

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: P386170

Luminaire Tested: **GPC-SA1D-735-U-T2-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P386170  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GPC-SA1D-735-U-T2-HSS  
Description: GALLEON PEDESTRIAN LUMINAIRE  
(1) 70 CRI, 3500K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE II OPTICS  
WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5537.7 lumens  
Efficiency: N/A  
Efficacy: 82.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

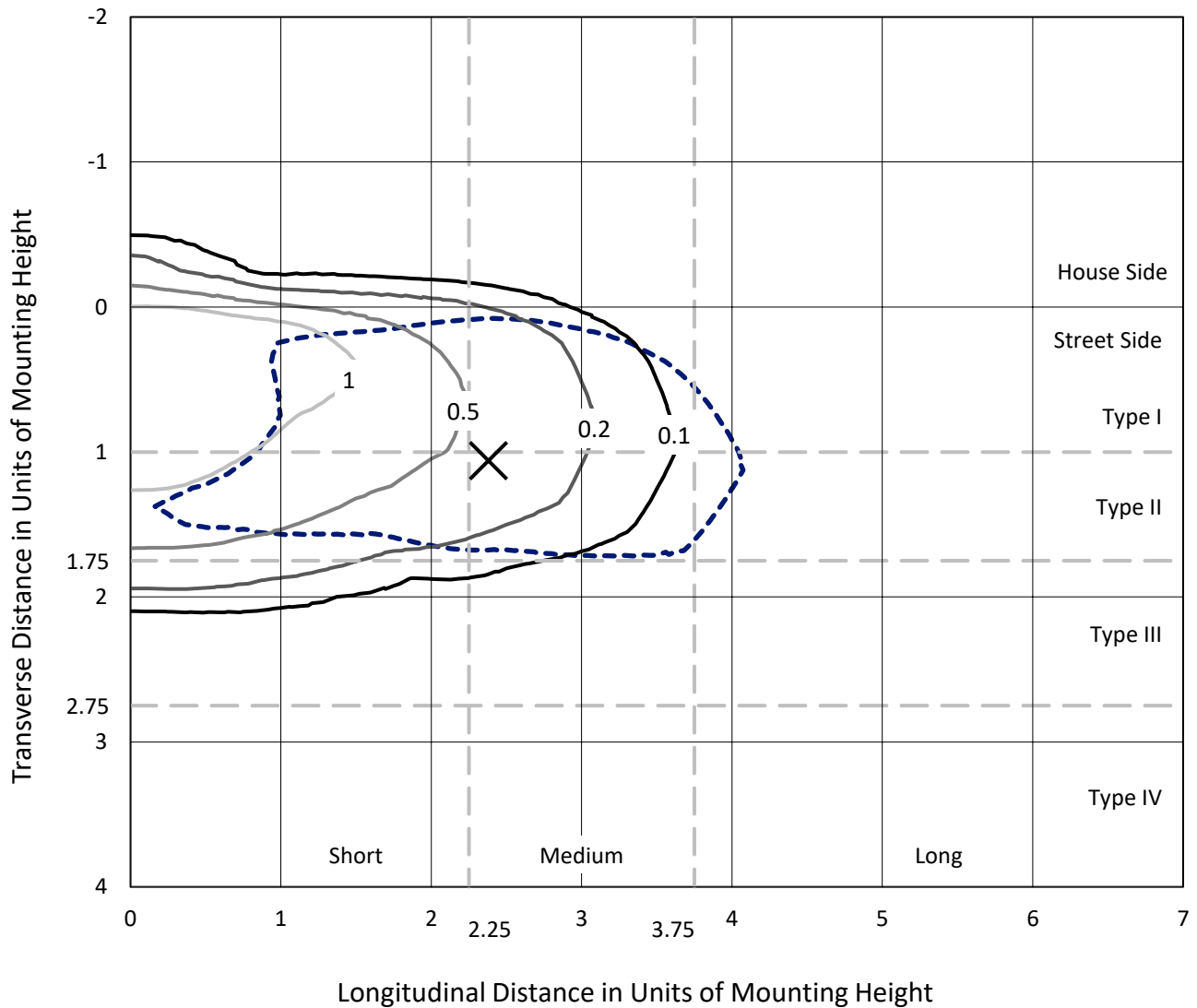
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

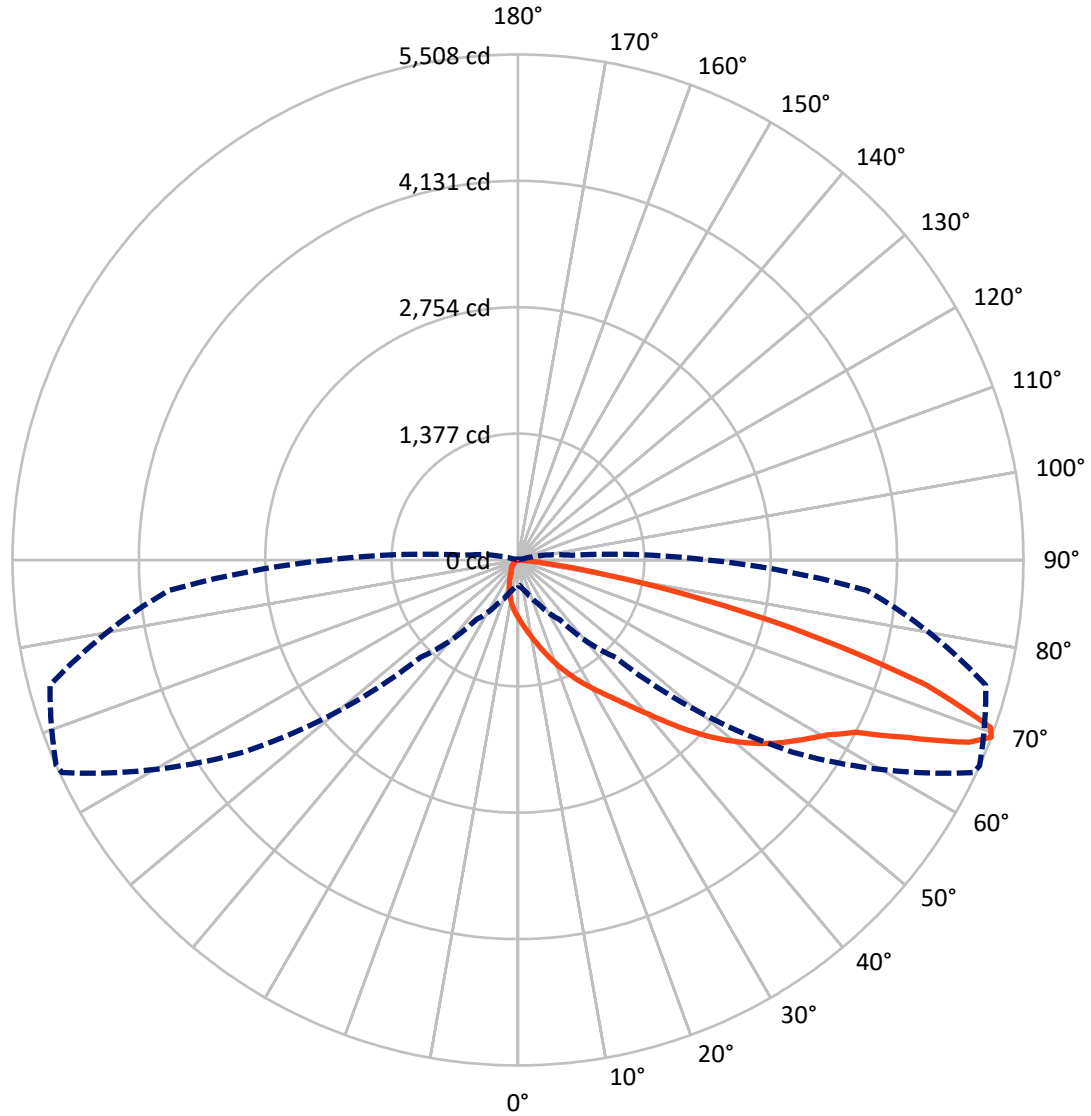
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.7 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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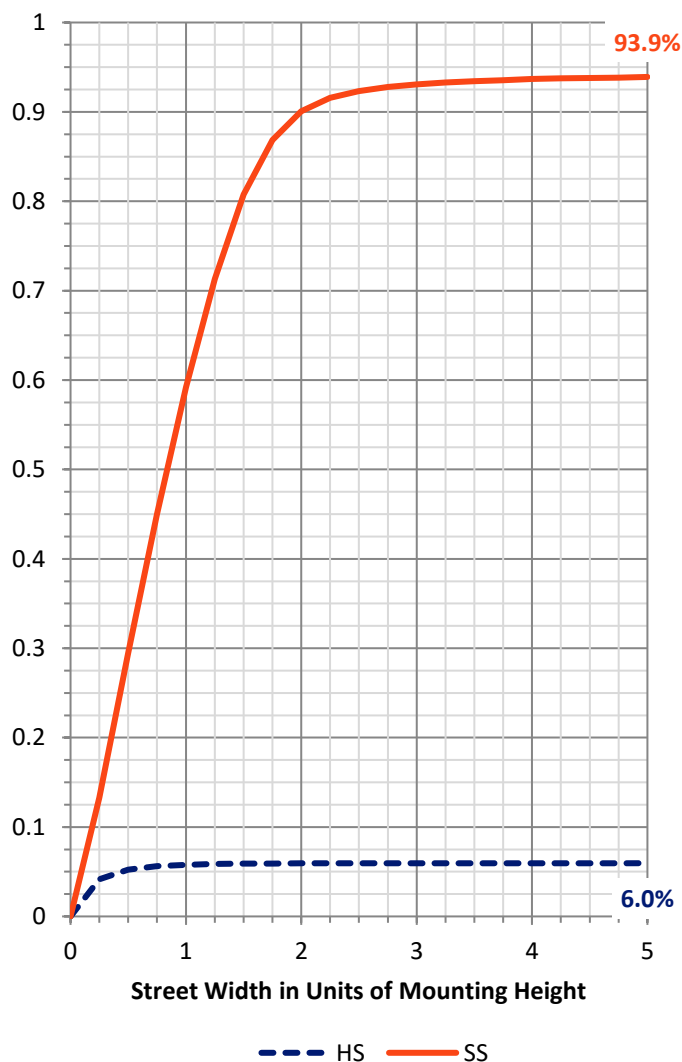
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 332.2    | 0.0    | 332.2  |
|                    | % Fixture | 6.0      | 0.0    | 6.0    |
| <b>Street Side</b> | Lumens    | 5205.5   | 0.0    | 5205.5 |
|                    | % Fixture | 94.0     | 0.0    | 94.0   |
| <b>Total</b>       | Lumens    | 5537.7   | 0.0    | 5537.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 60.9   | 1.1       |
| 10°-20°   | 181.3  | 3.3       |
| 20°-30°   | 315.7  | 5.7       |
| 30°-40°   | 553.9  | 10.0      |
| 40°-50°   | 927.2  | 16.7      |
| 50°-60°   | 1362.9 | 24.6      |
| 60°-70°   | 1399.3 | 25.3      |
| 70°-80°   | 690.8  | 12.5      |
| 80°-90°   | 45.7   | 0.8       |
| 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°    | 5537.7 | 100.0     |
| 0°-180°   | 5537.7 | 100.0     |

**Coefficient of Utilization**



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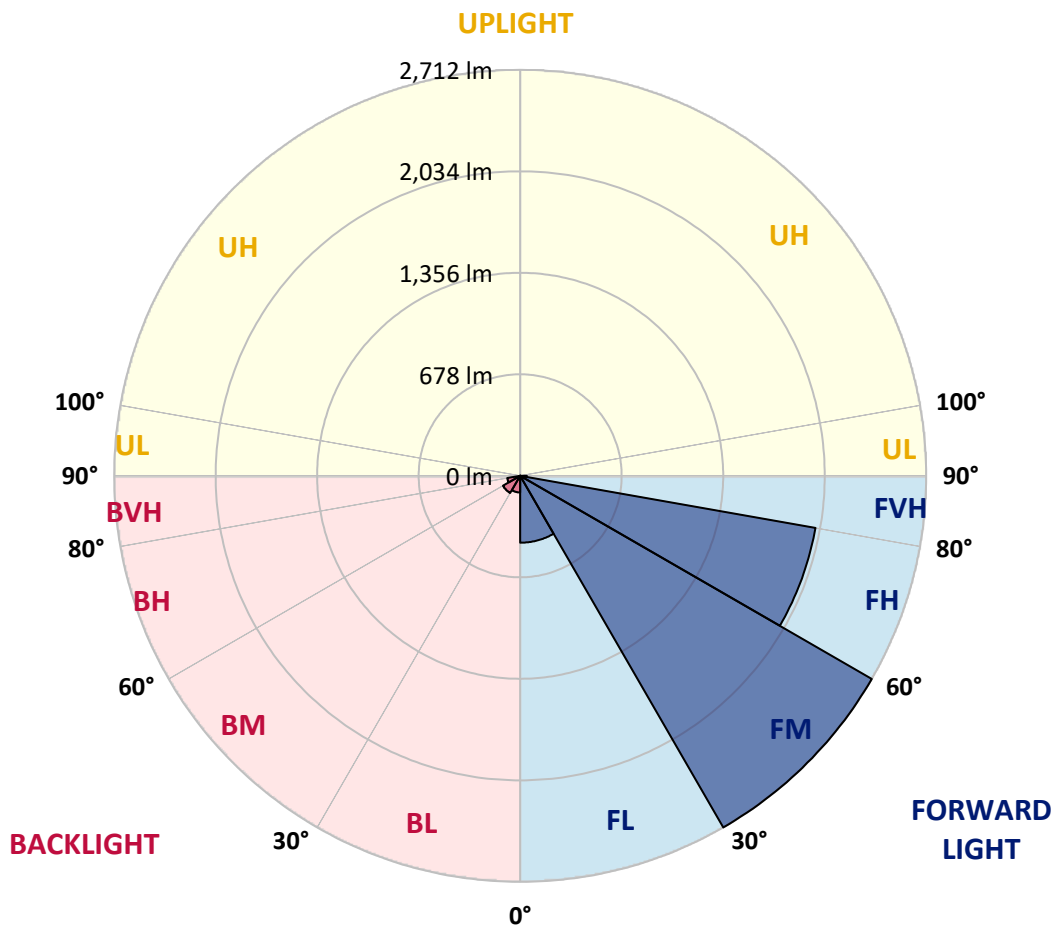
CATALOG NUMBER: GPC-SA1D-735-U-T2-HSS

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

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 446.8  | 8.1       |                         |      |         |
| FM (30°-60°)   | 2711.5 | 49.0      |                         |      |         |
| FH (60°-80°)   | 2002.6 | 36.2      |                         |      | G2/5000 |
| FVH (80°-90°)  | 44.6   | 0.8       |                         |      | G1/100  |
| BL (0°-30°)    | 111.1  | 2.0       | B1/500                  |      |         |
| BM (30°-60°)   | 132.4  | 2.4       | B0/220                  |      |         |
| BH (60°-80°)   | 87.5   | 1.6       | B0/110                  |      | G0/110  |
| BVH (80°-90°)  | 1.1    | 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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 66°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 630.2  | 630.2  | 630.2  | 630.2  | 630.2  | 630.2  | 630.2  | 630.2  | 630.2  | 630.2  | 630.2  |
| 2.5°  | 741.7  | 738.6  | 737.2  | 731.5  | 721.5  | 713.8  | 699.1  | 682.0  | 678.9  | 662.3  | 642.1  |
| 5°    | 838.0  | 835.4  | 833.5  | 825.4  | 815.1  | 795.9  | 769.1  | 737.2  | 731.2  | 699.7  | 659.2  |
| 7.5°  | 905.1  | 909.8  | 909.8  | 904.5  | 891.7  | 877.2  | 844.3  | 800.9  | 793.3  | 744.8  | 682.0  |
| 10°   | 944.3  | 950.0  | 954.5  | 959.0  | 957.1  | 951.3  | 920.3  | 871.4  | 862.2  | 798.0  | 708.6  |
| 12.5° | 947.9  | 953.8  | 966.4  | 985.0  | 1003.2 | 1016.3 | 996.9  | 949.5  | 939.0  | 859.5  | 740.1  |
| 15°   | 927.5  | 933.5  | 952.9  | 989.3  | 1033.1 | 1071.6 | 1077.9 | 1036.1 | 1025.3 | 932.9  | 779.6  |
| 17.5° | 891.7  | 895.6  | 923.5  | 973.7  | 1042.6 | 1113.1 | 1151.2 | 1128.9 | 1118.9 | 1016.9 | 823.6  |
| 20°   | 865.1  | 868.0  | 892.4  | 946.3  | 1036.8 | 1139.2 | 1220.7 | 1227.5 | 1217.0 | 1106.8 | 871.1  |
| 22.5° | 910.6  | 915.8  | 916.7  | 942.1  | 1021.0 | 1152.1 | 1281.7 | 1324.6 | 1316.7 | 1202.3 | 918.0  |
| 25°   | 1035.0 | 1041.0 | 1021.0 | 1005.2 | 1034.5 | 1157.8 | 1334.0 | 1424.0 | 1417.7 | 1305.1 | 965.0  |
| 27.5° | 1199.4 | 1205.7 | 1180.0 | 1132.8 | 1104.7 | 1179.7 | 1380.6 | 1525.0 | 1524.7 | 1414.1 | 1015.8 |
| 30°   | 1360.9 | 1367.2 | 1340.9 | 1293.8 | 1229.1 | 1241.5 | 1420.8 | 1630.8 | 1632.4 | 1526.3 | 1069.7 |
| 32.5° | 1530.3 | 1538.2 | 1511.1 | 1450.6 | 1383.0 | 1348.3 | 1477.4 | 1737.0 | 1746.0 | 1656.5 | 1130.5 |
| 35°   | 1722.8 | 1723.9 | 1685.7 | 1622.3 | 1544.5 | 1491.1 | 1568.1 | 1856.1 | 1877.5 | 1817.8 | 1207.6 |
| 37.5° | 1911.7 | 1919.3 | 1888.0 | 1788.0 | 1716.6 | 1656.1 | 1703.1 | 2005.0 | 2035.3 | 2014.8 | 1308.3 |
| 40°   | 2051.6 | 2067.6 | 2063.2 | 1955.3 | 1887.4 | 1844.3 | 1870.6 | 2182.0 | 2220.4 | 2244.1 | 1435.3 |
| 42.5° | 2139.5 | 2151.6 | 2172.1 | 2107.1 | 2045.5 | 2052.7 | 2068.5 | 2388.3 | 2435.7 | 2505.6 | 1581.3 |
| 45°   | 2240.2 | 2246.0 | 2263.1 | 2234.4 | 2192.8 | 2264.4 | 2278.3 | 2620.5 | 2670.2 | 2786.8 | 1743.3 |
| 47.5° | 2363.3 | 2376.9 | 2381.7 | 2355.4 | 2336.5 | 2451.6 | 2480.6 | 2831.7 | 2901.4 | 3088.0 | 1914.9 |
| 50°   | 2520.0 | 2523.8 | 2531.9 | 2514.8 | 2495.9 | 2612.6 | 2662.1 | 3053.5 | 3116.9 | 3390.2 | 2084.0 |
| 52.5° | 2673.4 | 2686.6 | 2714.9 | 2704.1 | 2696.5 | 2749.7 | 2823.8 | 3253.4 | 3324.1 | 3642.1 | 2252.9 |
| 55°   | 2717.6 | 2728.9 | 2827.0 | 2894.1 | 2956.2 | 2918.5 | 2978.5 | 3432.5 | 3509.0 | 3867.3 | 2415.4 |
| 57.5° | 2541.1 | 2564.0 | 2733.9 | 2908.6 | 3166.0 | 3181.1 | 3191.0 | 3616.4 | 3685.0 | 4039.9 | 2584.5 |
| 60°   | 2095.0 | 2099.5 | 2378.3 | 2677.8 | 3131.3 | 3410.1 | 3501.4 | 3813.8 | 3871.5 | 4200.5 | 2787.0 |
| 62.5° | 1332.5 | 1378.0 | 1683.9 | 2106.9 | 2764.2 | 3377.0 | 3876.8 | 4112.7 | 4133.7 | 4393.4 | 3077.5 |
| 65°   | 634.7  | 664.2  | 884.5  | 1301.7 | 2002.1 | 2952.7 | 4135.9 | 4653.2 | 4662.7 | 4775.5 | 3465.3 |
| 67.5° | 351.4  | 365.6  | 470.5  | 700.7  | 1170.5 | 2088.2 | 4031.1 | 5293.4 | 5302.3 | 5165.8 | 3805.8 |
| 69°   | 274.9  | 287.0  | 369.6  | 528.1  | 793.5  | 1500.9 | 3647.9 | 5481.0 | 5507.5 | 5277.6 | 3817.8 |
| 70°   | 233.3  | 245.2  | 318.3  | 446.1  | 638.1  | 1159.7 | 3247.0 | 5434.4 | 5462.6 | 5267.1 | 3727.6 |
| 72.5° | 142.8  | 149.6  | 212.0  | 314.0  | 427.7  | 583.4  | 2002.4 | 4595.9 | 4643.4 | 4831.5 | 3203.6 |
| 75°   | 96.3   | 100.0  | 132.5  | 216.7  | 305.9  | 300.4  | 1040.3 | 3239.4 | 3342.6 | 3758.4 | 2366.1 |
| 77.5° | 69.0   | 72.3   | 88.9   | 140.2  | 214.4  | 198.3  | 471.1  | 2013.2 | 2035.3 | 2254.2 | 1290.4 |
| 80°   | 39.2   | 42.4   | 62.8   | 83.4   | 145.4  | 132.3  | 187.3  | 961.7  | 972.6  | 966.6  | 430.8  |
| 82.5° | 20.5   | 23.1   | 34.5   | 55.0   | 93.4   | 86.5   | 77.9   | 321.9  | 323.5  | 269.0  | 94.4   |
| 85°   | 3.9    | 4.7    | 17.1   | 37.6   | 48.1   | 37.6   | 31.8   | 75.5   | 77.0   | 68.1   | 23.4   |
| 87.5° | 0.0    | 0.3    | 6.9    | 8.5    | 9.5    | 9.8    | 10.2   | 14.7   | 15.8   | 21.3   | 6.3    |
| 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-SA1D-735-U-T2-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 630.2  | 630.2 | 630.2 | 630.2 | 630.2 | 630.2 | 630.2 | 630.2 | 630.2 | 630.2 | 630.2 |
| 2.5°  | 633.1  | 623.7 | 605.5 | 584.5 | 568.1 | 552.1 | 539.5 | 526.3 | 521.6 | 519.2 | 518.9 |
| 5°    | 639.4  | 619.4 | 581.0 | 541.6 | 509.2 | 478.7 | 456.9 | 436.1 | 426.4 | 421.9 | 420.1 |
| 7.5°  | 650.0  | 617.8 | 556.0 | 495.8 | 449.2 | 411.1 | 380.8 | 358.3 | 346.9 | 342.2 | 340.3 |
| 10°   | 662.3  | 615.8 | 526.8 | 447.4 | 388.0 | 348.5 | 318.5 | 296.2 | 283.8 | 278.5 | 275.9 |
| 12.5° | 676.7  | 612.1 | 493.2 | 398.5 | 335.6 | 296.2 | 259.8 | 232.2 | 218.0 | 212.0 | 209.1 |
| 15°   | 694.7  | 608.4 | 458.0 | 352.5 | 289.6 | 241.4 | 201.8 | 183.1 | 180.2 | 179.1 | 179.4 |
| 17.5° | 712.2  | 602.6 | 419.5 | 307.0 | 241.2 | 188.6 | 168.3 | 167.3 | 167.8 | 167.8 | 167.8 |
| 20°   | 728.0  | 589.5 | 377.7 | 268.0 | 195.2 | 159.1 | 154.9 | 153.1 | 151.8 | 150.7 | 149.4 |
| 22.5° | 740.4  | 571.8 | 337.4 | 229.4 | 159.4 | 145.7 | 139.1 | 133.4 | 128.6 | 125.5 | 123.9 |
| 25°   | 748.8  | 548.4 | 300.6 | 192.3 | 143.4 | 132.5 | 120.7 | 111.0 | 103.6 | 99.2  | 97.3  |
| 27.5° | 755.2  | 523.1 | 267.7 | 161.0 | 132.3 | 117.3 | 101.8 | 90.2  | 82.6  | 78.6  | 77.0  |
| 30°   | 759.6  | 494.5 | 238.8 | 141.5 | 120.0 | 101.3 | 84.7  | 73.4  | 67.8  | 65.8  | 64.7  |
| 32.5° | 763.8  | 462.7 | 211.5 | 132.3 | 108.4 | 86.5  | 71.0  | 62.4  | 58.9  | 56.3  | 55.5  |
| 35°   | 774.3  | 433.2 | 185.4 | 122.6 | 96.6  | 73.9  | 61.1  | 54.7  | 51.3  | 49.7  | 49.2  |
| 37.5° | 799.3  | 411.4 | 160.4 | 112.5 | 84.7  | 63.9  | 53.4  | 48.9  | 45.7  | 44.2  | 43.7  |
| 40°   | 839.5  | 400.4 | 139.4 | 101.8 | 73.1  | 56.3  | 48.4  | 44.2  | 40.8  | 38.4  | 37.9  |
| 42.5° | 898.7  | 401.9 | 124.7 | 91.0  | 63.9  | 50.3  | 43.7  | 38.7  | 34.9  | 32.9  | 32.3  |
| 45°   | 970.6  | 413.5 | 114.4 | 80.5  | 56.3  | 45.5  | 38.4  | 33.2  | 29.7  | 27.9  | 27.3  |
| 47.5° | 1048.5 | 432.1 | 106.0 | 71.0  | 50.3  | 41.1  | 33.2  | 27.6  | 24.7  | 23.1  | 22.9  |
| 50°   | 1130.5 | 450.3 | 97.3  | 61.8  | 45.0  | 36.5  | 27.9  | 22.9  | 20.5  | 19.2  | 18.7  |
| 52.5° | 1213.6 | 471.4 | 89.4  | 53.4  | 40.5  | 31.3  | 23.1  | 18.7  | 16.8  | 15.8  | 15.2  |
| 55°   | 1303.0 | 487.2 | 81.8  | 46.8  | 36.1  | 26.6  | 19.2  | 15.5  | 13.9  | 12.6  | 12.4  |
| 57.5° | 1408.2 | 511.6 | 73.9  | 40.5  | 30.8  | 22.1  | 15.8  | 12.4  | 11.1  | 9.8   | 9.5   |
| 60°   | 1550.3 | 540.2 | 65.5  | 35.8  | 25.3  | 18.1  | 12.9  | 10.0  | 8.5   | 7.3   | 7.1   |
| 62.5° | 1737.6 | 572.1 | 55.0  | 31.3  | 20.5  | 14.7  | 10.2  | 7.9   | 6.0   | 4.7   | 4.7   |
| 65°   | 1975.1 | 623.9 | 45.0  | 26.3  | 16.8  | 12.1  | 7.9   | 5.8   | 3.4   | 2.1   | 2.1   |
| 67.5° | 2113.6 | 632.9 | 36.3  | 21.6  | 13.7  | 10.2  | 6.6   | 3.9   | 1.0   | 0.3   | 0.0   |
| 69°   | 2069.2 | 581.0 | 30.8  | 18.4  | 11.8  | 9.8   | 6.0   | 2.9   | 0.6   | 0.0   | 0.0   |
| 70°   | 1985.6 | 531.3 | 27.1  | 16.3  | 10.8  | 9.2   | 5.8   | 2.1   | 0.6   | 0.0   | 0.0   |
| 72.5° | 1640.7 | 378.2 | 20.5  | 12.1  | 7.9   | 8.2   | 5.3   | 1.3   | 0.6   | 0.0   | 0.0   |
| 75°   | 1195.2 | 229.9 | 14.7  | 8.5   | 5.0   | 6.0   | 3.7   | 0.6   | 0.3   | 0.0   | 0.0   |
| 77.5° | 664.9  | 108.4 | 9.2   | 4.7   | 3.2   | 3.7   | 1.9   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°   | 216.0  | 29.5  | 4.2   | 2.6   | 1.9   | 2.1   | 0.8   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 40.0   | 8.5   | 2.3   | 1.3   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 8.6    | 3.4   | 1.3   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 2.9    | 1.0   | 0.3   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 90°   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



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



**Test Information**

Test Method: LM-79-08  
 Report Number: SP1-2101-121-7  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry: 4π  
 Issue Date: 03/04/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: **IFLD-S-SA2A-735-U-T2**  
 Description: STREETWORKS INF FLOOD

PROGRAMMED @ 615mA.

**Spectral Parameters**

CCT (K): 3388  
 CIE u': 0.2371  
 CIE v': 0.5177  
 Duv: 0.0032  
 CIE x: 0.4153  
 CIE y: 0.4030  
 CIE z: 0.1817  
 Peak Wavelength (nm): 590  
 Dominant Wavelength (nm): 580  
 Purity: 45.7  
  
 Rf: 76.9  
 Rg: 94.4

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 73.1 |      |       |
| R1:       | 68.9 | R9:  | -34.6 |
| R2:       | 81.1 | R10: | 57.8  |
| R3:       | 93.1 | R11: | 68.6  |
| R4:       | 71.6 | R12: | 53.9  |
| R5:       | 69.4 | R13: | 70.9  |
| R6:       | 75.0 | R14: | 96.2  |
| R7:       | 79.5 |      |       |
| R8:       | 46.4 |      |       |

**Test Conditions**

Stabilization Time: 81M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.0/30%  
 Sphere Temperature (°C): 24.1



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| 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 3500K 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    | 2672          | 0.0           | 490    | 34553         | 4.9           | 620    | 136720        | 35.6          | 750    | 5870          | 0.0           | 880    | 4216          | 0.0           |
| 365    | 2252          | 0.0           | 495    | 44336         | 8.0           | 625    | 126308        | 27.9          | 755    | 5421          | 0.0           | 885    | 4132          | 0.0           |
| 370    | 2217          | 0.0           | 500    | 54643         | 12.1          | 630    | 114625        | 20.7          | 760    | 5097          | 0.0           | 890    | 3992          | 0.0           |
| 375    | 2697          | 0.0           | 505    | 64676         | 18.1          | 635    | 103216        | 15.5          | 765    | 4626          | 0.0           | 895    | 3214          | 0.0           |
| 380    | 3039          | 0.0           | 510    | 73825         | 25.4          | 640    | 92605         | 11.1          | 770    | 3782          | 0.0           | 900    | 2580          | 0.0           |
| 385    | 2655          | 0.0           | 515    | 81872         | 33.9          | 645    | 83234         | 8.0           | 775    | 3506          | 0.0           | 905    | 1776          | 0.0           |
| 390    | 2357          | 0.0           | 520    | 88574         | 43.0          | 650    | 73263         | 5.4           | 780    | 3507          | 0.0           | 910    | 3995          | 0.0           |
| 395    | 2186          | 0.0           | 525    | 93289         | 50.1          | 655    | 64627         | 3.7           | 785    | 3267          | 0.0           | 915    | 4288          | 0.0           |
| 400    | 2015          | 0.0           | 530    | 98393         | 57.9          | 660    | 56614         | 2.4           | 790    | 2849          | 0.0           | 920    | 2446          | 0.0           |
| 405    | 2234          | 0.0           | 535    | 103269        | 64.0          | 665    | 49537         | 1.6           | 795    | 3037          | 0.0           | 925    | 3009          | 0.0           |
| 410    | 3412          | 0.0           | 540    | 107316        | 69.9          | 670    | 42866         | 0.9           | 800    | 2716          | 0.0           | 930    | 3026          | 0.0           |
| 415    | 6135          | 0.0           | 545    | 113101        | 75.3          | 675    | 36708         | 0.6           | 805    | 2648          | 0.0           | 935    | 4734          | 0.0           |
| 420    | 12146         | 0.0           | 550    | 120690        | 82.0          | 680    | 31814         | 0.4           | 810    | 3187          | 0.0           | 940    | 3719          | 0.0           |
| 425    | 23983         | 0.1           | 555    | 128583        | 87.8          | 685    | 27485         | 0.2           | 815    | 2931          | 0.0           | 945    | 1480          | 0.0           |
| 430    | 42142         | 0.3           | 560    | 137796        | 93.6          | 690    | 23698         | 0.1           | 820    | 2717          | 0.0           | 950    | 3450          | 0.0           |
| 435    | 68228         | 0.8           | 565    | 146577        | 97.5          | 695    | 20309         | 0.1           | 825    | 2236          | 0.0           | 955    | 5051          | 0.0           |
| 440    | 99323         | 1.6           | 570    | 154581        | 100.5         | 700    | 17890         | 0.1           | 830    | 2628          | 0.0           | 960    | 3176          | 0.0           |
| 445    | 115584        | 2.4           | 575    | 162633        | 101.2         | 705    | 15500         | 0.0           | 835    | 3140          | 0.0           | 965    | 5178          | 0.0           |
| 450    | 94997         | 2.5           | 580    | 168101        | 99.9          | 710    | 13699         | 0.0           | 840    | 3675          | 0.0           | 970    | 6385          | 0.0           |
| 455    | 61433         | 2.1           | 585    | 173145        | 96.2          | 715    | 12398         | 0.0           | 845    | 3283          | 0.0           | 975    | 3810          | 0.0           |
| 460    | 43373         | 1.8           | 590    | 174675        | 90.3          | 720    | 11147         | 0.0           | 850    | 3055          | 0.0           | 980    | 4322          | 0.0           |
| 465    | 32472         | 1.7           | 595    | 173724        | 82.3          | 725    | 9761          | 0.0           | 855    | 2932          | 0.0           | 985    | 4200          | 0.0           |
| 470    | 24257         | 1.5           | 600    | 171241        | 73.8          | 730    | 8651          | 0.0           | 860    | 3382          | 0.0           | 990    | 4661          | 0.0           |
| 475    | 21690         | 1.7           | 605    | 165134        | 64.0          | 735    | 7730          | 0.0           | 865    | 2605          | 0.0           | 995    | 6746          | 0.0           |
| 480    | 23173         | 2.2           | 610    | 156652        | 53.8          | 740    | 6847          | 0.0           | 870    | 3325          | 0.0           | 1000   | 4150          | 0.0           |
| 485    | 27564         | 3.3           | 615    | 147879        | 44.6          | 745    | 6124          | 0.0           | 875    | 3325          | 0.0           |        |               |               |

REPORT NUMBER: SP1-2101-121-7

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: 12126**

**S/P: 1.36**

| 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    | 2672          | 0.0           | 490    | 34553         | 53.2          | 620    | 136720        | 1.7           | 750    | 5870          | 0.0           | 880    | 4216          | 0.0           |
| 365    | 2252          | 0.0           | 495    | 44336         | 71.7          | 625    | 126308        | 1.1           | 755    | 5421          | 0.0           | 885    | 4132          | 0.0           |
| 370    | 2217          | 0.0           | 500    | 54643         | 91.4          | 630    | 114625        | 0.6           | 760    | 5097          | 0.0           | 890    | 3992          | 0.0           |
| 375    | 2697          | 0.0           | 505    | 64676         | 110.0         | 635    | 103216        | 0.4           | 765    | 4626          | 0.0           | 895    | 3214          | 0.0           |
| 380    | 3039          | 0.0           | 510    | 73825         | 125.1         | 640    | 92605         | 0.2           | 770    | 3782          | 0.0           | 900    | 2580          | 0.0           |
| 385    | 2655          | 0.0           | 515    | 81872         | 135.7         | 645    | 83234         | 0.1           | 775    | 3506          | 0.0           | 905    | 1776          | 0.0           |
| 390    | 2357          | 0.0           | 520    | 88574         | 140.8         | 650    | 73263         | 0.1           | 780    | 3507          | 0.0           | 910    | 3995          | 0.0           |
| 395    | 2186          | 0.0           | 525    | 93289         | 139.6         | 655    | 64627         | 0.1           | 785    | 3267          | 0.0           | 915    | 4288          | 0.0           |
| 400    | 2015          | 0.0           | 530    | 98393         | 135.7         | 660    | 56614         | 0.0           | 790    | 2849          | 0.0           | 920    | 2446          | 0.0           |
| 405    | 2234          | 0.1           | 535    | 103269        | 128.7         | 665    | 49537         | 0.0           | 795    | 3037          | 0.0           | 925    | 3009          | 0.0           |
| 410    | 3412          | 0.2           | 540    | 107316        | 118.6         | 670    | 42866         | 0.0           | 800    | 2716          | 0.0           | 930    | 3026          | 0.0           |
| 415    | 6135          | 0.6           | 545    | 113101        | 108.4         | 675    | 36708         | 0.0           | 805    | 2648          | 0.0           | 935    | 4734          | 0.0           |
| 420    | 12146         | 2.0           | 550    | 120690        | 98.7          | 680    | 31814         | 0.0           | 810    | 3187          | 0.0           | 940    | 3719          | 0.0           |
| 425    | 23983         | 5.9           | 555    | 128583        | 87.9          | 685    | 27485         | 0.0           | 815    | 2931          | 0.0           | 945    | 1480          | 0.0           |
| 430    | 42142         | 14.3          | 560    | 137796        | 77.0          | 690    | 23698         | 0.0           | 820    | 2717          | 0.0           | 950    | 3450          | 0.0           |
| 435    | 68228         | 30.5          | 565    | 146577        | 65.8          | 695    | 20309         | 0.0           | 825    | 2236          | 0.0           | 955    | 5051          | 0.0           |
| 440    | 99323         | 55.5          | 570    | 154581        | 54.6          | 700    | 17890         | 0.0           | 830    | 2628          | 0.0           | 960    | 3176          | 0.0           |
| 445    | 115584        | 77.4          | 575    | 162633        | 44.3          | 705    | 15500         | 0.0           | 835    | 3140          | 0.0           | 965    | 5178          | 0.0           |
| 450    | 94997         | 73.6          | 580    | 168101        | 34.6          | 710    | 13699         | 0.0           | 840    | 3675          | 0.0           | 970    | 6385          | 0.0           |
| 455    | 61433         | 53.7          | 585    | 173145        | 26.5          | 715    | 12398         | 0.0           | 845    | 3283          | 0.0           | 975    | 3810          | 0.0           |
| 460    | 43373         | 41.9          | 590    | 174675        | 19.5          | 720    | 11147         | 0.0           | 850    | 3055          | 0.0           | 980    | 4322          | 0.0           |
| 465    | 32472         | 34.3          | 595    | 173724        | 13.9          | 725    | 9761          | 0.0           | 855    | 2932          | 0.0           | 985    | 4200          | 0.0           |
| 470    | 24257         | 27.9          | 600    | 171241        | 9.7           | 730    | 8651          | 0.0           | 860    | 3382          | 0.0           | 990    | 4661          | 0.0           |
| 475    | 21690         | 27.1          | 605    | 165134        | 6.5           | 735    | 7730          | 0.0           | 865    | 2605          | 0.0           | 995    | 6746          | 0.0           |
| 480    | 23173         | 31.3          | 610    | 156652        | 4.2           | 740    | 6847          | 0.0           | 870    | 3325          | 0.0           | 1000   | 4150          | 0.0           |
| 485    | 27564         | 40.0          | 615    | 147879        | 2.7           | 745    | 6124          | 0.0           | 875    | 3325          | 0.0           |        |               |               |

REPORT NUMBER: SP1-2101-121-7

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 4490.7      M/P: 0.5**

| 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    | 2672          | 0.0           | 490    | 34553         | 28.8          | 620    | 136720        | 0.1           | 750    | 5870          | 0.0           | 880    | 4216          | 0.0           |
| 365    | 2252          | 0.0           | 495    | 44336         | 36.6          | 625    | 126308        | 0.1           | 755    | 5421          | 0.0           | 885    | 4132          | 0.0           |
| 370    | 2217          | 0.0           | 500    | 54643         | 43.9          | 630    | 114625        | 0.0           | 760    | 5097          | 0.0           | 890    | 3992          | 0.0           |
| 375    | 2697          | 0.0           | 505    | 64676         | 49.6          | 635    | 103216        | 0.0           | 765    | 4626          | 0.0           | 895    | 3214          | 0.0           |
| 380    | 3039          | 0.0           | 510    | 73825         | 53.0          | 640    | 92605         | 0.0           | 770    | 3782          | 0.0           | 900    | 2580          | 0.0           |
| 385    | 2655          | 0.0           | 515    | 81872         | 53.5          | 645    | 83234         | 0.0           | 775    | 3506          | 0.0           | 905    | 1776          | 0.0           |
| 390    | 2357          | 0.0           | 520    | 88574         | 51.6          | 650    | 73263         | 0.0           | 780    | 3507          | 0.0           | 910    | 3995          | 0.0           |
| 395    | 2186          | 0.0           | 525    | 93289         | 47.3          | 655    | 64627         | 0.0           | 785    | 3267          | 0.0           | 915    | 4288          | 0.0           |
| 400    | 2015          | 0.0           | 530    | 98393         | 42.5          | 660    | 56614         | 0.0           | 790    | 2849          | 0.0           | 920    | 2446          | 0.0           |
| 405    | 2234          | 0.0           | 535    | 103269        | 37.2          | 665    | 49537         | 0.0           | 795    | 3037          | 0.0           | 925    | 3009          | 0.0           |
| 410    | 3412          | 0.1           | 540    | 107316        | 31.4          | 670    | 42866         | 0.0           | 800    | 2716          | 0.0           | 930    | 3026          | 0.0           |
| 415    | 6135          | 0.4           | 545    | 113101        | 26.3          | 675    | 36708         | 0.0           | 805    | 2648          | 0.0           | 935    | 4734          | 0.0           |
| 420    | 12146         | 1.4           | 550    | 120690        | 21.7          | 680    | 31814         | 0.0           | 810    | 3187          | 0.0           | 940    | 3719          | 0.0           |
| 425    | 23983         | 3.7           | 555    | 128583        | 17.3          | 685    | 27485         | 0.0           | 815    | 2931          | 0.0           | 945    | 1480          | 0.0           |
| 430    | 42142         | 8.9           | 560    | 137796        | 13.6          | 690    | 23698         | 0.0           | 820    | 2717          | 0.0           | 950    | 3450          | 0.0           |
| 435    | 68228         | 18.2          | 565    | 146577        | 10.3          | 695    | 20309         | 0.0           | 825    | 2236          | 0.0           | 955    | 5051          | 0.0           |
| 440    | 99323         | 33.2          | 570    | 154581        | 7.6           | 700    | 17890         | 0.0           | 830    | 2628          | 0.0           | 960    | 3176          | 0.0           |
| 445    | 115584        | 45.6          | 575    | 162633        | 5.4           | 705    | 15500         | 0.0           | 835    | 3140          | 0.0           | 965    | 5178          | 0.0           |
| 450    | 94997         | 43.8          | 580    | 168101        | 3.8           | 710    | 13699         | 0.0           | 840    | 3675          | 0.0           | 970    | 6385          | 0.0           |
| 455    | 61433         | 32.2          | 585    | 173145        | 2.6           | 715    | 12398         | 0.0           | 845    | 3283          | 0.0           | 975    | 3810          | 0.0           |
| 460    | 43373         | 25.6          | 590    | 174675        | 1.7           | 720    | 11147         | 0.0           | 850    | 3055          | 0.0           | 980    | 4322          | 0.0           |
| 465    | 32472         | 21.2          | 595    | 173724        | 1.1           | 725    | 9761          | 0.0           | 855    | 2932          | 0.0           | 985    | 4200          | 0.0           |
| 470    | 24257         | 17.4          | 600    | 171241        | 0.7           | 730    | 8651          | 0.0           | 860    | 3382          | 0.0           | 990    | 4661          | 0.0           |
| 475    | 21690         | 16.6          | 605    | 165134        | 0.5           | 735    | 7730          | 0.0           | 865    | 2605          | 0.0           | 995    | 6746          | 0.0           |
| 480    | 23173         | 18.6          | 610    | 156652        | 0.3           | 740    | 6847          | 0.0           | 870    | 3325          | 0.0           | 1000   | 4150          | 0.0           |
| 485    | 27564         | 22.7          | 615    | 147879        | 0.2           | 745    | 6124          | 0.0           | 875    | 3325          | 0.0           |        |               |               |

**Summary**

$R_f = 76.9$   
 $R_g = 94.4$   
 $CIE R_a = 73.1$   
 $R_g = -34.6$



**Color Vector Graphics**





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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 63 |
| CES02 = 62 | CES27 = 88 | CES52 = 89 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 80 | CES78 = 65 |
| CES04 = 70 | CES29 = 67 | CES54 = 84 | CES79 = 87 |
| CES05 = 48 | CES30 = 74 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 71 | CES56 = 75 | CES81 = 75 |
| CES07 = 40 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 39 | CES33 = 74 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 78 | CES59 = 87 | CES84 = 89 |
| CES10 = 75 | CES35 = 89 | CES60 = 93 | CES85 = 80 |
| CES11 = 58 | CES36 = 98 | CES61 = 86 | CES86 = 66 |
| CES12 = 64 | CES37 = 86 | CES62 = 89 | CES87 = 79 |
| CES13 = 43 | CES38 = 82 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 74 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 68 | CES90 = 77 |
| CES16 = 47 | CES41 = 89 | CES66 = 71 | CES91 = 88 |
| CES17 = 50 | CES42 = 88 | CES67 = 69 | CES92 = 60 |
| CES18 = 56 | CES43 = 82 | CES68 = 74 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 82 | CES94 = 52 |
| CES20 = 65 | CES45 = 87 | CES70 = 67 | CES95 = 69 |
| CES21 = 86 | CES46 = 82 | CES71 = 66 | CES96 = 78 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 72 | CES73 = 59 | CES98 = 76 |
| CES24 = 91 | CES49 = 82 | CES74 = 97 | CES99 = 63 |
| CES25 = 72 | CES50 = 88 | CES75 = 66 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)