

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P637825

Luminaire Tested: GWS-SA4D-750-U-SLR-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P637825  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-44)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA4D-750-U-SLR-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (64) 5000K CCT, 70 CRI LEDS  
Ballast/Driver: -

**Summary**

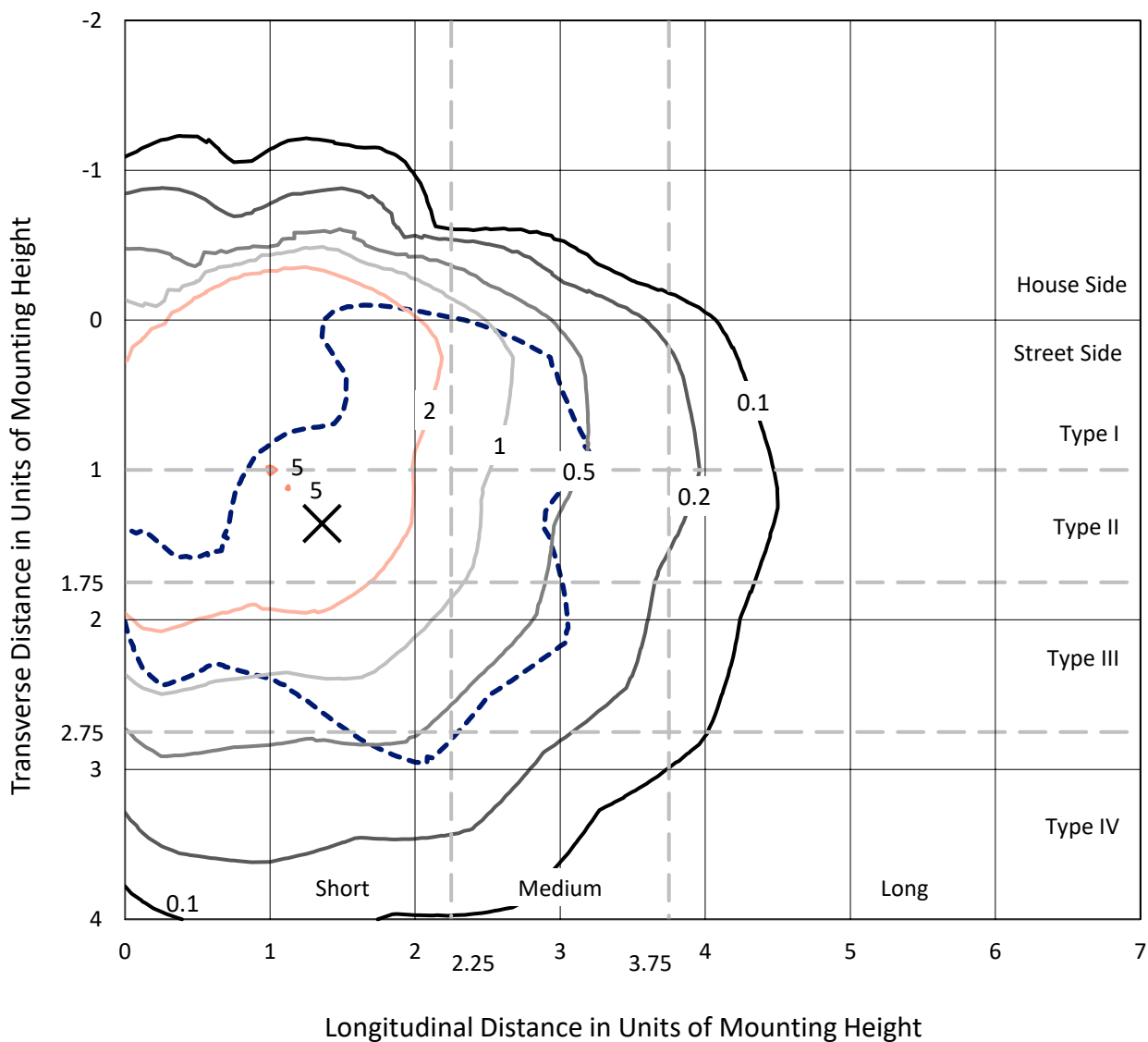
Lumens per Lamp: N/A  
Luminaire Lumens: 15546 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3  
  
Input Watts (W): 162.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

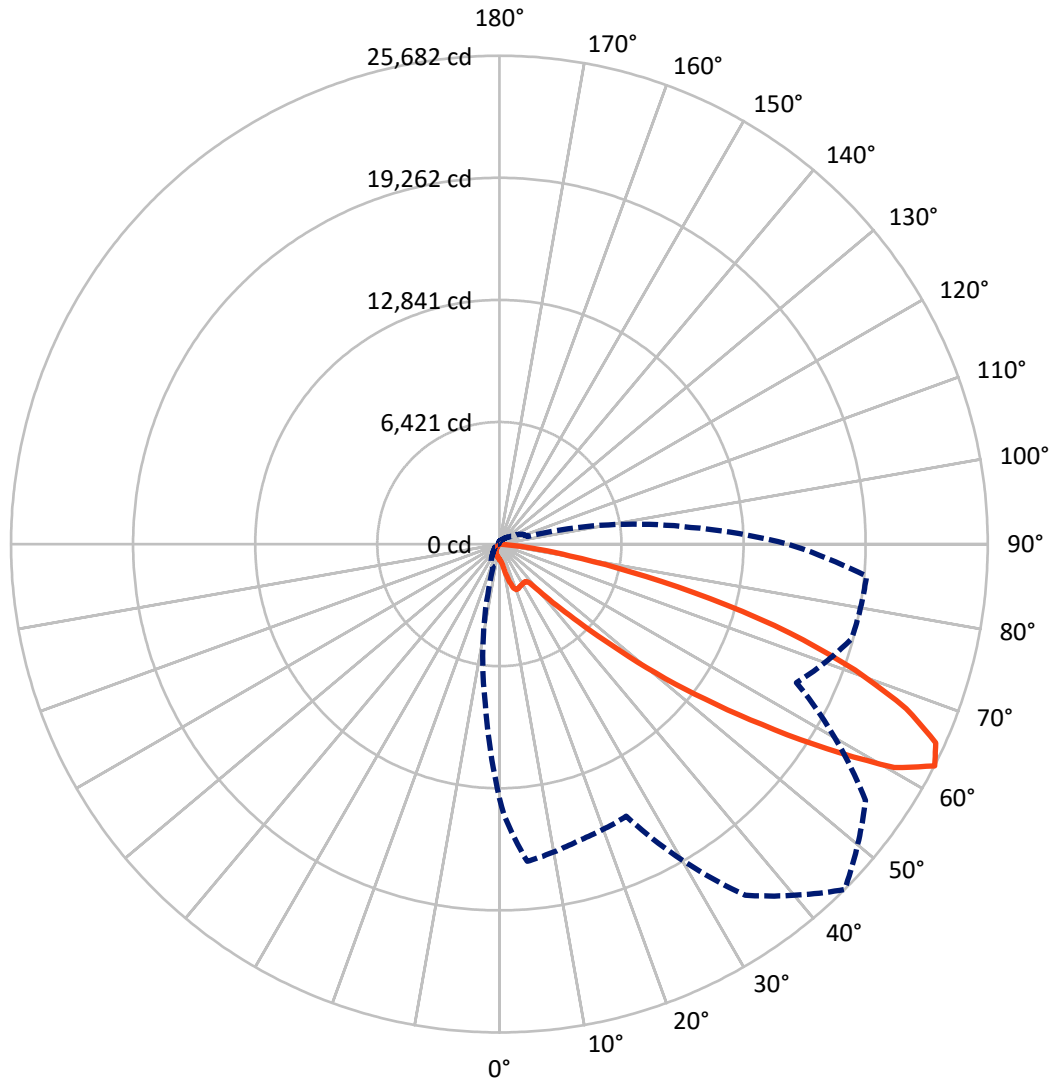
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1918.4   | 0.0    | 1918.4  |
|                    | % Fixture | 12.3     | 0.0    | 12.3    |
| <b>Street Side</b> | Lumens    | 13627.7  | 0.0    | 13627.7 |
|                    | % Fixture | 87.7     | 0.0    | 87.7    |
| <b>Total</b>       | Lumens    | 15546.0  | 0.0    | 15546.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 71.7    | 0.5       |
| 10°-20°   | 271.0   | 1.7       |
| 20°-30°   | 589.2   | 3.8       |
| 30°-40°   | 967.1   | 6.2       |
| 40°-50°   | 1777.8  | 11.4      |
| 50°-60°   | 3817.9  | 24.6      |
| 60°-70°   | 5128.0  | 33.0      |
| 70°-80°   | 2670.2  | 17.2      |
| 80°-90°   | 253.2   | 1.6       |
| 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°    | 15546.0 | 100.0     |
| 0°-180°   | 15546.0 | 100.0     |

**Coefficient of Utilization**



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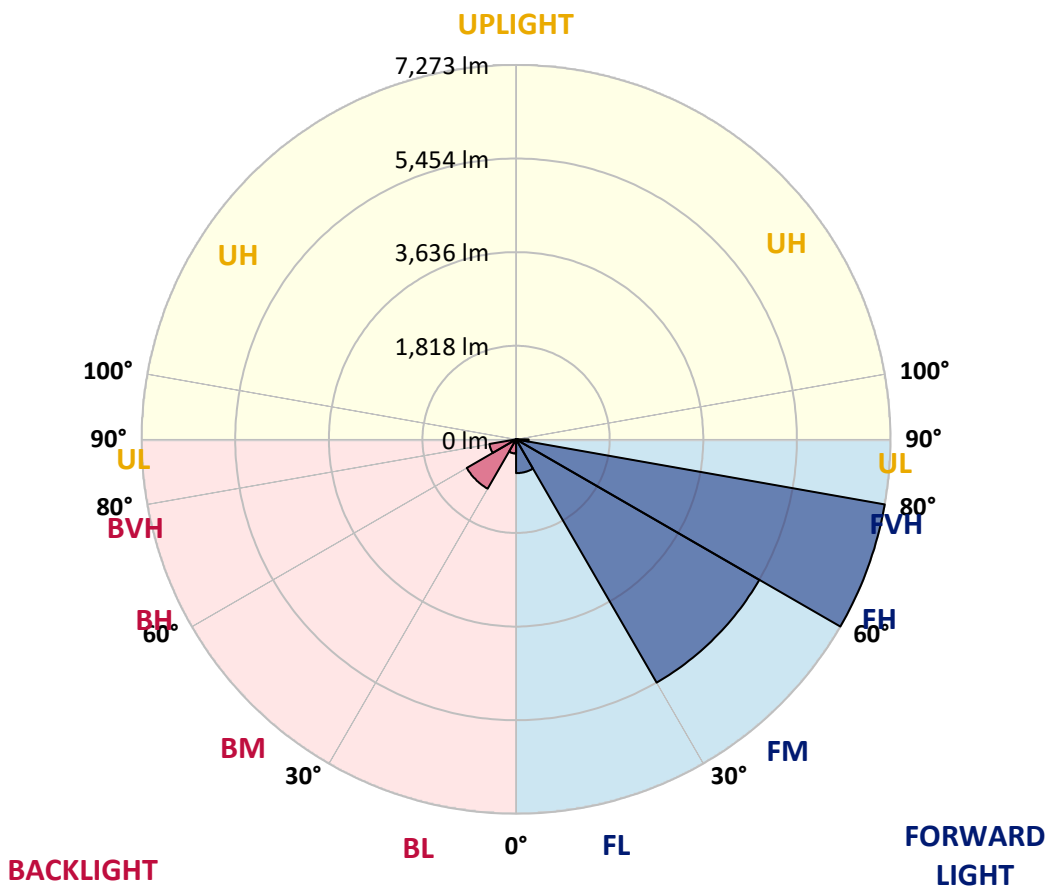
CATALOG NUMBER: GWS-SA4D-750-U-SLR-W-HSS

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 656.7  | 4.2       |                         |      |         |
| FM (30°-60°)   | 5456.5 | 35.1      |                         |      |         |
| FH (60°-80°)   | 7272.6 | 46.8      |                         |      | G3/7500 |
| FVH (80°-90°)  | 241.9  | 1.6       |                         |      | G3/500  |
| BL (0°-30°)    | 275.2  | 1.8       | B1/500                  |      |         |
| BM (30°-60°)   | 1106.3 | 7.1       | B2/2500                 |      |         |
| BH (60°-80°)   | 525.6  | 3.4       | B2/1000                 |      | G2/1000 |
| BVH (80°-90°)  | 11.3   | 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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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 1°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 808.1   | 808.1   | 808.1   | 808.1   | 808.1   | 808.1   | 808.1   | 808.1   | 808.1   | 808.1   | 808.1   |
| 2.5°  | 824.2   | 827.8   | 831.4   | 844.0   | 853.0   | 860.1   | 861.9   | 856.6   | 844.0   | 831.4   | 813.5   |
| 5°    | 799.1   | 802.7   | 815.2   | 849.4   | 883.5   | 910.4   | 919.4   | 914.0   | 883.5   | 844.0   | 802.7   |
| 7.5°  | 797.3   | 804.5   | 835.0   | 906.8   | 980.5   | 1036.1  | 1050.5  | 1037.9  | 980.5   | 901.4   | 817.0   |
| 10°   | 861.9   | 874.5   | 919.4   | 1048.7  | 1183.4  | 1282.1  | 1321.6  | 1267.8  | 1176.2  | 1032.5  | 894.3   |
| 12.5° | 1030.7  | 1052.3  | 1138.5  | 1327.0  | 1535.3  | 1666.4  | 1720.3  | 1653.8  | 1510.2  | 1301.9  | 1082.8  |
| 15°   | 1296.5  | 1328.8  | 1458.1  | 1740.0  | 1986.0  | 2102.8  | 2120.7  | 2083.0  | 1916.0  | 1686.2  | 1391.7  |
| 17.5° | 1671.8  | 1718.5  | 1919.6  | 2206.9  | 2384.7  | 2426.0  | 2420.6  | 2381.1  | 2259.0  | 2101.0  | 1822.6  |
| 20°   | 2120.7  | 2176.4  | 2373.9  | 2611.0  | 2628.9  | 2580.4  | 2553.5  | 2530.1  | 2488.8  | 2461.9  | 2244.6  |
| 22.5° | 2573.2  | 2641.5  | 2848.0  | 2907.2  | 2745.6  | 2605.6  | 2539.1  | 2557.1  | 2618.1  | 2751.0  | 2663.0  |
| 25°   | 3024.0  | 3088.6  | 3282.5  | 3122.7  | 2799.5  | 2566.1  | 2481.7  | 2524.8  | 2670.2  | 2957.5  | 3070.7  |
| 27.5° | 3550.1  | 3598.6  | 3713.5  | 3270.0  | 2808.5  | 2533.7  | 2451.1  | 2517.6  | 2695.4  | 3086.8  | 3517.8  |
| 30°   | 4097.8  | 4126.5  | 4070.9  | 3309.5  | 2778.0  | 2485.3  | 2420.6  | 2517.6  | 2738.4  | 3173.0  | 3853.6  |
| 32.5° | 4500.0  | 4505.4  | 4324.1  | 3313.1  | 2761.8  | 2445.7  | 2391.9  | 2506.8  | 2779.7  | 3244.8  | 4178.6  |
| 35°   | 4914.8  | 4887.9  | 4566.5  | 3366.9  | 2804.9  | 2460.1  | 2413.4  | 2537.3  | 2844.4  | 3329.2  | 4464.1  |
| 37.5° | 5335.0  | 5286.6  | 4837.6  | 3454.9  | 2916.2  | 2616.3  | 2587.6  | 2693.6  | 2948.5  | 3446.0  | 4778.4  |
| 40°   | 5766.0  | 5699.6  | 5119.6  | 3587.8  | 3164.0  | 3147.9  | 3246.6  | 3234.1  | 3234.1  | 3595.0  | 5101.6  |
| 42.5° | 6292.1  | 6214.9  | 5536.2  | 3963.1  | 3742.2  | 4103.2  | 4372.5  | 4205.5  | 3896.7  | 3938.0  | 5521.8  |
| 45°   | 6987.1  | 6920.6  | 6258.0  | 4681.4  | 4649.1  | 5478.7  | 5841.4  | 5511.0  | 4742.5  | 4729.9  | 6223.9  |
| 47.5° | 8098.6  | 8086.1  | 7409.1  | 5514.6  | 5758.8  | 7229.5  | 7929.8  | 7294.1  | 5706.7  | 5568.5  | 7552.7  |
| 50°   | 9660.9  | 9623.2  | 8843.8  | 6491.5  | 7078.7  | 9398.7  | 10648.5 | 9589.1  | 6872.2  | 6547.1  | 9332.3  |
| 52.5° | 11420.7 | 11460.2 | 10853.2 | 7558.1  | 8481.1  | 11812.1 | 13552.2 | 12218.0 | 8138.1  | 7791.6  | 11571.5 |
| 55°   | 13078.1 | 13304.4 | 13144.6 | 8806.1  | 9851.2  | 14477.0 | 16741.3 | 15101.9 | 9705.8  | 9420.3  | 14081.9 |
| 57.5° | 14374.6 | 15012.1 | 16132.6 | 10619.8 | 11462.0 | 17594.3 | 20302.2 | 18228.2 | 11535.6 | 12065.3 | 17499.1 |
| 60°   | 14446.4 | 15290.4 | 17892.4 | 14414.1 | 13534.2 | 20268.1 | 23857.7 | 21282.7 | 14412.3 | 16556.4 | 20176.5 |
| 62.5° | 13363.6 | 14268.7 | 16746.7 | 16138.0 | 15791.4 | 22543.3 | 25682.2 | 23509.4 | 17242.3 | 19187.1 | 19382.8 |
| 65°   | 12124.6 | 13038.6 | 15468.2 | 14182.5 | 15529.2 | 22446.3 | 25218.9 | 23561.4 | 17499.1 | 17398.6 | 17962.4 |
| 67.5° | 10251.7 | 11072.3 | 13272.0 | 12553.8 | 14313.6 | 21363.5 | 23078.4 | 22076.4 | 16121.8 | 16272.7 | 16524.1 |
| 70°   | 7482.7  | 8272.8  | 10314.5 | 10350.4 | 12499.9 | 19411.6 | 19830.0 | 19691.7 | 14846.9 | 15006.7 | 14288.4 |
| 72.5° | 5405.1  | 6071.3  | 7832.9  | 8488.3  | 9978.7  | 16278.1 | 15988.9 | 16522.3 | 12738.7 | 13365.4 | 11476.3 |
| 75°   | 3885.9  | 4385.1  | 5746.3  | 7383.9  | 7910.1  | 12088.7 | 11445.8 | 12796.2 | 10221.1 | 11508.7 | 8628.4  |
| 77.5° | 1576.6  | 1752.6  | 2260.8  | 4974.1  | 5198.6  | 8132.7  | 7006.8  | 9294.6  | 7287.0  | 7561.7  | 4182.2  |
| 80°   | 64.6    | 71.8    | 93.4    | 2567.9  | 3564.5  | 4575.5  | 3749.4  | 4968.7  | 4812.5  | 3045.5  | 987.6   |
| 82.5° | 7.2     | 7.2     | 16.2    | 739.8   | 1560.5  | 2524.8  | 1767.0  | 2862.4  | 2436.8  | 1291.1  | 448.9   |
| 85°   | 1.8     | 1.8     | 3.6     | 84.4    | 366.3   | 404.0   | 238.8   | 878.1   | 1133.1  | 527.9   | 0.0     |
| 87.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 9.0     | 16.2    | 18.0    | 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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**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°     | 105°   | 115°   | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|---------|---------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 808.1   | 808.1   | 808.1  | 808.1  | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 |
| 2.5°  | 813.5   | 804.5   | 793.7  | 782.9  | 777.5 | 763.2 | 757.8 | 754.2 | 750.6 | 752.4 | 752.4 |
| 5°    | 786.5   | 766.8   | 743.4  | 720.1  | 707.5 | 693.1 | 686.0 | 682.4 | 684.2 | 691.3 | 691.3 |
| 7.5°  | 782.9   | 745.2   | 694.9  | 664.4  | 650.0 | 639.3 | 632.1 | 628.5 | 630.3 | 639.3 | 642.9 |
| 10°   | 842.2   | 775.7   | 686.0  | 633.9  | 617.7 | 606.9 | 599.8 | 594.4 | 590.8 | 598.0 | 599.8 |
| 12.5° | 969.7   | 878.1   | 729.1  | 630.3  | 601.6 | 587.2 | 581.8 | 571.0 | 565.6 | 569.2 | 571.0 |
| 15°   | 1233.6  | 1075.6  | 815.2  | 644.7  | 587.2 | 571.0 | 562.1 | 553.1 | 544.1 | 542.3 | 544.1 |
| 17.5° | 1578.4  | 1352.2  | 946.3  | 678.8  | 576.4 | 556.7 | 544.1 | 531.5 | 519.0 | 517.2 | 515.4 |
| 20°   | 2005.8  | 1691.6  | 1129.5 | 732.6  | 567.4 | 544.1 | 526.1 | 508.2 | 492.0 | 486.6 | 486.6 |
| 22.5° | 2395.5  | 2101.0  | 1364.7 | 799.1  | 554.9 | 526.1 | 504.6 | 483.0 | 465.1 | 456.1 | 454.3 |
| 25°   | 2871.3  | 2535.5  | 1646.7 | 876.3  | 536.9 | 502.8 | 479.5 | 457.9 | 439.9 | 429.2 | 425.6 |
| 27.5° | 3350.8  | 2993.4  | 1966.3 | 976.9  | 515.4 | 479.5 | 457.9 | 438.2 | 418.4 | 405.8 | 402.2 |
| 30°   | 3815.9  | 3487.3  | 2325.4 | 1102.6 | 499.2 | 456.1 | 438.2 | 418.4 | 400.4 | 380.7 | 375.3 |
| 32.5° | 4315.1  | 3991.8  | 2727.7 | 1242.6 | 486.6 | 439.9 | 420.2 | 402.2 | 378.9 | 360.9 | 352.0 |
| 35°   | 4796.3  | 4512.6  | 3171.2 | 1379.1 | 474.1 | 425.6 | 404.0 | 386.1 | 360.9 | 341.2 | 328.6 |
| 37.5° | 5281.2  | 5042.3  | 3634.5 | 1461.7 | 456.1 | 405.8 | 386.1 | 371.7 | 343.0 | 319.6 | 305.3 |
| 40°   | 5794.7  | 5590.0  | 4135.5 | 1427.6 | 439.9 | 384.3 | 373.5 | 357.3 | 325.0 | 298.1 | 280.1 |
| 42.5° | 6358.6  | 6112.6  | 4645.5 | 1296.5 | 425.6 | 366.3 | 355.5 | 339.4 | 308.9 | 276.5 | 253.2 |
| 45°   | 7067.9  | 6685.4  | 5063.9 | 1099.0 | 432.8 | 348.4 | 326.8 | 323.2 | 294.5 | 253.2 | 224.5 |
| 47.5° | 8287.2  | 7565.3  | 5388.9 | 971.5  | 481.2 | 328.6 | 303.5 | 312.5 | 281.9 | 229.9 | 197.5 |
| 50°   | 10152.9 | 9023.4  | 5692.4 | 962.5  | 554.9 | 319.6 | 281.9 | 305.3 | 269.4 | 206.5 | 174.2 |
| 52.5° | 11930.7 | 10504.9 | 5886.3 | 1041.5 | 619.5 | 343.0 | 260.4 | 296.3 | 260.4 | 190.3 | 158.0 |
| 55°   | 13631.2 | 11359.6 | 5539.7 | 1099.0 | 680.6 | 413.0 | 244.2 | 281.9 | 249.6 | 181.4 | 152.6 |
| 57.5° | 15464.6 | 11740.3 | 4361.8 | 1215.7 | 723.7 | 472.3 | 247.8 | 260.4 | 235.2 | 176.0 | 150.8 |
| 60°   | 16012.3 | 11253.7 | 2632.5 | 1368.3 | 700.3 | 490.2 | 274.7 | 231.6 | 215.5 | 165.2 | 145.5 |
| 62.5° | 15161.1 | 10099.0 | 1553.3 | 1246.2 | 680.6 | 463.3 | 314.2 | 213.7 | 195.7 | 150.8 | 134.7 |
| 65°   | 13888.0 | 8531.4  | 1012.8 | 1052.3 | 721.9 | 413.0 | 334.0 | 204.7 | 177.8 | 136.5 | 118.5 |
| 67.5° | 12433.5 | 6872.2  | 709.3  | 621.3  | 666.2 | 371.7 | 281.9 | 202.9 | 159.8 | 114.9 | 97.0  |
| 70°   | 10472.5 | 5146.5  | 499.2  | 411.2  | 554.9 | 330.4 | 219.1 | 197.5 | 140.1 | 93.4  | 75.4  |
| 72.5° | 8091.4  | 3221.5  | 371.7  | 265.8  | 395.1 | 269.4 | 174.2 | 167.0 | 113.1 | 77.2  | 57.5  |
| 75°   | 5967.1  | 1837.0  | 262.2  | 192.1  | 260.4 | 204.7 | 129.3 | 118.5 | 97.0  | 73.6  | 52.1  |
| 77.5° | 3115.5  | 919.4   | 163.4  | 147.2  | 149.0 | 127.5 | 93.4  | 86.2  | 89.8  | 73.6  | 48.5  |
| 80°   | 598.0   | 183.2   | 98.8   | 107.7  | 80.8  | 80.8  | 68.2  | 71.8  | 79.0  | 59.3  | 41.3  |
| 82.5° | 249.6   | 39.5    | 53.9   | 61.1   | 50.3  | 55.7  | 55.7  | 57.5  | 55.7  | 43.1  | 30.5  |
| 85°   | 0.0     | 0.0     | 23.3   | 25.1   | 34.1  | 34.1  | 28.7  | 28.7  | 28.7  | 25.1  | 18.0  |
| 87.5° | 0.0     | 0.0     | 0.0    | 0.0    | 1.8   | 5.4   | 10.8  | 12.6  | 14.4  | 10.8  | 7.2   |
| 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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**CANDELA DISTRIBUTION (continued):**

|       | 185°  | 195°  | 205°  | 215°  | 225°  | 235°  | 245°  | 255°  | 265°  | 270°  | 275°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 |
| 2.5°  | 750.6 | 747.0 | 752.4 | 756.0 | 759.6 | 759.6 | 756.0 | 752.4 | 747.0 | 752.4 | 747.0 |
| 5°    | 693.1 | 698.5 | 707.5 | 711.1 | 714.7 | 707.5 | 703.9 | 693.1 | 684.2 | 686.0 | 682.4 |
| 7.5°  | 648.2 | 653.6 | 664.4 | 671.6 | 671.6 | 668.0 | 657.2 | 646.5 | 632.1 | 632.1 | 630.3 |
| 10°   | 606.9 | 614.1 | 626.7 | 635.7 | 639.3 | 635.7 | 624.9 | 610.5 | 598.0 | 598.0 | 592.6 |
| 12.5° | 572.8 | 581.8 | 596.2 | 608.7 | 612.3 | 608.7 | 598.0 | 583.6 | 569.2 | 569.2 | 565.6 |
| 15°   | 544.1 | 554.9 | 571.0 | 585.4 | 590.8 | 585.4 | 572.8 | 554.9 | 540.5 | 542.3 | 536.9 |
| 17.5° | 517.2 | 526.1 | 547.7 | 563.9 | 569.2 | 563.9 | 547.7 | 524.3 | 510.0 | 513.6 | 510.0 |
| 20°   | 486.6 | 497.4 | 519.0 | 536.9 | 542.3 | 536.9 | 519.0 | 493.8 | 479.5 | 479.5 | 481.2 |
| 22.5° | 454.3 | 465.1 | 486.6 | 499.2 | 506.4 | 501.0 | 483.0 | 459.7 | 445.3 | 445.3 | 447.1 |
| 25°   | 425.6 | 431.0 | 447.1 | 459.7 | 461.5 | 456.1 | 441.7 | 423.8 | 413.0 | 418.4 | 420.2 |
| 27.5° | 398.6 | 398.6 | 405.8 | 413.0 | 411.2 | 405.8 | 400.4 | 386.1 | 384.3 | 389.7 | 395.1 |
| 30°   | 369.9 | 360.9 | 357.3 | 352.0 | 350.2 | 348.4 | 353.8 | 353.8 | 357.3 | 364.5 | 369.9 |
| 32.5° | 344.8 | 326.8 | 310.7 | 294.5 | 285.5 | 292.7 | 307.1 | 319.6 | 332.2 | 343.0 | 348.4 |
| 35°   | 316.0 | 287.3 | 260.4 | 238.8 | 224.5 | 235.2 | 258.6 | 281.9 | 303.5 | 317.8 | 326.8 |
| 37.5° | 287.3 | 246.0 | 213.7 | 186.8 | 176.0 | 185.0 | 210.1 | 242.4 | 274.7 | 292.7 | 305.3 |
| 40°   | 256.8 | 204.7 | 167.0 | 145.5 | 134.7 | 143.7 | 168.8 | 201.1 | 244.2 | 267.6 | 283.7 |
| 42.5° | 226.3 | 168.8 | 134.7 | 113.1 | 107.7 | 113.1 | 132.9 | 165.2 | 211.9 | 240.6 | 262.2 |
| 45°   | 195.7 | 140.1 | 107.7 | 91.6  | 86.2  | 91.6  | 107.7 | 134.7 | 181.4 | 213.7 | 238.8 |
| 47.5° | 168.8 | 118.5 | 89.8  | 75.4  | 71.8  | 77.2  | 89.8  | 113.1 | 152.6 | 185.0 | 213.7 |
| 50°   | 147.2 | 104.2 | 77.2  | 64.6  | 61.1  | 66.4  | 77.2  | 95.2  | 129.3 | 158.0 | 188.5 |
| 52.5° | 132.9 | 97.0  | 68.2  | 55.7  | 53.9  | 57.5  | 66.4  | 80.8  | 109.5 | 134.7 | 163.4 |
| 55°   | 129.3 | 97.0  | 62.8  | 50.3  | 48.5  | 52.1  | 59.3  | 70.0  | 95.2  | 116.7 | 141.9 |
| 57.5° | 132.9 | 104.2 | 59.3  | 43.1  | 41.3  | 44.9  | 52.1  | 61.1  | 82.6  | 100.6 | 123.9 |
| 60°   | 132.9 | 105.9 | 52.1  | 34.1  | 32.3  | 35.9  | 43.1  | 53.9  | 73.6  | 88.0  | 107.7 |
| 62.5° | 120.3 | 97.0  | 43.1  | 26.9  | 23.3  | 26.9  | 35.9  | 44.9  | 64.6  | 79.0  | 95.2  |
| 65°   | 104.2 | 82.6  | 35.9  | 19.8  | 16.2  | 19.8  | 28.7  | 37.7  | 55.7  | 68.2  | 86.2  |
| 67.5° | 84.4  | 62.8  | 26.9  | 14.4  | 10.8  | 14.4  | 21.5  | 30.5  | 46.7  | 59.3  | 77.2  |
| 70°   | 62.8  | 44.9  | 21.5  | 12.6  | 10.8  | 12.6  | 19.8  | 28.7  | 41.3  | 53.9  | 71.8  |
| 72.5° | 46.7  | 30.5  | 18.0  | 12.6  | 9.0   | 12.6  | 18.0  | 26.9  | 39.5  | 52.1  | 68.2  |
| 75°   | 39.5  | 25.1  | 16.2  | 10.8  | 9.0   | 10.8  | 16.2  | 25.1  | 35.9  | 48.5  | 64.6  |
| 77.5° | 37.7  | 23.3  | 14.4  | 9.0   | 7.2   | 9.0   | 14.4  | 21.5  | 32.3  | 44.9  | 62.8  |
| 80°   | 32.3  | 19.8  | 12.6  | 7.2   | 5.4   | 7.2   | 12.6  | 18.0  | 25.1  | 34.1  | 48.5  |
| 82.5° | 25.1  | 16.2  | 9.0   | 3.6   | 1.8   | 3.6   | 9.0   | 10.8  | 16.2  | 19.8  | 28.7  |
| 85°   | 16.2  | 9.0   | 3.6   | 0.0   | 0.0   | 0.0   | 3.6   | 7.2   | 7.2   | 9.0   | 14.4  |
| 87.5° | 7.2   | 1.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 1.8   | 3.6   | 5.4   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



REPORT NUMBER: P637825

CATALOG NUMBER: GWS-SA4D-750-U-SLR-W-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°  | 295°  | 305°  | 315°  | 325°  | 335°   | 345°   | 355°    | 359°    | 360°    |
|-------|-------|-------|-------|-------|-------|--------|--------|---------|---------|---------|
| 0°    | 808.1 | 808.1 | 808.1 | 808.1 | 808.1 | 808.1  | 808.1  | 808.1   | 808.1   | 808.1   |
| 2.5°  | 757.8 | 759.6 | 763.2 | 768.6 | 781.1 | 791.9  | 802.7  | 817.0   | 824.2   | 824.2   |
| 5°    | 686.0 | 687.8 | 689.6 | 696.7 | 714.7 | 729.1  | 752.4  | 781.1   | 795.5   | 799.1   |
| 7.5°  | 630.3 | 633.9 | 637.5 | 642.9 | 660.8 | 680.6  | 711.1  | 765.0   | 791.9   | 797.3   |
| 10°   | 598.0 | 603.4 | 610.5 | 621.3 | 637.5 | 659.0  | 711.1  | 808.1   | 853.0   | 861.9   |
| 12.5° | 572.8 | 581.8 | 589.0 | 601.6 | 621.3 | 655.4  | 759.6  | 930.2   | 1009.2  | 1030.7  |
| 15°   | 547.7 | 558.5 | 569.2 | 581.8 | 603.4 | 668.0  | 853.0  | 1149.3  | 1280.3  | 1296.5  |
| 17.5° | 522.5 | 535.1 | 549.5 | 563.9 | 590.8 | 698.5  | 1000.2 | 1452.7  | 1635.9  | 1671.8  |
| 20°   | 493.8 | 510.0 | 529.7 | 547.7 | 578.2 | 747.0  | 1204.9 | 1813.7  | 2043.5  | 2120.7  |
| 22.5° | 463.3 | 483.0 | 506.4 | 529.7 | 563.9 | 806.3  | 1452.7 | 2201.5  | 2523.0  | 2573.2  |
| 25°   | 438.2 | 457.9 | 479.5 | 502.8 | 540.5 | 878.1  | 1752.6 | 2682.8  | 2975.5  | 3024.0  |
| 27.5° | 414.8 | 434.6 | 454.3 | 475.9 | 517.2 | 971.5  | 2113.5 | 3194.6  | 3499.8  | 3550.1  |
| 30°   | 389.7 | 413.0 | 432.8 | 454.3 | 495.6 | 1086.4 | 2530.1 | 3762.0  | 4051.1  | 4097.8  |
| 32.5° | 368.1 | 391.5 | 411.2 | 432.8 | 479.5 | 1212.1 | 2968.3 | 4264.8  | 4500.0  | 4500.0  |
| 35°   | 350.2 | 375.3 | 389.7 | 418.4 | 466.9 | 1292.9 | 3383.1 | 4744.2  | 4922.0  | 4914.8  |
| 37.5° | 330.4 | 360.9 | 371.7 | 391.5 | 450.7 | 1301.9 | 3772.8 | 5250.6  | 5381.7  | 5335.0  |
| 40°   | 310.7 | 343.0 | 359.1 | 369.9 | 432.8 | 1228.3 | 4200.2 | 5715.7  | 5827.1  | 5766.0  |
| 42.5° | 292.7 | 317.8 | 341.2 | 353.8 | 422.0 | 1099.0 | 4543.1 | 6213.1  | 6346.0  | 6292.1  |
| 45°   | 274.7 | 296.3 | 310.7 | 334.0 | 429.2 | 1009.2 | 4837.6 | 6793.1  | 7026.6  | 6987.1  |
| 47.5° | 256.8 | 274.7 | 283.7 | 319.6 | 477.7 | 967.9  | 5017.2 | 7691.0  | 8130.9  | 8098.6  |
| 50°   | 237.0 | 258.6 | 258.6 | 316.0 | 549.5 | 982.2  | 5173.4 | 8991.1  | 9671.7  | 9660.9  |
| 52.5° | 217.3 | 240.6 | 237.0 | 343.0 | 605.2 | 1048.7 | 5351.2 | 10138.5 | 11321.9 | 11420.7 |
| 55°   | 197.5 | 219.1 | 222.7 | 396.9 | 637.5 | 1106.2 | 4663.4 | 10621.6 | 12731.5 | 13078.1 |
| 57.5° | 176.0 | 188.5 | 231.6 | 438.2 | 626.7 | 1273.2 | 3194.6 | 10709.6 | 13631.2 | 14374.6 |
| 60°   | 152.6 | 163.4 | 262.2 | 429.2 | 592.6 | 1176.2 | 2011.2 | 9919.5  | 13503.7 | 14446.4 |
| 62.5° | 132.9 | 150.8 | 276.5 | 378.9 | 603.4 | 1020.0 | 1282.1 | 8454.2  | 12288.0 | 13363.6 |
| 65°   | 116.7 | 145.5 | 251.4 | 343.0 | 610.5 | 691.3  | 865.5  | 6877.5  | 11101.0 | 12124.6 |
| 67.5° | 104.2 | 161.6 | 206.5 | 305.3 | 524.3 | 486.6  | 594.4  | 5344.0  | 9334.1  | 10251.7 |
| 70°   | 95.2  | 165.2 | 168.8 | 262.2 | 405.8 | 312.5  | 391.5  | 3596.8  | 6434.0  | 7482.7  |
| 72.5° | 86.2  | 122.1 | 127.5 | 210.1 | 262.2 | 190.3  | 253.2  | 2057.9  | 4690.4  | 5405.1  |
| 75°   | 82.6  | 82.6  | 88.0  | 136.5 | 145.5 | 138.3  | 163.4  | 1228.3  | 3363.4  | 3885.9  |
| 77.5° | 77.2  | 62.8  | 55.7  | 88.0  | 79.0  | 98.8   | 97.0   | 545.9   | 1458.1  | 1576.6  |
| 80°   | 61.1  | 44.9  | 37.7  | 55.7  | 53.9  | 66.4   | 57.5   | 44.9    | 66.4    | 64.6    |
| 82.5° | 37.7  | 28.7  | 26.9  | 34.1  | 30.5  | 34.1   | 26.9   | 7.2     | 7.2     | 7.2     |
| 85°   | 18.0  | 16.2  | 14.4  | 14.4  | 16.2  | 14.4   | 10.8   | 3.6     | 1.8     | 1.8     |
| 87.5° | 9.0   | 9.0   | 7.2   | 5.4   | 7.2   | 7.2    | 5.4    | 1.8     | 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     |

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-4-R4

Test Date: 10/02/2019

Luminaire Tested: SA1C-750-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

**Test Information**

Test Method: LM-79-2008  
 Report Number: SP1-1908-441-4-R4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 10/28/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGRAW-EDISON  
 Catalog Number: **SA1C-750-U-5WQ**  
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.\*\*\*TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

**Spectral Parameters**

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 4884   | CRI (Ra): | 73.5 | R9:  | -28.4 |
| CIE u':                   | 0.2101 | R1:       | 70.5 | R10: | 48.6  |
| CIE v':                   | 0.4904 | R2:       | 77.7 | R11: | 73.2  |
| Duv:                      | 0.0037 | R3:       | 84.6 | R12: | 50.7  |
| CIE x:                    | 0.3493 | R4:       | 74.7 | R13: | 71.2  |
| CIE y:                    | 0.3624 | R5:       | 71.9 | R14: | 91.4  |
| CIE z:                    | 0.2884 | R6:       | 70.7 |      |       |
| Peak Wavelength (nm):     | 444    | R7:       | 81.2 |      |       |
| Dominant Wavelength (nm): | 571    | R8:       | 56.9 |      |       |
| Purity:                   | 13.7   |           |      |      |       |
| Rf:                       | 74.9   |           |      |      |       |
| Rg:                       | 96.3   |           |      |      |       |



**Test Conditions**

Stabilization Time: 240M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.0./44%  
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-4-R4

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/28/2019        | 12/28/2019           |
| Power Meter                    | IN0071                | 12/5/2018        | 12/5/2019            |
| AC Power Source                | IN0063                | 12/5/2018        | 12/5/2019            |
| DC Power Source                | IN0208                | 12/5/2018        | 12/5/2019            |
| Sphere Thermometer             | IN0085                | 12/5/2018        | 12/5/2019            |
| Room Thermometer               | IN0046                | 12/5/2018        | 12/5/2019            |

REPORT NUMBER: SP1-1908-441-4-R4

CIE 1931 Chromaticity Diagram



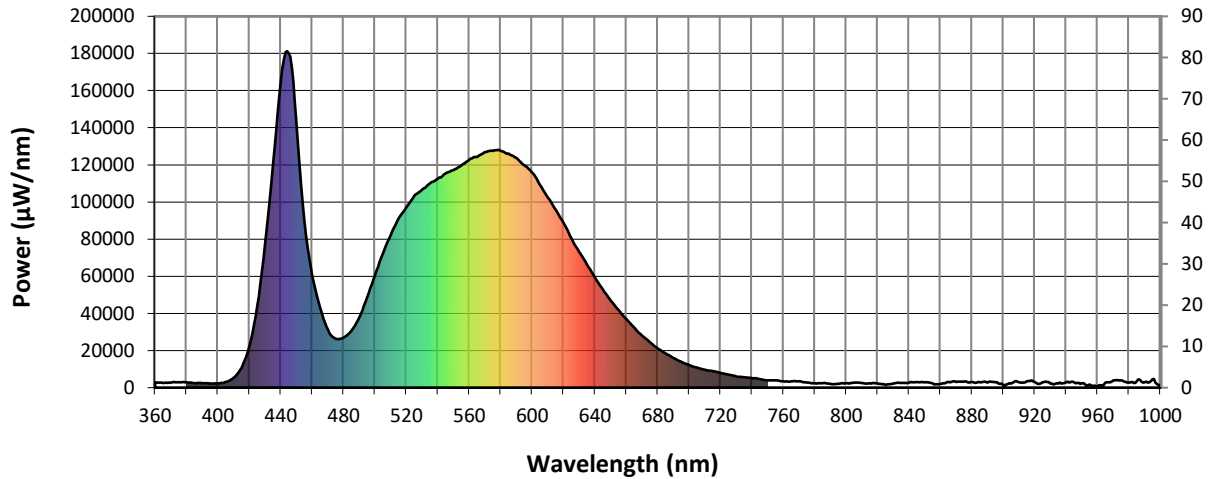
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-4-R4

**Photopic Flux vs. Wavelength**



#####

| $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>( $\mu\text{W}/\text{nm}$ ) | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 2945                                 | NR                             | 490               | 37941                                | NR                             | 620               | 88803                                | NR                             | 750               | 3908                                 | NR                             | 880               | 2997                                 | NR                             |
| 365               | 2596                                 | NR                             | 495               | 48525                                | NR                             | 625               | 80578                                | NR                             | 755               | 3988                                 | NR                             | 885               | 2927                                 | NR                             |
| 370               | 2732                                 | NR                             | 500               | 60609                                | NR                             | 630               | 73127                                | NR                             | 760               | 3335                                 | NR                             | 890               | 2649                                 | NR                             |
| 375               | 2894                                 | NR                             | 505               | 72036                                | NR                             | 635               | 66244                                | NR                             | 765               | 3438                                 | NR                             | 895               | 2828                                 | NR                             |
| 380               | 2822                                 | NR                             | 510               | 82168                                | NR                             | 640               | 59440                                | NR                             | 770               | 3427                                 | NR                             | 900               | 1407                                 | NR                             |
| 385               | 2394                                 | NR                             | 515               | 90898                                | NR                             | 645               | 52864                                | NR                             | 775               | 2759                                 | NR                             | 905               | 2224                                 | NR                             |
| 390               | 2370                                 | NR                             | 520               | 97142                                | NR                             | 650               | 47085                                | NR                             | 780               | 2340                                 | NR                             | 910               | 2905                                 | NR                             |
| 395               | 2267                                 | NR                             | 525               | 103255                               | NR                             | 655               | 41789                                | NR                             | 785               | 2412                                 | NR                             | 915               | 3350                                 | NR                             |
| 400               | 2262                                 | NR                             | 530               | 106697                               | NR                             | 660               | 37064                                | NR                             | 790               | 1999                                 | NR                             | 920               | 3114                                 | NR                             |
| 405               | 3000                                 | NR                             | 535               | 110081                               | NR                             | 665               | 32299                                | NR                             | 795               | 2054                                 | NR                             | 925               | 2834                                 | NR                             |
| 410               | 5324                                 | NR                             | 540               | 112494                               | NR                             | 670               | 28142                                | NR                             | 800               | 2331                                 | NR                             | 930               | 2271                                 | NR                             |
| 415               | 10725                                | NR                             | 545               | 115513                               | NR                             | 675               | 24505                                | NR                             | 805               | 2648                                 | NR                             | 935               | 2228                                 | NR                             |
| 420               | 22128                                | NR                             | 550               | 117203                               | NR                             | 680               | 21162                                | NR                             | 810               | 2485                                 | NR                             | 940               | 2833                                 | NR                             |
| 425               | 44095                                | NR                             | 555               | 119753                               | NR                             | 685               | 18400                                | NR                             | 815               | 2409                                 | NR                             | 945               | 2941                                 | NR                             |
| 430               | 77002                                | NR                             | 560               | 122602                               | NR                             | 690               | 16065                                | NR                             | 820               | 2221                                 | NR                             | 950               | 2323                                 | NR                             |
| 435               | 119881                               | NR                             | 565               | 124314                               | NR                             | 695               | 13860                                | NR                             | 825               | 1562                                 | NR                             | 955               | 1667                                 | NR                             |
| 440               | 164454                               | NR                             | 570               | 126775                               | NR                             | 700               | 12177                                | NR                             | 830               | 2249                                 | NR                             | 960               | 749                                  | NR                             |
| 445               | 179997                               | NR                             | 575               | 127511                               | NR                             | 705               | 10757                                | NR                             | 835               | 2573                                 | NR                             | 965               | 2669                                 | NR                             |
| 450               | 142822                               | NR                             | 580               | 127577                               | NR                             | 710               | 9601                                 | NR                             | 840               | 2764                                 | NR                             | 970               | 3968                                 | NR                             |
| 455               | 90008                                | NR                             | 585               | 126153                               | NR                             | 715               | 8944                                 | NR                             | 845               | 3109                                 | NR                             | 975               | 3886                                 | NR                             |
| 460               | 60557                                | NR                             | 590               | 123678                               | NR                             | 720               | 7947                                 | NR                             | 850               | 2963                                 | NR                             | 980               | 2788                                 | NR                             |
| 465               | 43305                                | NR                             | 595               | 119774                               | NR                             | 725               | 7062                                 | NR                             | 855               | 2336                                 | NR                             | 985               | 3496                                 | NR                             |
| 470               | 31089                                | NR                             | 600               | 115733                               | NR                             | 730               | 6004                                 | NR                             | 860               | 2118                                 | NR                             | 990               | 2913                                 | NR                             |
| 475               | 26278                                | NR                             | 605               | 109231                               | NR                             | 735               | 5594                                 | NR                             | 865               | 3144                                 | NR                             | 995               | 4659                                 | NR                             |
| 480               | 27060                                | NR                             | 610               | 102408                               | NR                             | 740               | 5165                                 | NR                             | 870               | 3069                                 | NR                             | 1000              | 1308                                 | NR                             |
| 485               | 30698                                | NR                             | 615               | 96015                                | NR                             | 745               | 4687                                 | NR                             | 875               | 3311                                 | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-1908-441-4-R4

Scotopic Flux vs. Wavelength



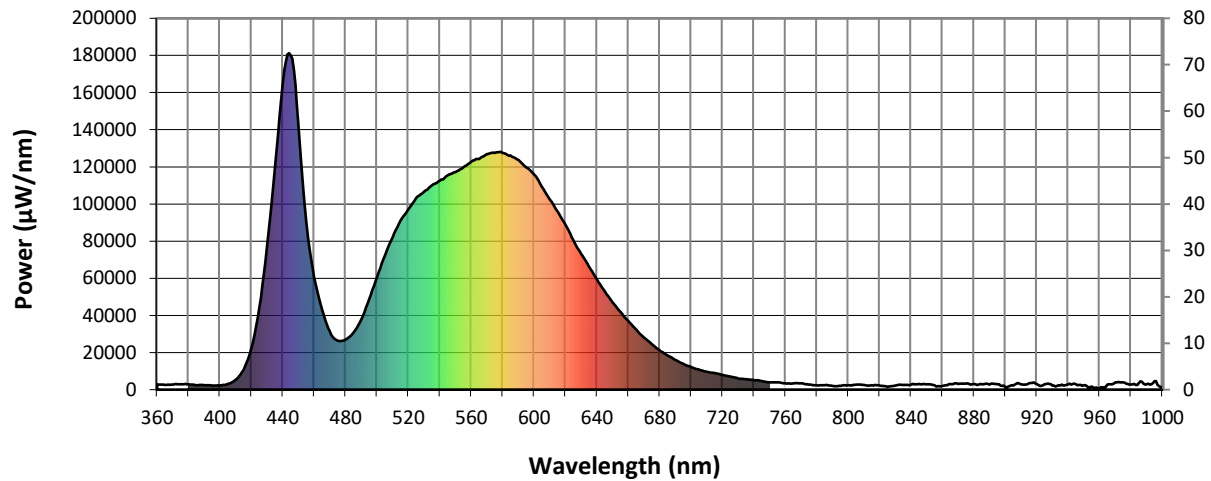
Scotopic Lumens: 13493.5 S/P: 1.77

| 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    | 2945          | NR            | 490    | 37941         | NR            | 620    | 88803         | NR            | 750    | 3908          | NR            | 880    | 2997          | NR            |
| 365    | 2596          | NR            | 495    | 48525         | NR            | 625    | 80578         | NR            | 755    | 3988          | NR            | 885    | 2927          | NR            |
| 370    | 2732          | NR            | 500    | 60609         | NR            | 630    | 73127         | NR            | 760    | 3335          | NR            | 890    | 2649          | NR            |
| 375    | 2894          | NR            | 505    | 72036         | NR            | 635    | 66244         | NR            | 765    | 3438          | NR            | 895    | 2828          | NR            |
| 380    | 2822          | NR            | 510    | 82168         | NR            | 640    | 59440         | NR            | 770    | 3427          | NR            | 900    | 1407          | NR            |
| 385    | 2394          | NR            | 515    | 90898         | NR            | 645    | 52864         | NR            | 775    | 2759          | NR            | 905    | 2224          | NR            |
| 390    | 2370          | NR            | 520    | 97142         | NR            | 650    | 47085         | NR            | 780    | 2340          | NR            | 910    | 2905          | NR            |
| 395    | 2267          | NR            | 525    | 103255        | NR            | 655    | 41789         | NR            | 785    | 2412          | NR            | 915    | 3350          | NR            |
| 400    | 2262          | NR            | 530    | 106697        | NR            | 660    | 37064         | NR            | 790    | 1999          | NR            | 920    | 3114          | NR            |
| 405    | 3000          | NR            | 535    | 110081        | NR            | 665    | 32299         | NR            | 795    | 2054          | NR            | 925    | 2834          | NR            |
| 410    | 5324          | NR            | 540    | 112494        | NR            | 670    | 28142         | NR            | 800    | 2331          | NR            | 930    | 2271          | NR            |
| 415    | 10725         | NR            | 545    | 115513        | NR            | 675    | 24505         | NR            | 805    | 2648          | NR            | 935    | 2228          | NR            |
| 420    | 22128         | NR            | 550    | 117203        | NR            | 680    | 21162         | NR            | 810    | 2485          | NR            | 940    | 2833          | NR            |
| 425    | 44095         | NR            | 555    | 119753        | NR            | 685    | 18400         | NR            | 815    | 2409          | NR            | 945    | 2941          | NR            |
| 430    | 77002         | NR            | 560    | 122602        | NR            | 690    | 16065         | NR            | 820    | 2221          | NR            | 950    | 2323          | NR            |
| 435    | 119881        | NR            | 565    | 124314        | NR            | 695    | 13860         | NR            | 825    | 1562          | NR            | 955    | 1667          | NR            |
| 440    | 164454        | NR            | 570    | 126775        | NR            | 700    | 12177         | NR            | 830    | 2249          | NR            | 960    | 749           | NR            |
| 445    | 179997        | NR            | 575    | 127511        | NR            | 705    | 10757         | NR            | 835    | 2573          | NR            | 965    | 2669          | NR            |
| 450    | 142822        | NR            | 580    | 127577        | NR            | 710    | 9601          | NR            | 840    | 2764          | NR            | 970    | 3968          | NR            |
| 455    | 90008         | NR            | 585    | 126153        | NR            | 715    | 8944          | NR            | 845    | 3109          | NR            | 975    | 3886          | NR            |
| 460    | 60557         | NR            | 590    | 123678        | NR            | 720    | 7947          | NR            | 850    | 2963          | NR            | 980    | 2788          | NR            |
| 465    | 43305         | NR            | 595    | 119774        | NR            | 725    | 7062          | NR            | 855    | 2336          | NR            | 985    | 3496          | NR            |
| 470    | 31089         | NR            | 600    | 115733        | NR            | 730    | 6004          | NR            | 860    | 2118          | NR            | 990    | 2913          | NR            |
| 475    | 26278         | NR            | 605    | 109231        | NR            | 735    | 5594          | NR            | 865    | 3144          | NR            | 995    | 4659          | NR            |
| 480    | 27060         | NR            | 610    | 102408        | NR            | 740    | 5165          | NR            | 870    | 3069          | NR            | 1000   | 1308          | NR            |
| 485    | 30698         | NR            | 615    | 96015         | NR            | 745    | 4687          | NR            | 875    | 3311          | NR            |        |               |               |



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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 5378.9 M/P: 0.71**

| 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    | 2945          | NR            | 490    | 37941         | NR            | 620    | 88803         | NR            | 750    | 3908          | NR            | 880    | 2997          | NR            |
| 365    | 2596          | NR            | 495    | 48525         | NR            | 625    | 80578         | NR            | 755    | 3988          | NR            | 885    | 2927          | NR            |
| 370    | 2732          | NR            | 500    | 60609         | NR            | 630    | 73127         | NR            | 760    | 3335          | NR            | 890    | 2649          | NR            |
| 375    | 2894          | NR            | 505    | 72036         | NR            | 635    | 66244         | NR            | 765    | 3438          | NR            | 895    | 2828          | NR            |
| 380    | 2822          | NR            | 510    | 82168         | NR            | 640    | 59440         | NR            | 770    | 3427          | NR            | 900    | 1407          | NR            |
| 385    | 2394          | NR            | 515    | 90898         | NR            | 645    | 52864         | NR            | 775    | 2759          | NR            | 905    | 2224          | NR            |
| 390    | 2370          | NR            | 520    | 97142         | NR            | 650    | 47085         | NR            | 780    | 2340          | NR            | 910    | 2905          | NR            |
| 395    | 2267          | NR            | 525    | 103255        | NR            | 655    | 41789         | NR            | 785    | 2412          | NR            | 915    | 3350          | NR            |
| 400    | 2262          | NR            | 530    | 106697        | NR            | 660    | 37064         | NR            | 790    | 1999          | NR            | 920    | 3114          | NR            |
| 405    | 3000          | NR            | 535    | 110081        | NR            | 665    | 32299         | NR            | 795    | 2054          | NR            | 925    | 2834          | NR            |
| 410    | 5324          | NR            | 540    | 112494        | NR            | 670    | 28142         | NR            | 800    | 2331          | NR            | 930    | 2271          | NR            |
| 415    | 10725         | NR            | 545    | 115513        | NR            | 675    | 24505         | NR            | 805    | 2648          | NR            | 935    | 2228          | NR            |
| 420    | 22128         | NR            | 550    | 117203        | NR            | 680    | 21162         | NR            | 810    | 2485          | NR            | 940    | 2833          | NR            |
| 425    | 44095         | NR            | 555    | 119753        | NR            | 685    | 18400         | NR            | 815    | 2409          | NR            | 945    | 2941          | NR            |
| 430    | 77002         | NR            | 560    | 122602        | NR            | 690    | 16065         | NR            | 820    | 2221          | NR            | 950    | 2323          | NR            |
| 435    | 119881        | NR            | 565    | 124314        | NR            | 695    | 13860         | NR            | 825    | 1562          | NR            | 955    | 1667          | NR            |
| 440    | 164454        | NR            | 570    | 126775        | NR            | 700    | 12177         | NR            | 830    | 2249          | NR            | 960    | 749           | NR            |
| 445    | 179997        | NR            | 575    | 127511        | NR            | 705    | 10757         | NR            | 835    | 2573          | NR            | 965    | 2669          | NR            |
| 450    | 142822        | NR            | 580    | 127577        | NR            | 710    | 9601          | NR            | 840    | 2764          | NR            | 970    | 3968          | NR            |
| 455    | 90008         | NR            | 585    | 126153        | NR            | 715    | 8944          | NR            | 845    | 3109          | NR            | 975    | 3886          | NR            |
| 460    | 60557         | NR            | 590    | 123678        | NR            | 720    | 7947          | NR            | 850    | 2963          | NR            | 980    | 2788          | NR            |
| 465    | 43305         | NR            | 595    | 119774        | NR            | 725    | 7062          | NR            | 855    | 2336          | NR            | 985    | 3496          | NR            |
| 470    | 31089         | NR            | 600    | 115733        | NR            | 730    | 6004          | NR            | 860    | 2118          | NR            | 990    | 2913          | NR            |
| 475    | 26278         | NR            | 605    | 109231        | NR            | 735    | 5594          | NR            | 865    | 3144          | NR            | 995    | 4659          | NR            |
| 480    | 27060         | NR            | 610    | 102408        | NR            | 740    | 5165          | NR            | 870    | 3069          | NR            | 1000   | 1308          | NR            |
| 485    | 30698         | NR            | 615    | 96015         | NR            | 745    | 4687          | NR            | 875    | 3311          | NR            |        |               |               |

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**Summary**

$R_f = 74.9$   
 $R_g = 96.3$   
 $CIE R_a = 73.5$   
 $R_g = -28.4$



**Color Vector Graphics**



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

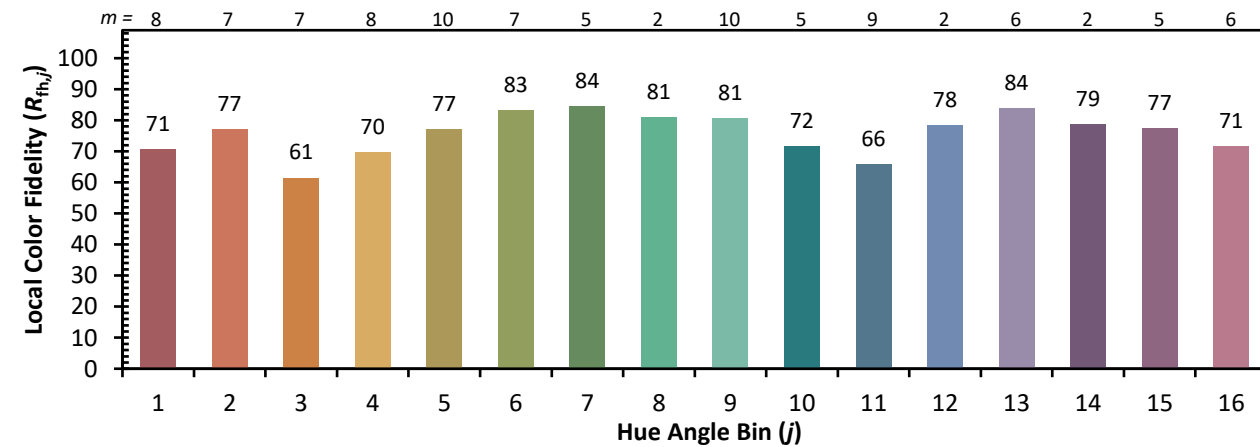
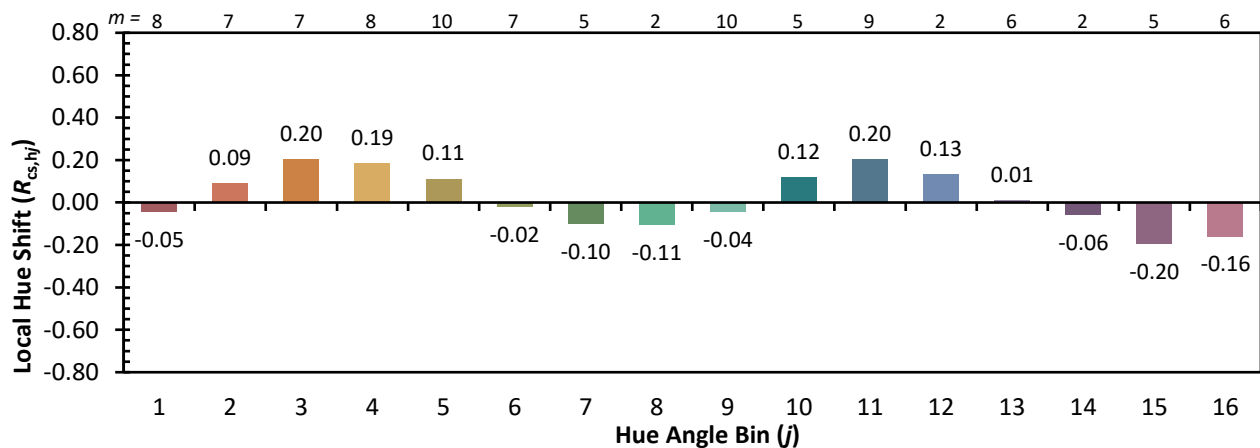
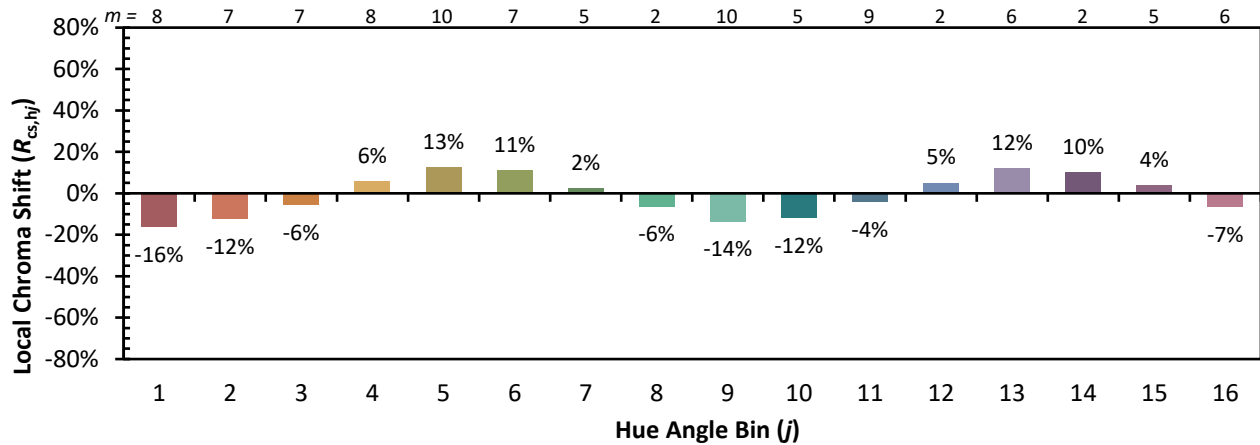
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 61 | CES51 = 90 | CES76 = 52 |
| CES02 = 60 | CES27 = 84 | CES52 = 91 | CES77 = 71 |
| CES03 = 30 | CES28 = 81 | CES53 = 79 | CES78 = 54 |
| CES04 = 69 | CES29 = 58 | CES54 = 83 | CES79 = 80 |
| CES05 = 46 | CES30 = 67 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 63 | CES56 = 73 | CES81 = 77 |
| CES07 = 39 | CES32 = 59 | CES57 = 72 | CES82 = 90 |
| CES08 = 38 | CES33 = 69 | CES58 = 73 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 88 | CES84 = 88 |
| CES10 = 73 | CES35 = 83 | CES60 = 93 | CES85 = 84 |
| CES11 = 56 | CES36 = 95 | CES61 = 88 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 85 | CES87 = 78 |
| CES13 = 41 | CES38 = 76 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 93 | CES64 = 74 | CES89 = 75 |
| CES15 = 70 | CES40 = 86 | CES65 = 67 | CES90 = 77 |
| CES16 = 46 | CES41 = 87 | CES66 = 69 | CES91 = 89 |
| CES17 = 49 | CES42 = 78 | CES67 = 67 | CES92 = 66 |
| CES18 = 55 | CES43 = 75 | CES68 = 73 | CES93 = 80 |
| CES19 = 71 | CES44 = 99 | CES69 = 81 | CES94 = 57 |
| CES20 = 64 | CES45 = 83 | CES70 = 63 | CES95 = 71 |
| CES21 = 85 | CES46 = 81 | CES71 = 60 | CES96 = 78 |
| CES22 = 77 | CES47 = 80 | CES72 = 86 | CES97 = 85 |
| CES23 = 91 | CES48 = 72 | CES73 = 53 | CES98 = 75 |
| CES24 = 90 | CES49 = 81 | CES74 = 96 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 58 |            |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)