

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: McGRAW-EDISON

Report Number: P386832

Luminaire Tested: **GPC-SA2C-740-U-SL2-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P386832  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GPC-SA2C-740-U-SL2-HSS  
Description: GALLEON PEDESTRIAN LUMINAIRE  
(2) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II  
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12226 lumens  
Efficiency: N/A  
Efficacy: 108.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2

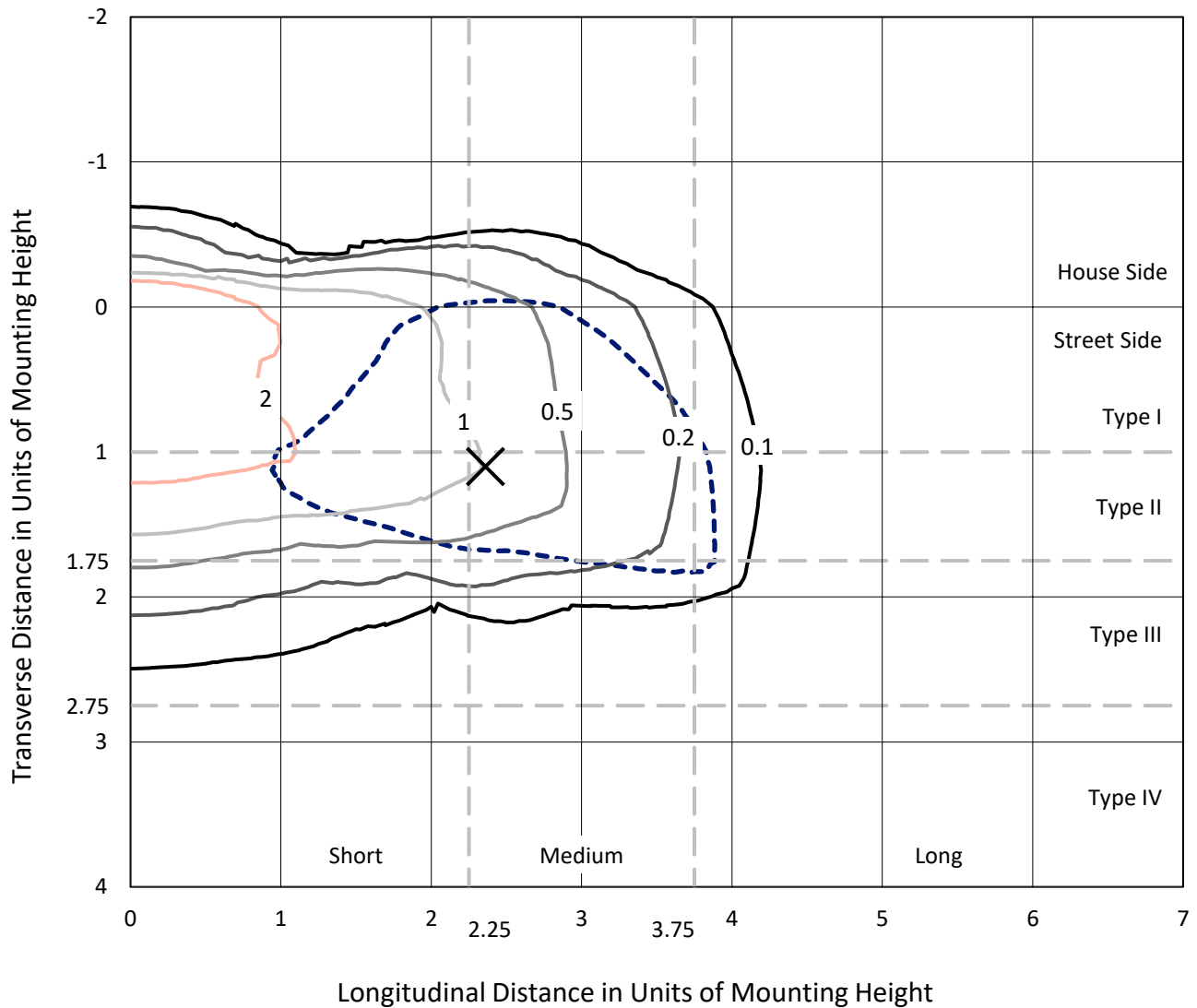
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

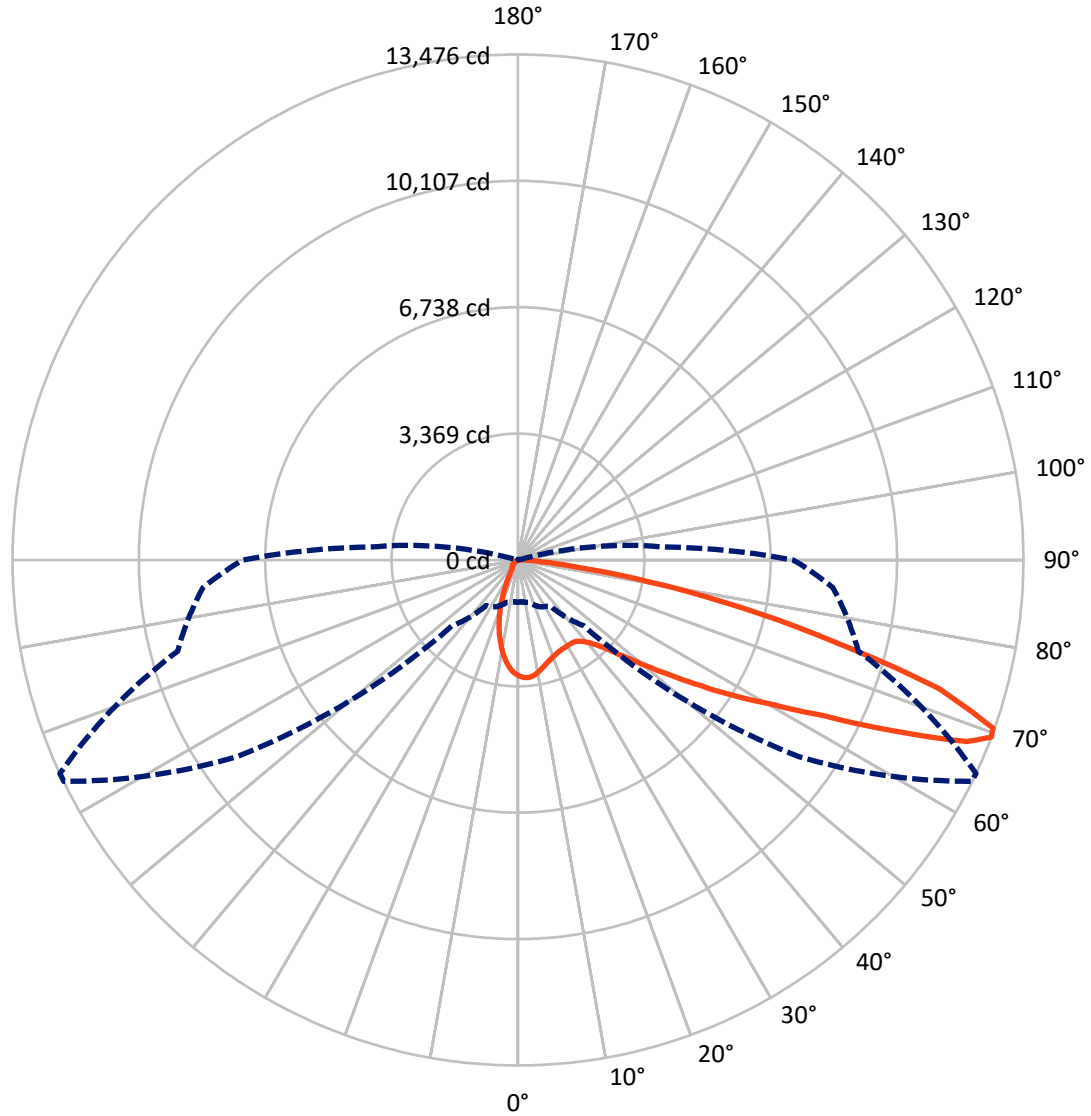
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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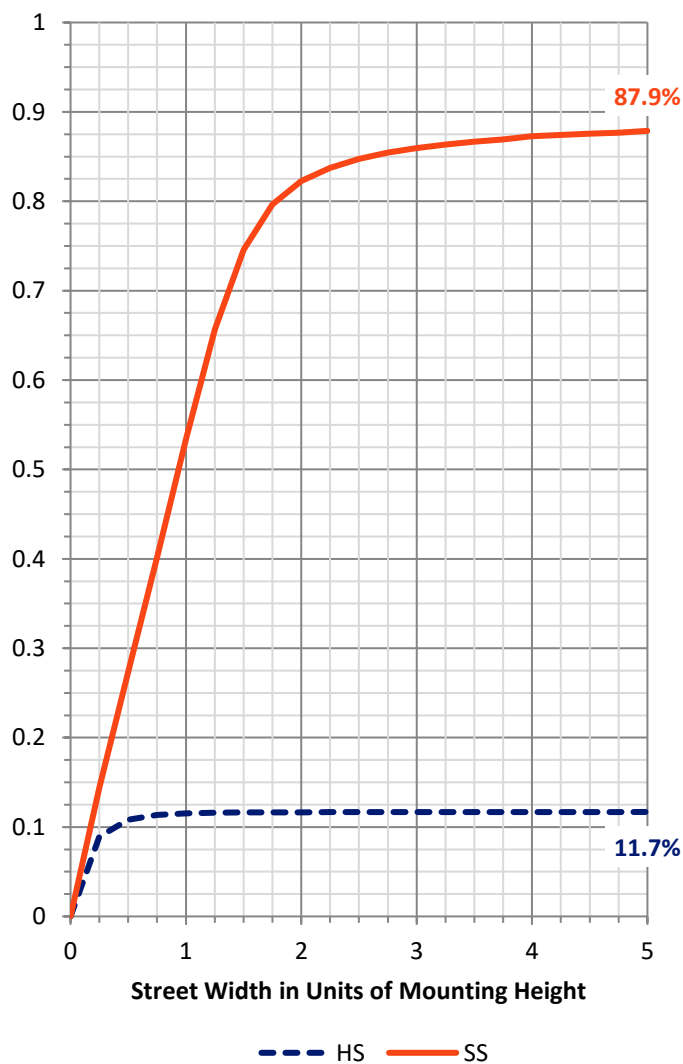
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1441.2   | 0.0    | 1441.2  |
|                    | % Fixture | 11.8     | 0.0    | 11.8    |
| <b>Street Side</b> | Lumens    | 10784.8  | 0.0    | 10784.8 |
|                    | % Fixture | 88.2     | 0.0    | 88.2    |
| <b>Total</b>       | Lumens    | 12226.0  | 0.0    | 12226.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 258.3   | 2.1       |
| 10°-20°   | 565.5   | 4.6       |
| 20°-30°   | 783.3   | 6.4       |
| 30°-40°   | 1092.2  | 8.9       |
| 40°-50°   | 1697.6  | 13.9      |
| 50°-60°   | 2725.3  | 22.3      |
| 60°-70°   | 3082.7  | 25.2      |
| 70°-80°   | 1810.5  | 14.8      |
| 80°-90°   | 210.6   | 1.7       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 12226.0 | 100.0     |
| 0°-180°   | 12226.0 | 100.0     |

**Coefficient of Utilization**



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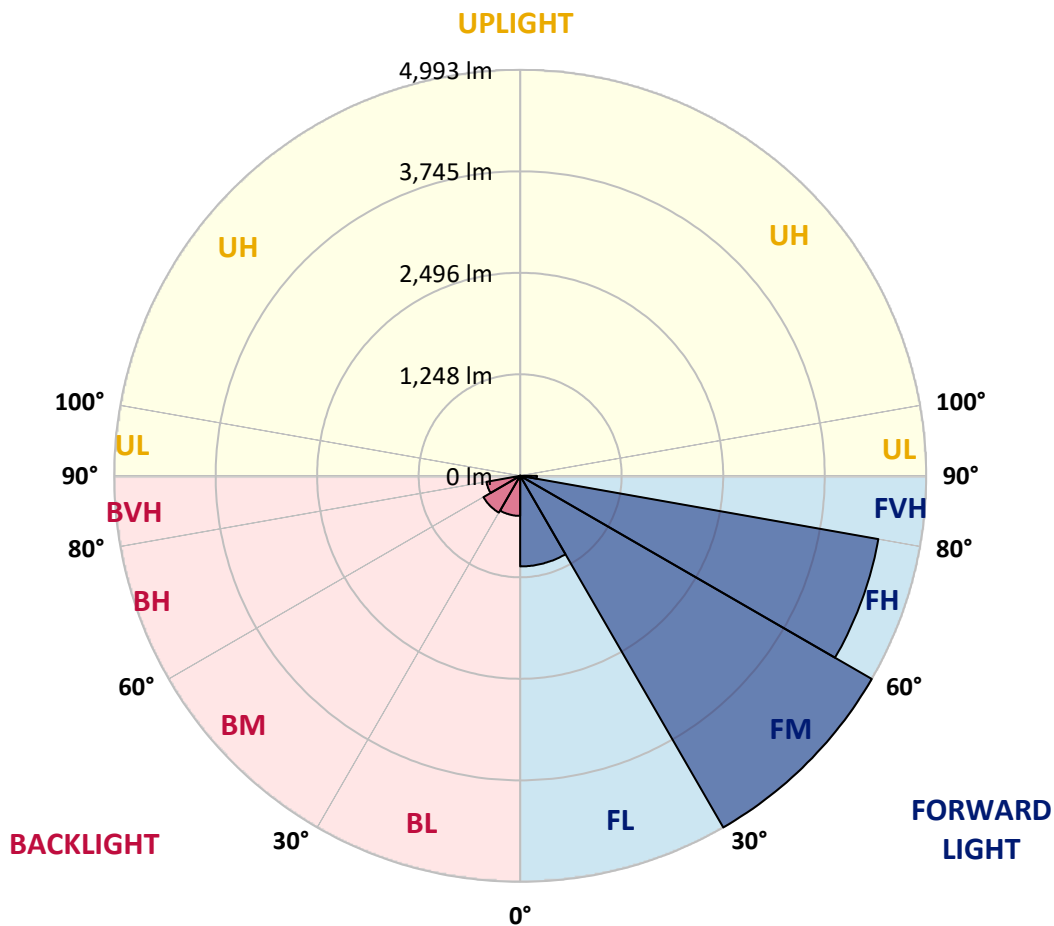
CATALOG NUMBER: GPC-SA2C-740-U-SL2-HSS

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

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 1114.1 | 9.1       |                         |      |         |
| FM (30°-60°)   | 4992.7 | 40.8      |                         |      |         |
| FH (60°-80°)   | 4472.2 | 36.6      |                         |      | G2/5000 |
| FVH (80°-90°)  | 205.9  | 1.7       |                         |      | G2/225  |
| BL (0°-30°)    | 493.1  | 4.0       | B1/500                  |      |         |
| BM (30°-60°)   | 522.2  | 4.3       | B1/1000                 |      |         |
| BH (60°-80°)   | 421.1  | 3.4       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 4.7    | 0.0       |                         |      | G0/10   |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

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

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°     | 64°     | 65°     | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|
| 0°    | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5  | 3089.5  | 3089.5  | 3089.5 | 3089.5 |
| 2.5°  | 3117.0 | 3109.2 | 3115.4 | 3128.8 | 3135.6 | 3135.6 | 3140.7  | 3134.5  | 3136.6  | 3121.6 | 3099.9 |
| 5°    | 2921.9 | 2910.0 | 2927.1 | 2964.9 | 3011.4 | 3051.2 | 3110.2  | 3141.3  | 3144.4  | 3144.9 | 3119.5 |
| 7.5°  | 2711.9 | 2701.0 | 2726.4 | 2770.9 | 2830.9 | 2904.8 | 3007.8  | 3097.8  | 3103.0  | 3151.6 | 3133.0 |
| 10°   | 2541.2 | 2533.4 | 2562.9 | 2610.5 | 2680.8 | 2763.6 | 2889.8  | 3015.0  | 3030.0  | 3137.6 | 3130.9 |
| 12.5° | 2405.6 | 2399.4 | 2427.3 | 2482.2 | 2554.1 | 2645.7 | 2777.6  | 2922.9  | 2943.1  | 3106.1 | 3120.6 |
| 15°   | 2306.8 | 2305.8 | 2329.0 | 2381.8 | 2461.5 | 2546.8 | 2681.9  | 2837.6  | 2860.9  | 3071.9 | 3119.0 |
| 17.5° | 2255.1 | 2256.6 | 2273.7 | 2318.7 | 2387.0 | 2471.8 | 2601.2  | 2765.7  | 2791.0  | 3041.4 | 3126.8 |
| 20°   | 2249.9 | 2251.4 | 2260.8 | 2286.1 | 2341.5 | 2416.5 | 2535.5  | 2705.2  | 2731.5  | 3018.7 | 3139.2 |
| 22.5° | 2295.4 | 2294.4 | 2297.0 | 2294.4 | 2325.4 | 2382.3 | 2492.0  | 2658.6  | 2689.1  | 3003.7 | 3149.0 |
| 25°   | 2382.9 | 2381.3 | 2380.3 | 2361.1 | 2340.4 | 2371.0 | 2473.9  | 2632.2  | 2661.2  | 2992.8 | 3154.7 |
| 27.5° | 2504.4 | 2503.4 | 2501.8 | 2470.3 | 2408.2 | 2389.1 | 2476.0  | 2622.4  | 2646.7  | 2984.0 | 3153.7 |
| 30°   | 2664.3 | 2671.5 | 2669.5 | 2625.5 | 2528.7 | 2444.4 | 2497.7  | 2617.2  | 2638.4  | 2966.9 | 3142.8 |
| 32.5° | 2852.1 | 2866.6 | 2877.9 | 2830.9 | 2709.8 | 2554.1 | 2547.9  | 2622.9  | 2638.4  | 2954.0 | 3123.2 |
| 35°   | 3047.1 | 3065.7 | 3107.6 | 3091.1 | 2931.7 | 2719.1 | 2634.3  | 2657.0  | 2670.0  | 2961.2 | 3113.8 |
| 37.5° | 3239.0 | 3261.3 | 3352.3 | 3400.5 | 3222.5 | 2937.4 | 2768.8  | 2741.4  | 2748.1  | 3005.2 | 3124.2 |
| 40°   | 3462.0 | 3495.6 | 3633.8 | 3711.4 | 3569.6 | 3229.7 | 2970.0  | 2886.2  | 2888.8  | 3101.9 | 3172.3 |
| 42.5° | 3754.8 | 3789.5 | 3939.0 | 4060.6 | 3960.7 | 3599.1 | 3243.2  | 3107.6  | 3105.1  | 3283.0 | 3285.6 |
| 45°   | 4111.8 | 4148.0 | 4302.7 | 4437.7 | 4392.7 | 4036.8 | 3592.9  | 3431.0  | 3427.9  | 3568.6 | 3500.3 |
| 47.5° | 4516.3 | 4552.0 | 4690.2 | 4829.3 | 4878.0 | 4547.9 | 4038.3  | 3872.3  | 3865.0  | 3965.4 | 3831.9 |
| 50°   | 4863.5 | 4886.8 | 5014.0 | 5201.3 | 5420.6 | 5175.9 | 4592.4  | 4432.5  | 4424.8  | 4492.5 | 4318.7 |
| 52.5° | 4989.7 | 5003.2 | 5132.5 | 5394.8 | 5942.1 | 6026.4 | 5320.3  | 5114.4  | 5108.7  | 5138.2 | 4966.9 |
| 55°   | 4734.1 | 4758.5 | 4917.3 | 5306.3 | 6224.6 | 6987.7 | 6239.1  | 5958.7  | 5915.7  | 5852.1 | 5644.7 |
| 57.5° | 4037.8 | 4076.6 | 4247.3 | 4764.7 | 6092.7 | 7750.2 | 7589.3  | 6913.7  | 6850.6  | 6461.5 | 6195.6 |
| 60°   | 3025.4 | 3073.0 | 3214.7 | 3772.9 | 5388.6 | 8021.8 | 9064.8  | 7977.8  | 7835.6  | 6946.8 | 6702.1 |
| 62.5° | 2076.1 | 2099.9 | 2196.1 | 2559.8 | 3968.5 | 7576.9 | 10299.1 | 9403.1  | 9143.4  | 7474.5 | 7249.9 |
| 65°   | 1585.6 | 1593.9 | 1633.2 | 1758.4 | 2363.2 | 6154.7 | 10790.1 | 11283.6 | 10969.6 | 8105.6 | 7818.5 |
| 67.5° | 1277.8 | 1271.1 | 1325.4 | 1504.4 | 1582.5 | 3754.8 | 10217.4 | 13062.7 | 12915.8 | 8949.4 | 8390.7 |
| 69°   | 1126.8 | 1117.4 | 1172.8 | 1380.8 | 1486.3 | 2482.2 | 9134.1  | 13466.8 | 13476.1 | 9394.8 | 8430.0 |
| 70°   | 1014.0 | 1020.2 | 1075.0 | 1307.3 | 1453.7 | 1948.3 | 8099.4  | 13363.8 | 13437.3 | 9561.4 | 8194.1 |
| 72.5° | 677.2  | 693.7  | 803.9  | 1085.4 | 1397.8 | 1474.4 | 4890.4  | 11467.8 | 11750.3 | 9186.3 | 7030.1 |
| 75°   | 381.8  | 394.2  | 525.1  | 818.4  | 1317.1 | 1404.1 | 2583.1  | 8448.6  | 8721.8  | 7681.9 | 5421.2 |
| 77.5° | 187.3  | 194.0  | 297.0  | 528.2  | 1101.4 | 1337.8 | 1465.1  | 5738.8  | 6050.8  | 5014.0 | 3066.3 |
| 80°   | 79.2   | 82.8   | 148.5  | 325.9  | 787.4  | 1276.8 | 1088.0  | 3531.9  | 3570.7  | 1964.3 | 816.9  |
| 82.5° | 30.5   | 31.6   | 62.6   | 203.3  | 500.3  | 995.4  | 910.0   | 1674.6  | 1634.3  | 369.9  | 186.2  |
| 85°   | 3.6    | 4.1    | 22.8   | 122.1  | 278.3  | 512.2  | 739.3   | 721.7   | 667.9   | 73.5   | 95.7   |
| 87.5° | 0.0    | 0.0    | 1.6    | 37.2   | 82.8   | 240.0  | 384.4   | 299.5   | 270.0   | 23.8   | 49.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    |



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 CATALOG NUMBER: GPC-SA2C-740-U-SL2-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5 | 3089.5 |
| 2.5°  | 3081.8 | 3076.6 | 3048.7 | 3008.3 | 2970.0 | 2922.4 | 2876.9 | 2849.5 | 2827.8 | 2813.3 | 2830.3 |
| 5°    | 3090.0 | 3067.3 | 2982.4 | 2873.8 | 2767.2 | 2647.2 | 2535.5 | 2440.8 | 2403.5 | 2362.2 | 2380.8 |
| 7.5°  | 3087.5 | 3044.5 | 2891.9 | 2698.4 | 2502.9 | 2300.6 | 2109.2 | 1961.7 | 1885.2 | 1810.2 | 1829.3 |
| 10°   | 3074.5 | 3002.1 | 2770.9 | 2484.2 | 2191.4 | 1900.7 | 1629.1 | 1422.7 | 1307.3 | 1202.8 | 1217.8 |
| 12.5° | 3046.1 | 2945.2 | 2628.1 | 2239.0 | 1847.4 | 1464.1 | 1145.9 | 881.5  | 739.8  | 677.2  | 685.0  |
| 15°   | 3029.0 | 2889.8 | 2477.0 | 1990.7 | 1480.1 | 1019.7 | 700.5  | 521.0  | 456.3  | 435.6  | 438.2  |
| 17.5° | 3020.7 | 2836.6 | 2320.8 | 1706.7 | 1104.5 | 649.3  | 452.7  | 399.4  | 385.4  | 381.8  | 382.8  |
| 20°   | 3012.4 | 2782.8 | 2159.9 | 1425.8 | 761.0  | 436.6  | 372.0  | 356.4  | 351.3  | 346.6  | 347.6  |
| 22.5° | 2998.5 | 2731.0 | 1987.1 | 1141.2 | 513.2  | 354.4  | 335.2  | 320.2  | 309.4  | 303.7  | 304.7  |
| 25°   | 2981.4 | 2676.7 | 1810.7 | 850.0  | 374.6  | 316.1  | 298.0  | 276.8  | 263.8  | 253.5  | 254.0  |
| 27.5° | 2954.0 | 2610.0 | 1628.6 | 618.7  | 314.5  | 283.0  | 258.7  | 235.4  | 213.7  | 201.8  | 201.8  |
| 30°   | 2915.7 | 2534.4 | 1426.3 | 442.8  | 281.9  | 250.4  | 220.9  | 191.9  | 168.7  | 157.8  | 156.8  |
| 32.5° | 2873.3 | 2455.8 | 1221.9 | 335.8  | 256.1  | 219.9  | 186.2  | 155.7  | 135.0  | 126.2  | 125.7  |
| 35°   | 2837.1 | 2371.0 | 1018.1 | 281.4  | 230.2  | 190.4  | 153.6  | 127.8  | 111.2  | 104.0  | 103.5  |
| 37.5° | 2813.8 | 2286.1 | 819.5  | 251.4  | 206.9  | 163.0  | 128.8  | 105.5  | 93.6   | 87.9   | 87.4   |
| 40°   | 2810.2 | 2223.0 | 637.9  | 228.7  | 185.2  | 138.6  | 107.6  | 89.5   | 78.6   | 72.4   | 71.9   |
| 42.5° | 2857.2 | 2186.8 | 489.4  | 209.5  | 163.0  | 117.4  | 91.6   | 76.6   | 65.2   | 59.0   | 58.5   |
| 45°   | 2980.9 | 2198.2 | 376.6  | 192.4  | 140.7  | 99.3   | 77.6   | 63.6   | 53.3   | 48.6   | 47.6   |
| 47.5° | 3206.4 | 2276.8 | 299.5  | 175.4  | 119.5  | 84.3   | 66.2   | 52.8   | 44.0   | 39.3   | 38.8   |
| 50°   | 3607.9 | 2461.5 | 250.4  | 156.8  | 99.8   | 71.9   | 54.8   | 42.9   | 35.7   | 31.6   | 31.0   |
| 52.5° | 4140.8 | 2790.5 | 223.5  | 138.6  | 82.8   | 61.0   | 45.0   | 34.1   | 27.9   | 24.8   | 24.3   |
| 55°   | 4728.5 | 3188.9 | 205.9  | 119.0  | 67.8   | 50.7   | 35.7   | 26.9   | 21.7   | 19.1   | 18.1   |
| 57.5° | 5302.2 | 3533.9 | 189.3  | 99.8   | 56.4   | 41.4   | 28.5   | 21.2   | 17.1   | 14.5   | 14.0   |
| 60°   | 5829.3 | 3851.1 | 170.2  | 80.2   | 46.0   | 32.6   | 22.2   | 16.6   | 13.5   | 10.9   | 10.9   |
| 62.5° | 6393.8 | 4096.3 | 143.8  | 62.6   | 37.8   | 24.8   | 18.1   | 15.0   | 10.9   | 9.3    | 8.8    |
| 65°   | 6991.8 | 4278.4 | 112.8  | 48.6   | 29.5   | 18.6   | 15.0   | 15.5   | 8.8    | 6.7    | 6.2    |
| 67.5° | 7433.6 | 4242.2 | 83.3   | 38.3   | 22.8   | 14.5   | 14.5   | 16.6   | 7.8    | 5.2    | 4.7    |
| 69°   | 7336.3 | 3947.8 | 69.8   | 33.1   | 19.7   | 12.4   | 13.5   | 16.6   | 7.2    | 4.7    | 4.1    |
| 70°   | 7054.4 | 3621.9 | 61.6   | 29.5   | 17.6   | 11.4   | 12.9   | 16.0   | 6.7    | 4.7    | 4.1    |
| 72.5° | 5874.9 | 2727.9 | 48.1   | 22.2   | 14.0   | 9.3    | 10.9   | 14.0   | 6.7    | 4.7    | 3.6    |
| 75°   | 4419.1 | 1746.0 | 36.7   | 16.0   | 10.3   | 7.2    | 8.3    | 10.3   | 6.7    | 4.1    | 3.6    |
| 77.5° | 2404.6 | 629.6  | 26.4   | 10.9   | 7.2    | 5.7    | 5.7    | 7.8    | 6.2    | 3.1    | 2.1    |
| 80°   | 618.2  | 158.3  | 16.6   | 7.2    | 5.7    | 4.1    | 3.6    | 5.2    | 3.6    | 0.5    | 0.0    |
| 82.5° | 152.6  | 35.7   | 8.8    | 5.2    | 4.1    | 1.6    | 1.6    | 2.6    | 1.6    | 0.0    | 0.0    |
| 85°   | 83.8   | 17.6   | 5.7    | 3.6    | 2.1    | 0.0    | 0.0    | 0.5    | 0.0    | 0.0    | 0.0    |
| 87.5° | 42.9   | 5.2    | 1.6    | 1.0    | 0.5    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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



**Test Information**

Test Method: LM-79-08  
 Report Number: SP1-2101-121-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry: 4π  
 Issue Date: 03/05/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**  
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

**Spectral Parameters**

|                           |         |           |      |      |       |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K):                  | 3905    | CRI (Ra): | 71.2 | R9:  | -29.7 |
| CIE u':                   | 0.2273  | R1:       | 68.9 | R10: | 46.2  |
| CIE v':                   | 0.5024  | R2:       | 77.0 | R11: | 68.8  |
| Duv:                      | -0.0008 | R3:       | 84.0 | R12: | 45.6  |
| CIE x:                    | 0.3841  | R4:       | 71.6 | R13: | 69.5  |
| CIE y:                    | 0.3774  | R5:       | 68.9 | R14: | 90.7  |
| CIE z:                    | 0.2385  | R6:       | 68.3 |      |       |
| Peak Wavelength (nm):     | 443     | R7:       | 78.7 |      |       |
| Dominant Wavelength (nm): | 579     | R8:       | 52.2 |      |       |
| Purity:                   | 28.7    |           |      |      |       |
| Rf:                       | 71.7    |           |      |      |       |
| Rg:                       | 96.9    |           |      |      |       |



**Test Conditions**

Stabilization Time: 211M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.8/312%  
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2101-121-2

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 1/31/2021        | 7/31/2021            |
| Power Meter                    | IN0071                | 12/1/2020        | 12/1/2021            |
| AC Power Source                | IN0063                | 12/1/2020        | 12/1/2021            |
| DC Power Source                | IN0208                | 12/1/2020        | 12/1/2021            |
| Sphere Thermometer             | IN0085                | 12/1/2020        | 12/1/2021            |
| Room Thermometer               | IN0046                | 12/1/2020        | 12/1/2021            |

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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

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**Photopic Flux vs. Wavelength**



#####

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360    | 2304          | 0.0           | 490    | 19043         | 2.7           | 620    | 97577         | 25.4          | 750    | 4830          | 0.0           | 880    | 3505          | 0.0           |
| 365    | 2150          | 0.0           | 495    | 26606         | 4.8           | 625    | 90158         | 19.9          | 755    | 4664          | 0.0           | 885    | 2991          | 0.0           |
| 370    | 2146          | 0.0           | 500    | 36376         | 8.0           | 630    | 82240         | 14.9          | 760    | 4006          | 0.0           | 890    | 2327          | 0.0           |
| 375    | 2332          | 0.0           | 505    | 47714         | 13.3          | 635    | 74361         | 11.2          | 765    | 3715          | 0.0           | 895    | 2775          | 0.0           |
| 380    | 2527          | 0.0           | 510    | 58741         | 20.2          | 640    | 66994         | 8.0           | 770    | 3696          | 0.0           | 900    | 2141          | 0.0           |
| 385    | 2304          | 0.0           | 515    | 68716         | 28.5          | 645    | 60405         | 5.8           | 775    | 3117          | 0.0           | 905    | 2421          | 0.0           |
| 390    | 2064          | 0.0           | 520    | 77136         | 37.4          | 650    | 53806         | 3.9           | 780    | 3062          | 0.0           | 910    | 2200          | 0.0           |
| 395    | 1856          | 0.0           | 525    | 83567         | 44.9          | 655    | 47610         | 2.7           | 785    | 2907          | 0.0           | 915    | 2716          | 0.0           |
| 400    | 1856          | 0.0           | 530    | 89283         | 52.6          | 660    | 42018         | 1.8           | 790    | 2655          | 0.0           | 920    | 2656          | 0.0           |
| 405    | 2374          | 0.0           | 535    | 94097         | 58.4          | 665    | 36742         | 1.2           | 795    | 2467          | 0.0           | 925    | 2671          | 0.0           |
| 410    | 4084          | 0.0           | 540    | 96845         | 63.1          | 670    | 32105         | 0.7           | 800    | 2609          | 0.0           | 930    | 3292          | 0.0           |
| 415    | 8543          | 0.0           | 545    | 100829        | 67.1          | 675    | 27946         | 0.5           | 805    | 2293          | 0.0           | 935    | 3188          | 0.0           |
| 420    | 18394         | 0.1           | 550    | 105648        | 71.8          | 680    | 24146         | 0.3           | 810    | 2188          | 0.0           | 940    | 1997          | 0.0           |
| 425    | 37987         | 0.2           | 555    | 110017        | 75.1          | 685    | 21191         | 0.2           | 815    | 2386          | 0.0           | 945    | 2623          | 0.0           |
| 430    | 67605         | 0.5           | 560    | 114586        | 77.9          | 690    | 18544         | 0.1           | 820    | 2712          | 0.0           | 950    | 2969          | 0.0           |
| 435    | 102160        | 1.2           | 565    | 118987        | 79.1          | 695    | 16058         | 0.1           | 825    | 2473          | 0.0           | 955    | 2277          | 0.0           |
| 440    | 135103        | 2.1           | 570    | 122326        | 79.5          | 700    | 14133         | 0.0           | 830    | 1969          | 0.0           | 960    | 4267          | 0.0           |
| 445    | 140126        | 2.9           | 575    | 125968        | 78.4          | 705    | 12309         | 0.0           | 835    | 1917          | 0.0           | 965    | 2034          | 0.0           |
| 450    | 102339        | 2.7           | 580    | 127613        | 75.8          | 710    | 11142         | 0.0           | 840    | 2248          | 0.0           | 970    | 3586          | 0.0           |
| 455    | 58751         | 2.0           | 585    | 129466        | 71.9          | 715    | 10143         | 0.0           | 845    | 2266          | 0.0           | 975    | 2505          | 0.0           |
| 460    | 36892         | 1.5           | 590    | 128813        | 66.6          | 720    | 9072          | 0.0           | 850    | 2558          | 0.0           | 980    | 2666          | 0.0           |
| 465    | 24637         | 1.3           | 595    | 126387        | 59.9          | 725    | 8130          | 0.0           | 855    | 2767          | 0.0           | 985    | 2934          | 0.0           |
| 470    | 16738         | 1.0           | 600    | 123477        | 53.2          | 730    | 7149          | 0.0           | 860    | 2826          | 0.0           | 990    | 4120          | 0.0           |
| 475    | 13456         | 1.1           | 605    | 118718        | 46.0          | 735    | 6311          | 0.0           | 865    | 2385          | 0.0           | 995    | 3858          | 0.0           |
| 480    | 13081         | 1.2           | 610    | 112091        | 38.5          | 740    | 5711          | 0.0           | 870    | 3194          | 0.0           | 1000   | 3405          | 0.0           |
| 485    | 14734         | 1.7           | 615    | 105039        | 31.7          | 745    | 5111          | 0.0           | 875    | 3189          | 0.0           |        |               |               |

REPORT NUMBER: SP1-2101-121-2

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: 10425.8 S/P: 1.47**

| 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    | 2304          | 0.0           | 490    | 19043         | 29.3          | 620    | 97577         | 1.2           | 750    | 4830          | 0.0           | 880    | 3505          | 0.0           |
| 365    | 2150          | 0.0           | 495    | 26606         | 43.0          | 625    | 90158         | 0.8           | 755    | 4664          | 0.0           | 885    | 2991          | 0.0           |
| 370    | 2146          | 0.0           | 500    | 36376         | 60.8          | 630    | 82240         | 0.5           | 760    | 4006          | 0.0           | 890    | 2327          | 0.0           |
| 375    | 2332          | 0.0           | 505    | 47714         | 81.1          | 635    | 74361         | 0.3           | 765    | 3715          | 0.0           | 895    | 2775          | 0.0           |
| 380    | 2527          | 0.0           | 510    | 58741         | 99.6          | 640    | 66994         | 0.2           | 770    | 3696          | 0.0           | 900    | 2141          | 0.0           |
| 385    | 2304          | 0.0           | 515    | 68716         | 113.9         | 645    | 60405         | 0.1           | 775    | 3117          | 0.0           | 905    | 2421          | 0.0           |
| 390    | 2064          | 0.0           | 520    | 77136         | 122.6         | 650    | 53806         | 0.1           | 780    | 3062          | 0.0           | 910    | 2200          | 0.0           |
| 395    | 1856          | 0.0           | 525    | 83567         | 125.0         | 655    | 47610         | 0.0           | 785    | 2907          | 0.0           | 915    | 2716          | 0.0           |
| 400    | 1856          | 0.0           | 530    | 89283         | 123.1         | 660    | 42018         | 0.0           | 790    | 2655          | 0.0           | 920    | 2656          | 0.0           |
| 405    | 2374          | 0.1           | 535    | 94097         | 117.3         | 665    | 36742         | 0.0           | 795    | 2467          | 0.0           | 925    | 2671          | 0.0           |
| 410    | 4084          | 0.2           | 540    | 96845         | 107.0         | 670    | 32105         | 0.0           | 800    | 2609          | 0.0           | 930    | 3292          | 0.0           |
| 415    | 8543          | 0.9           | 545    | 100829        | 96.7          | 675    | 27946         | 0.0           | 805    | 2293          | 0.0           | 935    | 3188          | 0.0           |
| 420    | 18394         | 3.0           | 550    | 105648        | 86.4          | 680    | 24146         | 0.0           | 810    | 2188          | 0.0           | 940    | 1997          | 0.0           |
| 425    | 37987         | 9.3           | 555    | 110017        | 75.2          | 685    | 21191         | 0.0           | 815    | 2386          | 0.0           | 945    | 2623          | 0.0           |
| 430    | 67605         | 23.0          | 560    | 114586        | 64.0          | 690    | 18544         | 0.0           | 820    | 2712          | 0.0           | 950    | 2969          | 0.0           |
| 435    | 102160        | 45.7          | 565    | 118987        | 53.4          | 695    | 16058         | 0.0           | 825    | 2473          | 0.0           | 955    | 2277          | 0.0           |
| 440    | 135103        | 75.5          | 570    | 122326        | 43.2          | 700    | 14133         | 0.0           | 830    | 1969          | 0.0           | 960    | 4267          | 0.0           |
| 445    | 140126        | 93.8          | 575    | 125968        | 34.3          | 705    | 12309         | 0.0           | 835    | 1917          | 0.0           | 965    | 2034          | 0.0           |
| 450    | 102339        | 79.3          | 580    | 127613        | 26.3          | 710    | 11142         | 0.0           | 840    | 2248          | 0.0           | 970    | 3586          | 0.0           |
| 455    | 58751         | 51.3          | 585    | 129466        | 19.8          | 715    | 10143         | 0.0           | 845    | 2266          | 0.0           | 975    | 2505          | 0.0           |
| 460    | 36892         | 35.6          | 590    | 128813        | 14.3          | 720    | 9072          | 0.0           | 850    | 2558          | 0.0           | 980    | 2666          | 0.0           |
| 465    | 24637         | 26.0          | 595    | 126387        | 10.1          | 725    | 8130          | 0.0           | 855    | 2767          | 0.0           | 985    | 2934          | 0.0           |
| 470    | 16738         | 19.3          | 600    | 123477        | 7.0           | 730    | 7149          | 0.0           | 860    | 2826          | 0.0           | 990    | 4120          | 0.0           |
| 475    | 13456         | 16.8          | 605    | 118718        | 4.7           | 735    | 6311          | 0.0           | 865    | 2385          | 0.0           | 995    | 3858          | 0.0           |
| 480    | 13081         | 17.7          | 610    | 112091        | 3.0           | 740    | 5711          | 0.0           | 870    | 3194          | 0.0           | 1000   | 3405          | 0.0           |
| 485    | 14734         | 21.4          | 615    | 105039        | 1.9           | 745    | 5111          | 0.0           | 875    | 3189          | 0.0           |        |               |               |

REPORT NUMBER: SP1-2101-121-2

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 3927.2 M/P: 0.55**

| 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    | 2304          | 0.0           | 490    | 19043         | 15.8          | 620    | 97577         | 0.1           | 750    | 4830          | 0.0           | 880    | 3505          | 0.0           |
| 365    | 2150          | 0.0           | 495    | 26606         | 22.0          | 625    | 90158         | 0.0           | 755    | 4664          | 0.0           | 885    | 2991          | 0.0           |
| 370    | 2146          | 0.0           | 500    | 36376         | 29.2          | 630    | 82240         | 0.0           | 760    | 4006          | 0.0           | 890    | 2327          | 0.0           |
| 375    | 2332          | 0.0           | 505    | 47714         | 36.6          | 635    | 74361         | 0.0           | 765    | 3715          | 0.0           | 895    | 2775          | 0.0           |
| 380    | 2527          | 0.0           | 510    | 58741         | 42.2          | 640    | 66994         | 0.0           | 770    | 3696          | 0.0           | 900    | 2141          | 0.0           |
| 385    | 2304          | 0.0           | 515    | 68716         | 44.9          | 645    | 60405         | 0.0           | 775    | 3117          | 0.0           | 905    | 2421          | 0.0           |
| 390    | 2064          | 0.0           | 520    | 77136         | 44.9          | 650    | 53806         | 0.0           | 780    | 3062          | 0.0           | 910    | 2200          | 0.0           |
| 395    | 1856          | 0.0           | 525    | 83567         | 42.4          | 655    | 47610         | 0.0           | 785    | 2907          | 0.0           | 915    | 2716          | 0.0           |
| 400    | 1856          | 0.0           | 530    | 89283         | 38.6          | 660    | 42018         | 0.0           | 790    | 2655          | 0.0           | 920    | 2656          | 0.0           |
| 405    | 2374          | 0.0           | 535    | 94097         | 33.9          | 665    | 36742         | 0.0           | 795    | 2467          | 0.0           | 925    | 2671          | 0.0           |
| 410    | 4084          | 0.2           | 540    | 96845         | 28.3          | 670    | 32105         | 0.0           | 800    | 2609          | 0.0           | 930    | 3292          | 0.0           |
| 415    | 8543          | 0.6           | 545    | 100829        | 23.4          | 675    | 27946         | 0.0           | 805    | 2293          | 0.0           | 935    | 3188          | 0.0           |
| 420    | 18394         | 2.1           | 550    | 105648        | 19.0          | 680    | 24146         | 0.0           | 810    | 2188          | 0.0           | 940    | 1997          | 0.0           |
| 425    | 37987         | 5.9           | 555    | 110017        | 14.8          | 685    | 21191         | 0.0           | 815    | 2386          | 0.0           | 945    | 2623          | 0.0           |
| 430    | 67605         | 14.3          | 560    | 114586        | 11.3          | 690    | 18544         | 0.0           | 820    | 2712          | 0.0           | 950    | 2969          | 0.0           |
| 435    | 102160        | 27.3          | 565    | 118987        | 8.4           | 695    | 16058         | 0.0           | 825    | 2473          | 0.0           | 955    | 2277          | 0.0           |
| 440    | 135103        | 45.1          | 570    | 122326        | 6.0           | 700    | 14133         | 0.0           | 830    | 1969          | 0.0           | 960    | 4267          | 0.0           |
| 445    | 140126        | 55.3          | 575    | 125968        | 4.2           | 705    | 12309         | 0.0           | 835    | 1917          | 0.0           | 965    | 2034          | 0.0           |
| 450    | 102339        | 47.2          | 580    | 127613        | 2.9           | 710    | 11142         | 0.0           | 840    | 2248          | 0.0           | 970    | 3586          | 0.0           |
| 455    | 58751         | 30.8          | 585    | 129466        | 1.9           | 715    | 10143         | 0.0           | 845    | 2266          | 0.0           | 975    | 2505          | 0.0           |
| 460    | 36892         | 21.7          | 590    | 128813        | 1.3           | 720    | 9072          | 0.0           | 850    | 2558          | 0.0           | 980    | 2666          | 0.0           |
| 465    | 24637         | 16.1          | 595    | 126387        | 0.8           | 725    | 8130          | 0.0           | 855    | 2767          | 0.0           | 985    | 2934          | 0.0           |
| 470    | 16738         | 12.0          | 600    | 123477        | 0.5           | 730    | 7149          | 0.0           | 860    | 2826          | 0.0           | 990    | 4120          | 0.0           |
| 475    | 13456         | 10.3          | 605    | 118718        | 0.3           | 735    | 6311          | 0.0           | 865    | 2385          | 0.0           | 995    | 3858          | 0.0           |
| 480    | 13081         | 10.5          | 610    | 112091        | 0.2           | 740    | 5711          | 0.0           | 870    | 3194          | 0.0           | 1000   | 3405          | 0.0           |
| 485    | 14734         | 12.1          | 615    | 105039        | 0.1           | 745    | 5111          | 0.0           | 875    | 3189          | 0.0           |        |               |               |

**Summary**

$R_f = 71.7$   
 $R_g = 96.9$   
 CIE  $R_a = 71.2$   
 $R_g = -29.7$



**Color Vector Graphics**





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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 55 | CES51 = 86 | CES76 = 45 |
| CES02 = 61 | CES27 = 80 | CES52 = 87 | CES77 = 68 |
| CES03 = 30 | CES28 = 79 | CES53 = 74 | CES78 = 49 |
| CES04 = 70 | CES29 = 51 | CES54 = 81 | CES79 = 77 |
| CES05 = 47 | CES30 = 60 | CES55 = 80 | CES80 = 75 |
| CES06 = 50 | CES31 = 56 | CES56 = 69 | CES81 = 75 |
| CES07 = 40 | CES32 = 52 | CES57 = 67 | CES82 = 90 |
| CES08 = 39 | CES33 = 62 | CES58 = 69 | CES83 = 85 |
| CES09 = 29 | CES34 = 65 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 81 | CES60 = 91 | CES85 = 83 |
| CES11 = 57 | CES36 = 92 | CES61 = 85 | CES86 = 72 |
| CES12 = 63 | CES37 = 74 | CES62 = 81 | CES87 = 77 |
| CES13 = 42 | CES38 = 69 | CES63 = 72 | CES88 = 77 |
| CES14 = 74 | CES39 = 92 | CES64 = 69 | CES89 = 72 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 75 |
| CES16 = 46 | CES41 = 84 | CES66 = 63 | CES91 = 91 |
| CES17 = 49 | CES42 = 75 | CES67 = 60 | CES92 = 66 |
| CES18 = 56 | CES43 = 70 | CES68 = 67 | CES93 = 80 |
| CES19 = 72 | CES44 = 98 | CES69 = 77 | CES94 = 56 |
| CES20 = 65 | CES45 = 80 | CES70 = 57 | CES95 = 72 |
| CES21 = 86 | CES46 = 77 | CES71 = 53 | CES96 = 78 |
| CES22 = 78 | CES47 = 74 | CES72 = 84 | CES97 = 83 |
| CES23 = 92 | CES48 = 66 | CES73 = 47 | CES98 = 73 |
| CES24 = 91 | CES49 = 76 | CES74 = 96 | CES99 = 63 |
| CES25 = 72 | CES50 = 85 | CES75 = 52 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)