | 8971.1 |
| 52.5° | 7271.5 | 7323.2 | 7482.4 | 7676.0 | 7856.7 | 7564.1 | 7262.9 | *7774.9* | 8033.1 | 9078.7 | 9207.7 |
| 55° | 6832.7 | 6854.2 | 7159.7 | 7469.5 | 7891.1 | 7994.4 | 7697.5 | *8145.0* | 8373.0 | 9194.8 | 9418.6 |
| 57.5° | 6015.1 | 6096.9 | 6423.9 | 6961.7 | 7602.8 | 8033.1 | 8454.8 | *8764.6* | 8936.7 | 9242.2 | 9302.4 |
| 60° | 4539.3 | 4582.4 | 5292.3 | 5989.3 | 7004.8 | 7723.3 | 9160.4 | *9814.4* | 9792.9 | 8708.6 | 8489.2 |
| 62.5° | 2762.3 | 2801.0 | 3308.8 | 4414.6 | 5692.4 | 7077.9 | 9397.1 | *10989.1* | 10872.9 | 7809.4 | 7146.8 |
| 64° | *2250.3* | *2323.4* | *2637.5* | *3584.1* | *4681.3* | *6402.4* | *9328.2* | *11088.0* | *10997.7* | *7228.5* | *6368.0* |
| 65° | 1923.3 | 2022.3 | 2345.0 | 3110.8 | 3980.0 | 5675.2 | 9138.9 | *10812.6* | 10752.4 | 6875.7 | 5722.6 |
| 67.5° | 1209.1 | 1256.4 | 1734.0 | 2418.1 | 2740.8 | 3631.5 | 7856.7 | *9349.7* | 9457.3 | 6127.0 | 4220.9 |
| 70° | 899.3 | 920.8 | 1191.8 | 1871.7 | 2138.4 | 2112.6 | 5395.6 | *7572.7* | 7598.5 | 4900.8 | 2547.2 |
| 72.5° | 654.0 | 658.3 | 834.7 | 1385.5 | 1673.7 | 1441.4 | 2844.1 | *5627.9* | 5442.9 | 2869.9 | 1389.8 |
| 75° | 434.6 | 451.8 | 585.2 | 976.7 | 1303.7 | 1058.5 | 1295.1 | *3205.5* | 3149.6 | 1402.7 | 796.0 |
| 77.5° | 318.4 | 322.7 | 395.8 | 654.0 | 1024.0 | 778.8 | 783.1 | *1381.2* | 1424.2 | 834.7 | 503.4 |
| 80° | 180.7 | 189.3 | 258.2 | 400.1 | 666.9 | 533.5 | 438.9 | *666.9* | 765.9 | 568.0 | 335.6 |
| 82.5° | 107.6 | 116.2 | 185.0 | 262.5 | 456.1 | 219.4 | 223.7 | *365.7* | 456.1 | 408.8 | 180.7 |
| 85° | 64.5 | 68.8 | 116.2 | 142.0 | 271.1 | 146.3 | 81.8 | *180.7* | 236.6 | 241.0 | 99.0 |
| 87.5° | 43.0 | 43.0 | 64.5 | 60.2 | 77.4 | 68.8 | 34.4 | *47.3* | 60.2 | 81.8 | 38.7 |
| 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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Scaled Data Report

REPORT NUMBER: P1457968
CATALOG NUMBER: GLAN-SB5B-930-U-T2LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 | 2319.1 |
| 2.5° | 2332.1 | 2306.2 | 2228.8 | 2125.5 | 2030.9 | 1957.7 | 1867.4 | 1807.1 | 1751.2 | 1751.2 | 1703.9 |
| 5° | 2388.0 | 2319.1 | 2129.8 | 1893.2 | 1639.3 | 1398.4 | 1243.5 | 1071.4 | 1015.4 | 968.1 | 976.7 |
| 7.5° | 2482.6 | 2357.9 | 2022.3 | 1596.3 | 1191.8 | 933.7 | 761.6 | 684.1 | 649.7 | 628.2 | 632.5 |
| 10° | 2598.8 | 2426.7 | 1893.2 | 1295.1 | 877.7 | 684.1 | 602.4 | 572.3 | 559.3 | 555.0 | 555.0 |
| 12.5° | 2758.0 | 2508.5 | 1764.1 | 1041.2 | 692.7 | 589.5 | 546.4 | 529.2 | 516.3 | 507.7 | 507.7 |
| 15° | 2947.3 | 2611.7 | 1613.5 | 856.2 | 606.7 | 542.1 | 507.7 | 490.5 | 473.3 | 469.0 | 469.0 |
| 17.5° | 3188.3 | 2719.3 | 1480.1 | 735.8 | 563.7 | 507.7 | 473.3 | 451.8 | 438.9 | 434.6 | 434.6 |
| 20° | 3455.1 | 2852.7 | 1346.7 | 666.9 | 533.5 | 473.3 | 438.9 | 421.7 | 408.8 | 400.1 | 404.5 |
| 22.5° | 3795.0 | 3020.5 | 1260.7 | 632.5 | 507.7 | 443.2 | 408.8 | 391.5 | 378.6 | 370.0 | 374.3 |
| 25° | 4169.3 | 3231.3 | 1213.4 | 632.5 | 490.5 | 421.7 | 382.9 | 365.7 | 352.8 | 344.2 | 344.2 |
| 27.5° | 4625.4 | 3468.0 | 1217.7 | 658.3 | 486.2 | 404.5 | 361.4 | 344.2 | 331.3 | 318.4 | 318.4 |
| 30° | 5128.8 | 3747.6 | 1265.0 | 705.6 | 494.8 | 387.2 | 344.2 | 318.4 | 309.8 | 296.9 | 296.9 |
| 32.5° | 5662.3 | 4070.3 | 1385.5 | 765.9 | 486.2 | 365.7 | 318.4 | 296.9 | 284.0 | 275.4 | 275.4 |
| 35° | 6226.0 | 4436.1 | 1536.1 | 791.7 | 443.2 | 335.6 | 296.9 | 275.4 | 266.8 | 262.5 | 258.2 |
| 37.5° | 6763.8 | 4754.5 | 1617.8 | 740.1 | 387.2 | 309.8 | 271.1 | 249.6 | 245.3 | 236.6 | 236.6 |
| 40° | 7181.2 | 5016.9 | 1570.5 | 632.5 | 357.1 | 284.0 | 249.6 | 228.0 | 219.4 | 210.8 | 210.8 |
| 42.5° | 7426.4 | 5111.6 | 1398.4 | 537.8 | 335.6 | 258.2 | 228.0 | 206.5 | 197.9 | 193.6 | 193.6 |
| 45° | 7568.4 | 5098.7 | 1196.1 | 481.9 | 314.1 | 236.6 | 206.5 | 193.6 | 180.7 | 176.4 | 172.1 |
| 47.5° | 7564.1 | 4965.3 | 1049.9 | 434.6 | 292.6 | 219.4 | 193.6 | 180.7 | 167.8 | 163.5 | 163.5 |
| 50° | 7534.0 | 4767.4 | 886.4 | 400.1 | 275.4 | 206.5 | 180.7 | 172.1 | 159.2 | 154.9 | 150.6 |
| 52.5° | 7607.1 | 4655.5 | 740.1 | 378.6 | 253.9 | 197.9 | 176.4 | 163.5 | 146.3 | 142.0 | 142.0 |
| 55° | 7697.5 | 4591.0 | 593.8 | 357.1 | 236.6 | 193.6 | 167.8 | 154.9 | 137.7 | 133.4 | 133.4 |
| 57.5° | 7435.0 | 4345.7 | 490.5 | 322.7 | 215.1 | 185.0 | 159.2 | 150.6 | 133.4 | 120.5 | 120.5 |
| 60° | 6608.9 | 3592.7 | 404.5 | 284.0 | 197.9 | 172.1 | 150.6 | 137.7 | 120.5 | 103.3 | 103.3 |
| 62.5° | 5374.0 | 2740.8 | 335.6 | 241.0 | 185.0 | 159.2 | 137.7 | 124.8 | 103.3 | 81.8 | 81.8 |
| 64° | *4668.4* | *2327.8* | *301.2* | *210.8* | *176.4* | *146.3* | *124.8* | *111.9* | *90.4* | *68.8* | *64.5* |
| 65° | 4186.5 | 2056.7 | 279.7 | 197.9 | 172.1 | 137.7 | 120.5 | 107.6 | 81.8 | 64.5 | 60.2 |
| 67.5° | 2947.3 | 1381.2 | 223.7 | 163.5 | 150.6 | 116.2 | 103.3 | 90.4 | 73.1 | 55.9 | 51.6 |
| 70° | 1716.8 | 783.1 | 176.4 | 137.7 | 116.2 | 90.4 | 86.1 | 81.8 | 64.5 | 43.0 | 43.0 |
| 72.5° | 933.7 | 391.5 | 133.4 | 111.9 | 90.4 | 64.5 | 73.1 | 64.5 | 51.6 | 34.4 | 30.1 |
| 75° | 572.3 | 241.0 | 99.0 | 81.8 | 60.2 | 47.3 | 55.9 | 47.3 | 30.1 | 21.5 | 17.2 |
| 77.5° | 382.9 | 154.9 | 73.1 | 55.9 | 38.7 | 30.1 | 38.7 | 25.8 | 12.9 | 4.3 | 4.3 |
| 80° | 236.6 | 107.6 | 47.3 | 34.4 | 21.5 | 12.9 | 8.6 | 4.3 | 4.3 | 0.0 | 0.0 |
| 82.5° | 103.3 | 68.8 | 25.8 | 17.2 | 8.6 | 4.3 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 55.9 | 21.5 | 8.6 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 17.2 | 8.6 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Peachtree City, GA 30269

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-14

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-930-U-5WQ

Data in this report applies to families of products including GSS-SB1A-930-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

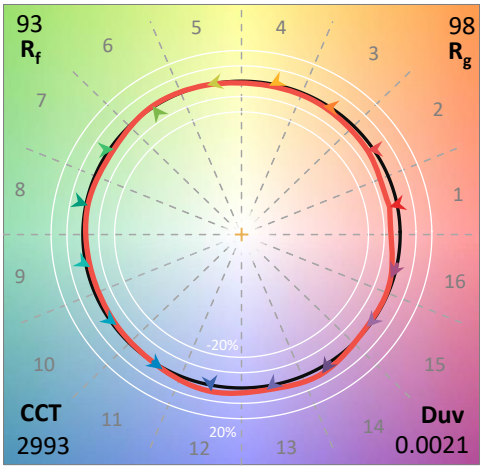
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-14 |
| 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-930-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2993 |
| CIE u': | 0.2501 |
| CIE v': | 0.5245 |
| Duv: | 0.0021 |
| CIE x: | 0.4406 |
| CIE y: | 0.4107 |
| CIE z: | 0.1487 |
| Peak Wavelength (nm): | 621 |
| Dominant Wavelength (nm): | 582 |
| Purity: | 55.53327 |
| Rf: | 92.6 |
| Rg: | 98.5 |

| | |
|---|---|
| CRI (Ra): | 92.4 |
| R1: | 92.2 |
| R2: | 95.2 |
| R3: | 97.0 |
| R4: | 93.1 |
| R5: | 91.7 |
| R6: | 94.2 |
| R7: | 93.3 |
| R8: | 82.3 |
| R9: | 58.2 |
| R10: | 87.7 |
| R11: | 93.5 |
| R12: | 81.7 |
| R13: | 92.9 |
| R14: | 97.6 |
| R15: | 88.1 |




## Test Conditions

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

REPORT NUMBER: SP1-2407-184-14

| 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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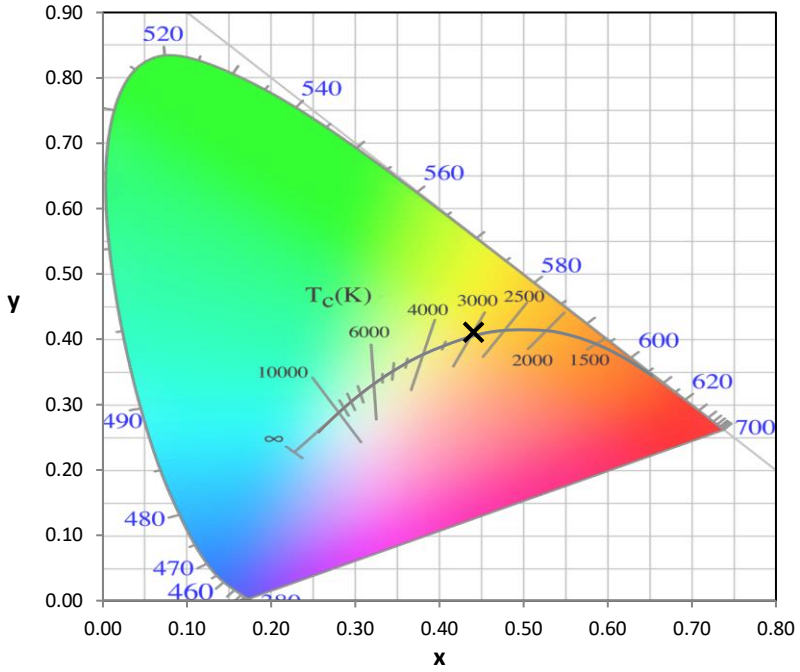
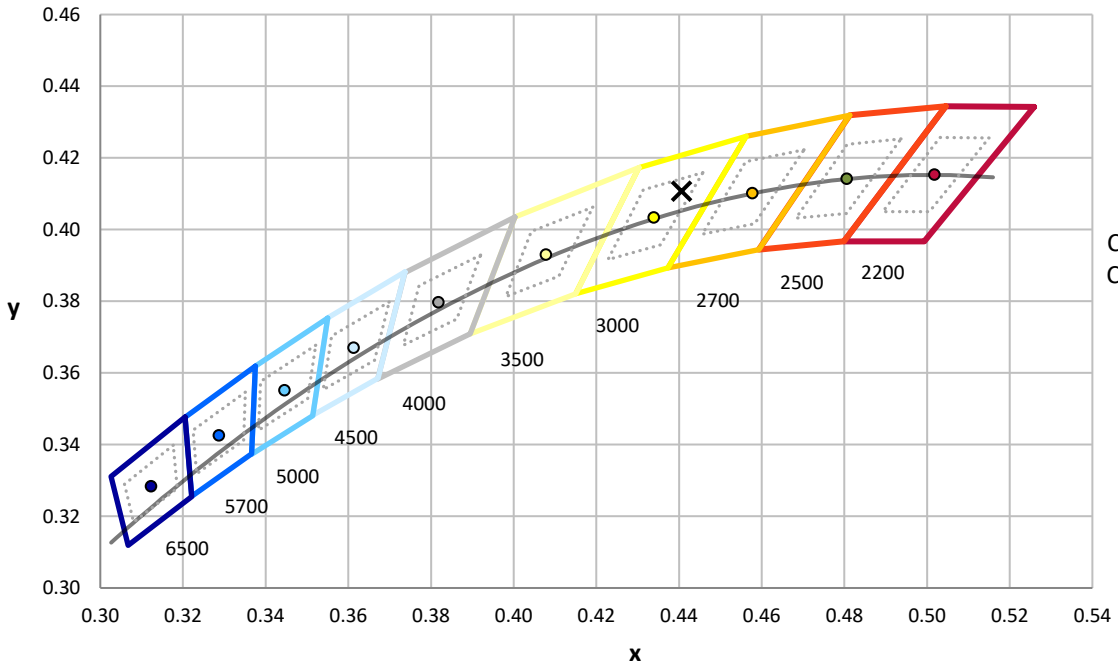
## CIE 1931 Chromaticity Diagram




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




CCT = 2993K
CIE x = 0.4406
CIE y = 0.4107
Duv = 0.0021

Point lies inside the ANSI 3000K 4-step quadrangle

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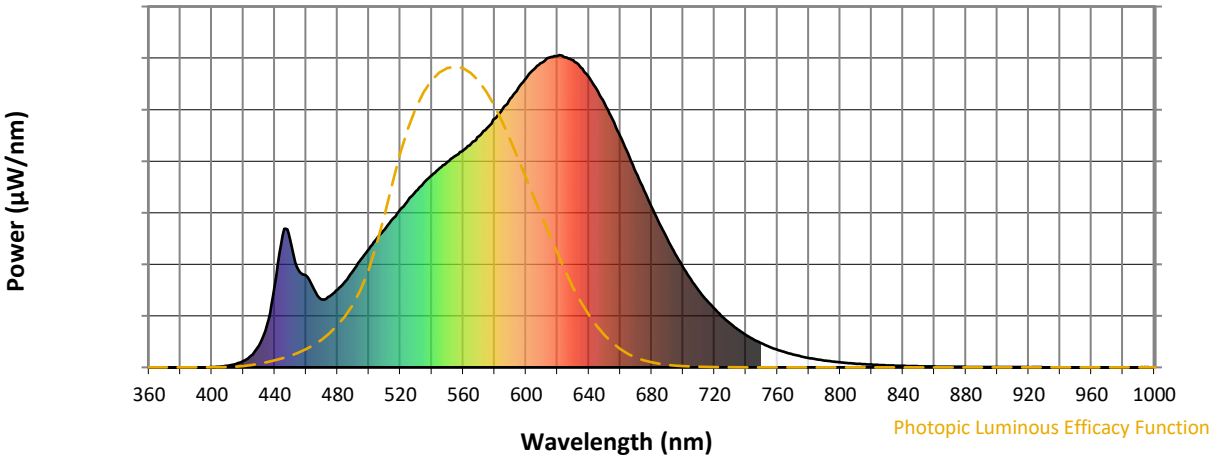
## Photopic Flux vs. Wavelength




## 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 | 310 | NR | 620 | 998 | NR | 750 | 77 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 347 | NR | 625 | 993 | NR | 755 | 66 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 379 | NR | 630 | 983 | NR | 760 | 56 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 960 | NR | 765 | 48 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 442 | NR | 640 | 930 | NR | 770 | 41 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 475 | NR | 645 | 889 | NR | 775 | 35 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 506 | NR | 650 | 846 | NR | 780 | 30 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 535 | NR | 655 | 794 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 565 | NR | 660 | 740 | NR | 790 | 22 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 592 | NR | 665 | 684 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 6 | NR | 540 | 615 | NR | 670 | 624 | NR | 800 | 16 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 638 | NR | 675 | 567 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 658 | NR | 680 | 513 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 678 | NR | 685 | 459 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 70 | NR | 560 | 695 | NR | 690 | 412 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 136 | NR | 565 | 716 | NR | 695 | 363 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 262 | NR | 570 | 740 | NR | 700 | 320 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 424 | NR | 575 | 765 | NR | 705 | 281 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 406 | NR | 580 | 796 | NR | 710 | 245 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 313 | NR | 585 | 827 | NR | 715 | 215 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 294 | NR | 590 | 861 | NR | 720 | 188 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 250 | NR | 595 | 894 | NR | 725 | 162 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 217 | NR | 600 | 927 | NR | 730 | 140 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 228 | NR | 605 | 954 | NR | 735 | 121 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 249 | NR | 610 | 976 | NR | 740 | 104 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 276 | NR | 615 | 992 | NR | 745 | 89 | NR | 875 | 2 | NR | | | |

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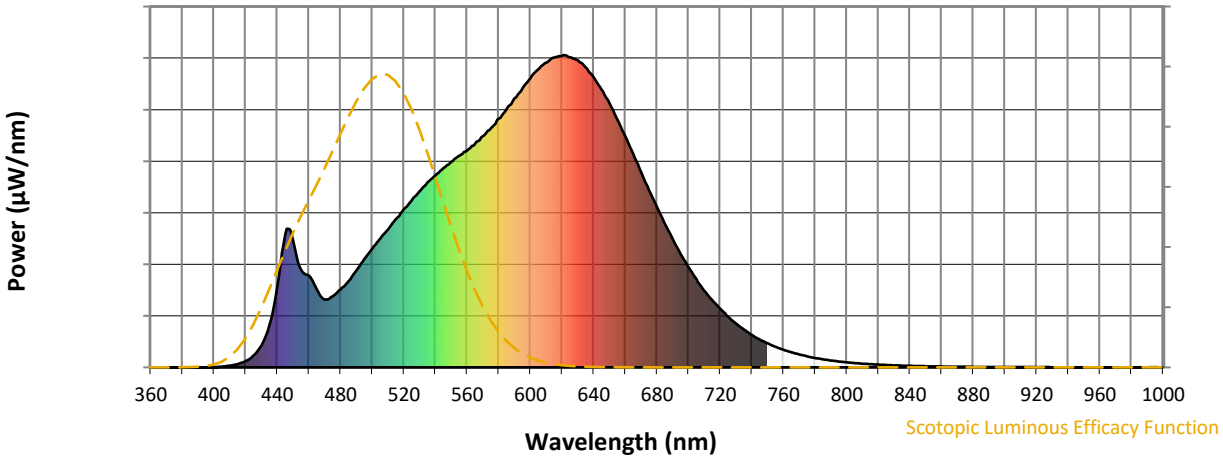
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.39**

| 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 | 310 | NR | 620 | 998 | NR | 750 | 77 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 347 | NR | 625 | 993 | NR | 755 | 66 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 379 | NR | 630 | 983 | NR | 760 | 56 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 960 | NR | 765 | 48 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 442 | NR | 640 | 930 | NR | 770 | 41 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 475 | NR | 645 | 889 | NR | 775 | 35 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 506 | NR | 650 | 846 | NR | 780 | 30 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 535 | NR | 655 | 794 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 565 | NR | 660 | 740 | NR | 790 | 22 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 592 | NR | 665 | 684 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 6 | NR | 540 | 615 | NR | 670 | 624 | NR | 800 | 16 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 638 | NR | 675 | 567 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 658 | NR | 680 | 513 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 678 | NR | 685 | 459 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 70 | NR | 560 | 695 | NR | 690 | 412 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 136 | NR | 565 | 716 | NR | 695 | 363 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 262 | NR | 570 | 740 | NR | 700 | 320 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 424 | NR | 575 | 765 | NR | 705 | 281 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 406 | NR | 580 | 796 | NR | 710 | 245 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 313 | NR | 585 | 827 | NR | 715 | 215 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 294 | NR | 590 | 861 | NR | 720 | 188 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 250 | NR | 595 | 894 | NR | 725 | 162 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 217 | NR | 600 | 927 | NR | 730 | 140 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 228 | NR | 605 | 954 | NR | 735 | 121 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 249 | NR | 610 | 976 | NR | 740 | 104 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 276 | NR | 615 | 992 | NR | 745 | 89 | NR | 875 | 2 | NR | | | |

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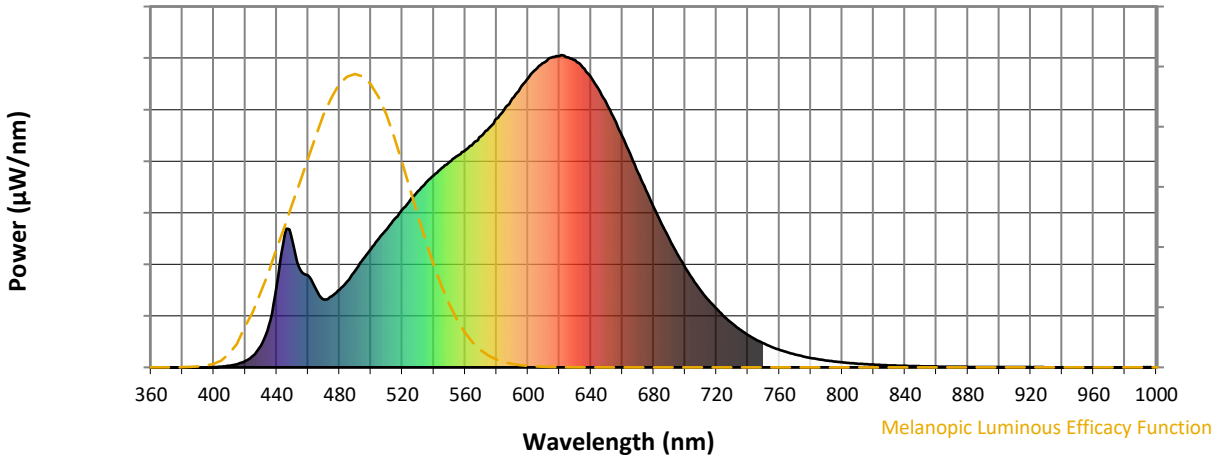
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.69**

| 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 | 310 | NR | 620 | 998 | NR | 750 | 77 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 347 | NR | 625 | 993 | NR | 755 | 66 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 379 | NR | 630 | 983 | NR | 760 | 56 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 960 | NR | 765 | 48 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 442 | NR | 640 | 930 | NR | 770 | 41 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 475 | NR | 645 | 889 | NR | 775 | 35 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 506 | NR | 650 | 846 | NR | 780 | 30 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 535 | NR | 655 | 794 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 565 | NR | 660 | 740 | NR | 790 | 22 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 592 | NR | 665 | 684 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 6 | NR | 540 | 615 | NR | 670 | 624 | NR | 800 | 16 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 638 | NR | 675 | 567 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 658 | NR | 680 | 513 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 678 | NR | 685 | 459 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 70 | NR | 560 | 695 | NR | 690 | 412 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 136 | NR | 565 | 716 | NR | 695 | 363 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 262 | NR | 570 | 740 | NR | 700 | 320 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 424 | NR | 575 | 765 | NR | 705 | 281 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 406 | NR | 580 | 796 | NR | 710 | 245 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 313 | NR | 585 | 827 | NR | 715 | 215 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 294 | NR | 590 | 861 | NR | 720 | 188 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 250 | NR | 595 | 894 | NR | 725 | 162 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 217 | NR | 600 | 927 | NR | 730 | 140 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 228 | NR | 605 | 954 | NR | 735 | 121 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 249 | NR | 610 | 976 | NR | 740 | 104 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 276 | NR | 615 | 992 | NR | 745 | 89 | NR | 875 | 2 | NR | | | |

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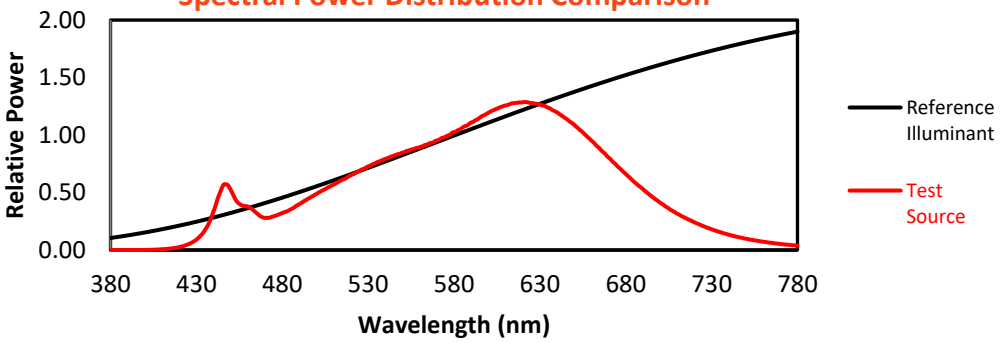
# TM-30-18

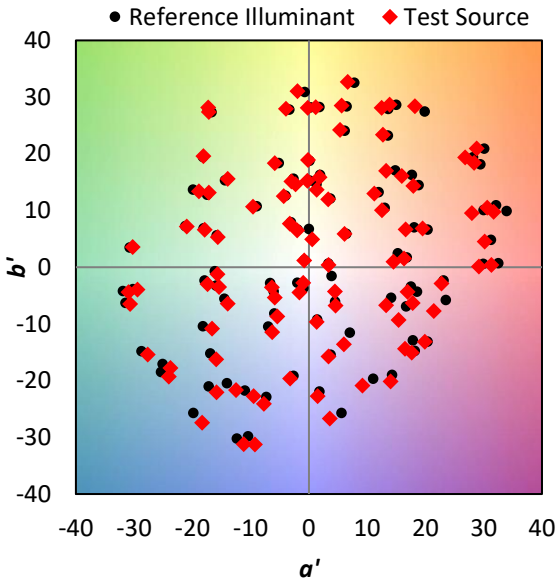
## Summary

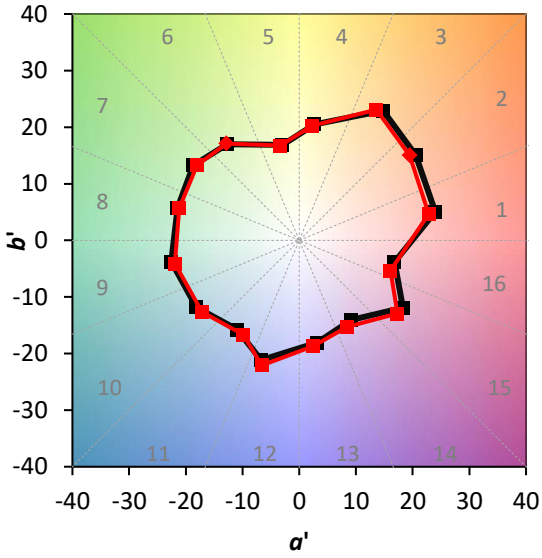
$R_f$ = 92.6
$R_g$ = 98.5
CIE $R_a$ = 92.4
$R_9$ = 58.2

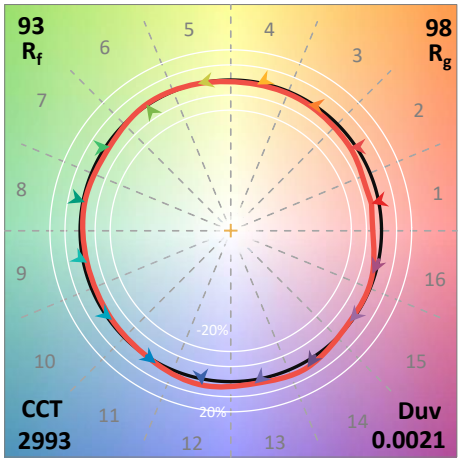
## Spectral Power Distribution Comparison

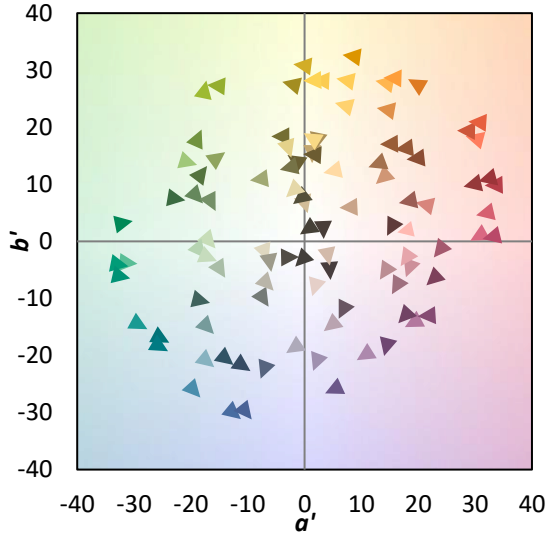



## Color Vector Graphics



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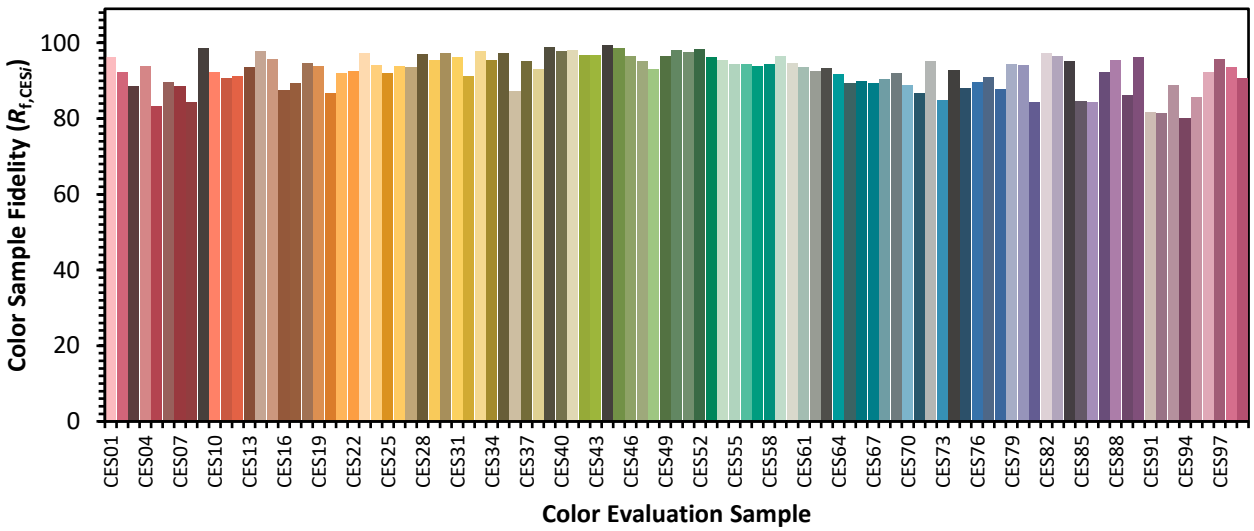
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 98 | CES76 = 90 |
| CES02 = 63 | CES27 = 94 | CES52 = 98 | CES77 = 91 |
| CES03 = 32 | CES28 = 97 | CES53 = 96 | CES78 = 88 |
| CES04 = 70 | CES29 = 95 | CES54 = 95 | CES79 = 94 |
| CES05 = 51 | CES30 = 97 | CES55 = 94 | CES80 = 94 |
| CES06 = 51 | CES31 = 96 | CES56 = 94 | CES81 = 84 |
| CES07 = 43 | CES32 = 91 | CES57 = 94 | CES82 = 97 |
| CES08 = 42 | CES33 = 98 | CES58 = 94 | CES83 = 97 |
| CES09 = 29 | CES34 = 96 | CES59 = 97 | CES84 = 95 |
| CES10 = 76 | CES35 = 97 | CES60 = 95 | CES85 = 85 |
| CES11 = 59 | CES36 = 87 | CES61 = 94 | CES86 = 84 |
| CES12 = 65 | CES37 = 95 | CES62 = 92 | CES87 = 92 |
| CES13 = 44 | CES38 = 93 | CES63 = 93 | CES88 = 95 |
| CES14 = 74 | CES39 = 99 | CES64 = 92 | CES89 = 86 |
| CES15 = 72 | CES40 = 98 | CES65 = 89 | CES90 = 96 |
| CES16 = 48 | CES41 = 98 | CES66 = 90 | CES91 = 82 |
| CES17 = 50 | CES42 = 97 | CES67 = 89 | CES92 = 81 |
| CES18 = 57 | CES43 = 97 | CES68 = 90 | CES93 = 89 |
| CES19 = 72 | CES44 = 99 | CES69 = 92 | CES94 = 80 |
| CES20 = 67 | CES45 = 99 | CES70 = 89 | CES95 = 86 |
| CES21 = 86 | CES46 = 96 | CES71 = 87 | CES96 = 92 |
| CES22 = 79 | CES47 = 95 | CES72 = 95 | CES97 = 96 |
| CES23 = 92 | CES48 = 93 | CES73 = 85 | CES98 = 94 |
| CES24 = 91 | CES49 = 97 | CES74 = 93 | CES99 = 91 |
| CES25 = 72 | CES50 = 98 | CES75 = 88 | |



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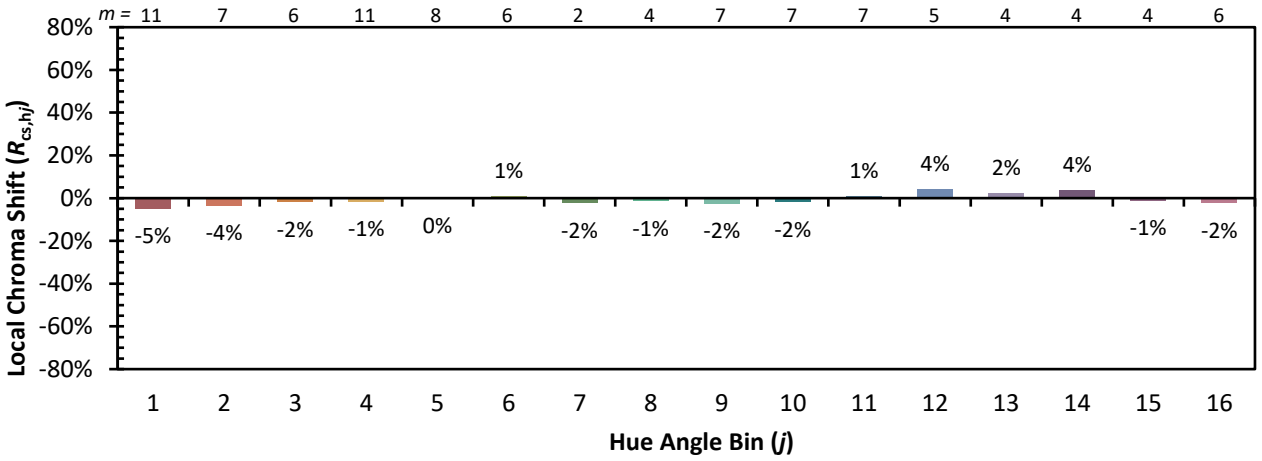
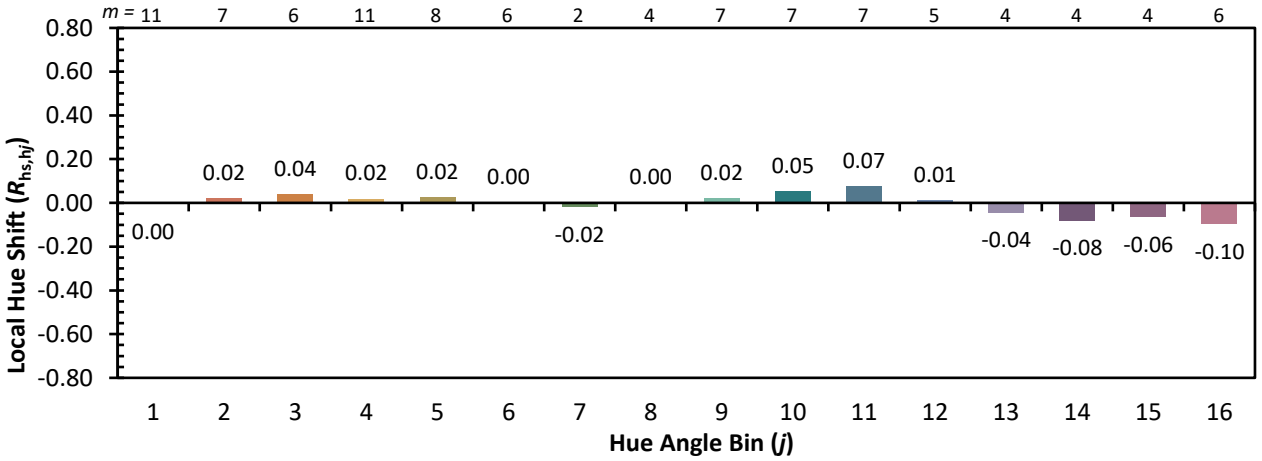
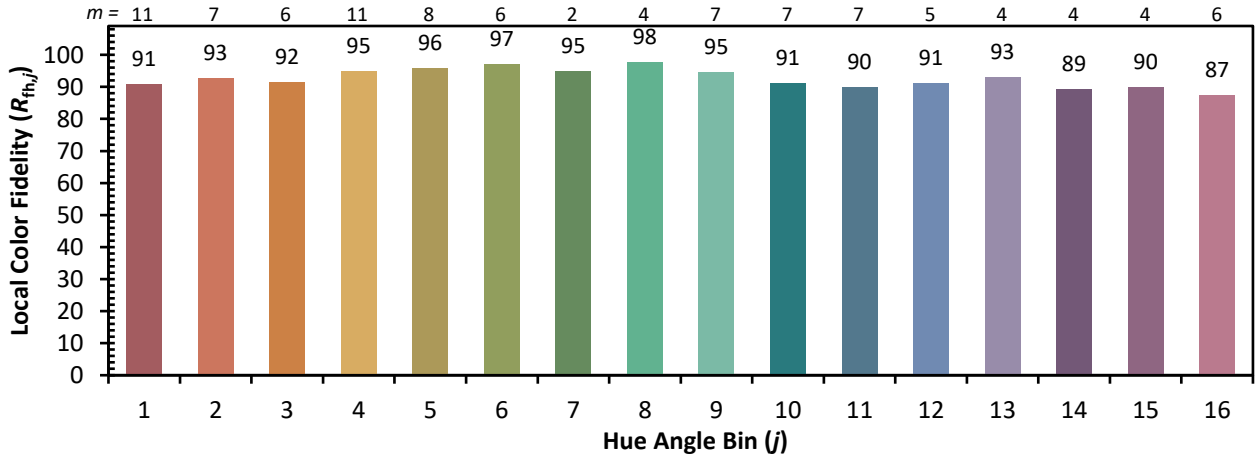
## Color Rendition by Hue-Angle Bin



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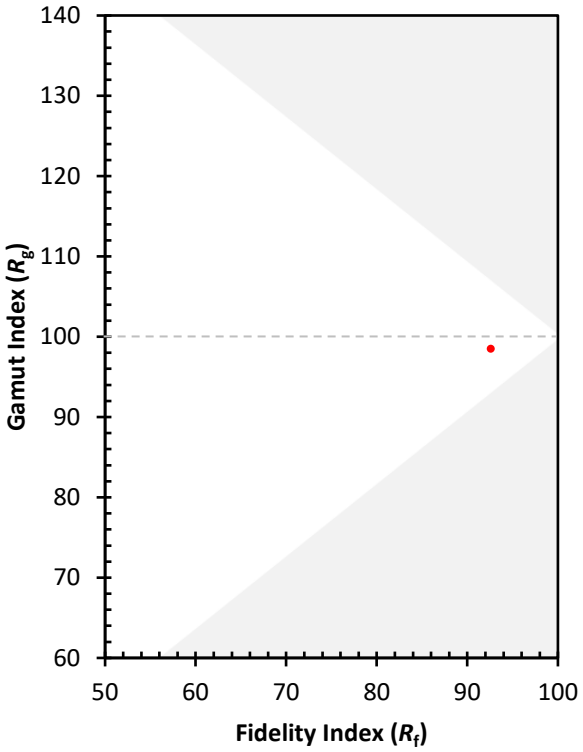
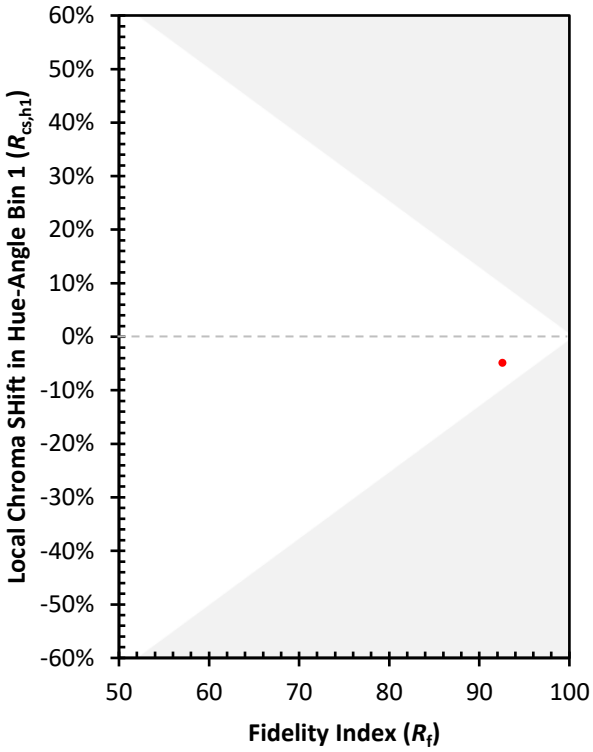
## Measure Comparisons




(END OF REPORT)