

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



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: STREETWORKS

Report Number: P822579

Luminaire Tested: **PMM-SA1C-840-U-SLL**

Issue Date: 04/10/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P822579  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)  
Test Lab: INNOVATION CENTER  
Issue Date: 04/10/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: PMM-SA1C-840-U-SLL  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS  
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4518.1 lumens  
Efficiency: N/A  
Efficacy: 76.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

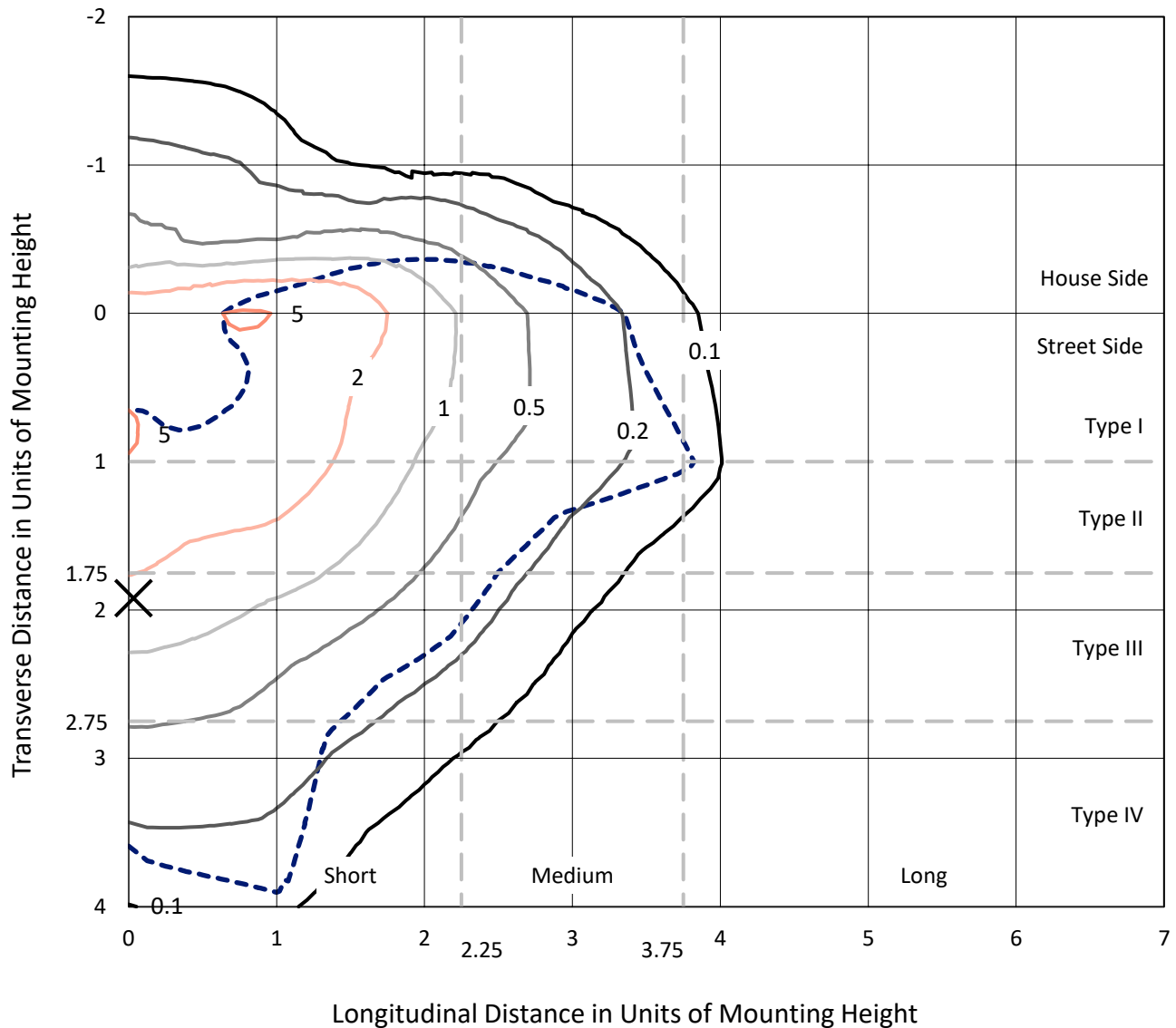
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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## Iso-Footcandle Lines of Horizontal Illumination

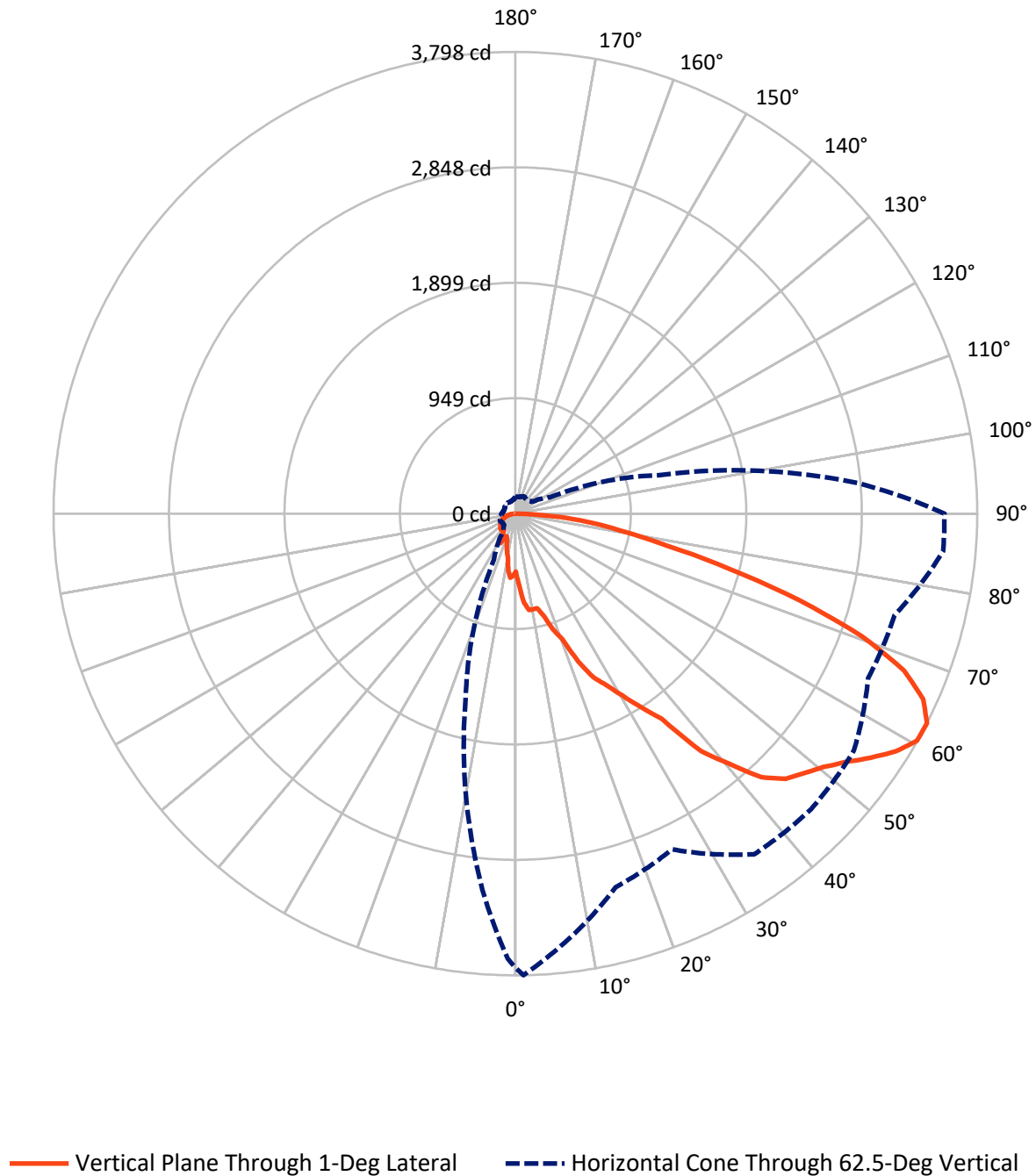
× Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 5.3 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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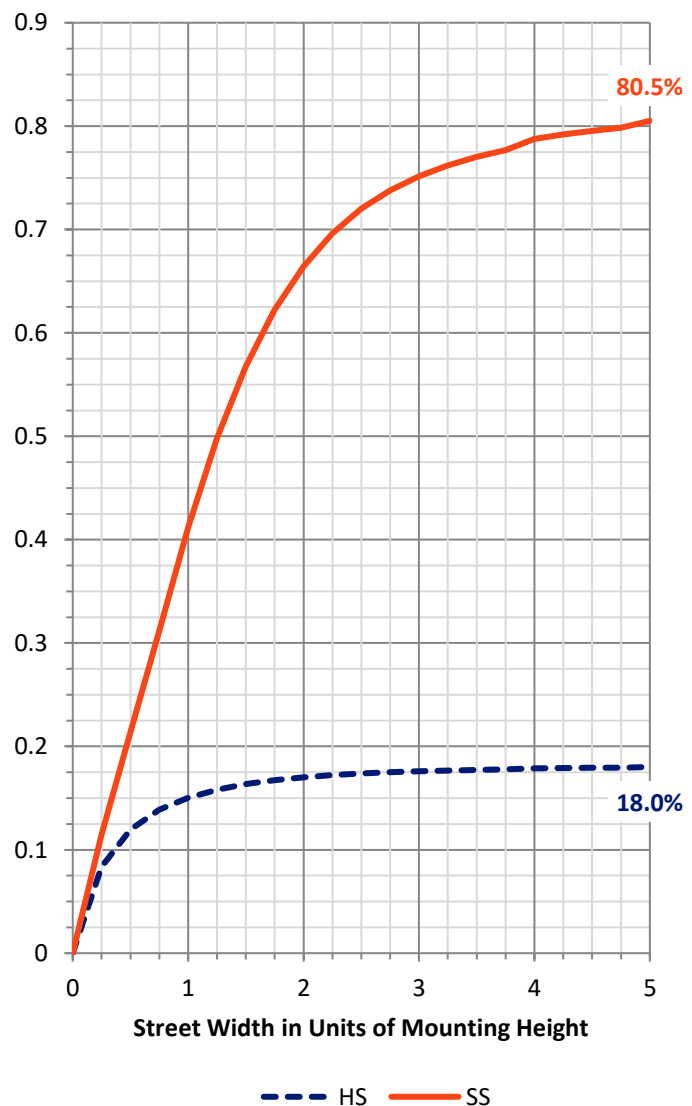
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 822.7    | 0.0    | 822.7  |
|                    | % Fixture | 18.2     | 0.0    | 18.2   |
| <b>Street Side</b> | Lumens    | 3695.4   | 0.0    | 3695.4 |
|                    | % Fixture | 81.8     | 0.0    | 81.8   |
| <b>Total</b>       | Lumens    | 4518.1   | 0.0    | 4518.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 54.6   | 1.2       |
| 10°-20°   | 158.7  | 3.5       |
| 20°-30°   | 280.2  | 6.2       |
| 30°-40°   | 436.4  | 9.7       |
| 40°-50°   | 718.7  | 15.9      |
| 50°-60°   | 1025.7 | 22.7      |
| 60°-70°   | 1087.7 | 24.1      |
| 70°-80°   | 600.8  | 13.3      |
| 80°-90°   | 155.4  | 3.4       |
| 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°    | 4518.1 | 100.0     |
| 0°-180°   | 4518.1 | 100.0     |

**Coefficient of Utilization**



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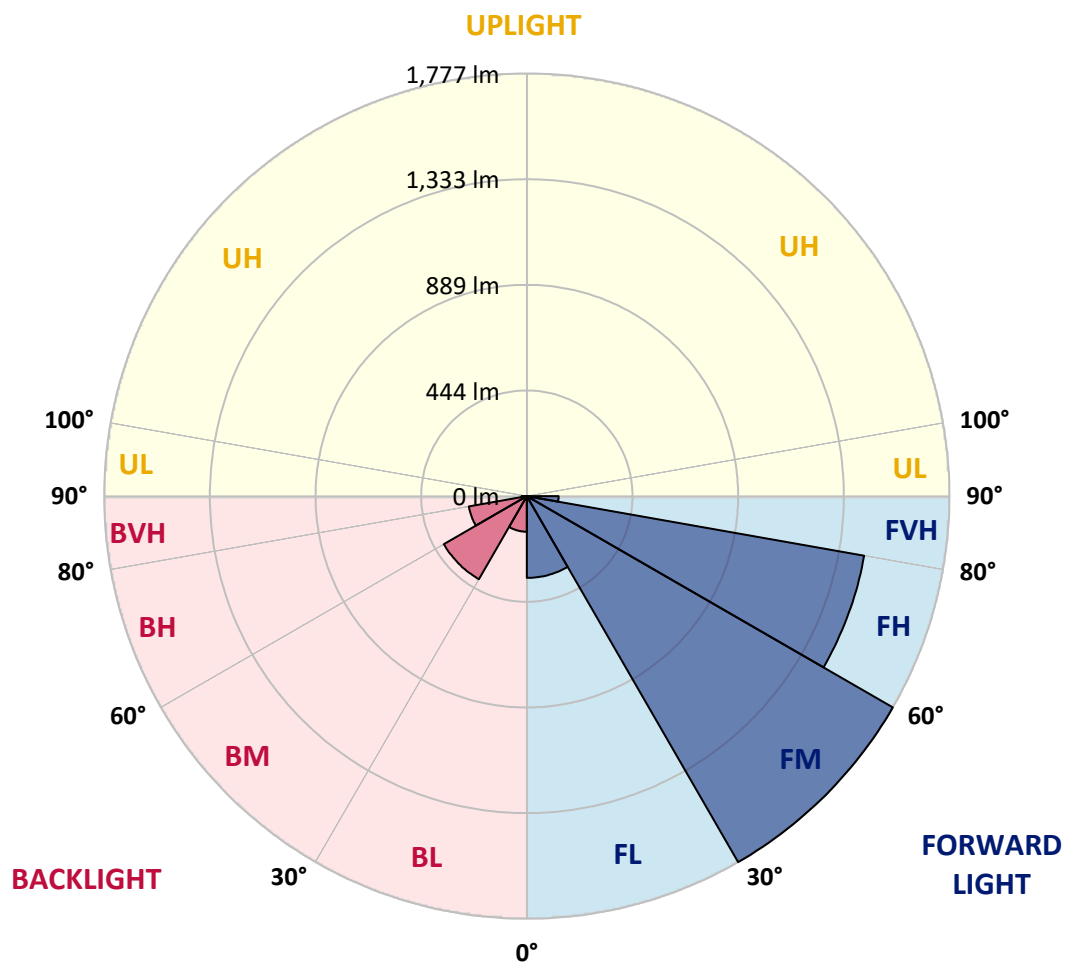
CATALOG NUMBER: PMM-SA1C-840-U-SLL

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 343.9  | 7.6       |                         |      |         |
| FM   | (30°-60°)   | 1777.5 | 39.3      |                         |      |         |
| FH   | (60°-80°)   | 1440.6 | 31.9      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 133.5  | 3.0       |                         |      | G2/225  |
| BL   | (0°-30°)    | 149.6  | 3.3       | B1/500                  |      |         |
| BM   | (30°-60°)   | 403.3  | 8.9       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 247.9  | 5.5       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 21.9   | 0.5       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 1°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 476.5  | 476.5  | 476.5  | 476.5  | 476.5  | 476.5  | 476.5  | 476.5  | 476.5  | 476.5  | 476.5  |
| 2.5°  | 585.9  | 590.9  | 580.6  | 569.0  | 520.9  | 567.2  | 553.4  | 579.0  | 570.7  | 515.1  | 617.0  |
| 5°    | 723.9  | 733.2  | 723.1  | 758.0  | 760.2  | 769.2  | 686.0  | 737.8  | 719.8  | 715.2  | 766.7  |
| 7.5°  | 790.6  | 800.0  | 825.7  | 887.7  | 936.2  | 892.4  | 843.9  | 833.2  | 819.1  | 782.5  | 813.7  |
| 10°   | 794.8  | 800.0  | 834.5  | 966.0  | 989.5  | 1020.6 | 989.2  | 915.4  | 884.9  | 805.3  | 781.6  |
| 12.5° | 782.3  | 798.8  | 843.3  | 1003.5 | 1073.2 | 1107.2 | 1114.9 | 1032.7 | 958.0  | 867.1  | 855.1  |
| 15°   | 866.3  | 872.2  | 936.0  | 1030.3 | 1078.3 | 1107.0 | 1132.0 | 1081.3 | 1057.9 | 986.0  | 889.3  |
| 17.5° | 986.6  | 1003.1 | 1055.2 | 1090.1 | 1122.6 | 1128.1 | 1107.5 | 1087.7 | 1050.5 | 1146.5 | 1043.6 |
| 20°   | 1068.2 | 1100.0 | 1164.0 | 1170.6 | 1102.4 | 1114.4 | 1111.6 | 1112.9 | 1091.7 | 1269.3 | 1212.7 |
| 22.5° | 1284.0 | 1318.4 | 1327.1 | 1289.0 | 1160.5 | 1105.4 | 1116.5 | 1148.2 | 1232.0 | 1384.1 | 1448.2 |
| 25°   | 1479.3 | 1492.7 | 1572.7 | 1474.4 | 1269.7 | 1149.8 | 1131.8 | 1214.0 | 1350.6 | 1577.5 | 1623.1 |
| 27.5° | 1581.2 | 1598.6 | 1651.9 | 1438.1 | 1283.3 | 1092.7 | 1050.6 | 1175.8 | 1315.1 | 1486.5 | 1686.7 |
| 30°   | 1711.7 | 1739.3 | 1811.9 | 1474.4 | 1324.2 | 1130.0 | 1036.8 | 1156.6 | 1310.5 | 1546.2 | 1821.3 |
| 32.5° | 1846.1 | 1899.8 | 1953.7 | 1602.8 | 1318.6 | 1187.0 | 1125.2 | 1134.9 | 1352.2 | 1671.1 | 1960.8 |
| 35°   | 2024.1 | 2071.5 | 2118.0 | 1676.8 | 1433.5 | 1234.6 | 1173.2 | 1275.4 | 1459.1 | 1816.1 | 2155.2 |
| 37.5° | 2404.7 | 2479.7 | 2357.2 | 1887.7 | 1558.4 | 1449.0 | 1338.3 | 1398.8 | 1572.2 | 1936.8 | 2472.9 |
| 40°   | 2647.2 | 2703.6 | 2585.2 | 2031.4 | 1778.6 | 1593.5 | 1575.3 | 1580.4 | 1728.1 | 2040.4 | 2686.7 |
| 42.5° | 2888.2 | 2964.5 | 2776.1 | 2228.5 | 2044.7 | 1891.9 | 1798.1 | 1791.7 | 1902.7 | 2226.3 | 2929.9 |
| 45°   | 3068.0 | 3112.9 | 2841.7 | 2394.6 | 2330.2 | 2216.9 | 2146.5 | 2034.9 | 2132.0 | 2355.0 | 3080.3 |
| 47.5° | 3153.5 | 3190.1 | 2947.2 | 2491.3 | 2515.3 | 2521.2 | 2648.2 | 2457.8 | 2332.4 | 2442.1 | 3159.2 |
| 50°   | 3260.3 | 3277.6 | 3009.2 | 2576.4 | 2691.1 | 2951.1 | 2981.6 | 2659.1 | 2527.6 | 2537.0 | 3205.9 |
| 52.5° | 3387.9 | 3395.1 | 3099.8 | 2674.7 | 2868.9 | 3233.9 | 3186.8 | 3000.2 | 2713.2 | 2710.4 | 3293.8 |
| 55°   | 3548.3 | 3544.0 | 3213.3 | 2806.8 | 2995.9 | 3402.1 | 3366.4 | 3230.5 | 2915.7 | 2854.0 | 3430.6 |
| 57.5° | 3691.1 | 3688.4 | 3364.0 | 2928.5 | 3102.7 | 3488.6 | 3499.1 | 3463.1 | 3053.3 | 2956.9 | 3578.9 |
| 60°   | 3761.1 | 3794.6 | 3535.5 | 3061.6 | 3109.4 | 3527.6 | 3531.5 | 3474.3 | 3207.2 | 3088.8 | 3618.3 |
| 62.5° | 3733.8 | 3797.7 | 3619.7 | 3181.4 | 3046.9 | 3421.0 | 3437.4 | 3398.0 | 3200.2 | 3227.4 | 3530.2 |
| 65°   | 3610.2 | 3683.9 | 3546.7 | 3245.1 | 3008.6 | 3242.5 | 3246.7 | 3146.9 | 3100.0 | 3319.3 | 3323.7 |
| 67.5° | 3378.2 | 3447.3 | 3314.2 | 3143.5 | 2745.9 | 2761.5 | 2854.4 | 2862.6 | 2794.1 | 3250.0 | 3033.5 |
| 70°   | 2972.2 | 3020.8 | 2937.5 | 2892.2 | 2295.2 | 2203.9 | 2304.7 | 2348.0 | 2379.1 | 2999.8 | 2685.4 |
| 72.5° | 2353.0 | 2447.1 | 2460.2 | 2489.8 | 1847.9 | 1695.9 | 1770.7 | 1706.7 | 1909.4 | 2553.2 | 2194.1 |
| 75°   | 1740.8 | 1820.2 | 1905.5 | 2070.6 | 1456.5 | 1269.7 | 1260.5 | 1227.8 | 1417.3 | 2053.3 | 1627.3 |
| 77.5° | 1230.2 | 1280.9 | 1346.4 | 1654.1 | 1099.1 | 977.9  | 983.6  | 950.5  | 1023.5 | 1551.9 | 1124.1 |
| 80°   | 881.9  | 908.3  | 938.9  | 1089.7 | 810.8  | 843.7  | 844.6  | 813.2  | 761.0  | 1054.0 | 750.3  |
| 82.5° | 628.4  | 649.0  | 683.8  | 718.7  | 604.4  | 691.6  | 690.9  | 688.9  | 603.3  | 712.3  | 469.4  |
| 85°   | 349.9  | 377.6  | 438.0  | 563.1  | 436.5  | 494.4  | 434.7  | 478.8  | 442.9  | 474.3  | 237.6  |
| 87.5° | 24.6   | 21.9   | 98.0   | 326.3  | 203.7  | 148.8  | 78.0   | 154.6  | 198.2  | 247.7  | 33.1   |
| 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°    | 476.5  | 476.5  | 476.5  | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 |
| 2.5°  | 638.0  | 645.7  | 615.6  | 570.5 | 582.7 | 569.4 | 552.6 | 526.2 | 472.1 | 505.6 | 505.8 |
| 5°    | 766.3  | 737.1  | 713.7  | 691.6 | 654.2 | 597.9 | 590.5 | 545.2 | 519.8 | 533.2 | 531.3 |
| 7.5°  | 806.4  | 765.0  | 729.6  | 650.5 | 581.5 | 493.9 | 467.6 | 440.9 | 429.7 | 462.2 | 475.1 |
| 10°   | 762.4  | 719.1  | 684.5  | 588.3 | 541.4 | 486.7 | 414.4 | 377.3 | 355.4 | 363.9 | 369.0 |
| 12.5° | 797.8  | 753.8  | 644.8  | 591.1 | 513.7 | 480.4 | 417.0 | 362.7 | 330.2 | 338.1 | 328.6 |
| 15°   | 832.1  | 772.6  | 663.6  | 556.7 | 493.9 | 445.8 | 394.5 | 338.3 | 300.1 | 286.6 | 279.3 |
| 17.5° | 957.0  | 858.4  | 661.5  | 537.4 | 465.4 | 410.0 | 348.1 | 286.7 | 261.4 | 247.3 | 235.3 |
| 20°   | 1109.4 | 971.9  | 673.3  | 517.4 | 435.2 | 365.3 | 297.9 | 240.9 | 223.2 | 214.0 | 210.7 |
| 22.5° | 1290.7 | 1117.6 | 741.1  | 514.5 | 406.7 | 332.6 | 270.3 | 234.8 | 214.8 | 204.8 | 200.6 |
| 25°   | 1434.8 | 1268.2 | 791.0  | 533.9 | 405.1 | 305.7 | 253.7 | 260.9 | 251.7 | 254.8 | 230.4 |
| 27.5° | 1574.7 | 1309.1 | 763.0  | 525.3 | 364.4 | 257.8 | 249.7 | 264.9 | 272.8 | 275.1 | 274.3 |
| 30°   | 1692.8 | 1482.3 | 769.2  | 477.1 | 307.9 | 210.1 | 191.2 | 198.6 | 220.3 | 254.8 | 261.4 |
| 32.5° | 1865.9 | 1565.3 | 821.6  | 447.9 | 275.1 | 187.9 | 166.8 | 164.0 | 169.0 | 181.6 | 192.3 |
| 35°   | 2068.2 | 1756.0 | 836.2  | 440.3 | 252.6 | 178.0 | 163.3 | 156.7 | 159.4 | 168.9 | 171.0 |
| 37.5° | 2445.5 | 1895.0 | 890.6  | 430.8 | 244.3 | 172.1 | 160.7 | 158.3 | 164.0 | 171.7 | 176.1 |
| 40°   | 2653.6 | 2145.0 | 893.2  | 422.7 | 233.5 | 169.7 | 162.5 | 161.4 | 164.9 | 175.4 | 178.0 |
| 42.5° | 2931.0 | 2287.4 | 934.5  | 413.3 | 229.8 | 173.0 | 166.0 | 165.6 | 168.6 | 174.7 | 179.5 |
| 45°   | 3100.0 | 2382.9 | 936.7  | 407.8 | 228.9 | 187.4 | 170.6 | 169.0 | 168.3 | 172.1 | 176.5 |
| 47.5° | 3209.0 | 2520.3 | 963.4  | 401.7 | 234.2 | 191.2 | 176.1 | 169.4 | 167.3 | 168.9 | 172.1 |
| 50°   | 3312.2 | 2630.2 | 1014.0 | 400.8 | 239.7 | 187.4 | 185.7 | 169.3 | 164.9 | 164.2 | 166.7 |
| 52.5° | 3438.9 | 2810.8 | 1076.5 | 409.1 | 238.3 | 182.0 | 192.9 | 168.3 | 160.5 | 158.9 | 161.4 |
| 55°   | 3623.4 | 3004.5 | 1143.0 | 402.1 | 224.8 | 171.5 | 185.9 | 167.8 | 155.9 | 153.0 | 155.2 |
| 57.5° | 3742.8 | 3115.4 | 1217.3 | 396.1 | 204.1 | 163.6 | 179.5 | 168.2 | 156.3 | 149.9 | 151.3 |
| 60°   | 3703.2 | 3055.7 | 1246.5 | 360.0 | 184.6 | 157.4 | 164.5 | 164.6 | 152.4 | 146.5 | 147.6 |
| 62.5° | 3527.7 | 2839.7 | 1219.2 | 317.9 | 170.1 | 148.7 | 148.8 | 158.1 | 141.0 | 136.8 | 138.6 |
| 65°   | 3282.6 | 2571.1 | 1109.2 | 290.5 | 163.3 | 139.4 | 136.0 | 138.7 | 125.6 | 122.6 | 126.1 |
| 67.5° | 2981.8 | 2240.1 | 945.4  | 261.6 | 160.9 | 127.0 | 122.8 | 121.7 | 113.4 | 109.8 | 113.4 |
| 70°   | 2604.5 | 1875.7 | 755.8  | 241.2 | 151.7 | 113.4 | 110.1 | 109.0 | 101.9 | 99.3  | 102.4 |
| 72.5° | 2093.4 | 1464.6 | 583.2  | 225.6 | 141.6 | 100.8 | 98.0  | 96.7  | 90.7  | 87.0  | 90.7  |
| 75°   | 1489.0 | 1119.3 | 433.2  | 201.7 | 127.4 | 88.1  | 84.8  | 83.1  | 77.6  | 74.1  | 77.4  |
| 77.5° | 1058.1 | 840.1  | 302.6  | 166.8 | 105.0 | 74.5  | 72.6  | 69.7  | 64.9  | 60.7  | 64.0  |
| 80°   | 782.3  | 600.3  | 195.2  | 128.7 | 80.2  | 59.6  | 58.5  | 56.6  | 52.0  | 46.9  | 49.4  |
| 82.5° | 515.1  | 432.8  | 111.8  | 87.3  | 58.4  | 43.0  | 43.8  | 42.5  | 38.2  | 32.9  | 34.2  |
| 85°   | 230.7  | 256.3  | 59.5   | 48.0  | 37.9  | 25.9  | 28.3  | 27.4  | 24.1  | 19.1  | 19.5  |
| 87.5° | 22.1   | 43.2   | 18.2   | 17.6  | 14.0  | 8.1   | 10.1  | 8.6   | 7.2   | 4.6   | 3.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



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**CANDELA DISTRIBUTION (continued):**

|       | 185°  | 195°  | 205°  | 215°  | 225°  | 235°  | 245°  | 255°  | 265°  | 270°  | 275°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 |
| 2.5°  | 513.5 | 482.6 | 451.6 | 470.5 | 471.0 | 476.0 | 476.6 | 458.0 | 472.9 | 484.4 | 496.1 |
| 5°    | 521.6 | 501.4 | 502.5 | 484.4 | 474.4 | 487.2 | 484.5 | 479.5 | 488.5 | 501.0 | 516.1 |
| 7.5°  | 462.8 | 449.7 | 447.5 | 430.0 | 387.4 | 378.0 | 385.9 | 389.2 | 401.2 | 420.5 | 436.8 |
| 10°   | 361.3 | 387.4 | 358.1 | 351.2 | 340.1 | 318.1 | 305.4 | 303.9 | 329.5 | 345.1 | 358.7 |
| 12.5° | 325.6 | 319.0 | 315.5 | 296.8 | 296.8 | 273.6 | 266.1 | 273.0 | 312.4 | 323.6 | 341.2 |
| 15°   | 277.3 | 272.5 | 256.3 | 247.1 | 242.7 | 233.3 | 241.2 | 247.7 | 284.6 | 285.5 | 303.9 |
| 17.5° | 230.2 | 227.4 | 212.0 | 210.2 | 205.9 | 201.7 | 209.0 | 224.8 | 244.7 | 241.2 | 249.7 |
| 20°   | 205.9 | 196.0 | 182.0 | 187.0 | 182.4 | 179.1 | 176.1 | 198.5 | 212.5 | 217.0 | 222.1 |
| 22.5° | 199.7 | 181.7 | 173.4 | 168.9 | 169.0 | 163.8 | 164.5 | 183.1 | 204.3 | 207.2 | 204.1 |
| 25°   | 228.2 | 196.3 | 169.3 | 155.9 | 150.9 | 149.1 | 154.1 | 170.6 | 196.3 | 202.4 | 204.8 |
| 27.5° | 267.1 | 213.1 | 174.3 | 151.5 | 141.4 | 142.3 | 149.5 | 160.9 | 191.2 | 202.2 | 205.0 |
| 30°   | 256.3 | 200.4 | 174.5 | 148.3 | 135.7 | 140.3 | 143.0 | 153.9 | 187.3 | 203.7 | 218.0 |
| 32.5° | 197.8 | 180.2 | 175.6 | 150.9 | 145.8 | 138.6 | 142.3 | 152.8 | 175.6 | 185.9 | 186.6 |
| 35°   | 167.5 | 154.1 | 151.0 | 144.9 | 137.9 | 134.9 | 139.0 | 148.3 | 163.1 | 169.4 | 168.6 |
| 37.5° | 166.2 | 151.5 | 139.4 | 136.8 | 134.0 | 133.1 | 135.5 | 144.0 | 159.2 | 170.4 | 167.9 |
| 40°   | 168.3 | 150.2 | 137.9 | 133.3 | 134.4 | 130.4 | 132.9 | 143.4 | 159.9 | 170.4 | 168.2 |
| 42.5° | 165.7 | 148.7 | 136.0 | 132.4 | 133.5 | 128.1 | 130.9 | 141.9 | 158.1 | 170.6 | 166.4 |
| 45°   | 160.5 | 145.1 | 134.9 | 128.9 | 134.0 | 125.9 | 129.3 | 137.9 | 152.8 | 166.4 | 161.6 |
| 47.5° | 155.2 | 141.0 | 130.3 | 126.5 | 131.5 | 123.7 | 125.2 | 132.6 | 147.6 | 160.9 | 156.7 |
| 50°   | 149.5 | 135.7 | 126.5 | 125.4 | 128.9 | 123.2 | 120.8 | 127.0 | 141.2 | 154.6 | 151.0 |
| 52.5° | 143.4 | 131.3 | 123.9 | 123.4 | 126.7 | 120.3 | 116.9 | 121.7 | 134.4 | 147.7 | 144.9 |
| 55°   | 137.5 | 126.5 | 120.6 | 121.7 | 125.4 | 118.0 | 113.6 | 116.6 | 127.1 | 140.3 | 136.4 |
| 57.5° | 131.5 | 121.0 | 116.2 | 119.2 | 122.1 | 114.9 | 109.4 | 111.2 | 119.7 | 132.6 | 128.1 |
| 60°   | 126.3 | 116.2 | 111.4 | 115.1 | 117.7 | 110.2 | 103.9 | 105.0 | 112.7 | 124.3 | 120.2 |
| 62.5° | 119.5 | 110.9 | 104.6 | 109.4 | 111.4 | 104.1 | 97.4  | 98.6  | 104.8 | 115.8 | 112.7 |
| 65°   | 109.8 | 104.4 | 98.5  | 101.7 | 104.4 | 96.9  | 90.6  | 92.1  | 96.7  | 107.0 | 104.8 |
| 67.5° | 101.5 | 96.3  | 92.3  | 94.9  | 95.4  | 89.6  | 84.0  | 84.8  | 88.5  | 98.2  | 95.8  |
| 70°   | 92.3  | 87.3  | 84.2  | 86.2  | 85.9  | 81.1  | 76.8  | 76.9  | 80.1  | 88.8  | 85.5  |
| 72.5° | 82.2  | 77.4  | 75.8  | 76.9  | 76.1  | 71.7  | 67.5  | 69.0  | 71.1  | 77.6  | 75.0  |
| 75°   | 71.5  | 67.1  | 66.2  | 67.3  | 66.0  | 61.8  | 58.1  | 59.6  | 61.4  | 66.9  | 63.6  |
| 77.5° | 60.3  | 56.3  | 56.6  | 56.8  | 55.0  | 52.2  | 48.4  | 49.9  | 51.1  | 54.8  | 51.5  |
| 80°   | 48.0  | 45.0  | 45.8  | 45.8  | 43.8  | 41.9  | 38.3  | 38.8  | 39.4  | 40.8  | 38.3  |
| 82.5° | 35.1  | 35.1  | 35.1  | 35.3  | 31.1  | 31.8  | 28.8  | 28.5  | 27.8  | 27.7  | 26.1  |
| 85°   | 20.9  | 21.7  | 22.1  | 22.8  | 16.9  | 19.8  | 17.1  | 16.5  | 15.1  | 13.8  | 13.4  |
| 87.5° | 4.6   | 5.9   | 5.9   | 5.7   | 0.0   | 2.2   | 1.1   | 1.8   | 0.4   | 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   |

REPORT NUMBER: P822579

CATALOG NUMBER: PMM-SA1C-840-U-SLL

**CANDELA DISTRIBUTION (continued):**

|       | 285°  | 295°  | 305°  | 315°  | 325°  | 335°  | 345°   | 355°   | 359°   | 360°   |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 0°    | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5 | 476.5  | 476.5  | 476.5  | 476.5  |
| 2.5°  | 482.6 | 469.4 | 493.9 | 515.9 | 512.4 | 525.1 | 495.5  | 539.4  | 585.9  | 585.9  |
| 5°    | 512.2 | 501.0 | 507.3 | 520.1 | 529.7 | 574.0 | 610.8  | 647.5  | 723.1  | 723.9  |
| 7.5°  | 431.9 | 456.0 | 461.7 | 458.0 | 499.5 | 556.4 | 617.2  | 721.6  | 785.6  | 790.6  |
| 10°   | 403.9 | 414.8 | 432.1 | 441.8 | 458.7 | 514.8 | 590.2  | 714.1  | 782.0  | 794.8  |
| 12.5° | 366.0 | 406.5 | 432.8 | 486.7 | 500.1 | 511.3 | 631.3  | 738.5  | 785.4  | 782.3  |
| 15°   | 324.5 | 355.2 | 393.1 | 452.7 | 486.7 | 572.2 | 655.6  | 816.5  | 843.0  | 866.3  |
| 17.5° | 258.7 | 281.3 | 331.7 | 399.7 | 483.9 | 562.6 | 715.6  | 913.0  | 962.5  | 986.6  |
| 20°   | 212.9 | 213.1 | 263.5 | 353.7 | 445.3 | 522.3 | 738.5  | 993.0  | 1055.9 | 1068.2 |
| 22.5° | 201.3 | 191.2 | 217.7 | 291.0 | 402.8 | 546.2 | 784.5  | 1121.7 | 1253.0 | 1284.0 |
| 25°   | 194.9 | 182.6 | 199.3 | 256.7 | 372.3 | 558.7 | 877.2  | 1298.6 | 1467.2 | 1479.3 |
| 27.5° | 197.5 | 203.2 | 208.5 | 228.9 | 333.7 | 535.2 | 855.7  | 1377.8 | 1558.4 | 1581.2 |
| 30°   | 215.3 | 224.5 | 212.5 | 219.5 | 301.9 | 501.2 | 894.1  | 1506.3 | 1673.3 | 1711.7 |
| 32.5° | 179.1 | 175.6 | 174.5 | 189.9 | 270.1 | 470.5 | 974.6  | 1687.2 | 1797.8 | 1846.1 |
| 35°   | 161.6 | 156.1 | 158.3 | 175.8 | 254.5 | 466.1 | 1019.8 | 1836.9 | 1994.5 | 2024.1 |
| 37.5° | 160.9 | 154.6 | 157.4 | 170.6 | 260.0 | 474.0 | 1092.1 | 2077.2 | 2341.4 | 2404.7 |
| 40°   | 159.4 | 155.9 | 157.4 | 167.3 | 254.4 | 478.4 | 1133.8 | 2279.1 | 2583.0 | 2647.2 |
| 42.5° | 159.2 | 157.4 | 158.9 | 169.9 | 248.4 | 480.4 | 1191.4 | 2461.6 | 2837.5 | 2888.2 |
| 45°   | 158.5 | 160.3 | 160.3 | 172.1 | 245.8 | 493.5 | 1225.4 | 2551.0 | 3005.5 | 3068.0 |
| 47.5° | 155.5 | 160.7 | 169.3 | 171.5 | 235.0 | 487.4 | 1273.4 | 2686.7 | 3094.8 | 3153.5 |
| 50°   | 151.5 | 160.0 | 180.6 | 167.1 | 233.3 | 472.5 | 1329.5 | 2794.4 | 3209.2 | 3260.3 |
| 52.5° | 146.2 | 158.9 | 178.0 | 158.5 | 230.2 | 469.9 | 1408.3 | 2934.2 | 3342.7 | 3387.9 |
| 55°   | 138.7 | 155.0 | 169.9 | 149.9 | 222.8 | 461.5 | 1528.6 | 3107.7 | 3517.5 | 3548.3 |
| 57.5° | 132.0 | 149.1 | 158.1 | 145.1 | 205.0 | 463.3 | 1612.3 | 3249.1 | 3664.1 | 3691.1 |
| 60°   | 125.9 | 148.4 | 141.2 | 140.1 | 186.8 | 439.8 | 1639.6 | 3247.6 | 3718.7 | 3761.1 |
| 62.5° | 119.2 | 140.1 | 129.3 | 133.3 | 170.8 | 415.7 | 1581.9 | 3108.3 | 3659.8 | 3733.8 |
| 65°   | 110.7 | 120.2 | 119.5 | 128.5 | 171.2 | 376.5 | 1449.7 | 2862.8 | 3512.6 | 3610.2 |
| 67.5° | 100.7 | 106.4 | 110.1 | 120.6 | 176.8 | 345.9 | 1237.0 | 2567.4 | 3262.3 | 3378.2 |
| 70°   | 90.3  | 96.0  | 100.2 | 110.2 | 181.7 | 332.0 | 984.7  | 2152.6 | 2854.4 | 2972.2 |
| 72.5° | 79.8  | 85.7  | 89.1  | 97.8  | 175.0 | 301.9 | 728.8  | 1674.9 | 2291.2 | 2353.0 |
| 75°   | 68.9  | 74.5  | 77.2  | 85.3  | 152.0 | 249.7 | 503.2  | 1268.6 | 1678.2 | 1740.8 |
| 77.5° | 57.7  | 63.8  | 64.7  | 71.2  | 116.0 | 191.0 | 322.5  | 973.0  | 1188.4 | 1230.2 |
| 80°   | 46.1  | 52.2  | 52.2  | 55.7  | 81.6  | 131.3 | 193.2  | 734.0  | 865.4  | 881.9  |
| 82.5° | 33.1  | 39.7  | 39.3  | 39.4  | 56.3  | 81.3  | 111.8  | 550.1  | 625.3  | 628.4  |
| 85°   | 19.5  | 24.1  | 23.9  | 21.9  | 33.3  | 43.8  | 60.5   | 341.6  | 349.1  | 349.9  |
| 87.5° | 3.7   | 5.7   | 5.0   | 2.2   | 9.2   | 12.9  | 17.6   | 63.4   | 25.2   | 24.6   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    |

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

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-2309-178-2

Test Date: 09/22/2023

Luminaire Tested: GALN-SA2A-840-U-T4W

Data in this report applies to families of products including GALN-SA2A-840-U-T4W.

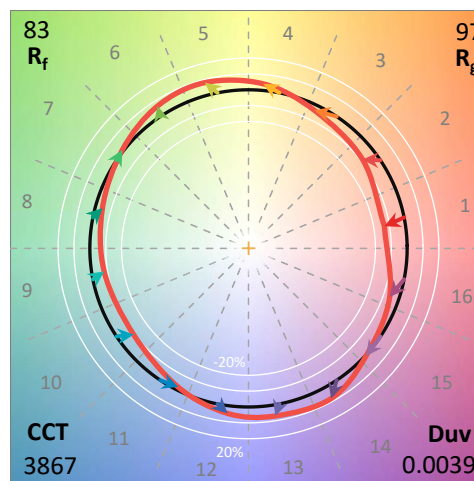
### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2309-178-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 09/22/2023  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW-EDISON  
 Catalog Number: **GALN-SA2A-840-U-T4W**  
 Description: GALLEON 2 AREA AND ROADWAY LUMINAIRE. (2) 80 CRI, 4000K, 615MA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS

LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS

### Spectral Parameters

|                           |        |           |      |      |      |
|---------------------------|--------|-----------|------|------|------|
| CCT (K):                  | 3867   | CRI (Ra): | 79.8 |      |      |
| CIE u':                   | 0.2254 | R1:       | 76.6 | R9:  | -8.6 |
| CIE v':                   | 0.5090 | R2:       | 84.7 | R10: | 66.3 |
| Duv:                      | 0.0039 | R3:       | 93.7 | R11: | 80.5 |
| CIE x:                    | 0.3895 | R4:       | 80.6 | R12: | 67.3 |
| CIE y:                    | 0.3908 | R5:       | 77.9 | R13: | 77.9 |
| CIE z:                    | 0.2197 | R6:       | 81.2 | R14: | 96.6 |
| Peak Wavelength (nm):     | 593    | R7:       | 84.2 |      |      |
| Dominant Wavelength (nm): | 577    | R8:       | 59.0 |      |      |
| Purity:                   | 34.3   |           |      |      |      |
| Rf:                       | 82.7   |           |      |      |      |
| Rg:                       | 96.5   |           |      |      |      |



### Test Conditions

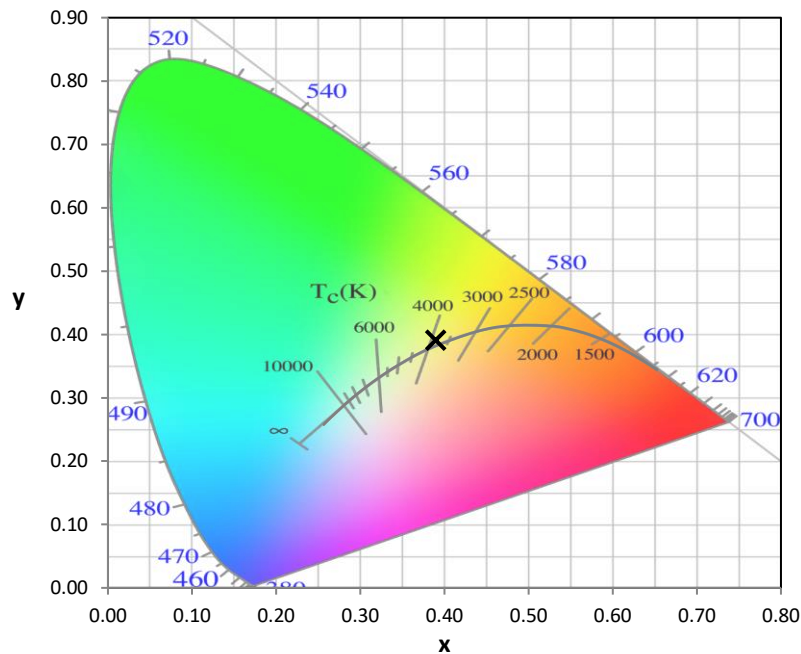
Stabilization Time: 25M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.8/46%  
 Sphere Temperature (°C): 24.7

REPORT NUMBER: SP1-2309-178-2

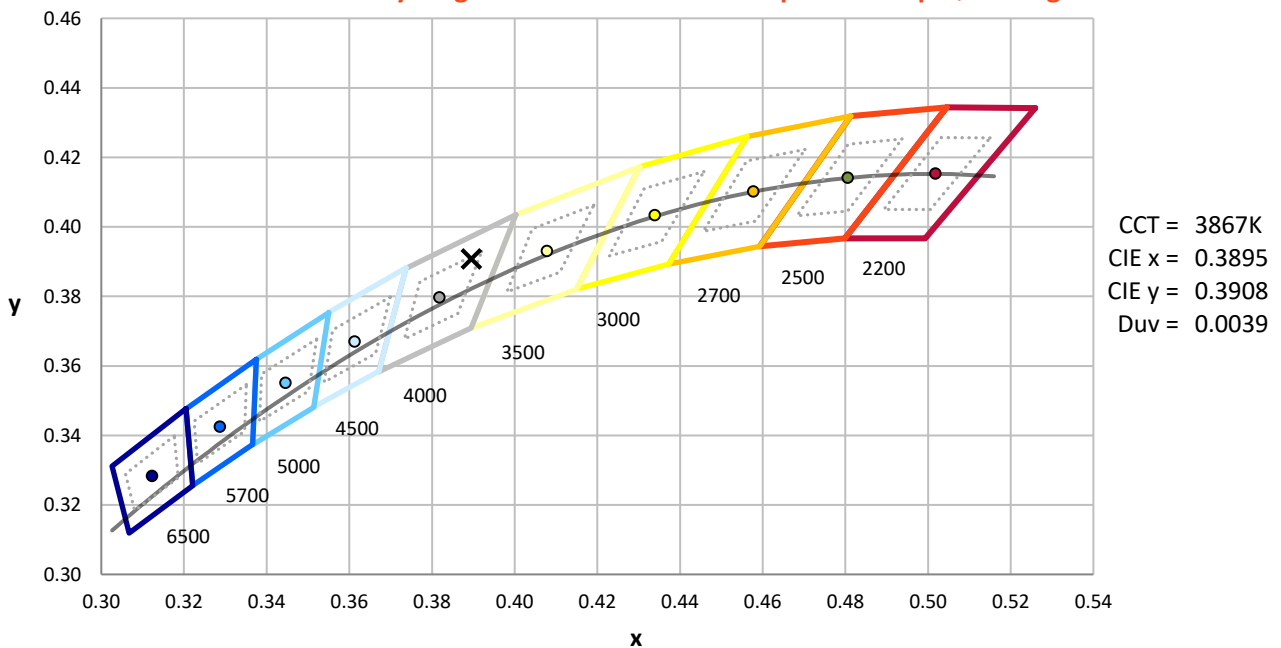
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | 76INCH SPHERE IN0058  | 8/9/2023         | 2/9/2024             |
| Power Meter                    | XITRON 2801 IN0071    | 11/29/2022       | 11/29/2023           |
| AC Power Source                | CHROMA 61603 IN0063   | 11/28/2022       | 11/28/2023           |
| DC Power Source                | AGILENT E3634A IN0208 | 11/28/2022       | 11/28/2023           |
| Sphere Thermometer             | ONSET IN0085          | 11/28/2022       | 11/28/2023           |
| Room Thermometer               | ONSET IN0046          | 11/28/2022       | 11/28/2023           |

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**CIE 1931 Chromaticity Diagram**



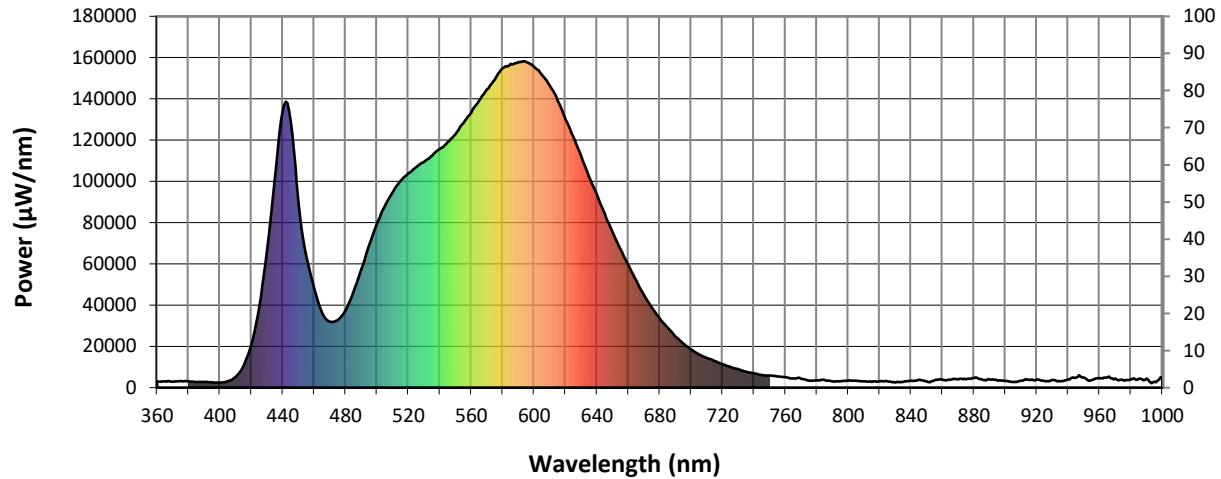
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2309-178-2

**Photopic Flux vs. Wavelength**

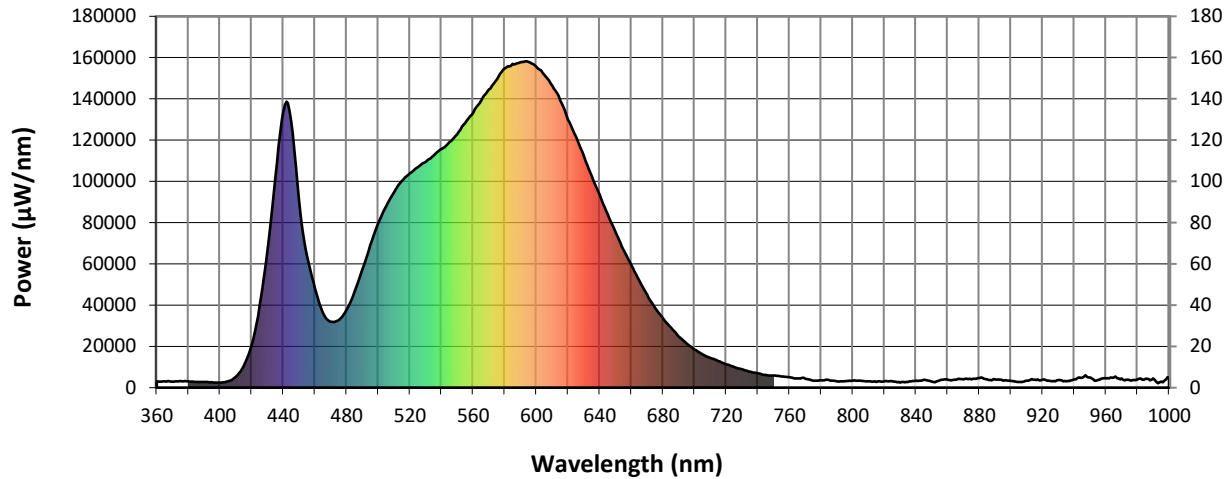


#####

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 3123             | NR               | 490       | 57459            | NR               | 620       | 129941           | NR               | 750       | 5858             | NR               | 880       | 4622             | NR               |
| 365       | 3041             | NR               | 495       | 69038            | NR               | 625       | 121678           | NR               | 755       | 5395             | NR               | 885       | 3949             | NR               |
| 370       | 2965             | NR               | 500       | 79493            | NR               | 630       | 112252           | NR               | 760       | 5011             | NR               | 890       | 4035             | NR               |
| 375       | 3195             | NR               | 505       | 87950            | NR               | 635       | 102369           | NR               | 765       | 4514             | NR               | 895       | 3391             | NR               |
| 380       | 3028             | NR               | 510       | 94704            | NR               | 640       | 93616            | NR               | 770       | 4375             | NR               | 900       | 3268             | NR               |
| 385       | 2738             | NR               | 515       | 100214           | NR               | 645       | 84211            | NR               | 775       | 3450             | NR               | 905       | 2767             | NR               |
| 390       | 2690             | NR               | 520       | 103961           | NR               | 650       | 75380            | NR               | 780       | 3547             | NR               | 910       | 3391             | NR               |
| 395       | 2604             | NR               | 525       | 106854           | NR               | 655       | 66946            | NR               | 785       | 3648             | NR               | 915       | 3784             | NR               |
| 400       | 2384             | NR               | 530       | 109533           | NR               | 660       | 59483            | NR               | 790       | 3081             | NR               | 920       | 3790             | NR               |
| 405       | 3031             | NR               | 535       | 112417           | NR               | 665       | 51858            | NR               | 795       | 3104             | NR               | 925       | 3175             | NR               |
| 410       | 5239             | NR               | 540       | 115725           | NR               | 670       | 44882            | NR               | 800       | 3444             | NR               | 930       | 3642             | NR               |
| 415       | 10499            | NR               | 545       | 119091           | NR               | 675       | 38742            | NR               | 805       | 3315             | NR               | 935       | 3040             | NR               |
| 420       | 20790            | NR               | 550       | 122884           | NR               | 680       | 33597            | NR               | 810       | 3022             | NR               | 940       | 4039             | NR               |
| 425       | 39276            | NR               | 555       | 128300           | NR               | 685       | 29101            | NR               | 815       | 2832             | NR               | 945       | 4797             | NR               |
| 430       | 66418            | NR               | 560       | 133274           | NR               | 690       | 24855            | NR               | 820       | 3142             | NR               | 950       | 4945             | NR               |
| 435       | 101961           | NR               | 565       | 139112           | NR               | 695       | 21367            | NR               | 825       | 3115             | NR               | 955       | 3757             | NR               |
| 440       | 134023           | NR               | 570       | 144467           | NR               | 700       | 18479            | NR               | 830       | 2520             | NR               | 960       | 4539             | NR               |
| 445       | 129385           | NR               | 575       | 149331           | NR               | 705       | 16131            | NR               | 835       | 2783             | NR               | 965       | 4857             | NR               |
| 450       | 90434            | NR               | 580       | 154784           | NR               | 710       | 14388            | NR               | 840       | 3364             | NR               | 970       | 4463             | NR               |
| 455       | 63521            | NR               | 585       | 156899           | NR               | 715       | 12865            | NR               | 845       | 3807             | NR               | 975       | 3718             | NR               |
| 460       | 48429            | NR               | 590       | 157796           | NR               | 720       | 11277            | NR               | 850       | 2907             | NR               | 980       | 3955             | NR               |
| 465       | 36445            | NR               | 595       | 157849           | NR               | 725       | 10063            | NR               | 855       | 3470             | NR               | 985       | 4314             | NR               |
| 470       | 31953            | NR               | 600       | 155418           | NR               | 730       | 8942             | NR               | 860       | 3820             | NR               | 990       | 4478             | NR               |
| 475       | 32768            | NR               | 605       | 151601           | NR               | 735       | 7722             | NR               | 865       | 3922             | NR               | 995       | 2959             | NR               |
| 480       | 37631            | NR               | 610       | 146416           | NR               | 740       | 6964             | NR               | 870       | 4061             | NR               | 1000      | 4570             | NR               |
| 485       | 46354            | NR               | 615       | 139241           | NR               | 745       | 6117             | NR               | 875       | 3975             | NR               |           |                  |                  |

REPORT NUMBER: SP1-2309-178-2

Scotopic Flux vs. Wavelength



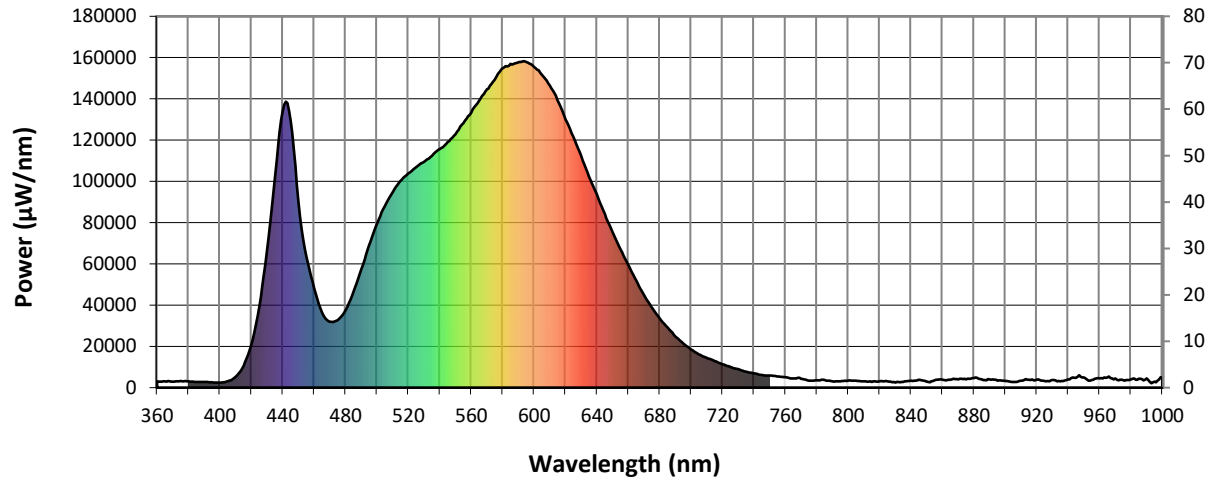
Scotopic Lumens: 14236

S/P: 1.59

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 3123             | NR               | 490       | 57459            | NR               | 620       | 129941           | NR               | 750       | 5858             | NR               | 880       | 4622             | NR               |
| 365       | 3041             | NR               | 495       | 69038            | NR               | 625       | 121678           | NR               | 755       | 5395             | NR               | 885       | 3949             | NR               |
| 370       | 2965             | NR               | 500       | 79493            | NR               | 630       | 112252           | NR               | 760       | 5011             | NR               | 890       | 4035             | NR               |
| 375       | 3195             | NR               | 505       | 87950            | NR               | 635       | 102369           | NR               | 765       | 4514             | NR               | 895       | 3391             | NR               |
| 380       | 3028             | NR               | 510       | 94704            | NR               | 640       | 93616            | NR               | 770       | 4375             | NR               | 900       | 3268             | NR               |
| 385       | 2738             | NR               | 515       | 100214           | NR               | 645       | 84211            | NR               | 775       | 3450             | NR               | 905       | 2767             | NR               |
| 390       | 2690             | NR               | 520       | 103961           | NR               | 650       | 75380            | NR               | 780       | 3547             | NR               | 910       | 3391             | NR               |
| 395       | 2604             | NR               | 525       | 106854           | NR               | 655       | 66946            | NR               | 785       | 3648             | NR               | 915       | 3784             | NR               |
| 400       | 2384             | NR               | 530       | 109533           | NR               | 660       | 59483            | NR               | 790       | 3081             | NR               | 920       | 3790             | NR               |
| 405       | 3031             | NR               | 535       | 112417           | NR               | 665       | 51858            | NR               | 795       | 3104             | NR               | 925       | 3175             | NR               |
| 410       | 5239             | NR               | 540       | 115725           | NR               | 670       | 44882            | NR               | 800       | 3444             | NR               | 930       | 3642             | NR               |
| 415       | 10499            | NR               | 545       | 119091           | NR               | 675       | 38742            | NR               | 805       | 3315             | NR               | 935       | 3040             | NR               |
| 420       | 20790            | NR               | 550       | 122884           | NR               | 680       | 33597            | NR               | 810       | 3022             | NR               | 940       | 4039             | NR               |
| 425       | 39276            | NR               | 555       | 128300           | NR               | 685       | 29101            | NR               | 815       | 2832             | NR               | 945       | 4797             | NR               |
| 430       | 66418            | NR               | 560       | 133274           | NR               | 690       | 24855            | NR               | 820       | 3142             | NR               | 950       | 4945             | NR               |
| 435       | 101961           | NR               | 565       | 139112           | NR               | 695       | 21367            | NR               | 825       | 3115             | NR               | 955       | 3757             | NR               |
| 440       | 134023           | NR               | 570       | 144467           | NR               | 700       | 18479            | NR               | 830       | 2520             | NR               | 960       | 4539             | NR               |
| 445       | 129385           | NR               | 575       | 149331           | NR               | 705       | 16131            | NR               | 835       | 2783             | NR               | 965       | 4857             | NR               |
| 450       | 90434            | NR               | 580       | 154784           | NR               | 710       | 14388            | NR               | 840       | 3364             | NR               | 970       | 4463             | NR               |
| 455       | 63521            | NR               | 585       | 156899           | NR               | 715       | 12865            | NR               | 845       | 3807             | NR               | 975       | 3718             | NR               |
| 460       | 48429            | NR               | 590       | 157796           | NR               | 720       | 11277            | NR               | 850       | 2907             | NR               | 980       | 3955             | NR               |
| 465       | 36445            | NR               | 595       | 157849           | NR               | 725       | 10063            | NR               | 855       | 3470             | NR               | 985       | 4314             | NR               |
| 470       | 31953            | NR               | 600       | 155418           | NR               | 730       | 8942             | NR               | 860       | 3820             | NR               | 990       | 4478             | NR               |
| 475       | 32768            | NR               | 605       | 151601           | NR               | 735       | 7722             | NR               | 865       | 3922             | NR               | 995       | 2959             | NR               |
| 480       | 37631            | NR               | 610       | 146416           | NR               | 740       | 6964             | NR               | 870       | 4061             | NR               | 1000      | 4570             | NR               |
| 485       | 46354            | NR               | 615       | 139241           | NR               | 745       | 6117             | NR               | 875       | 3975             | NR               |           |                  |                  |

REPORT NUMBER: SP1-2309-178-2

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 5542.6**

**M/P: 0.62**

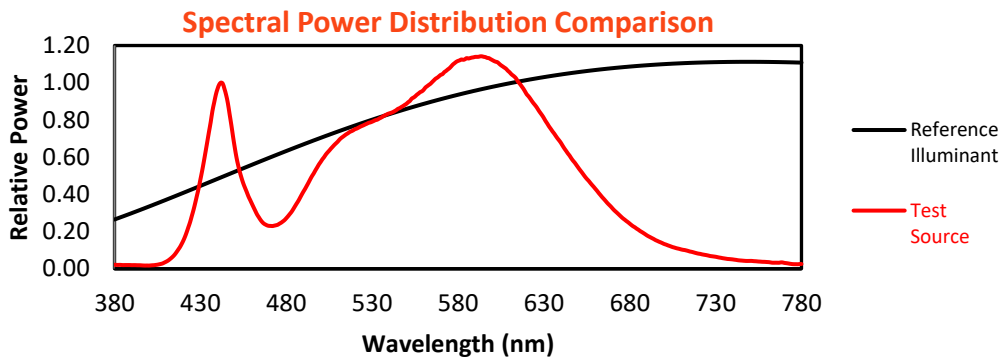
| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 3123             | NR               | 490       | 57459            | NR               | 620       | 129941           | NR               | 750       | 5858             | NR               | 880       | 4622             | NR               |
| 365       | 3041             | NR               | 495       | 69038            | NR               | 625       | 121678           | NR               | 755       | 5395             | NR               | 885       | 3949             | NR               |
| 370       | 2965             | NR               | 500       | 79493            | NR               | 630       | 112252           | NR               | 760       | 5011             | NR               | 890       | 4035             | NR               |
| 375       | 3195             | NR               | 505       | 87950            | NR               | 635       | 102369           | NR               | 765       | 4514             | NR               | 895       | 3391             | NR               |
| 380       | 3028             | NR               | 510       | 94704            | NR               | 640       | 93616            | NR               | 770       | 4375             | NR               | 900       | 3268             | NR               |
| 385       | 2738             | NR               | 515       | 100214           | NR               | 645       | 84211            | NR               | 775       | 3450             | NR               | 905       | 2767             | NR               |
| 390       | 2690             | NR               | 520       | 103961           | NR               | 650       | 75380            | NR               | 780       | 3547             | NR               | 910       | 3391             | NR               |
| 395       | 2604             | NR               | 525       | 106854           | NR               | 655       | 66946            | NR               | 785       | 3648             | NR               | 915       | 3784             | NR               |
| 400       | 2384             | NR               | 530       | 109533           | NR               | 660       | 59483            | NR               | 790       | 3081             | NR               | 920       | 3790             | NR               |
| 405       | 3031             | NR               | 535       | 112417           | NR               | 665       | 51858            | NR               | 795       | 3104             | NR               | 925       | 3175             | NR               |
| 410       | 5239             | NR               | 540       | 115725           | NR               | 670       | 44882            | NR               | 800       | 3444             | NR               | 930       | 3642             | NR               |
| 415       | 10499            | NR               | 545       | 119091           | NR               | 675       | 38742            | NR               | 805       | 3315             | NR               | 935       | 3040             | NR               |
| 420       | 20790            | NR               | 550       | 122884           | NR               | 680       | 33597            | NR               | 810       | 3022             | NR               | 940       | 4039             | NR               |
| 425       | 39276            | NR               | 555       | 128300           | NR               | 685       | 29101            | NR               | 815       | 2832             | NR               | 945       | 4797             | NR               |
| 430       | 66418            | NR               | 560       | 133274           | NR               | 690       | 24855            | NR               | 820       | 3142             | NR               | 950       | 4945             | NR               |
| 435       | 101961           | NR               | 565       | 139112           | NR               | 695       | 21367            | NR               | 825       | 3115             | NR               | 955       | 3757             | NR               |
| 440       | 134023           | NR               | 570       | 144467           | NR               | 700       | 18479            | NR               | 830       | 2520             | NR               | 960       | 4539             | NR               |
| 445       | 129385           | NR               | 575       | 149331           | NR               | 705       | 16131            | NR               | 835       | 2783             | NR               | 965       | 4857             | NR               |
| 450       | 90434            | NR               | 580       | 154784           | NR               | 710       | 14388            | NR               | 840       | 3364             | NR               | 970       | 4463             | NR               |
| 455       | 63521            | NR               | 585       | 156899           | NR               | 715       | 12865            | NR               | 845       | 3807             | NR               | 975       | 3718             | NR               |
| 460       | 48429            | NR               | 590       | 157796           | NR               | 720       | 11277            | NR               | 850       | 2907             | NR               | 980       | 3955             | NR               |
| 465       | 36445            | NR               | 595       | 157849           | NR               | 725       | 10063            | NR               | 855       | 3470             | NR               | 985       | 4314             | NR               |
| 470       | 31953            | NR               | 600       | 155418           | NR               | 730       | 8942             | NR               | 860       | 3820             | NR               | 990       | 4478             | NR               |
| 475       | 32768            | NR               | 605       | 151601           | NR               | 735       | 7722             | NR               | 865       | 3922             | NR               | 995       | 2959             | NR               |
| 480       | 37631            | NR               | 610       | 146416           | NR               | 740       | 6964             | NR               | 870       | 4061             | NR               | 1000      | 4570             | NR               |
| 485       | 46354            | NR               | 615       | 139241           | NR               | 745       | 6117             | NR               | 875       | 3975             | NR               |           |                  |                  |

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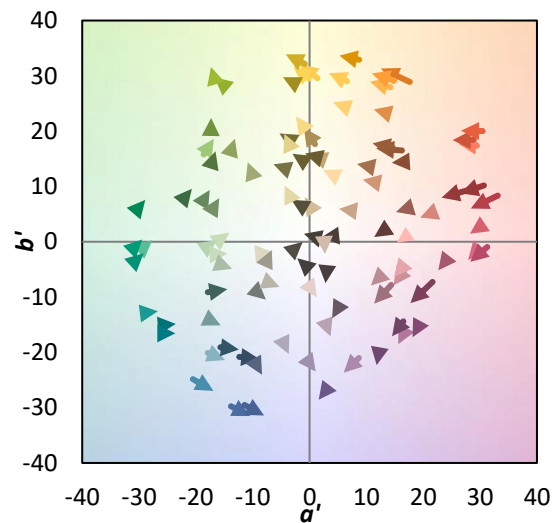
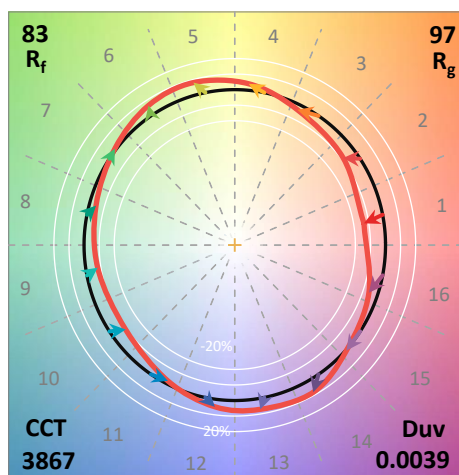
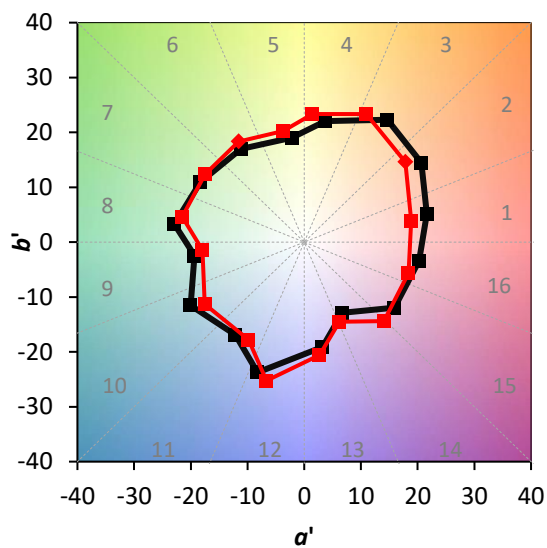
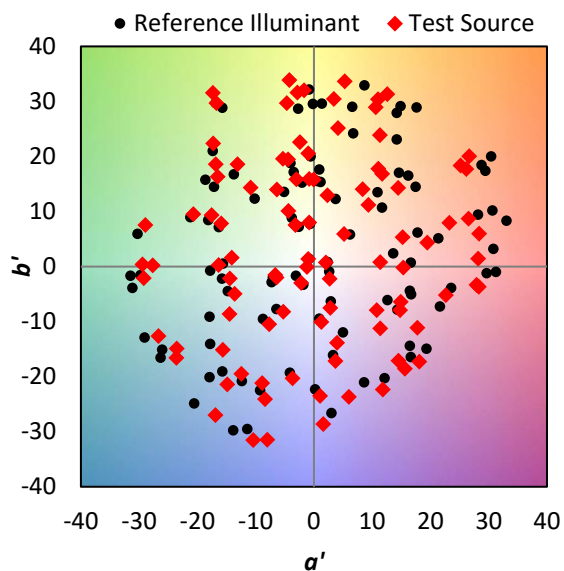
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**Summary**

$R_f = 82.7$   
 $R_g = 96.5$   
 $CIE R_a = 79.8$   
 $R_g = -8.6$



**Color Vector Graphics**

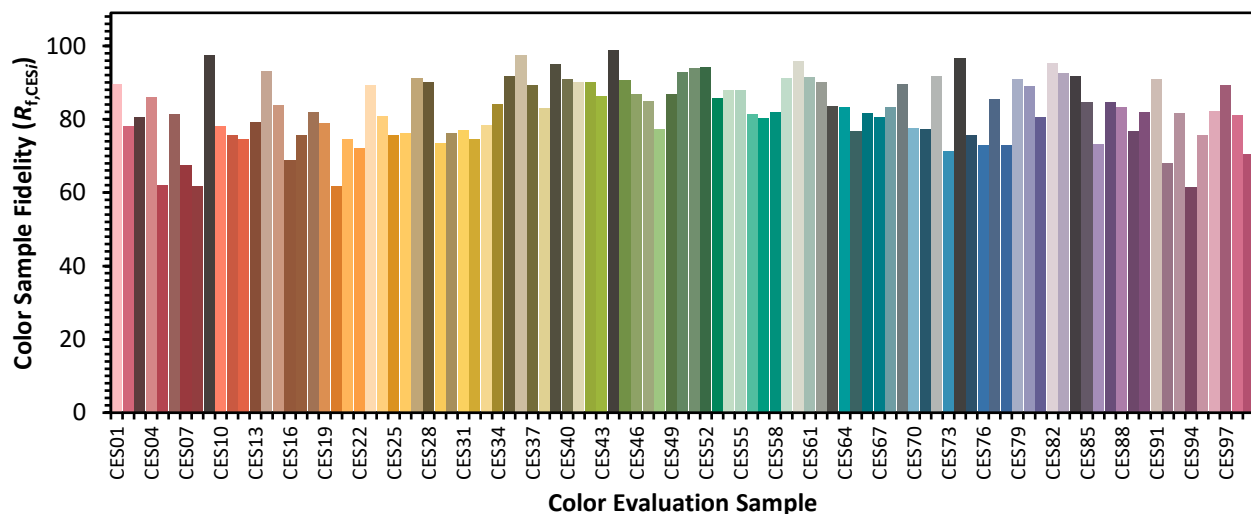


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**Individual Sample Fidelity Index ( $R_{f,i}$ )**

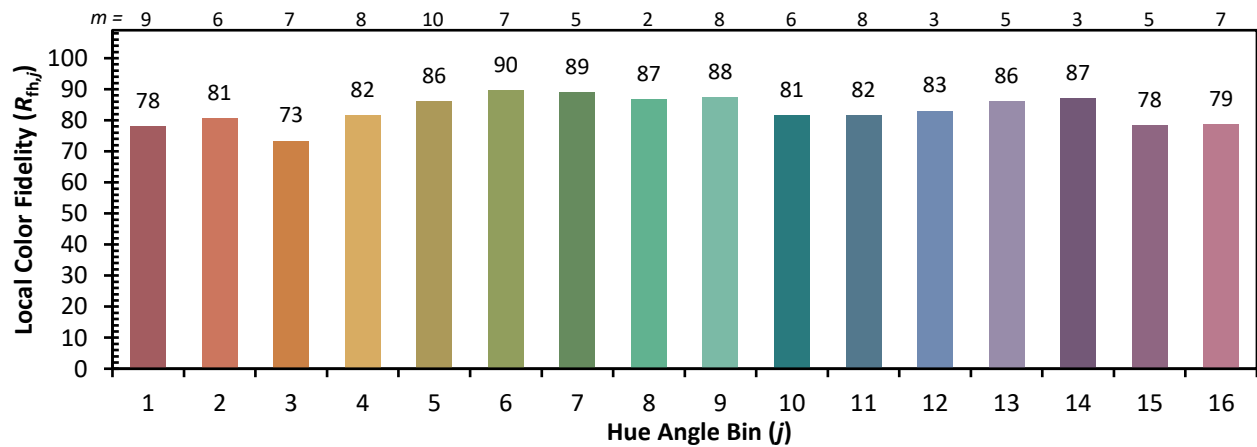
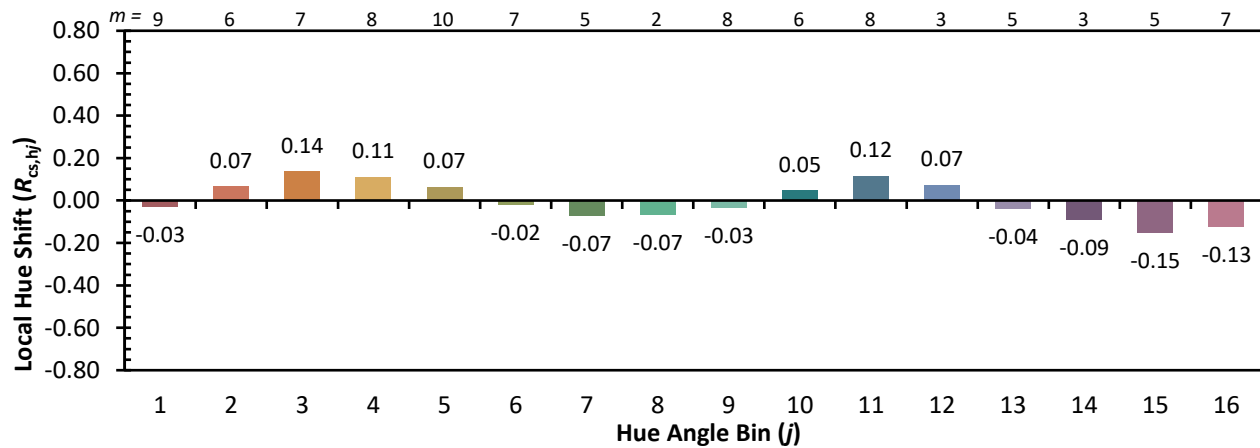
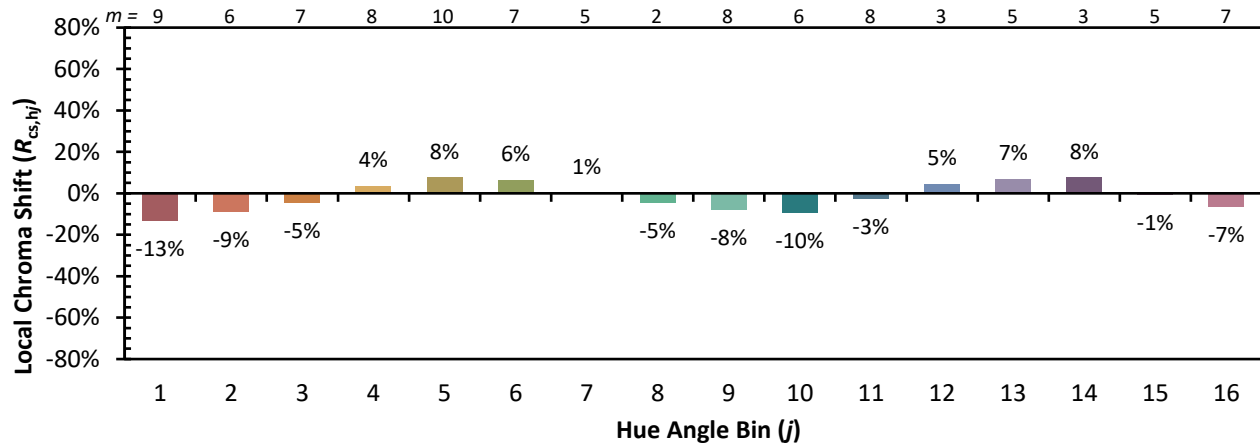
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 76 | CES51 = 94 | CES76 = 73 |
| CES02 = 61 | CES27 = 91 | CES52 = 94 | CES77 = 85 |
| CES03 = 31 | CES28 = 90 | CES53 = 86 | CES78 = 73 |
| CES04 = 69 | CES29 = 73 | CES54 = 88 | CES79 = 91 |
| CES05 = 48 | CES30 = 76 | CES55 = 88 | CES80 = 89 |
| CES06 = 50 | CES31 = 77 | CES56 = 81 | CES81 = 80 |
| CES07 = 40 | CES32 = 74 | CES57 = 80 | CES82 = 95 |
| CES08 = 39 | CES33 = 78 | CES58 = 82 | CES83 = 92 |
| CES09 = 29 | CES34 = 84 | CES59 = 91 | CES84 = 92 |
| CES10 = 74 | CES35 = 92 | CES60 = 96 | CES85 = 85 |
| CES11 = 57 | CES36 = 97 | CES61 = 92 | CES86 = 73 |
| CES12 = 63 | CES37 = 89 | CES62 = 90 | CES87 = 85 |
| CES13 = 42 | CES38 = 83 | CES63 = 83 | CES88 = 83 |
| CES14 = 74 | CES39 = 95 | CES64 = 83 | CES89 = 77 |
| CES15 = 71 | CES40 = 91 | CES65 = 77 | CES90 = 82 |
| CES16 = 47 | CES41 = 90 | CES66 = 82 | CES91 = 91 |
| CES17 = 49 | CES42 = 90 | CES67 = 80 | CES92 = 68 |
| CES18 = 56 | CES43 = 86 | CES68 = 83 | CES93 = 82 |
| CES19 = 71 | CES44 = 99 | CES69 = 90 | CES94 = 61 |
| CES20 = 65 | CES45 = 91 | CES70 = 77 | CES95 = 76 |
| CES21 = 86 | CES46 = 87 | CES71 = 77 | CES96 = 82 |
| CES22 = 78 | CES47 = 85 | CES72 = 92 | CES97 = 89 |
| CES23 = 91 | CES48 = 77 | CES73 = 71 | CES98 = 81 |
| CES24 = 90 | CES49 = 87 | CES74 = 97 | CES99 = 70 |
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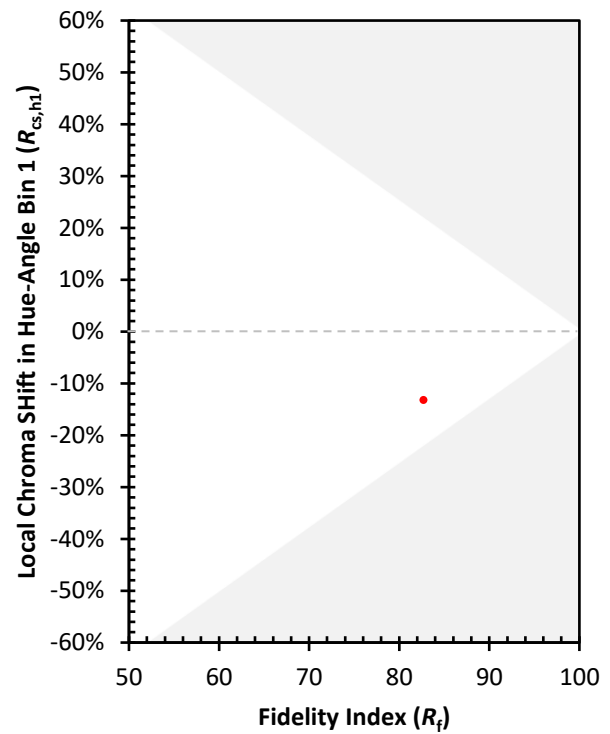
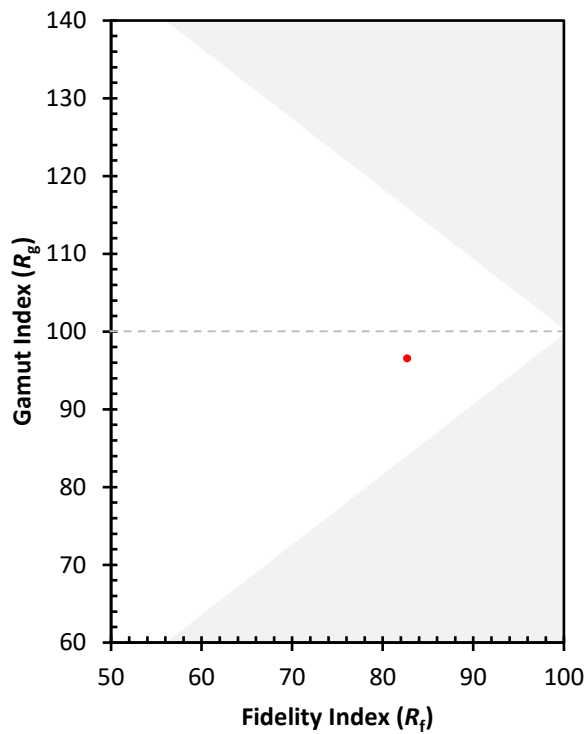
Color Rendition by Hue-Angle Bin



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**Measure Comparisons**



(END OF REPORT)