

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: P385871

Luminaire Tested: **GPC-SA1C-722-U-T4FT**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P385871  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GPC-SA1C-722-U-T4FT  
Description: GALLEON PEDESTRIAN LUMINAIRE  
(1) 70 CRI, 2200K, 1050mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD  
THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

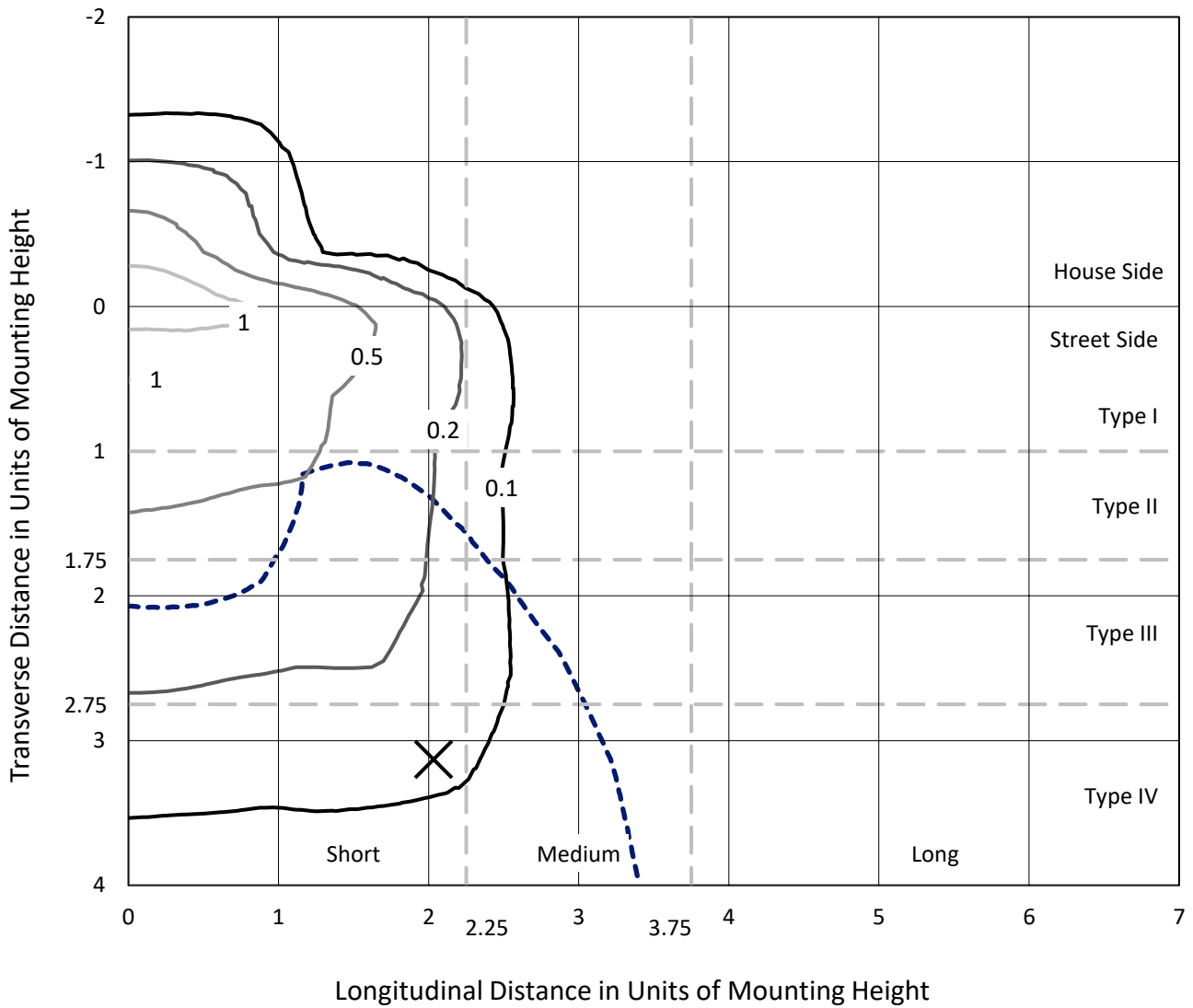
Lumens per Lamp: N/A  
Luminaire Lumens: 5586 lumens  
Efficiency: N/A  
Efficacy: 96.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 58  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

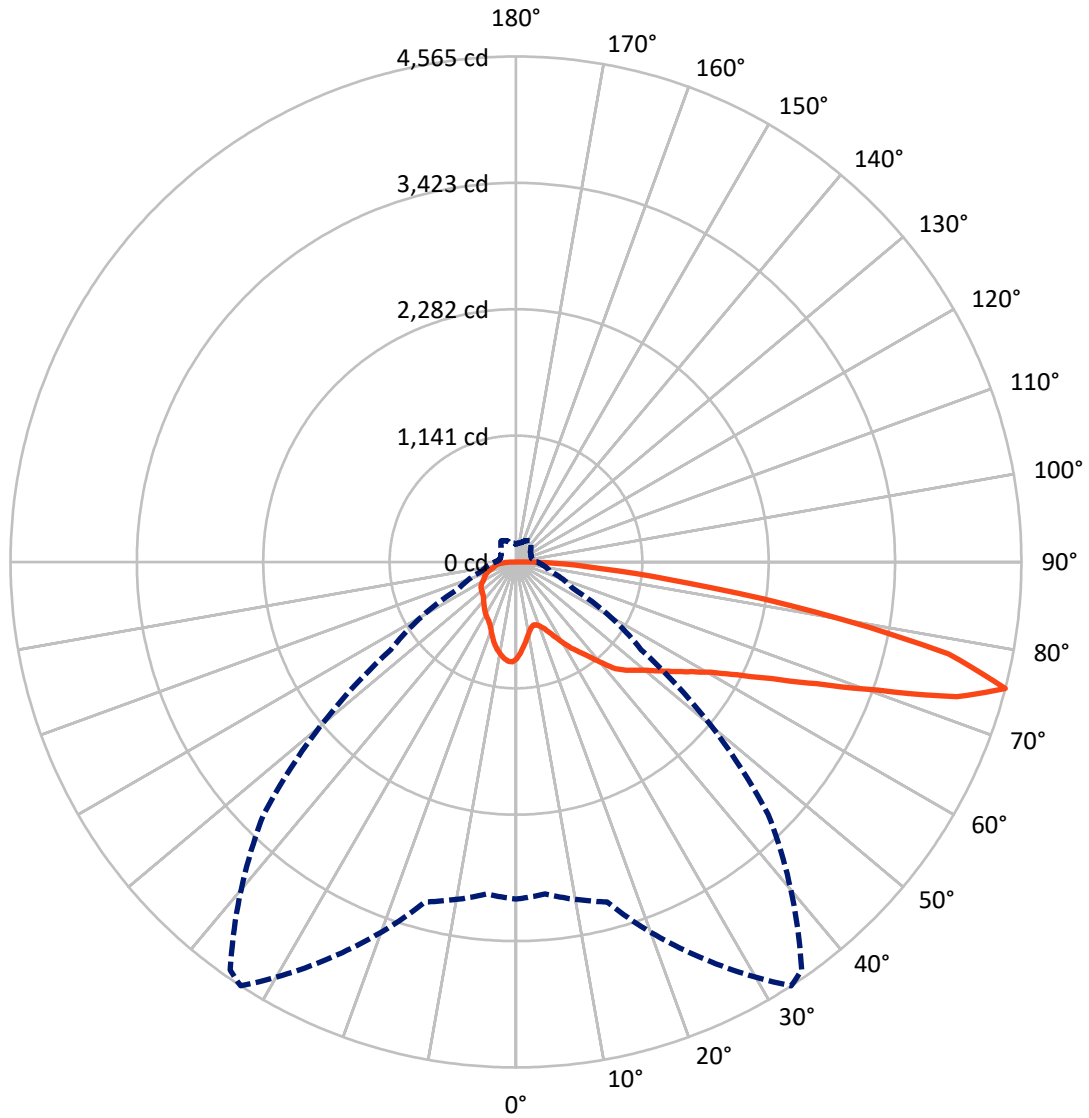
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral      - - - Horizontal Cone Through 75-Deg Vertical

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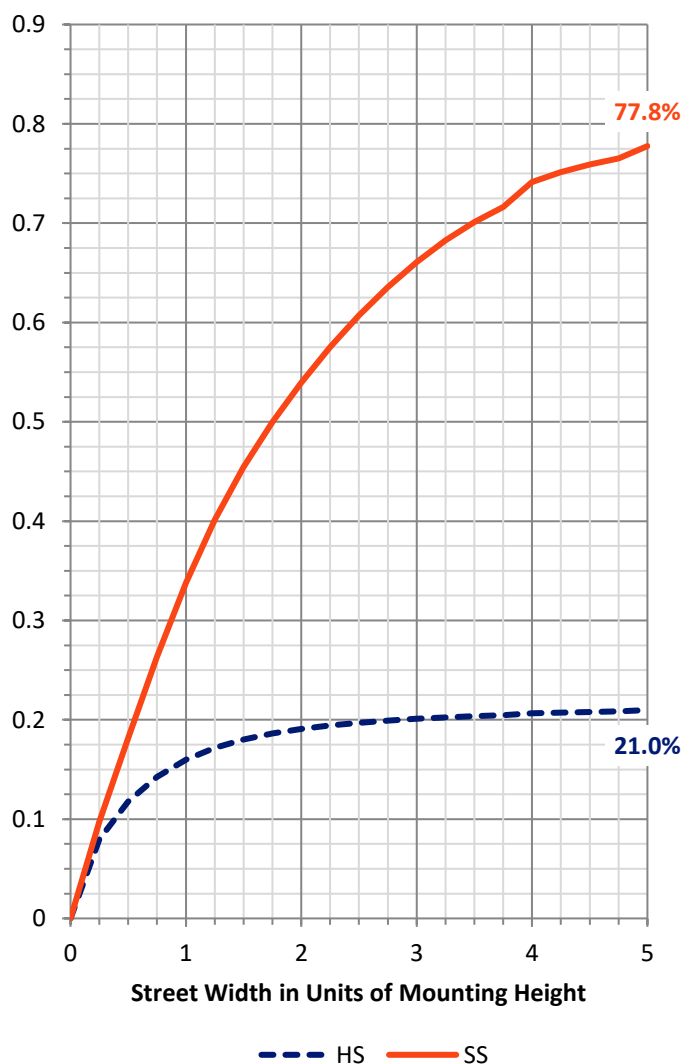
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1199.5   | 0.0    | 1199.5 |
|                    | % Fixture | 21.5     | 0.0    | 21.5   |
| <b>Street Side</b> | Lumens    | 4386.5   | 0.0    | 4386.5 |
|                    | % Fixture | 78.5     | 0.0    | 78.5   |
| <b>Total</b>       | Lumens    | 5586.0   | 0.0    | 5586.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 79.0   | 1.4       |
| 10°-20°   | 213.9  | 3.8       |
| 20°-30°   | 349.3  | 6.3       |
| 30°-40°   | 520.1  | 9.3       |
| 40°-50°   | 746.0  | 13.4      |
| 50°-60°   | 1024.2 | 18.3      |
| 60°-70°   | 1282.2 | 23.0      |
| 70°-80°   | 1160.0 | 20.8      |
| 80°-90°   | 211.3  | 3.8       |
| 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°    | 5586.0 | 100.0     |
| 0°-180°   | 5586.0 | 100.0     |

**Coefficient of Utilization**



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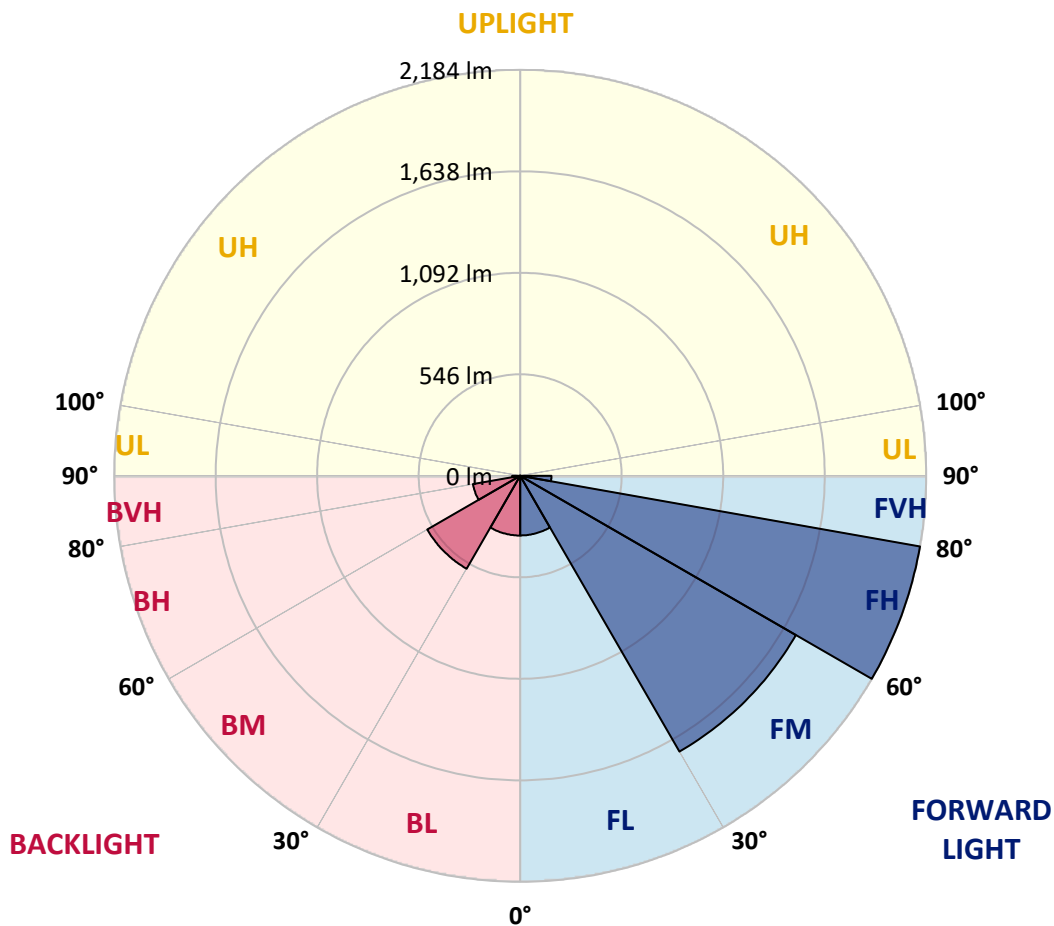
CATALOG NUMBER: GPC-SA1C-722-U-T4FT

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

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 320.8  | 5.7       |                         |      |         |
| FM (30°-60°)   | 1713.1 | 30.7      |                         |      |         |
| FH (60°-80°)   | 2184.3 | 39.1      |                         |      | G2/5000 |
| FVH (80°-90°)  | 168.3  | 3.0       |                         |      | G2/225  |
| BL (0°-30°)    | 321.3  | 5.8       | B1/500                  |      |         |
| BM (30°-60°)   | 577.3  | 10.3      | B1/1000                 |      |         |
| BH (60°-80°)   | 257.9  | 4.6       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 43.0   | 0.8       |                         |      | 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°     | 5°     | 15°    | 25°    | 33°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 873.1  | 873.1  | 873.1  | 873.1  | 873.1  | 873.1  | 873.1  | 873.1  | 873.1  | 873.1  | 873.1  |
| 2.5°  | 810.8  | 807.7  | 813.5  | 814.3  | 819.3  | 821.2  | 828.2  | 839.0  | 847.8  | 858.1  | 867.3  |
| 5°    | 737.3  | 735.2  | 743.3  | 749.1  | 760.1  | 764.7  | 781.1  | 804.0  | 824.5  | 847.7  | 868.7  |
| 7.5°  | 667.4  | 666.3  | 675.3  | 688.5  | 701.2  | 707.6  | 735.9  | 769.3  | 803.5  | 840.9  | 873.1  |
| 10°   | 608.6  | 608.2  | 616.9  | 629.8  | 648.5  | 655.7  | 692.3  | 736.3  | 784.2  | 835.7  | 880.6  |
| 12.5° | 575.6  | 576.9  | 581.0  | 591.8  | 609.2  | 616.3  | 657.0  | 708.7  | 768.0  | 834.0  | 891.6  |
| 15°   | 583.7  | 585.8  | 578.9  | 578.5  | 590.8  | 596.4  | 634.6  | 689.0  | 756.4  | 836.8  | 907.7  |
| 17.5° | 618.2  | 618.6  | 600.3  | 588.7  | 596.2  | 599.1  | 627.7  | 677.9  | 749.6  | 843.4  | 927.7  |
| 20°   | 666.9  | 665.9  | 633.5  | 614.2  | 618.2  | 619.0  | 637.5  | 678.0  | 749.1  | 854.8  | 953.8  |
| 22.5° | 731.3  | 724.2  | 680.6  | 654.3  | 653.3  | 652.2  | 662.8  | 692.3  | 757.5  | 873.3  | 984.8  |
| 25°   | 815.4  | 808.7  | 748.7  | 712.8  | 705.1  | 702.2  | 703.7  | 722.8  | 774.3  | 893.2  | 1019.6 |
| 27.5° | 909.0  | 897.2  | 839.4  | 788.6  | 772.6  | 768.5  | 759.3  | 765.8  | 792.7  | 912.3  | 1060.9 |
| 30°   | 987.4  | 981.0  | 930.4  | 870.2  | 851.3  | 845.5  | 821.2  | 814.1  | 819.1  | 938.3  | 1113.0 |
| 32.5° | 1031.2 | 1026.9 | 996.2  | 947.6  | 930.0  | 921.9  | 887.6  | 873.3  | 861.5  | 979.4  | 1183.6 |
| 35°   | 1084.2 | 1081.5 | 1063.0 | 1027.7 | 1001.6 | 993.1  | 966.5  | 951.7  | 921.4  | 1036.0 | 1274.9 |
| 37.5° | 1151.8 | 1148.9 | 1149.2 | 1120.7 | 1089.6 | 1081.7 | 1064.1 | 1048.5 | 998.9  | 1110.3 | 1374.0 |
| 40°   | 1228.2 | 1222.6 | 1220.4 | 1219.1 | 1199.4 | 1195.0 | 1185.7 | 1164.5 | 1096.2 | 1199.0 | 1471.9 |
| 42.5° | 1343.2 | 1323.3 | 1280.8 | 1296.9 | 1316.3 | 1314.0 | 1321.6 | 1291.1 | 1204.2 | 1304.0 | 1567.4 |
| 45°   | 1454.1 | 1421.5 | 1348.2 | 1351.7 | 1394.3 | 1407.2 | 1463.6 | 1442.0 | 1321.4 | 1419.0 | 1666.2 |
| 47.5° | 1504.7 | 1480.0 | 1417.6 | 1417.8 | 1460.1 | 1486.9 | 1610.4 | 1595.0 | 1444.5 | 1549.6 | 1786.8 |
| 50°   | 1561.2 | 1536.5 | 1480.5 | 1501.6 | 1538.4 | 1567.0 | 1752.2 | 1744.3 | 1561.6 | 1692.6 | 1931.3 |
| 52.5° | 1622.9 | 1581.1 | 1545.6 | 1583.2 | 1634.9 | 1668.1 | 1894.2 | 1872.6 | 1669.1 | 1836.5 | 2097.4 |
| 55°   | 1623.7 | 1612.3 | 1639.3 | 1666.9 | 1744.3 | 1785.0 | 2043.0 | 1985.9 | 1756.7 | 1978.0 | 2232.7 |
| 57.5° | 1716.1 | 1697.6 | 1754.9 | 1767.7 | 1868.8 | 1914.7 | 2191.0 | 2084.5 | 1845.8 | 2086.4 | 2305.6 |
| 60°   | 1838.5 | 1822.7 | 1869.5 | 1903.1 | 2022.8 | 2084.1 | 2349.0 | 2185.8 | 1915.9 | 2168.2 | 2302.2 |
| 62.5° | 2049.8 | 2031.8 | 2031.2 | 2078.3 | 2239.4 | 2310.8 | 2526.4 | 2285.2 | 1943.6 | 2184.4 | 2203.9 |
| 65°   | 2359.1 | 2330.5 | 2276.7 | 2299.1 | 2538.7 | 2609.9 | 2724.5 | 2357.1 | 1907.0 | 2097.6 | 1951.0 |
| 67.5° | 2660.1 | 2659.1 | 2592.9 | 2638.9 | 2933.9 | 2991.0 | 2950.3 | 2364.3 | 1792.6 | 1795.3 | 1502.2 |
| 70°   | 2960.1 | 2964.0 | 2952.8 | 3112.6 | 3467.8 | 3527.2 | 3190.7 | 2268.4 | 1535.3 | 1296.5 | 899.9  |
| 72.5° | 3197.8 | 3196.9 | 3253.2 | 3665.2 | 4160.7 | 4147.4 | 3393.3 | 1977.8 | 1102.4 | 699.8  | 430.1  |
| 75°   | 3043.9 | 3010.3 | 3178.2 | 3938.8 | 4564.6 | 4499.5 | 3221.0 | 1379.6 | 572.1  | 318.6  | 231.5  |
| 77.5° | 1985.3 | 2017.2 | 2263.6 | 3253.8 | 3992.6 | 3913.5 | 2363.1 | 643.7  | 269.6  | 209.0  | 167.9  |
| 80°   | 719.0  | 752.5  | 1059.9 | 1843.1 | 2750.8 | 2737.8 | 1163.7 | 264.5  | 182.3  | 157.8  | 122.3  |
| 82.5° | 247.4  | 259.7  | 418.1  | 818.5  | 1553.1 | 1611.0 | 437.8  | 150.3  | 132.6  | 111.9  | 83.7   |
| 85°   | 97.1   | 111.1  | 191.2  | 393.8  | 783.4  | 789.2  | 177.3  | 89.9   | 92.2   | 73.3   | 45.9   |
| 87.5° | 36.9   | 44.8   | 91.5   | 182.9  | 357.7  | 328.6  | 63.5   | 42.8   | 52.5   | 43.6   | 21.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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 CATALOG NUMBER: GPC-SA1C-722-U-T4FT

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 873.1  | 873.1  | 873.1 | 873.1 | 873.1 | 873.1 | 873.1 | 873.1 | 873.1 | 873.1 | 873.1 |
| 2.5°  | 874.5  | 878.5  | 887.0 | 892.8 | 899.0 | 900.7 | 901.5 | 903.0 | 904.6 | 904.0 | 904.2 |
| 5°    | 879.9  | 887.8  | 901.5 | 907.3 | 910.0 | 906.9 | 900.9 | 896.1 | 892.6 | 890.7 | 890.1 |
| 7.5°  | 888.8  | 899.9  | 914.6 | 913.6 | 907.5 | 893.8 | 878.3 | 866.8 | 857.1 | 853.6 | 851.7 |
| 10°   | 900.5  | 913.6  | 923.9 | 912.9 | 894.9 | 871.2 | 848.0 | 830.1 | 815.6 | 810.0 | 809.1 |
| 12.5° | 915.6  | 928.9  | 930.8 | 907.5 | 877.8 | 845.3 | 813.9 | 790.2 | 768.5 | 761.6 | 760.1 |
| 15°   | 935.1  | 947.6  | 935.6 | 898.0 | 856.5 | 812.9 | 772.2 | 740.0 | 717.2 | 708.7 | 705.6 |
| 17.5° | 955.5  | 967.5  | 936.6 | 882.4 | 828.7 | 774.5 | 723.4 | 690.4 | 664.3 | 654.5 | 653.3 |
| 20°   | 980.0  | 985.4  | 932.6 | 860.0 | 790.5 | 724.7 | 670.9 | 639.8 | 625.9 | 619.0 | 618.2 |
| 22.5° | 1010.3 | 1004.5 | 923.3 | 829.7 | 742.1 | 667.2 | 623.4 | 609.0 | 605.5 | 604.0 | 604.5 |
| 25°   | 1042.3 | 1024.6 | 909.6 | 790.2 | 680.9 | 609.7 | 588.7 | 592.8 | 597.4 | 596.8 | 596.8 |
| 27.5° | 1077.7 | 1045.0 | 888.6 | 737.7 | 613.2 | 562.7 | 565.2 | 580.0 | 587.0 | 586.8 | 586.6 |
| 30°   | 1123.0 | 1068.2 | 861.7 | 674.6 | 549.9 | 529.5 | 544.7 | 562.9 | 572.3 | 571.9 | 572.1 |
| 32.5° | 1178.8 | 1093.7 | 825.3 | 604.1 | 504.2 | 505.0 | 522.5 | 540.5 | 551.5 | 550.5 | 550.7 |
| 35°   | 1244.0 | 1122.2 | 775.9 | 534.7 | 473.9 | 485.5 | 499.4 | 511.9 | 522.3 | 521.0 | 519.6 |
| 37.5° | 1315.0 | 1150.2 | 710.3 | 472.5 | 449.2 | 467.3 | 478.9 | 481.0 | 485.9 | 482.4 | 479.9 |
| 40°   | 1382.5 | 1171.6 | 625.8 | 421.6 | 424.3 | 451.9 | 459.4 | 450.9 | 442.3 | 441.1 | 437.6 |
| 42.5° | 1441.4 | 1178.8 | 540.3 | 380.9 | 398.1 | 435.7 | 440.3 | 422.6 | 406.9 | 399.6 | 396.5 |
| 45°   | 1503.5 | 1181.3 | 460.6 | 346.7 | 372.8 | 421.2 | 426.2 | 402.5 | 380.5 | 364.7 | 359.5 |
| 47.5° | 1584.7 | 1199.4 | 398.6 | 321.5 | 353.5 | 411.6 | 418.7 | 386.5 | 357.9 | 335.4 | 330.5 |
| 50°   | 1691.1 | 1235.3 | 348.3 | 302.2 | 341.0 | 405.2 | 413.3 | 370.9 | 339.4 | 312.2 | 307.4 |
| 52.5° | 1809.1 | 1268.3 | 307.6 | 286.5 | 328.8 | 394.0 | 406.4 | 359.7 | 322.0 | 290.8 | 285.6 |
| 55°   | 1891.7 | 1243.0 | 274.8 | 270.3 | 313.0 | 378.0 | 396.7 | 350.2 | 297.2 | 269.9 | 265.3 |
| 57.5° | 1907.6 | 1156.6 | 249.9 | 253.5 | 293.9 | 357.9 | 381.9 | 329.2 | 283.6 | 260.9 | 256.1 |
| 60°   | 1864.3 | 1036.2 | 231.4 | 238.1 | 273.4 | 332.7 | 354.1 | 314.3 | 270.7 | 251.2 | 247.2 |
| 62.5° | 1755.7 | 912.9  | 217.7 | 224.2 | 254.3 | 307.0 | 336.7 | 298.7 | 257.6 | 240.2 | 236.2 |
| 65°   | 1536.3 | 766.4  | 204.5 | 211.9 | 236.6 | 284.8 | 321.1 | 284.2 | 244.7 | 231.4 | 227.5 |
| 67.5° | 1159.7 | 574.0  | 192.2 | 198.7 | 220.7 | 265.5 | 304.1 | 269.9 | 232.1 | 223.6 | 219.0 |
| 70°   | 682.9  | 359.5  | 178.1 | 185.0 | 204.1 | 245.4 | 286.0 | 254.3 | 216.5 | 212.6 | 206.7 |
| 72.5° | 317.8  | 216.3  | 162.1 | 168.8 | 183.3 | 218.6 | 262.6 | 233.9 | 198.0 | 189.5 | 181.4 |
| 75°   | 189.7  | 158.2  | 143.2 | 149.2 | 159.4 | 190.1 | 233.3 | 213.0 | 180.4 | 169.2 | 160.7 |
| 77.5° | 141.8  | 121.0  | 122.3 | 128.7 | 137.0 | 166.3 | 206.7 | 196.6 | 166.9 | 158.2 | 152.4 |
| 80°   | 102.1  | 91.8   | 99.8  | 106.7 | 115.4 | 151.3 | 198.0 | 181.8 | 150.9 | 139.3 | 133.9 |
| 82.5° | 68.1   | 66.0   | 75.1  | 82.2  | 90.7  | 132.4 | 186.0 | 159.2 | 128.9 | 114.2 | 102.3 |
| 85°   | 37.6   | 39.7   | 50.6  | 53.6  | 61.0  | 93.2  | 152.4 | 127.9 | 97.1  | 78.1  | 74.7  |
| 87.5° | 15.6   | 18.3   | 27.2  | 26.2  | 32.4  | 55.6  | 100.3 | 77.2  | 61.7  | 46.1  | 35.9  |
| 90°   | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



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



**Test Information**

Test Method: LM-79-2008 Report  
 Number: SP1-1908-441-10-R4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 10/28/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW-EDISON  
 Catalog Number: **SA1C-722-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

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

**Spectral Parameters**

CCT (K): 2237  
 CIE u': 0.2876  
 CIE v': 0.5346  
 Duv: -0.0006  
 CIE x: 0.5005  
 CIE y: 0.4134  
 CIE z: 0.0860  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 587  
 Purity: 74.5  
 Rf: 69.8  
 Rg: 99.2

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 72.0 |      |       |
| R1:       | 68.9 | R9:  | -17.4 |
| R2:       | 83.0 | R10: | 61.3  |
| R3:       | 95.2 | R11: | 59.8  |
| R4:       | 66.2 | R12: | 50.5  |
| R5:       | 65.9 | R13: | 71.1  |
| R6:       | 76.3 | R14: | 96.9  |
| R7:       | 76.7 |      |       |
| R8:       | 43.8 |      |       |



**Test Conditions**

Stabilization Time: 71M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.7/41%  
 Sphere Temperature (°C): 25.6

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

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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 2200K 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    | 1768          | NR            | 490    | 5206          | NR            | 620    | 130919        | NR            | 750    | 8553          | NR            | 880    | 2713          | NR            |
| 365    | 1569          | NR            | 495    | 7286          | NR            | 625    | 125335        | NR            | 755    | 7696          | NR            | 885    | 2316          | NR            |
| 370    | 1594          | NR            | 500    | 10654         | NR            | 630    | 118388        | NR            | 760    | 6978          | NR            | 890    | 2539          | NR            |
| 375    | 1744          | NR            | 505    | 15189         | NR            | 635    | 111855        | NR            | 765    | 6377          | NR            | 895    | 1933          | NR            |
| 380    | 1659          | NR            | 510    | 20541         | NR            | 640    | 104062        | NR            | 770    | 5600          | NR            | 900    | 2216          | NR            |
| 385    | 1504          | NR            | 515    | 26492         | NR            | 645    | 96365         | NR            | 775    | 5000          | NR            | 905    | 2067          | NR            |
| 390    | 1541          | NR            | 520    | 32294         | NR            | 650    | 88651         | NR            | 780    | 4709          | NR            | 910    | 1959          | NR            |
| 395    | 1355          | NR            | 525    | 38123         | NR            | 655    | 81152         | NR            | 785    | 4305          | NR            | 915    | 1874          | NR            |
| 400    | 1243          | NR            | 530    | 43232         | NR            | 660    | 73523         | NR            | 790    | 4040          | NR            | 920    | 1484          | NR            |
| 405    | 1417          | NR            | 535    | 48012         | NR            | 665    | 66123         | NR            | 795    | 3642          | NR            | 925    | 1914          | NR            |
| 410    | 2147          | NR            | 540    | 52623         | NR            | 670    | 58677         | NR            | 800    | 3594          | NR            | 930    | 1948          | NR            |
| 415    | 3837          | NR            | 545    | 57516         | NR            | 675    | 52349         | NR            | 805    | 3190          | NR            | 935    | 2079          | NR            |
| 420    | 7159          | NR            | 550    | 62613         | NR            | 680    | 46159         | NR            | 810    | 3241          | NR            | 940    | 2263          | NR            |
| 425    | 12599         | NR            | 555    | 68554         | NR            | 685    | 40525         | NR            | 815    | 2732          | NR            | 945    | 1688          | NR            |
| 430    | 19019         | NR            | 560    | 75325         | NR            | 690    | 35615         | NR            | 820    | 2612          | NR            | 950    | 1560          | NR            |
| 435    | 24875         | NR            | 565    | 82533         | NR            | 695    | 31158         | NR            | 825    | 2966          | NR            | 955    | 2826          | NR            |
| 440    | 29103         | NR            | 570    | 90909         | NR            | 700    | 27409         | NR            | 830    | 2574          | NR            | 960    | 1477          | NR            |
| 445    | 29901         | NR            | 575    | 99621         | NR            | 705    | 24204         | NR            | 835    | 2633          | NR            | 965    | 1568          | NR            |
| 450    | 24862         | NR            | 580    | 108484        | NR            | 710    | 21558         | NR            | 840    | 2526          | NR            | 970    | 2030          | NR            |
| 455    | 15942         | NR            | 585    | 116679        | NR            | 715    | 19222         | NR            | 845    | 2631          | NR            | 975    | 1986          | NR            |
| 460    | 9916          | NR            | 590    | 123752        | NR            | 720    | 17310         | NR            | 850    | 2079          | NR            | 980    | 2540          | NR            |
| 465    | 7051          | NR            | 595    | 129324        | NR            | 725    | 15280         | NR            | 855    | 2309          | NR            | 985    | 1139          | NR            |
| 470    | 5227          | NR            | 600    | 134082        | NR            | 730    | 13282         | NR            | 860    | 2528          | NR            | 990    | 2018          | NR            |
| 475    | 4257          | NR            | 605    | 135698        | NR            | 735    | 11753         | NR            | 865    | 2121          | NR            | 995    | 3445          | NR            |
| 480    | 4052          | NR            | 610    | 135144        | NR            | 740    | 10654         | NR            | 870    | 2751          | NR            | 1000   | 3704          | NR            |
| 485    | 4298          | NR            | 615    | 134180        | NR            | 745    | 9451          | NR            | 875    | 2317          | NR            |        |               |               |

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Scotopic Flux vs. Wavelength



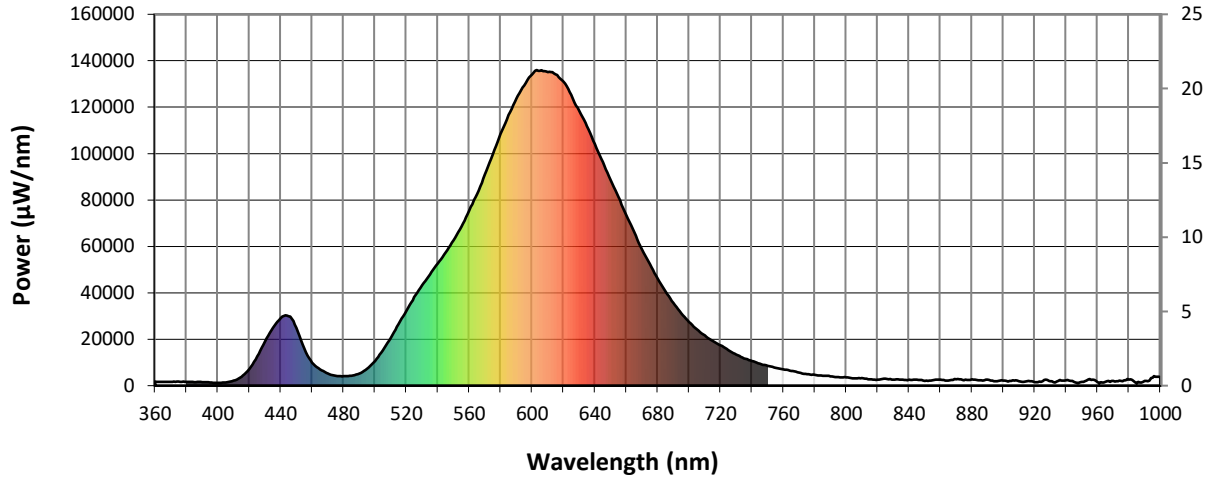
Scotopic Lumens: 4696.9

S/P: 0.85

| 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    | 1768          | NR            | 490    | 5206          | NR            | 620    | 130919        | NR            | 750    | 8553          | NR            | 880    | 2713          | NR            |
| 365    | 1569          | NR            | 495    | 7286          | NR            | 625    | 125335        | NR            | 755    | 7696          | NR            | 885    | 2316          | NR            |
| 370    | 1594          | NR            | 500    | 10654         | NR            | 630    | 118388        | NR            | 760    | 6978          | NR            | 890    | 2539          | NR            |
| 375    | 1744          | NR            | 505    | 15189         | NR            | 635    | 111855        | NR            | 765    | 6377          | NR            | 895    | 1933          | NR            |
| 380    | 1659          | NR            | 510    | 20541         | NR            | 640    | 104062        | NR            | 770    | 5600          | NR            | 900    | 2216          | NR            |
| 385    | 1504          | NR            | 515    | 26492         | NR            | 645    | 96365         | NR            | 775    | 5000          | NR            | 905    | 2067          | NR            |
| 390    | 1541          | NR            | 520    | 32294         | NR            | 650    | 88651         | NR            | 780    | 4709          | NR            | 910    | 1959          | NR            |
| 395    | 1355          | NR            | 525    | 38123         | NR            | 655    | 81152         | NR            | 785    | 4305          | NR            | 915    | 1874          | NR            |
| 400    | 1243          | NR            | 530    | 43232         | NR            | 660    | 73523         | NR            | 790    | 4040          | NR            | 920    | 1484          | NR            |
| 405    | 1417          | NR            | 535    | 48012         | NR            | 665    | 66123         | NR            | 795    | 3642          | NR            | 925    | 1914          | NR            |
| 410    | 2147          | NR            | 540    | 52623         | NR            | 670    | 58677         | NR            | 800    | 3594          | NR            | 930    | 1948          | NR            |
| 415    | 3837          | NR            | 545    | 57516         | NR            | 675    | 52349         | NR            | 805    | 3190          | NR            | 935    | 2079          | NR            |
| 420    | 7159          | NR            | 550    | 62613         | NR            | 680    | 46159         | NR            | 810    | 3241          | NR            | 940    | 2263          | NR            |
| 425    | 12599         | NR            | 555    | 68554         | NR            | 685    | 40525         | NR            | 815    | 2732          | NR            | 945    | 1688          | NR            |
| 430    | 19019         | NR            | 560    | 75325         | NR            | 690    | 35615         | NR            | 820    | 2612          | NR            | 950    | 1560          | NR            |
| 435    | 24875         | NR            | 565    | 82533         | NR            | 695    | 31158         | NR            | 825    | 2966          | NR            | 955    | 2826          | NR            |
| 440    | 29103         | NR            | 570    | 90909         | NR            | 700    | 27409         | NR            | 830    | 2574          | NR            | 960    | 1477          | NR            |
| 445    | 29901         | NR            | 575    | 99621         | NR            | 705    | 24204         | NR            | 835    | 2633          | NR            | 965    | 1568          | NR            |
| 450    | 24862         | NR            | 580    | 108484        | NR            | 710    | 21558         | NR            | 840    | 2526          | NR            | 970    | 2030          | NR            |
| 455    | 15942         | NR            | 585    | 116679        | NR            | 715    | 19222         | NR            | 845    | 2631          | NR            | 975    | 1986          | NR            |
| 460    | 9916          | NR            | 590    | 123752        | NR            | 720    | 17310         | NR            | 850    | 2079          | NR            | 980    | 2540          | NR            |
| 465    | 7051          | NR            | 595    | 129324        | NR            | 725    | 15280         | NR            | 855    | 2309          | NR            | 985    | 1139          | NR            |
| 470    | 5227          | NR            | 600    | 134082        | NR            | 730    | 13282         | NR            | 860    | 2528          | NR            | 990    | 2018          | NR            |
| 475    | 4257          | NR            | 605    | 135698        | NR            | 735    | 11753         | NR            | 865    | 2121          | NR            | 995    | 3445          | NR            |
| 480    | 4052          | NR            | 610    | 135144        | NR            | 740    | 10654         | NR            | 870    | 2751          | NR            | 1000   | 3704          | NR            |
| 485    | 4298          | NR            | 615    | 134180        | NR            | 745    | 9451          | NR            | 875    | 2317          | NR            |        |               |               |

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 1470.8 M/P: 0.27**

| 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    | 1768          | NR            | 490    | 5206          | NR            | 620    | 130919        | NR            | 750    | 8553          | NR            | 880    | 2713          | NR            |
| 365    | 1569          | NR            | 495    | 7286          | NR            | 625    | 125335        | NR            | 755    | 7696          | NR            | 885    | 2316          | NR            |
| 370    | 1594          | NR            | 500    | 10654         | NR            | 630    | 118388        | NR            | 760    | 6978          | NR            | 890    | 2539          | NR            |
| 375    | 1744          | NR            | 505    | 15189         | NR            | 635    | 111855        | NR            | 765    | 6377          | NR            | 895    | 1933          | NR            |
| 380    | 1659          | NR            | 510    | 20541         | NR            | 640    | 104062        | NR            | 770    | 5600          | NR            | 900    | 2216          | NR            |
| 385    | 1504          | NR            | 515    | 26492         | NR            | 645    | 96365         | NR            | 775    | 5000          | NR            | 905    | 2067          | NR            |
| 390    | 1541          | NR            | 520    | 32294         | NR            | 650    | 88651         | NR            | 780    | 4709          | NR            | 910    | 1959          | NR            |
| 395    | 1355          | NR            | 525    | 38123         | NR            | 655    | 81152         | NR            | 785    | 4305          | NR            | 915    | 1874          | NR            |
| 400    | 1243          | NR            | 530    | 43232         | NR            | 660    | 73523         | NR            | 790    | 4040          | NR            | 920    | 1484          | NR            |
| 405    | 1417          | NR            | 535    | 48012         | NR            | 665    | 66123         | NR            | 795    | 3642          | NR            | 925    | 1914          | NR            |
| 410    | 2147          | NR            | 540    | 52623         | NR            | 670    | 58677         | NR            | 800    | 3594          | NR            | 930    | 1948          | NR            |
| 415    | 3837          | NR            | 545    | 57516         | NR            | 675    | 52349         | NR            | 805    | 3190          | NR            | 935    | 2079          | NR            |
| 420    | 7159          | NR            | 550    | 62613         | NR            | 680    | 46159         | NR            | 810    | 3241          | NR            | 940    | 2263          | NR            |
| 425    | 12599         | NR            | 555    | 68554         | NR            | 685    | 40525         | NR            | 815    | 2732          | NR            | 945    | 1688          | NR            |
| 430    | 19019         | NR            | 560    | 75325         | NR            | 690    | 35615         | NR            | 820    | 2612          | NR            | 950    | 1560          | NR            |
| 435    | 24875         | NR            | 565    | 82533         | NR            | 695    | 31158         | NR            | 825    | 2966          | NR            | 955    | 2826          | NR            |
| 440    | 29103         | NR            | 570    | 90909         | NR            | 700    | 27409         | NR            | 830    | 2574          | NR            | 960    | 1477          | NR            |
| 445    | 29901         | NR            | 575    | 99621         | NR            | 705    | 24204         | NR            | 835    | 2633          | NR            | 965    | 1568          | NR            |
| 450    | 24862         | NR            | 580    | 108484        | NR            | 710    | 21558         | NR            | 840    | 2526          | NR            | 970    | 2030          | NR            |
| 455    | 15942         | NR            | 585    | 116679        | NR            | 715    | 19222         | NR            | 845    | 2631          | NR            | 975    | 1986          | NR            |
| 460    | 9916          | NR            | 590    | 123752        | NR            | 720    | 17310         | NR            | 850    | 2079          | NR            | 980    | 2540          | NR            |
| 465    | 7051          | NR            | 595    | 129324        | NR            | 725    | 15280         | NR            | 855    | 2309          | NR            | 985    | 1139          | NR            |
| 470    | 5227          | NR            | 600    | 134082        | NR            | 730    | 13282         | NR            | 860    | 2528          | NR            | 990    | 2018          | NR            |
| 475    | 4257          | NR            | 605    | 135698        | NR            | 735    | 11753         | NR            | 865    | 2121          | NR            | 995    | 3445          | NR            |
| 480    | 4052          | NR            | 610    | 135144        | NR            | 740    | 10654         | NR            | 870    | 2751          | NR            | 1000   | 3704          | NR            |
| 485    | 4298          | NR            | 615    | 134180        | NR            | 745    | 9451          | NR            | 875    | 2317          | NR            |        |               |               |

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**Summary**

$R_f = 69.8$   
 $R_g = 99.2$   
 $CIE R_a = 72.0$   
 $R_9 = -17.4$



**Color Vector Graphics**





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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 56 | CES51 = 74 | CES76 = 56 |
| CES02 = 65 | CES27 = 76 | CES52 = 76 | CES77 = 81 |
| CES03 = 32 | CES28 = 83 | CES53 = 65 | CES78 = 63 |
| CES04 = 72 | CES29 = 46 | CES54 = 78 | CES79 = 84 |
| CES05 = 52 | CES30 = 48 | CES55 = 75 | CES80 = 84 |
| CES06 = 52 | CES31 = 51 | CES56 = 65 | CES81 = 63 |
| CES07 = 44 | CES32 = 51 | CES57 = 62 | CES82 = 92 |
| CES08 = 42 | CES33 = 53 | CES58 = 66 | CES83 = 83 |
| CES09 = 29 | CES34 = 70 | CES59 = 84 | CES84 = 92 |
| CES10 = 78 | CES35 = 85 | CES60 = 90 | CES85 = 81 |
| CES11 = 61 | CES36 = 78 | CES61 = 84 | CES86 = 56 |
| CES12 = 68 | CES37 = 80 | CES62 = 70 | CES87 = 78 |
| CES13 = 45 | CES38 = 53 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 84 | CES65 = 67 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 90 |
| CES17 = 51 | CES42 = 79 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 64 | CES68 = 69 | CES93 = 79 |
| CES19 = 74 | CES44 = 98 | CES69 = 80 | CES94 = 52 |
| CES20 = 68 | CES45 = 73 | CES70 = 63 | CES95 = 76 |
| CES21 = 89 | CES46 = 67 | CES71 = 63 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 87 | CES97 = 77 |
| CES23 = 92 | CES48 = 48 | CES73 = 56 | CES98 = 71 |
| CES24 = 92 | CES49 = 64 | CES74 = 87 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 |            |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)