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: P1358784

Luminaire Tested: **GSS-SB5B-722-U-SL4-HSS**

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: | P1358784 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB5B-722-U-SL4-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 5SQUARE 184W 70CRI 2200K FIXTURE w/ TYPE IV SPILL CONTROL DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD |
| Light Source: | (130) 2200K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 14429.6 lumens |
| Efficiency: | N/A |
| Efficacy: | 78.4 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B2 - U0 - G3 |

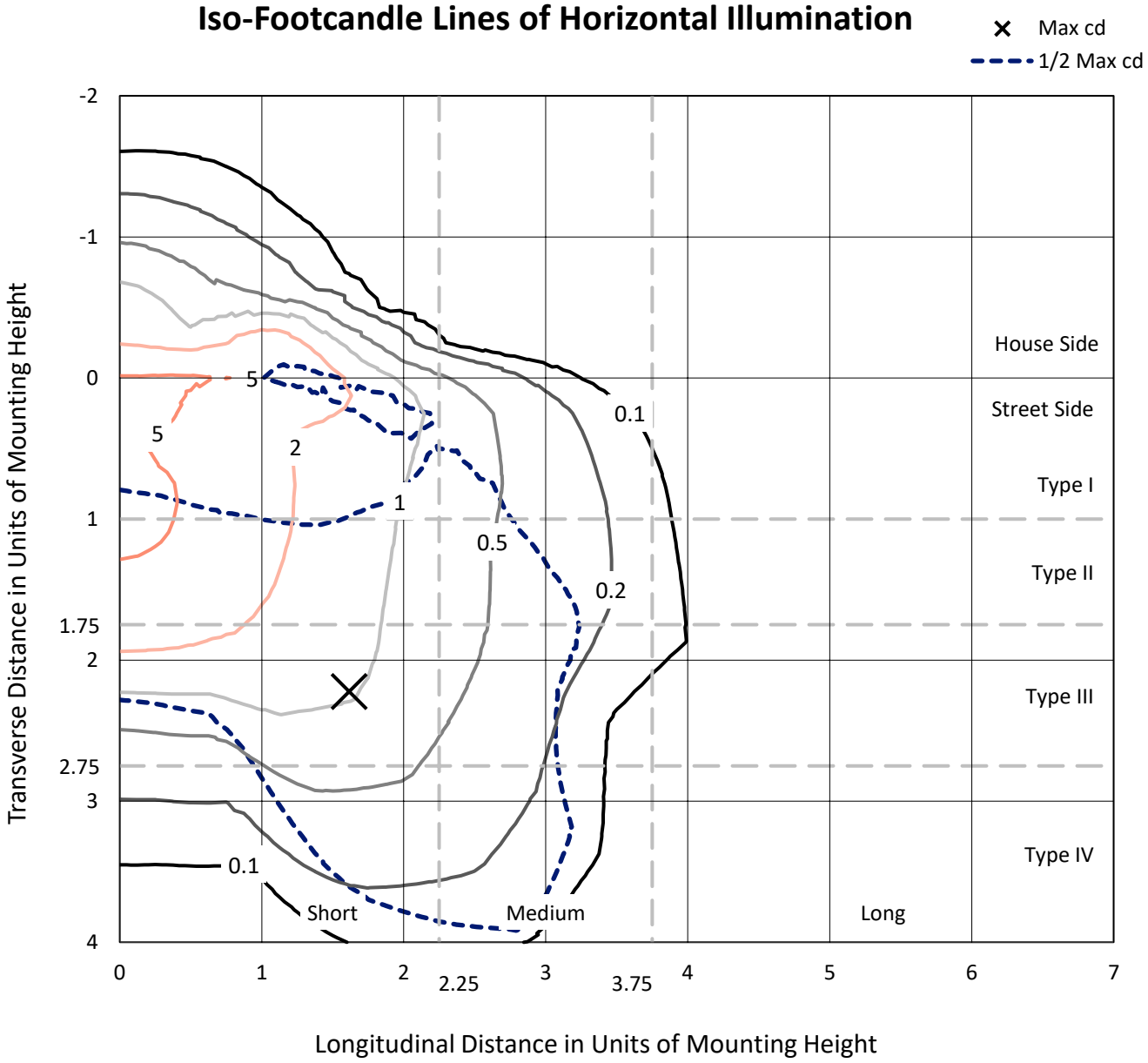
| | |
|---|---|
| Input Watts (W): | 184 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 11.1% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1358784
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## Iso-Footcandle Lines of Horizontal Illumination



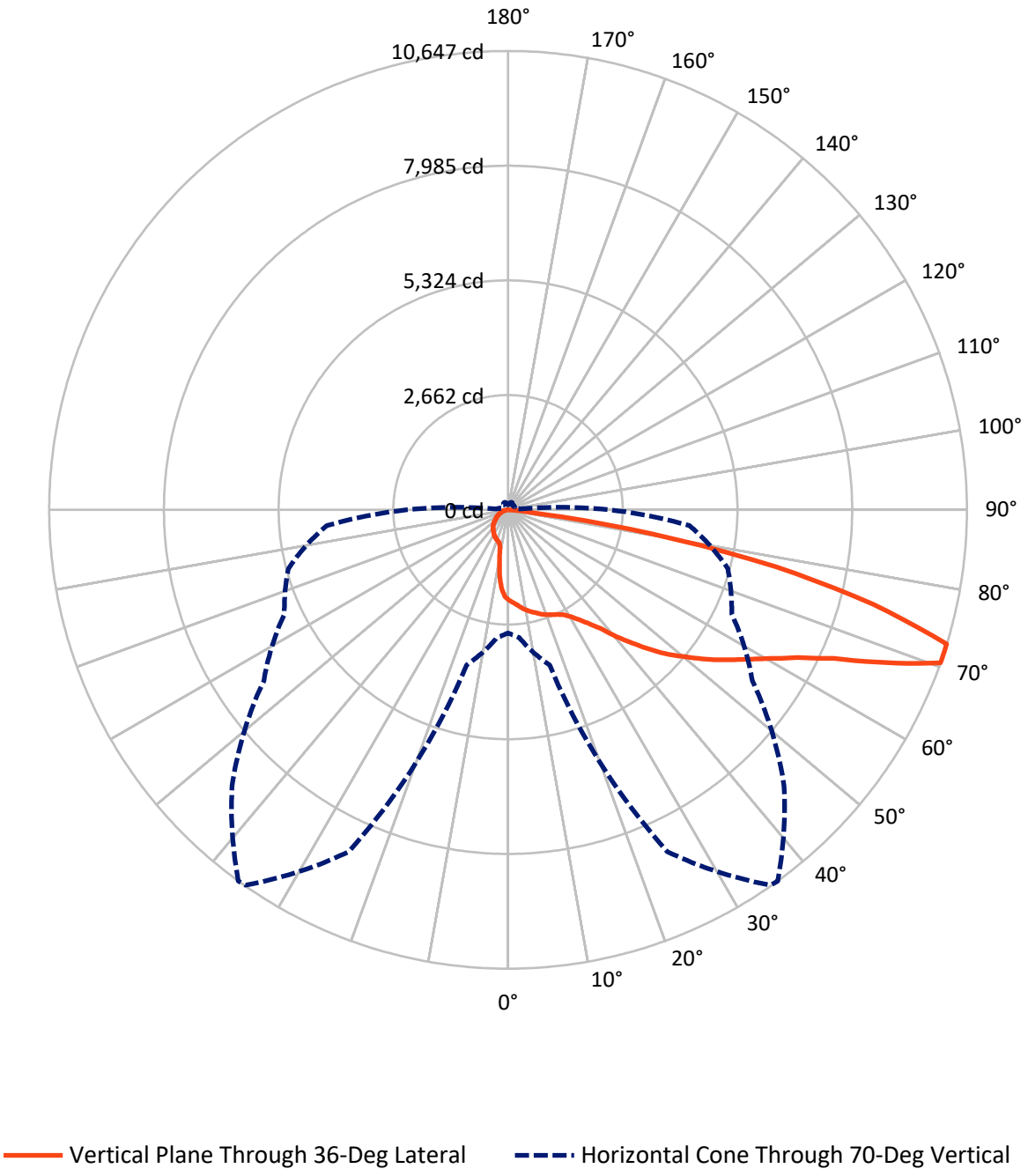

Based on 20 foot mounting height. Maximum calculated value = 6.4 fc
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

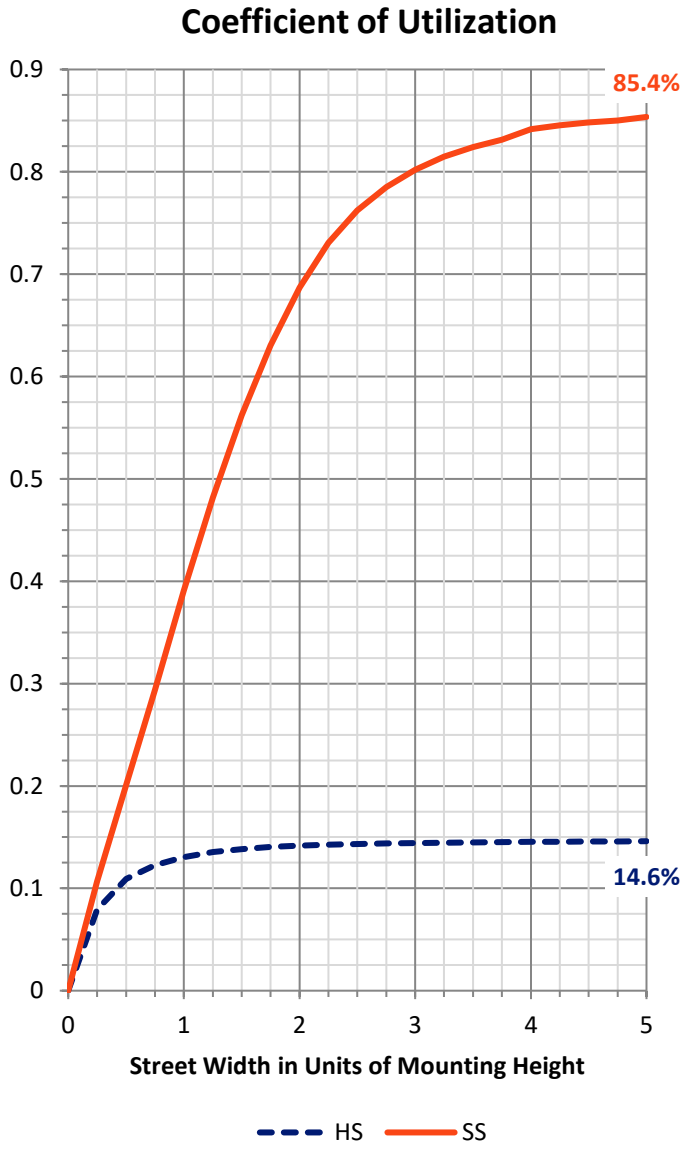
REPORT NUMBER: P1358784
CATALOG NUMBER: GSS-SB5B-722-U-SL4-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 2130.1 | 0.0 | 2130.1 |
| | % Fixture | 14.8 | 0.0 | 14.8 |
| **Street Side** | Lumens | 12299.5 | 0.0 | 12299.5 |
| | % Fixture | 85.2 | 0.0 | 85.2 |
| **Total** | Lumens | 14429.6 | 0.0 | 14429.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 190.7 | 1.3 |
| 10°-20° | 528.7 | 3.7 |
| 20°-30° | 891.3 | 6.2 |
| 30°-40° | 1423.5 | 9.9 |
| 40°-50° | 2326.3 | 16.1 |
| 50°-60° | 3138.8 | 21.8 |
| 60°-70° | 3486.0 | 24.2 |
| 70°-80° | 2307.8 | 16.0 |
| 80°-90° | 136.4 | 0.9 |
| 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° | 14429.6 | 100.0 |
| 0°-180° | 14429.6 | 100.0 |



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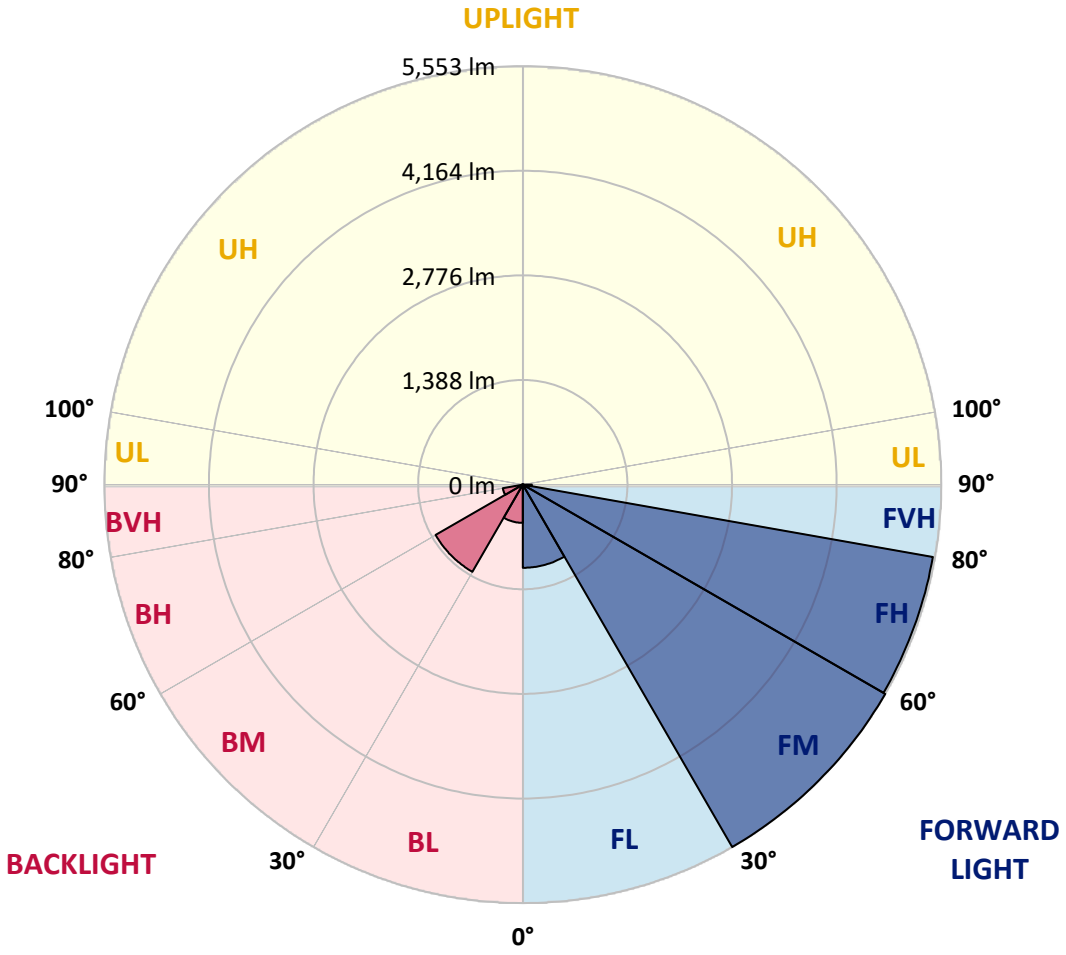
Scaled Data Report

REPORT NUMBER: P1358784
CATALOG NUMBER: GSS-SB5B-722-U-SL4-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1103.5 | 7.6 | | | |
| FM | (30°-60°) | 5552.5 | 38.5 | | | |
| FH | (60°-80°) | 5524.5 | 38.3 | | | G3/7500 |
| FVH | (80°-90°) | 118.9 | 0.8 | | | G2/225 |
| BL | (0°-30°) | 507.2 | 3.5 | B2/1000 | | |
| BM | (30°-60°) | 1336.2 | 9.3 | B2/2500 | | |
| BH | (60°-80°) | 269.3 | 1.9 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 17.4 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G3**
Type IV Short



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REPORT NUMBER: P1358784
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2093.0 | 2093.0 | 2093.0 | 2093.0 | 2093.0 | *2093.0* | 2093.0 | 2093.0 | 2093.0 | 2093.0 | 2093.0 |
| 2.5° | 2166.9 | 2147.2 | 2157.0 | 2162.0 | 2147.2 | *2152.1* | 2142.3 | 2137.3 | 2117.6 | 2132.4 | 2112.7 |
| 5° | 2245.7 | 2240.8 | 2235.8 | 2235.8 | 2221.1 | *2216.1* | 2201.4 | 2191.5 | 2171.8 | 2157.0 | 2132.4 |
| 7.5° | 2339.3 | 2309.7 | 2304.8 | 2314.6 | 2285.1 | *2299.9* | 2285.1 | 2270.3 | 2235.8 | 2196.4 | 2157.0 |
| 10° | 2413.1 | 2398.4 | 2378.7 | 2373.7 | 2378.7 | *2368.8* | 2354.0 | 2339.3 | 2319.6 | 2270.3 | 2226.0 |
| 12.5° | 2496.9 | 2487.0 | 2467.3 | 2457.5 | 2423.0 | *2427.9* | 2427.9 | 2408.2 | 2378.7 | 2349.1 | 2299.9 |
| 15° | 2590.4 | 2551.0 | 2541.2 | 2516.6 | 2496.9 | *2482.1* | 2487.0 | 2491.9 | 2457.5 | 2427.9 | 2378.7 |
| 17.5° | 2634.7 | 2624.9 | 2600.3 | 2570.7 | 2570.7 | *2551.0* | 2546.1 | 2546.1 | 2531.3 | 2521.5 | 2462.4 |
| 20° | 2703.7 | 2693.8 | 2649.5 | 2624.9 | 2600.3 | *2595.3* | 2610.1 | 2610.1 | 2585.5 | 2580.6 | 2570.7 |
| 22.5° | 2807.1 | 2777.6 | 2718.5 | 2679.1 | 2649.5 | *2644.6* | 2664.3 | 2659.4 | 2659.4 | 2664.3 | 2684.0 |
| 25° | 2905.6 | 2871.1 | 2807.1 | 2743.1 | 2679.1 | *2688.9* | 2713.5 | 2718.5 | 2698.8 | 2728.3 | 2802.2 |
| 27.5° | 3053.4 | 3048.4 | 2949.9 | 2821.9 | 2762.8 | *2757.9* | 2767.7 | 2757.9 | 2738.2 | 2772.6 | 2910.5 |
| 30° | 3442.4 | 3398.1 | 3235.6 | 2999.2 | 2866.2 | *2876.1* | 2861.3 | 2802.2 | 2752.9 | 2792.3 | 3014.0 |
| 32.5° | 3821.6 | 3718.2 | 3550.8 | 3279.9 | 3033.7 | *3038.6* | 2935.2 | 2821.9 | 2767.7 | 2812.0 | 3117.4 |
| 35° | 4373.2 | 4264.8 | 4013.7 | 3540.9 | 3289.7 | *3245.4* | 3033.7 | 2895.8 | 2797.3 | 2846.5 | 3235.6 |
| 37.5° | 5151.3 | 4993.7 | 4653.9 | 4058.0 | 3516.3 | *3496.6* | 3206.0 | 2959.8 | 2821.9 | 2841.6 | 3393.2 |
| 40° | 5752.1 | 5599.5 | 5323.7 | 4604.7 | 3905.3 | *3865.9* | 3476.9 | 3082.9 | 2826.8 | 2866.2 | 3540.9 |
| 42.5° | 6274.1 | 6195.3 | 5826.0 | 5087.3 | 4309.2 | *4225.4* | 3737.9 | 3235.6 | 2930.2 | 2930.2 | 3787.1 |
| 45° | 6973.5 | 6825.7 | 6407.1 | 5540.4 | 4713.0 | *4619.4* | 4082.6 | 3476.9 | 3058.3 | 3004.1 | 4043.2 |
| 47.5° | 7589.1 | 7465.9 | 6978.4 | 5968.8 | 5097.1 | *5018.3* | 4412.6 | 3737.9 | 3220.8 | 3137.1 | 4343.6 |
| 50° | 8263.7 | 8135.7 | 7574.3 | 6481.0 | 5476.3 | *5363.1* | 4777.0 | 3979.2 | 3417.8 | 3343.9 | 4703.1 |
| 52.5° | 8731.6 | 8623.3 | 8061.8 | 6943.9 | 5840.8 | *5762.0* | 5072.5 | 4225.4 | 3649.2 | 3575.4 | 5047.9 |
| 55° | 9041.9 | 8869.5 | 8322.8 | 7347.7 | 6244.6 | *6146.1* | 5338.4 | 4501.2 | 3910.3 | 3885.6 | 5343.4 |
| 57.5° | 9189.6 | 9017.2 | 8554.3 | 7702.3 | 6643.5 | *6535.2* | 5668.4 | 4801.6 | 4250.1 | 4269.8 | 5658.5 |
| 60° | 9110.8 | 8982.8 | 8643.0 | 8037.2 | 7086.7 | *6998.1* | 5983.6 | 5146.4 | 4599.7 | 4683.4 | 5806.3 |
| 62.5° | 8529.7 | 8559.2 | 8652.8 | 8534.6 | 7653.1 | *7544.7* | 6441.6 | 5584.7 | 5077.4 | 5092.2 | 5791.5 |
| 65° | 6599.2 | 6722.3 | 7795.9 | 9110.8 | 8446.0 | *8303.1* | 7072.0 | 6136.3 | 5402.5 | 5235.0 | 5407.4 |
| 67.5° | 4195.9 | 4456.9 | 5638.8 | 9430.9 | 9554.0 | *9465.4* | 7904.2 | 6589.3 | 5481.3 | 5446.8 | 5057.7 |
| 70° | *2856.4* | *2974.6* | *3728.0* | *8751.3* | *10632.6* | *10647.3* | *9056.6* | *6919.3* | *5727.5* | *5279.3* | *4225.4* |
| 72.5° | 2245.7 | 2255.5 | 2634.7 | 7884.5 | 10588.2 | *10642.4* | 8972.9 | 7264.0 | 5555.1 | 4703.1 | 3220.8 |
| 75° | 1507.0 | 1546.4 | 1797.5 | 6431.7 | 8795.6 | *8751.3* | 7328.0 | 5579.8 | 5067.6 | 3718.2 | 2088.1 |
| 77.5° | 423.5 | 438.3 | 748.6 | 4097.4 | 6165.8 | *6352.9* | 5318.7 | 1915.7 | 3526.1 | 1704.0 | 788.0 |
| 80° | 128.0 | 137.9 | 305.3 | 1177.0 | 2949.9 | *3378.4* | 2767.7 | 576.2 | 852.0 | 403.8 | 157.6 |
| 82.5° | 54.2 | 59.1 | 182.2 | 270.9 | 674.7 | *728.9* | 650.1 | 152.7 | 265.9 | 128.0 | 54.2 |
| 85° | 19.7 | 24.6 | 59.1 | 64.0 | 103.4 | *93.6* | 73.9 | 49.2 | 68.9 | 59.1 | 29.5 |
| 87.5° | 0.0 | 4.9 | 4.9 | 9.8 | 14.8 | *14.8* | 19.7 | 19.7 | 19.7 | 19.7 | 19.7 |
| 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: P1358784
CATALOG NUMBER: GSS-SB5B-722-U-SL4-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2093.0 | 2093.0 | 2093.0 | 2093.0 | 2093.0 | 2093.0 | 2093.0 | 2093.0 | 2093.0 | 2093.0 | 2093.0 |
| 2.5° | 2097.9 | 2093.0 | 2073.3 | 2048.7 | 2033.9 | 2029.0 | 2014.2 | 1984.7 | 1994.5 | 1999.5 | 1974.8 |
| 5° | 2117.6 | 2083.2 | 2043.8 | 1994.5 | 1940.4 | 1896.0 | 1836.9 | 1792.6 | 1763.1 | 1758.1 | 1753.2 |
| 7.5° | 2137.3 | 2107.8 | 2038.9 | 1930.5 | 1822.2 | 1708.9 | 1556.2 | 1447.9 | 1369.1 | 1329.7 | 1344.5 |
| 10° | 2201.4 | 2152.1 | 2033.9 | 1866.5 | 1635.0 | 1388.8 | 1167.2 | 1039.1 | 965.3 | 930.8 | 916.0 |
| 12.5° | 2265.4 | 2196.4 | 2033.9 | 1753.2 | 1359.2 | 1049.0 | 871.7 | 832.3 | 832.3 | 842.1 | 837.2 |
| 15° | 2349.1 | 2270.3 | 2048.7 | 1580.8 | 1078.5 | 822.4 | 792.9 | 797.8 | 812.6 | 822.4 | 822.4 |
| 17.5° | 2442.7 | 2383.6 | 2048.7 | 1364.2 | 842.1 | 763.3 | 768.3 | 783.0 | 797.8 | 802.7 | 807.7 |
| 20° | 2575.6 | 2491.9 | 1984.7 | 1113.0 | 738.7 | 738.7 | 748.6 | 758.4 | 778.1 | 788.0 | 792.9 |
| 22.5° | 2698.8 | 2605.2 | 1866.5 | 886.5 | 709.2 | 714.1 | 733.8 | 743.6 | 763.3 | 773.2 | 768.3 |
| 25° | 2851.4 | 2762.8 | 1738.4 | 719.0 | 679.6 | 689.5 | 704.2 | 719.0 | 748.6 | 758.4 | 758.4 |
| 27.5° | 3018.9 | 2940.1 | 1639.9 | 704.2 | 650.1 | 664.8 | 689.5 | 709.2 | 733.8 | 743.6 | 743.6 |
| 30° | 3201.1 | 3122.3 | 1580.8 | 758.4 | 635.3 | 630.4 | 659.9 | 674.7 | 704.2 | 728.9 | 733.8 |
| 32.5° | 3393.2 | 3270.0 | 1561.1 | 866.8 | 645.1 | 605.7 | 630.4 | 650.1 | 689.5 | 719.0 | 719.0 |
| 35° | 3668.9 | 3491.7 | 1561.1 | 985.0 | 684.5 | 581.1 | 600.8 | 625.4 | 669.8 | 699.3 | 699.3 |
| 37.5° | 4008.8 | 3841.3 | 1713.8 | 1068.7 | 719.0 | 561.4 | 571.3 | 595.9 | 630.4 | 669.8 | 674.7 |
| 40° | 4412.6 | 4333.8 | 2117.6 | 1122.8 | 738.7 | 541.7 | 551.6 | 561.4 | 581.1 | 620.5 | 630.4 |
| 42.5° | 4846.0 | 4762.2 | 2693.8 | 1177.0 | 728.9 | 526.9 | 522.0 | 522.0 | 531.9 | 556.5 | 561.4 |
| 45° | 5264.6 | 5146.4 | 3210.9 | 1157.3 | 684.5 | 497.4 | 487.6 | 472.8 | 472.8 | 492.5 | 492.5 |
| 47.5° | 5633.9 | 5422.2 | 3462.1 | 1024.3 | 630.4 | 467.9 | 448.2 | 423.5 | 423.5 | 433.4 | 433.4 |
| 50° | 5870.3 | 5412.3 | 3304.5 | 812.6 | 551.6 | 438.3 | 408.8 | 389.1 | 384.1 | 389.1 | 384.1 |
| 52.5° | 5904.8 | 5067.6 | 2718.5 | 630.4 | 477.7 | 403.8 | 369.4 | 359.5 | 354.6 | 354.6 | 354.6 |
| 55° | 5673.3 | 4432.3 | 1910.8 | 482.6 | 418.6 | 364.4 | 339.8 | 334.9 | 330.0 | 325.0 | 320.1 |
| 57.5° | 5274.4 | 3511.4 | 1167.2 | 389.1 | 379.2 | 330.0 | 315.2 | 310.3 | 300.4 | 285.6 | 280.7 |
| 60° | 4742.5 | 2585.5 | 615.6 | 330.0 | 330.0 | 290.6 | 290.6 | 290.6 | 265.9 | 246.2 | 236.4 |
| 62.5° | 4151.6 | 1743.4 | 344.7 | 280.7 | 275.8 | 261.0 | 265.9 | 261.0 | 236.4 | 201.9 | 197.0 |
| 65° | 3491.7 | 989.9 | 231.5 | 231.5 | 236.4 | 226.5 | 236.4 | 231.5 | 197.0 | 162.5 | 152.7 |
| 67.5° | 3014.0 | 517.1 | 182.2 | 197.0 | 197.0 | 187.1 | 201.9 | 206.8 | 177.3 | 142.8 | 133.0 |
| 70° | *2359.0* | *261.0* | *147.7* | *162.5* | *162.5* | *147.7* | *177.3* | *192.1* | *162.5* | *123.1* | *118.2* |
| 72.5° | 1664.6 | 162.5 | 123.1 | 128.0 | 123.1 | 113.3 | 152.7 | 172.4 | 142.8 | 103.4 | 98.5 |
| 75° | 1014.5 | 108.3 | 93.6 | 103.4 | 88.6 | 88.6 | 133.0 | 152.7 | 123.1 | 83.7 | 78.8 |
| 77.5° | 472.8 | 78.8 | 68.9 | 73.9 | 64.0 | 68.9 | 108.3 | 118.2 | 88.6 | 68.9 | 64.0 |
| 80° | 118.2 | 54.2 | 54.2 | 49.2 | 49.2 | 54.2 | 78.8 | 73.9 | 64.0 | 59.1 | 54.2 |
| 82.5° | 49.2 | 39.4 | 34.5 | 34.5 | 34.5 | 39.4 | 49.2 | 49.2 | 54.2 | 49.2 | 49.2 |
| 85° | 24.6 | 24.6 | 24.6 | 24.6 | 29.5 | 29.5 | 39.4 | 44.3 | 44.3 | 44.3 | 39.4 |
| 87.5° | 14.8 | 14.8 | 14.8 | 14.8 | 14.8 | 19.7 | 24.6 | 29.5 | 34.5 | 19.7 | 14.8 |
| 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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# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

Data in this report applies to families of products including GSS-SB1A-722-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

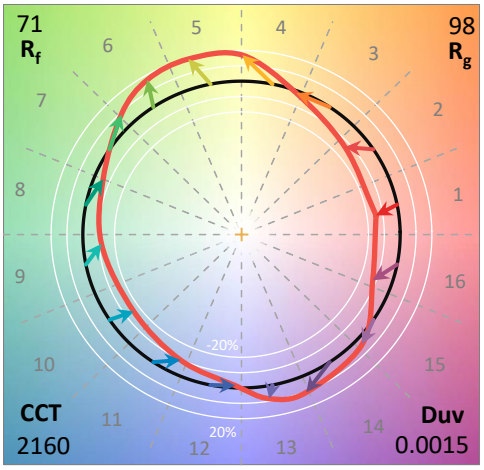
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-2 |
| 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-722-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2200K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2160 |
| CIE u': | 0.2927 |
| CIE v': | 0.5388 |
| Duv: | 0.0015 |
| CIE x: | 0.5130 |
| CIE y: | 0.4197 |
| CIE z: | 0.0674 |
| Peak Wavelength (nm): | 609 |
| Dominant Wavelength (nm): | 587 |
| Purity: | 79.96089 |
| Rf: | 70.6 |
| Rg: | 97.6 |

| | |
|---|---|
| CRI (Ra): | 71.9 |
| R1: | 68.7 |
| R2: | 82.6 |
| R3: | 95.5 |
| R4: | 66.4 |
| R5: | 65.4 |
| R6: | 75.9 |
| R7: | 77.2 |
| R8: | 43.5 |
| R9: | -17.8 |
| R10: | 60.5 |
| R11: | 60.2 |
| R12: | 48.2 |
| R13: | 70.7 |
| R14: | 96.8 |
| R15: | 61.8 |




## Test Conditions

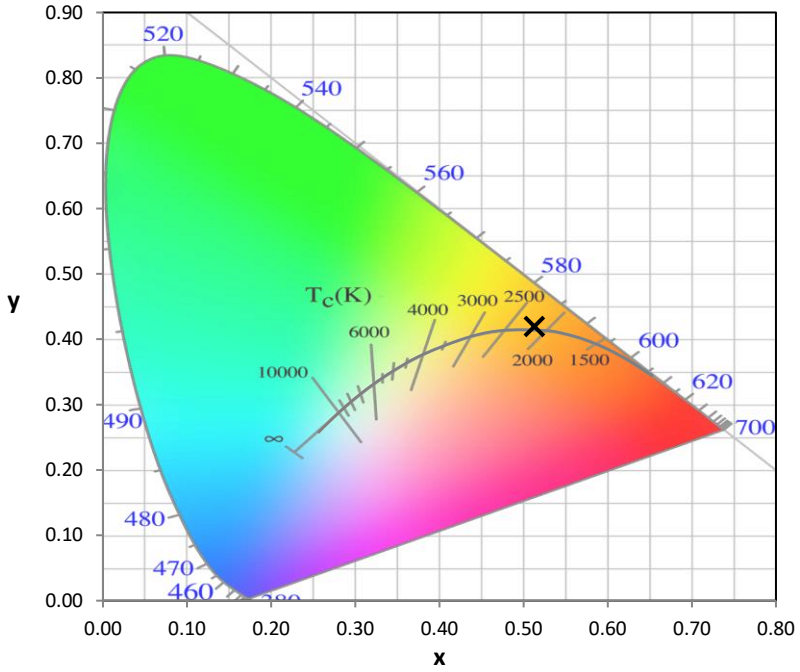
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-2

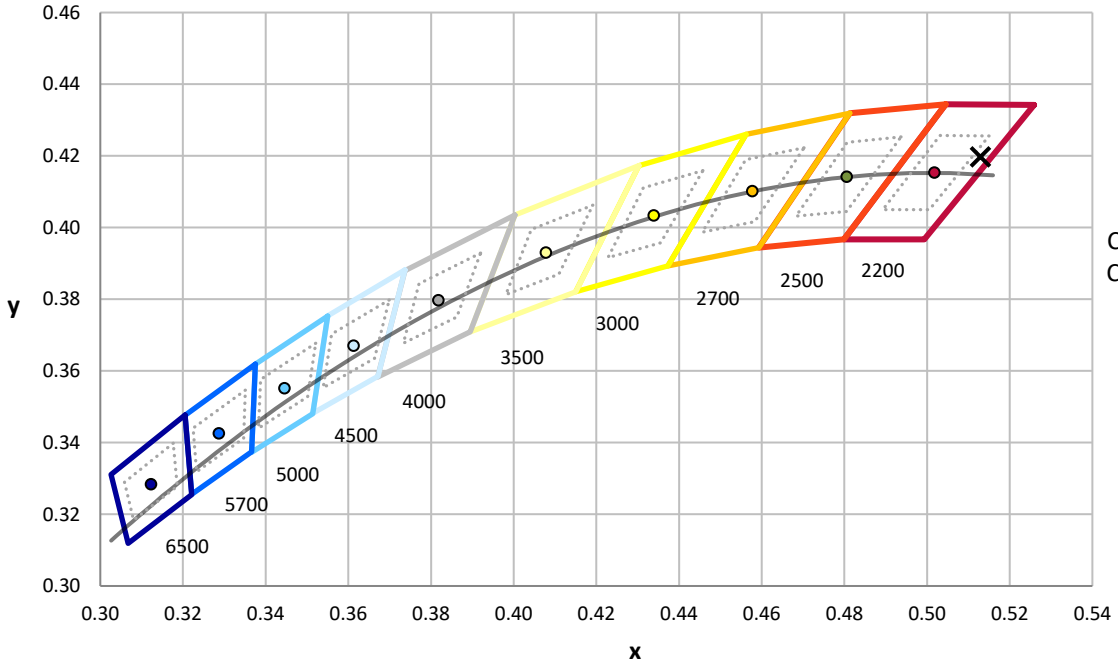
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

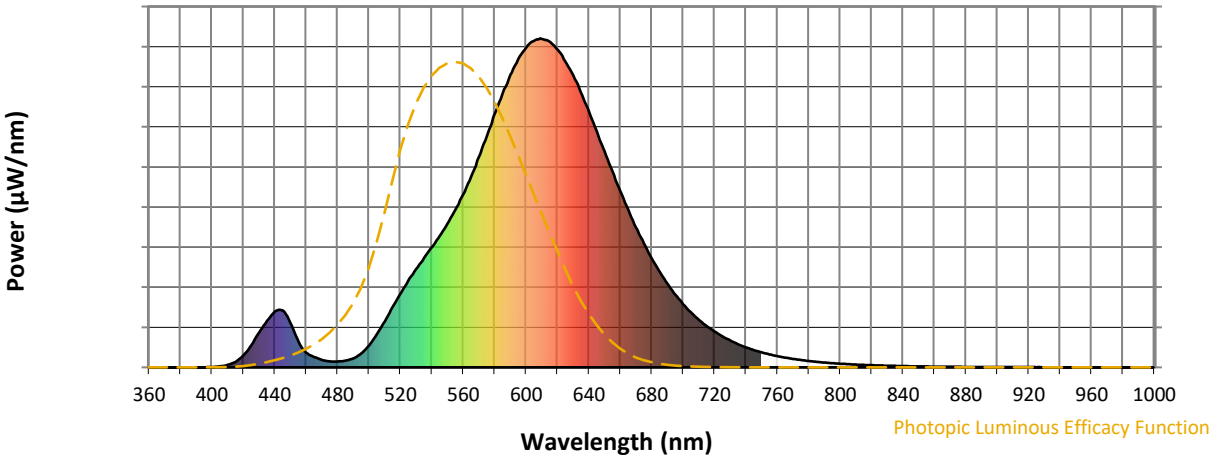



CCT = 2160K
CIE x = 0.5130
CIE y = 0.4197
Duv = 0.0015

Point lies inside the ANSI 2200K 7-step quadrangle

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## Photopic Flux vs. Wavelength

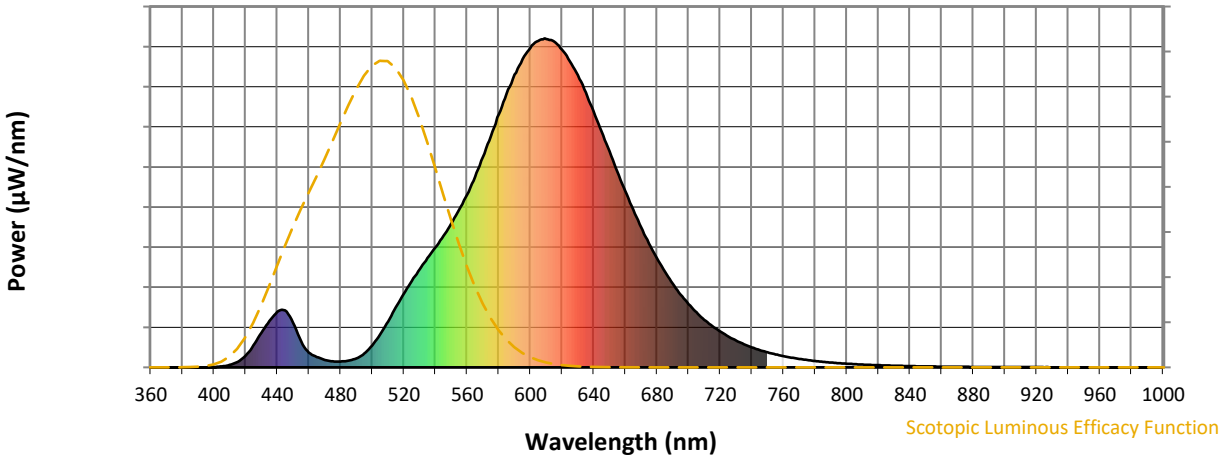



## Photopic Lumens: NR

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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## Scotopic Flux vs. Wavelength

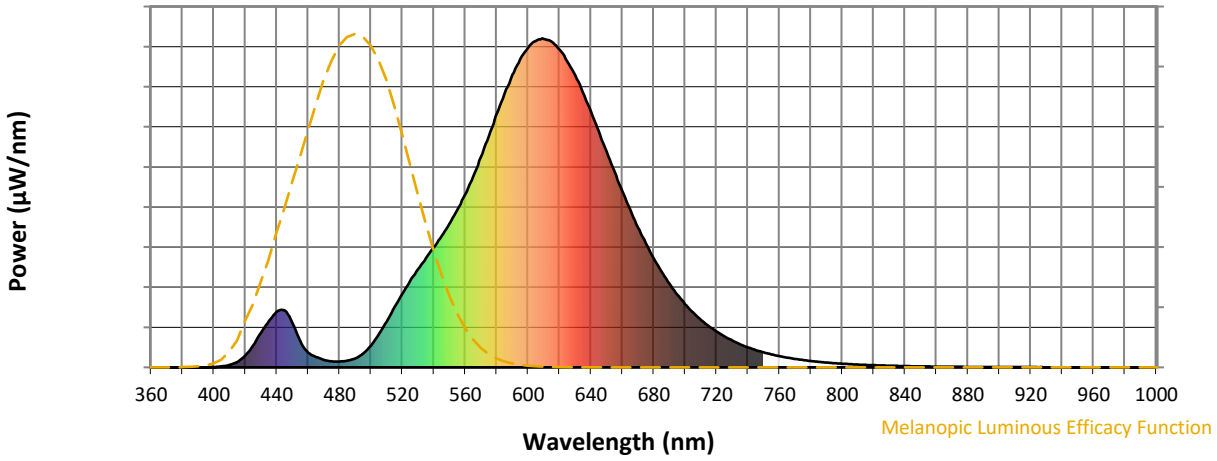



**Scotopic Lumens: NR** **S/P: 0.8**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 1.21**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

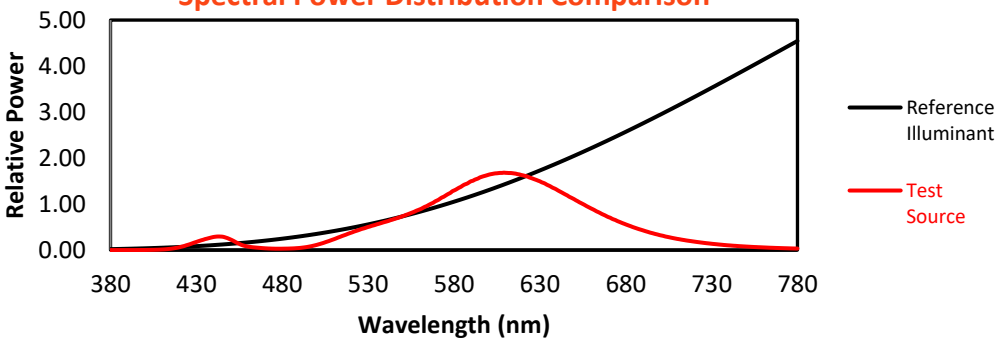
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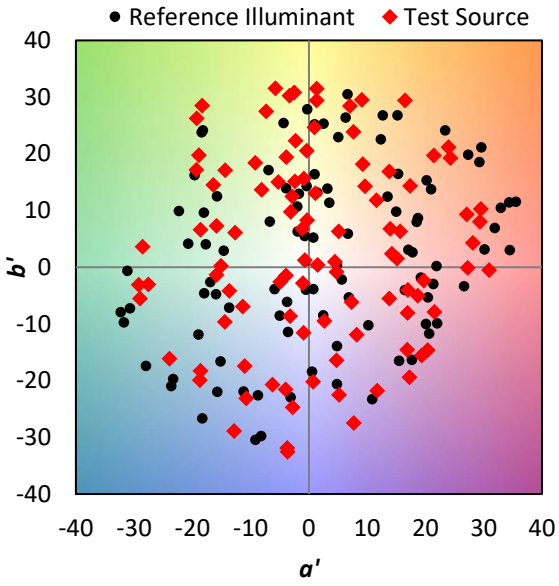
## Summary

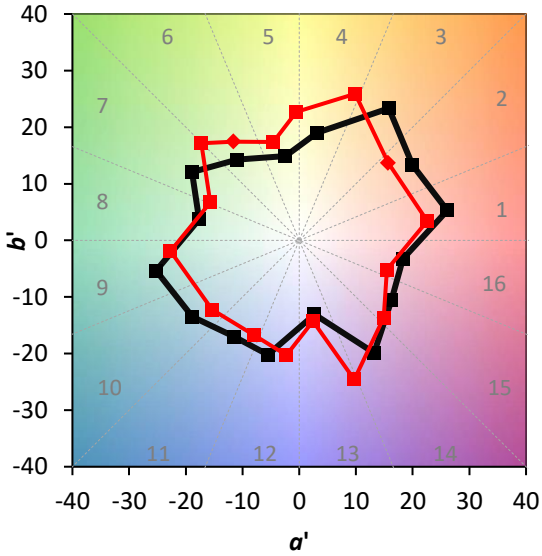
$R_f$ = 70.6
$R_g$ = 97.6
CIE $R_a$ = 71.9
$R_9$ = -17.8

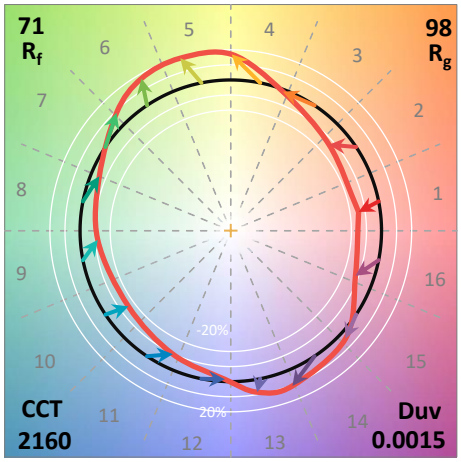
## Spectral Power Distribution Comparison

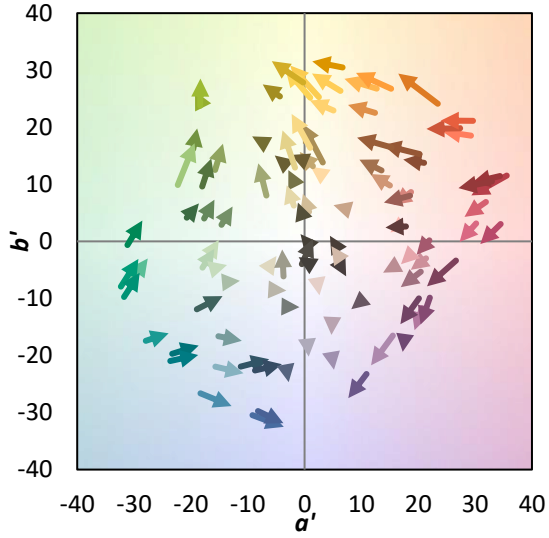



## Color Vector Graphics



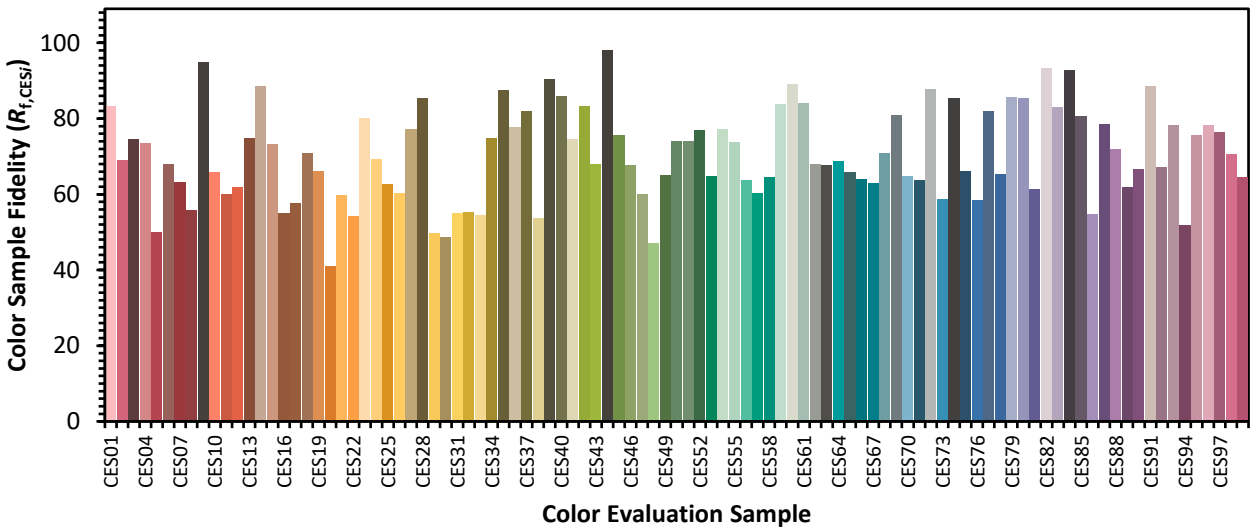



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**Individual Sample Fidelity Index ($R_{f,i}$)**

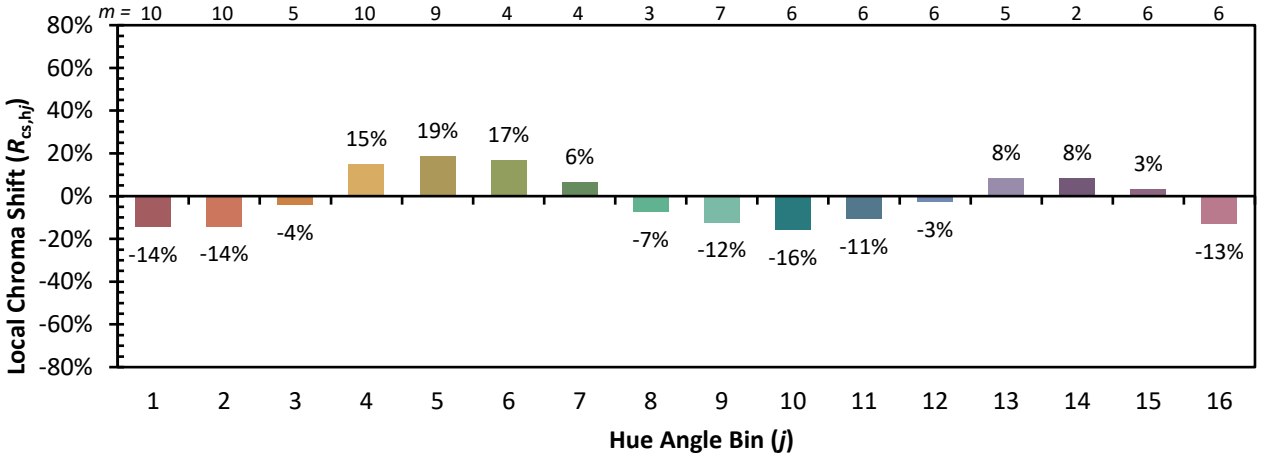
| | | | |
|---|---|---|---|
| CES01 = 87 | CES26 = 60 | CES51 = 74 | CES76 = 58 |
| CES02 = 65 | CES27 = 77 | CES52 = 77 | CES77 = 82 |
| CES03 = 32 | CES28 = 85 | CES53 = 65 | CES78 = 65 |
| CES04 = 72 | CES29 = 50 | CES54 = 77 | CES79 = 86 |
| CES05 = 52 | CES30 = 49 | CES55 = 74 | CES80 = 85 |
| CES06 = 53 | CES31 = 55 | CES56 = 64 | CES81 = 61 |
| CES07 = 44 | CES32 = 55 | CES57 = 60 | CES82 = 93 |
| CES08 = 43 | CES33 = 55 | CES58 = 64 | CES83 = 83 |
| CES09 = 29 | CES34 = 75 | CES59 = 84 | CES84 = 93 |
| CES10 = 79 | CES35 = 88 | CES60 = 89 | CES85 = 81 |
| CES11 = 62 | CES36 = 78 | CES61 = 84 | CES86 = 55 |
| CES12 = 68 | CES37 = 82 | CES62 = 68 | CES87 = 79 |
| CES13 = 45 | CES38 = 54 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 86 | CES65 = 66 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 89 |
| CES17 = 51 | CES42 = 83 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 68 | CES68 = 71 | CES93 = 78 |
| CES19 = 74 | CES44 = 98 | CES69 = 81 | CES94 = 52 |
| CES20 = 68 | CES45 = 76 | CES70 = 65 | CES95 = 76 |
| CES21 = 89 | CES46 = 68 | CES71 = 64 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 88 | CES97 = 76 |
| CES23 = 92 | CES48 = 47 | CES73 = 59 | CES98 = 71 |
| CES24 = 92 | CES49 = 65 | CES74 = 85 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 | |

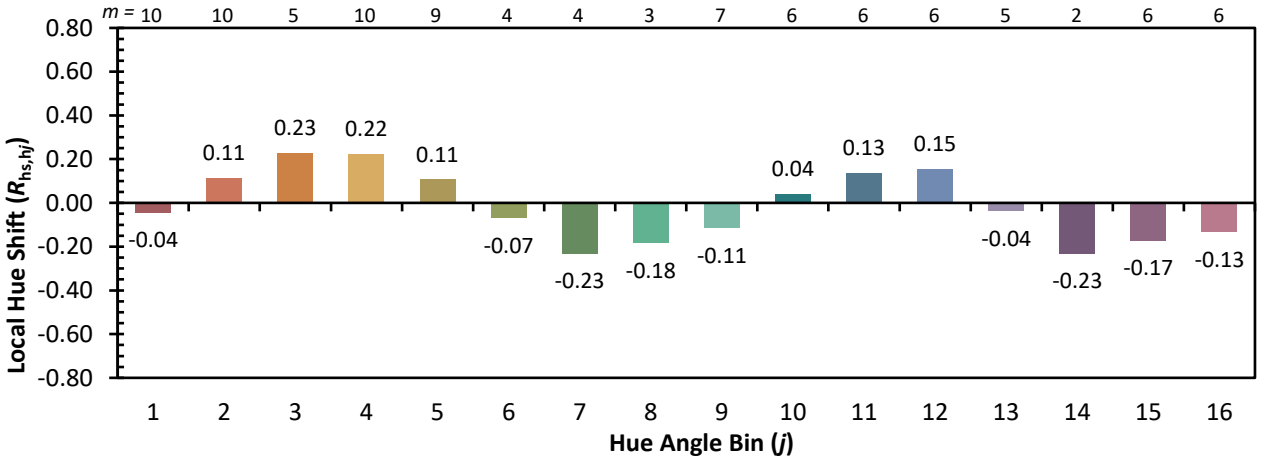


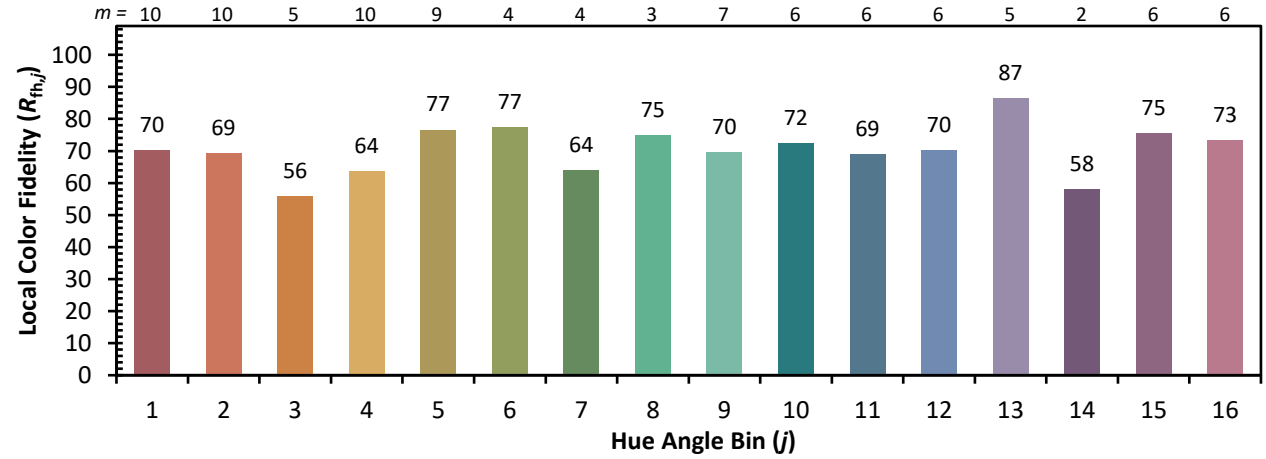
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## Color Rendition by Hue-Angle Bin



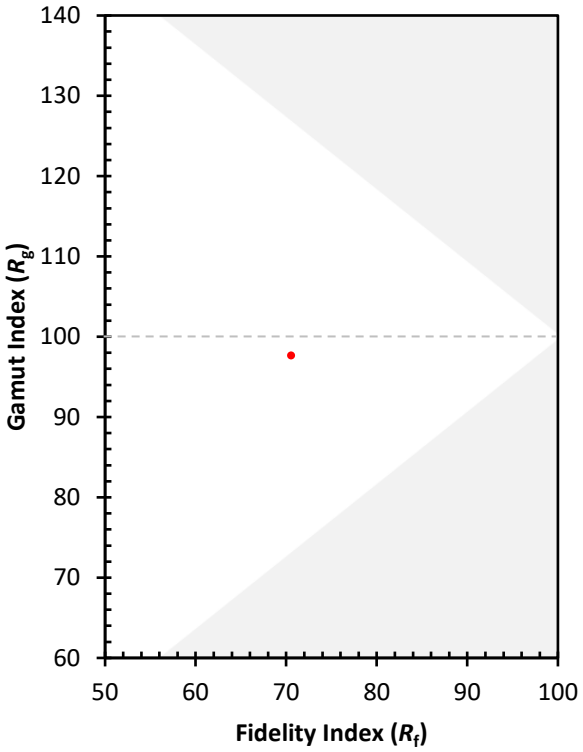



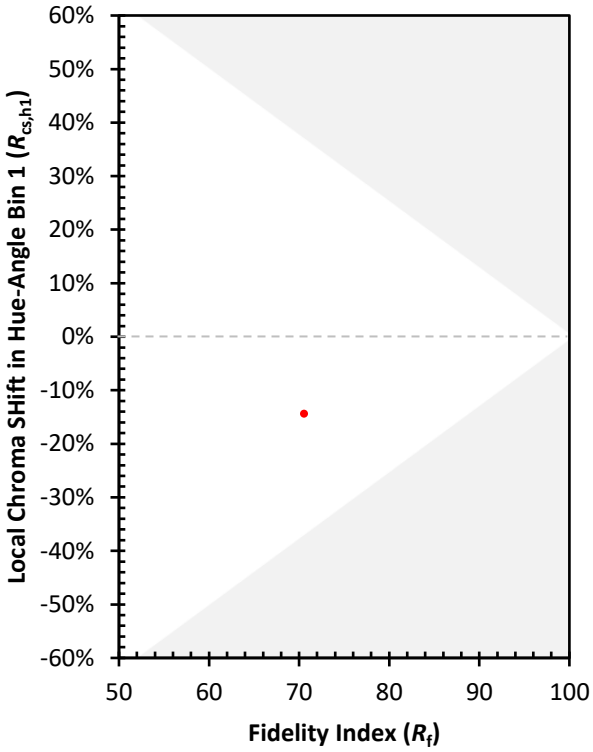



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## Measure Comparisons




(END OF REPORT)