

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

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P633587

Luminaire Tested: GWS-SA2F-722-U-SLL-W

Issue Date: 1/10/2023

### Test Information

Test Method: LM-79-2019  
Report Number: P633587  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-37)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2F-722-U-SLL-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR LEFT OPTICS  
Light Source: (32) 2200K CCT, 70 CRI LEDS  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 11199.5 lumens  
Efficiency: N/A  
Efficacy: 90.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G2

Input Watts (W): 124.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



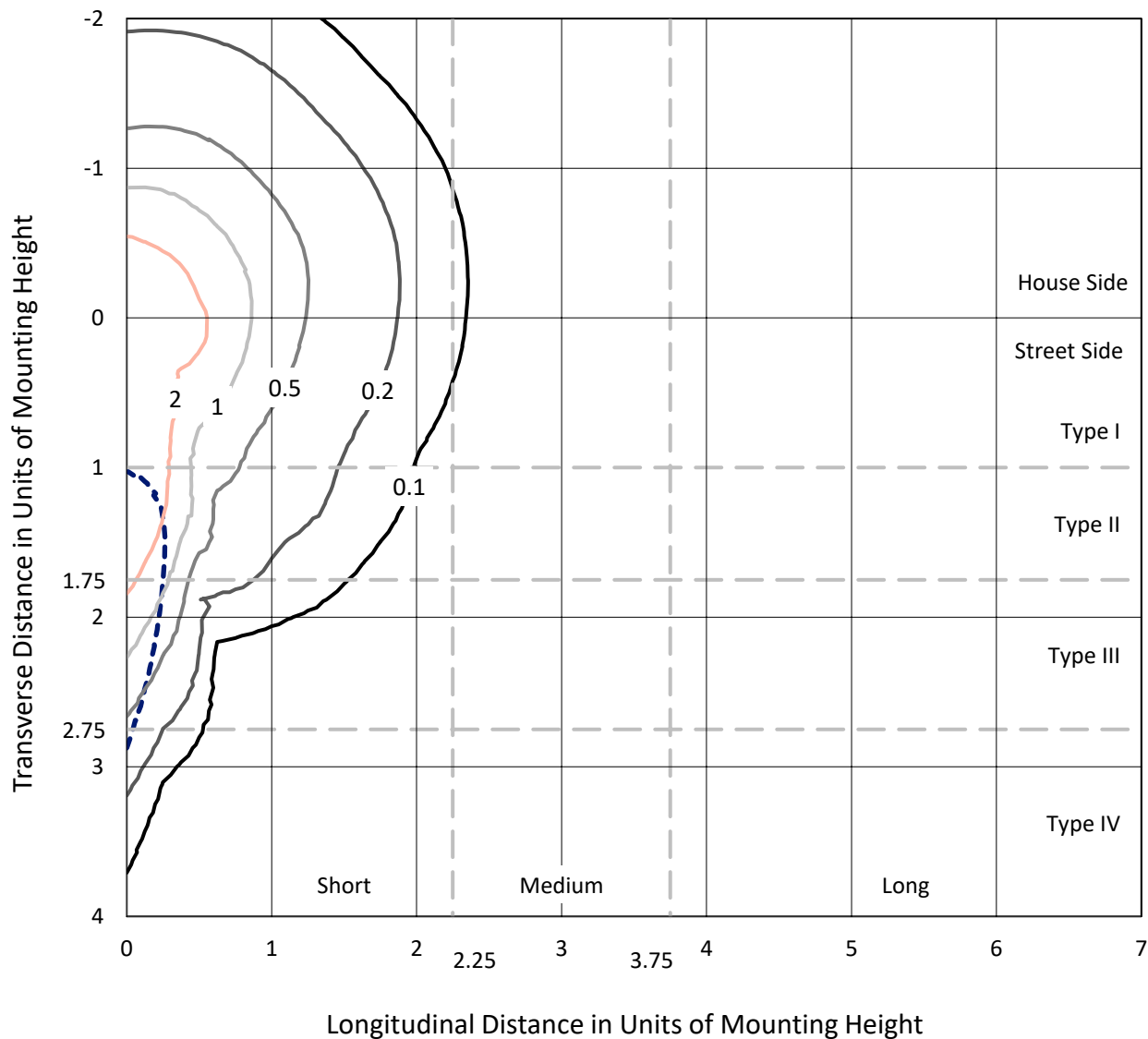
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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

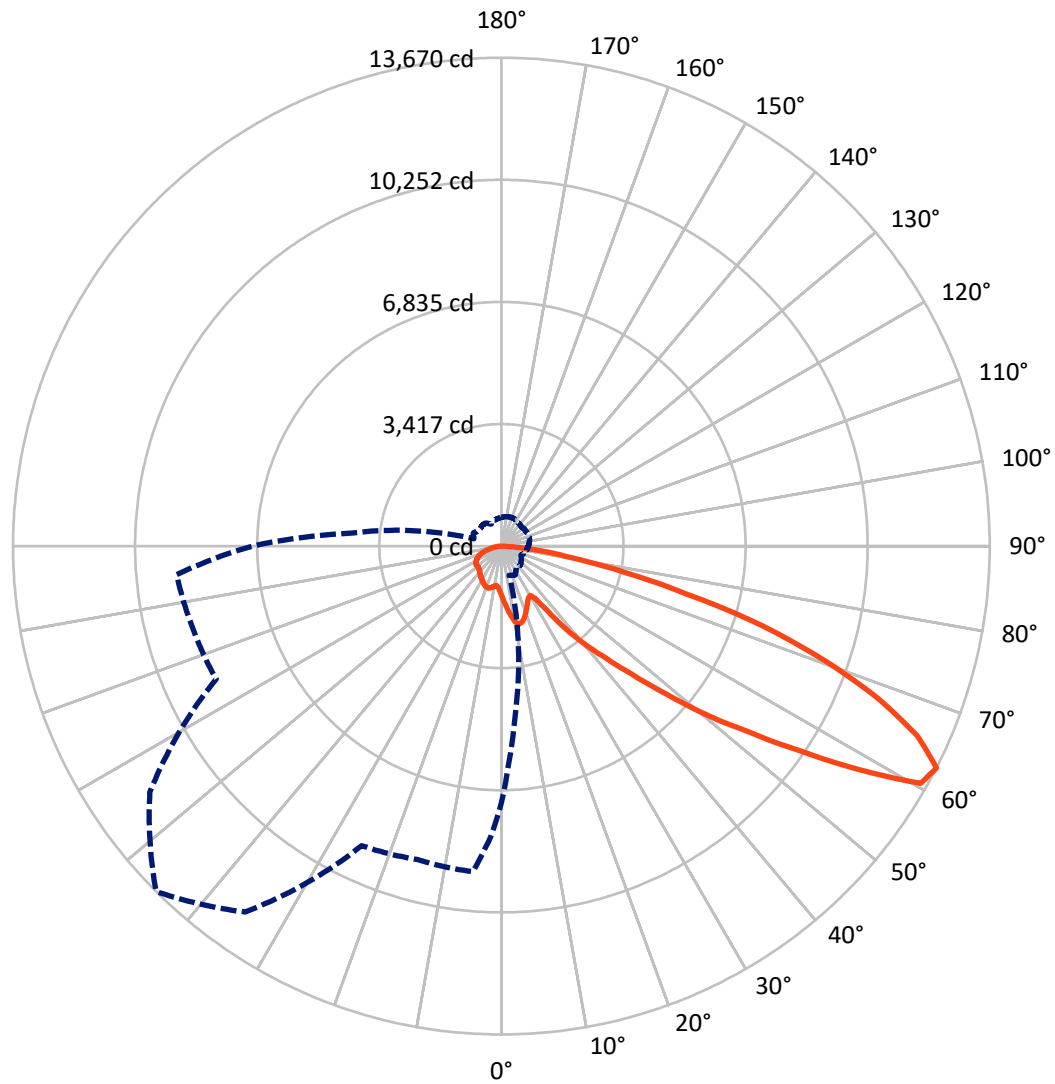


Based on 20 foot mounting height. Maximum calculated value = 4.7 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



— Vertical Plane Through 315-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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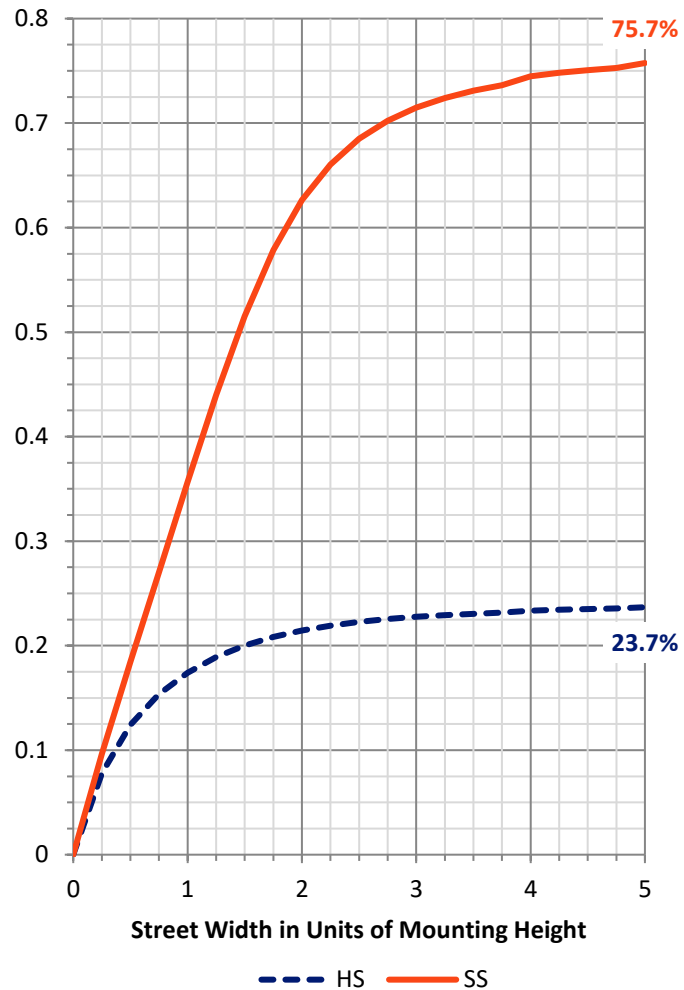
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2677.8   | 0.0    | 2677.8  |
|                    | % Fixture | 23.9     | 0.0    | 23.9    |
| <b>Street Side</b> | Lumens    | 8521.7   | 0.0    | 8521.7  |
|                    | % Fixture | 76.1     | 0.0    | 76.1    |
| <b>Total</b>       | Lumens    | 11199.5  | 0.0    | 11199.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 137.6   | 1.2       |
| 10°-20°   | 447.1   | 4.0       |
| 20°-30°   | 703.8   | 6.3       |
| 30°-40°   | 964.7   | 8.6       |
| 40°-50°   | 1505.2  | 13.4      |
| 50°-60°   | 2595.3  | 23.2      |
| 60°-70°   | 3007.6  | 26.9      |
| 70°-80°   | 1587.5  | 14.2      |
| 80°-90°   | 250.8   | 2.2       |
| 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°    | 11199.5 | 100.0     |
| 0°-180°   | 11199.5 | 100.0     |

**Coefficient of Utilization**



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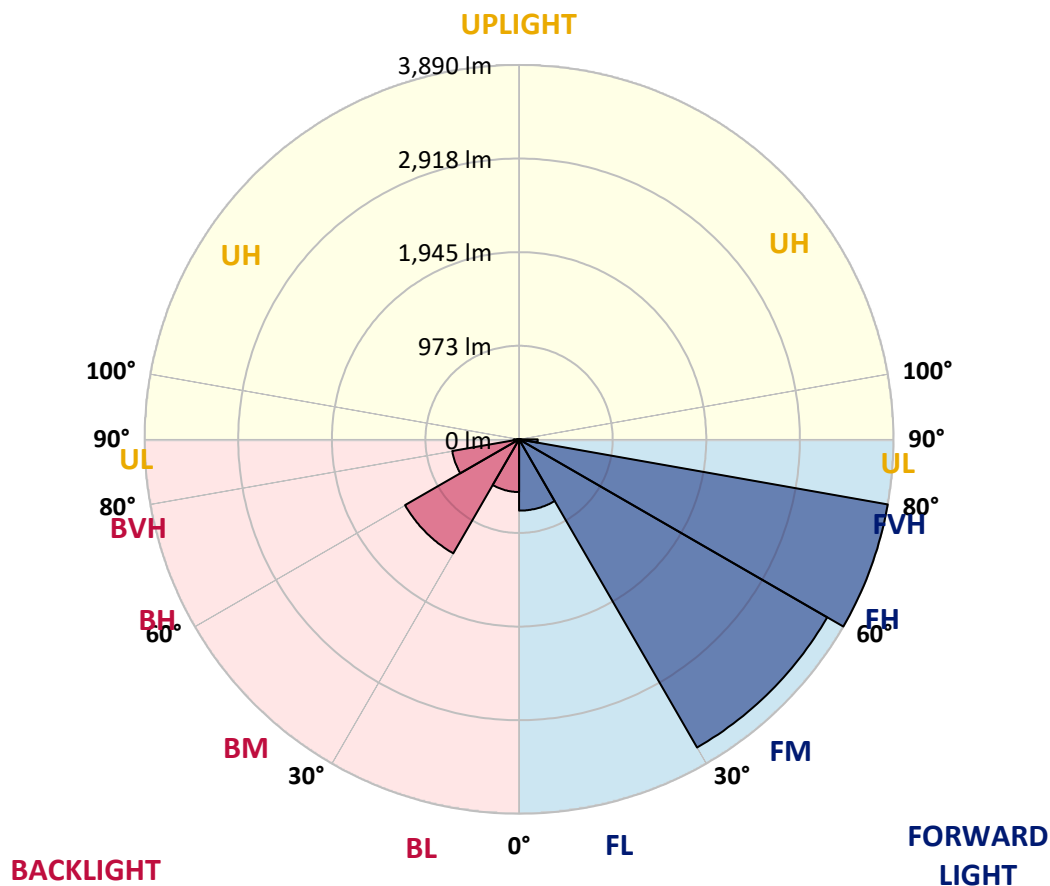
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 740.7  | 6.6       |                         |      |         |
| FM   | (30°-60°)   | 3697.3 | 33.0      |                         |      |         |
| FH   | (60°-80°)   | 3890.1 | 34.7      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 193.6  | 1.7       |                         |      | G2/225  |
| BL   | (0°-30°)    | 547.7  | 4.9       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 1367.8 | 12.2      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 705.1  | 6.3       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 57.2   | 0.5       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 2°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 |
| 2.5°  | 1517.1 | 1511.1 | 1502.6 | 1473.4 | 1455.5 | 1434.9 | 1413.5 | 1388.6 | 1360.4 | 1340.7 | 1321.0 |
| 5°    | 1645.6 | 1636.2 | 1615.6 | 1546.3 | 1498.3 | 1446.0 | 1402.3 | 1352.7 | 1303.8 | 1270.4 | 1237.0 |
| 7.5°  | 1769.0 | 1757.0 | 1725.3 | 1619.1 | 1541.1 | 1465.7 | 1399.8 | 1327.8 | 1255.0 | 1205.3 | 1165.9 |
| 10°   | 1892.3 | 1867.5 | 1827.2 | 1688.5 | 1585.7 | 1498.3 | 1422.9 | 1334.7 | 1237.9 | 1170.2 | 1128.2 |
| 12.5° | 1986.6 | 1963.5 | 1919.8 | 1751.9 | 1630.2 | 1520.6 | 1435.8 | 1354.4 | 1272.1 | 1200.2 | 1157.3 |
| 15°   | 2074.8 | 2044.8 | 1995.1 | 1811.0 | 1667.0 | 1519.7 | 1410.1 | 1338.9 | 1327.0 | 1309.0 | 1253.3 |
| 17.5° | 2138.2 | 2110.8 | 2059.4 | 1858.9 | 1687.6 | 1493.1 | 1338.9 | 1297.0 | 1350.9 | 1405.8 | 1352.7 |
| 20°   | 2193.9 | 2162.2 | 2109.9 | 1892.3 | 1691.9 | 1434.0 | 1252.4 | 1253.3 | 1338.1 | 1413.5 | 1400.6 |
| 22.5° | 2241.0 | 2205.9 | 2159.6 | 1930.0 | 1690.2 | 1351.8 | 1177.0 | 1228.4 | 1313.3 | 1372.4 | 1374.1 |
| 25°   | 2299.3 | 2270.1 | 2231.6 | 1985.7 | 1690.2 | 1267.8 | 1122.2 | 1198.5 | 1271.3 | 1321.0 | 1319.2 |
| 27.5° | 2370.4 | 2350.7 | 2319.0 | 2070.5 | 1705.6 | 1197.6 | 1091.4 | 1159.9 | 1217.3 | 1260.1 | 1259.3 |
| 30°   | 2450.0 | 2432.0 | 2408.1 | 2160.5 | 1732.2 | 1145.3 | 1074.2 | 1111.9 | 1153.9 | 1188.2 | 1188.2 |
| 32.5° | 2531.4 | 2524.6 | 2498.9 | 2232.4 | 1711.6 | 1129.1 | 1059.7 | 1064.0 | 1086.2 | 1114.5 | 1111.9 |
| 35°   | 2644.5 | 2637.6 | 2605.1 | 2288.1 | 1622.5 | 1105.9 | 1036.6 | 1015.1 | 1017.7 | 1035.7 | 1041.7 |
| 37.5° | 2809.8 | 2799.5 | 2751.6 | 2353.2 | 1488.0 | 1047.7 | 998.9  | 963.7  | 956.0  | 963.7  | 974.9  |
| 40°   | 3009.4 | 2994.0 | 2928.9 | 2441.5 | 1333.0 | 968.9  | 939.7  | 910.6  | 897.8  | 900.3  | 913.2  |
| 42.5° | 3259.6 | 3227.0 | 3133.6 | 2534.8 | 1179.6 | 899.5  | 873.8  | 855.8  | 841.2  | 839.5  | 864.4  |
| 45°   | 3665.6 | 3576.5 | 3428.3 | 2617.9 | 1050.3 | 862.7  | 814.7  | 801.8  | 789.8  | 796.7  | 825.8  |
| 47.5° | 4374.9 | 4210.5 | 3921.8 | 2689.0 | 971.4  | 863.5  | 767.6  | 753.9  | 753.0  | 766.7  | 799.3  |
| 50°   | 5349.8 | 5112.5 | 4667.1 | 2737.0 | 930.3  | 873.8  | 739.3  | 717.0  | 733.3  | 747.0  | 777.8  |
| 52.5° | 6283.6 | 5921.2 | 5390.9 | 2736.2 | 912.3  | 875.5  | 747.0  | 682.8  | 733.3  | 736.7  | 765.8  |
| 55°   | 7081.1 | 6424.9 | 5586.2 | 2455.2 | 886.6  | 868.6  | 777.0  | 656.2  | 723.9  | 736.7  | 759.9  |
| 57.5° | 7715.0 | 6745.3 | 5571.7 | 1983.2 | 964.6  | 831.0  | 795.0  | 650.2  | 696.5  | 738.4  | 765.0  |
| 60°   | 7644.8 | 6598.8 | 5212.7 | 1217.3 | 956.9  | 764.1  | 792.4  | 661.3  | 650.2  | 715.3  | 759.0  |
| 62.5° | 7177.9 | 6073.7 | 4595.1 | 844.7  | 898.6  | 725.6  | 750.4  | 681.0  | 607.4  | 681.9  | 729.9  |
| 65°   | 6524.3 | 5396.1 | 3829.2 | 647.6  | 744.4  | 727.3  | 679.3  | 667.3  | 569.7  | 628.8  | 680.2  |
| 67.5° | 5659.9 | 4555.7 | 3023.1 | 513.1  | 519.1  | 629.6  | 616.8  | 592.8  | 534.6  | 581.7  | 627.9  |
| 70°   | 4255.0 | 3324.7 | 2080.0 | 412.9  | 393.2  | 526.0  | 554.3  | 532.8  | 500.3  | 514.0  | 562.8  |
| 72.5° | 2998.3 | 2170.8 | 1139.3 | 327.2  | 303.3  | 404.3  | 481.4  | 478.0  | 442.0  | 452.3  | 500.3  |
| 75°   | 2228.2 | 1536.0 | 711.9  | 258.7  | 246.7  | 289.5  | 403.5  | 413.8  | 383.8  | 395.8  | 432.6  |
| 77.5° | 1482.9 | 994.6  | 395.8  | 191.9  | 191.9  | 211.6  | 300.7  | 348.7  | 326.4  | 335.8  | 361.5  |
| 80°   | 818.1  | 506.3  | 197.9  | 125.9  | 129.4  | 145.6  | 219.3  | 251.0  | 251.9  | 275.0  | 281.8  |
| 82.5° | 258.7  | 161.1  | 88.2   | 73.7   | 69.4   | 83.1   | 141.3  | 179.9  | 167.9  | 214.2  | 197.0  |
| 85°   | 59.1   | 37.7   | 16.3   | 16.3   | 18.0   | 27.4   | 54.0   | 95.9   | 122.5  | 147.3  | 107.1  |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.9    | 37.7   | 55.7   | 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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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 |
| 2.5°  | 1309.0 | 1291.8 | 1286.7 | 1272.1 | 1270.4 | 1256.7 | 1251.6 | 1251.6 | 1257.6 | 1257.6 | 1263.6 |
| 5°    | 1223.3 | 1201.9 | 1189.9 | 1172.8 | 1168.5 | 1158.2 | 1151.3 | 1152.2 | 1159.9 | 1165.0 | 1175.3 |
| 7.5°  | 1147.9 | 1133.4 | 1124.8 | 1117.1 | 1115.4 | 1113.6 | 1105.9 | 1105.1 | 1107.7 | 1115.4 | 1123.1 |
| 10°   | 1116.2 | 1105.9 | 1108.5 | 1114.5 | 1123.9 | 1129.1 | 1122.2 | 1118.8 | 1116.2 | 1121.4 | 1128.2 |
| 12.5° | 1147.1 | 1136.8 | 1141.9 | 1152.2 | 1165.0 | 1170.2 | 1167.6 | 1166.8 | 1169.3 | 1189.0 | 1203.6 |
| 15°   | 1214.7 | 1195.0 | 1188.2 | 1192.5 | 1202.7 | 1207.9 | 1205.3 | 1208.7 | 1225.0 | 1276.4 | 1313.3 |
| 17.5° | 1298.7 | 1250.7 | 1223.3 | 1215.6 | 1219.9 | 1224.2 | 1224.2 | 1232.7 | 1261.0 | 1336.4 | 1382.6 |
| 20°   | 1344.1 | 1281.6 | 1235.3 | 1216.4 | 1218.2 | 1222.4 | 1222.4 | 1234.4 | 1266.1 | 1346.7 | 1376.6 |
| 22.5° | 1332.1 | 1274.7 | 1218.2 | 1197.6 | 1198.5 | 1201.9 | 1201.9 | 1212.2 | 1240.4 | 1311.5 | 1325.2 |
| 25°   | 1285.0 | 1234.4 | 1178.8 | 1160.8 | 1162.5 | 1168.5 | 1166.8 | 1172.8 | 1194.2 | 1252.4 | 1260.1 |
| 27.5° | 1228.4 | 1183.9 | 1129.1 | 1115.4 | 1123.1 | 1135.1 | 1124.8 | 1125.6 | 1145.3 | 1194.2 | 1195.0 |
| 30°   | 1167.6 | 1130.8 | 1082.0 | 1071.7 | 1086.2 | 1092.2 | 1082.8 | 1082.8 | 1102.5 | 1135.9 | 1135.1 |
| 32.5° | 1101.7 | 1078.5 | 1043.4 | 1032.3 | 1048.5 | 1058.0 | 1046.0 | 1047.7 | 1063.1 | 1085.4 | 1076.8 |
| 35°   | 1040.0 | 1028.0 | 1011.7 | 1004.0 | 1014.3 | 1022.8 | 1015.1 | 1018.6 | 1033.1 | 1039.1 | 1027.1 |
| 37.5° | 980.9  | 979.2  | 980.9  | 980.9  | 983.4  | 986.0  | 980.9  | 989.4  | 1002.3 | 994.6  | 980.9  |
| 40°   | 929.5  | 936.3  | 952.6  | 948.3  | 945.7  | 948.3  | 944.9  | 959.5  | 972.3  | 958.6  | 942.3  |
| 42.5° | 886.6  | 899.5  | 924.3  | 924.3  | 919.2  | 920.9  | 919.2  | 937.2  | 946.6  | 927.8  | 909.8  |
| 45°   | 849.8  | 868.6  | 900.3  | 904.6  | 896.1  | 896.1  | 899.5  | 921.8  | 925.2  | 899.5  | 880.6  |
| 47.5° | 824.1  | 847.2  | 883.2  | 890.9  | 878.1  | 877.2  | 886.6  | 910.6  | 910.6  | 880.6  | 859.2  |
| 50°   | 806.1  | 831.8  | 874.6  | 884.9  | 872.1  | 868.6  | 884.1  | 907.2  | 902.1  | 866.1  | 844.7  |
| 52.5° | 794.1  | 820.7  | 873.8  | 888.4  | 879.8  | 876.4  | 891.8  | 908.1  | 895.2  | 856.7  | 834.4  |
| 55°   | 786.4  | 815.5  | 876.4  | 888.4  | 878.9  | 872.9  | 888.4  | 902.9  | 896.1  | 851.5  | 830.1  |
| 57.5° | 790.7  | 819.8  | 872.9  | 878.9  | 867.8  | 857.5  | 875.5  | 896.1  | 893.5  | 853.2  | 831.8  |
| 60°   | 783.8  | 810.4  | 854.1  | 855.8  | 837.0  | 820.7  | 847.2  | 878.1  | 878.1  | 847.2  | 828.4  |
| 62.5° | 752.1  | 778.7  | 817.2  | 819.0  | 797.5  | 779.6  | 810.4  | 847.2  | 846.4  | 821.5  | 801.8  |
| 65°   | 699.9  | 724.7  | 768.4  | 772.7  | 751.3  | 732.4  | 764.1  | 798.4  | 801.0  | 778.7  | 761.6  |
| 67.5° | 642.5  | 664.8  | 697.3  | 714.4  | 696.5  | 676.8  | 705.9  | 738.4  | 737.6  | 711.0  | 693.0  |
| 70°   | 574.0  | 594.5  | 624.5  | 639.1  | 627.9  | 609.1  | 635.6  | 652.8  | 645.1  | 632.2  | 620.2  |
| 72.5° | 506.3  | 526.0  | 554.3  | 554.3  | 542.3  | 524.3  | 532.0  | 562.8  | 572.2  | 562.8  | 555.1  |
| 75°   | 435.2  | 452.3  | 472.0  | 476.3  | 449.7  | 417.2  | 453.2  | 479.7  | 490.9  | 486.6  | 477.2  |
| 77.5° | 362.4  | 375.2  | 404.3  | 396.6  | 346.9  | 329.8  | 358.9  | 398.3  | 406.1  | 403.5  | 390.6  |
| 80°   | 279.3  | 287.0  | 317.8  | 302.4  | 263.8  | 252.7  | 265.6  | 296.4  | 298.1  | 289.5  | 273.3  |
| 82.5° | 187.6  | 197.9  | 218.4  | 188.5  | 187.6  | 177.3  | 167.0  | 170.5  | 185.9  | 184.2  | 173.0  |
| 85°   | 95.9   | 101.1  | 120.8  | 113.1  | 96.8   | 84.0   | 79.7   | 84.8   | 76.2   | 69.4   | 60.0   |
| 87.5° | 40.3   | 43.7   | 60.0   | 33.4   | 10.3   | 0.0    | 0.0    | 5.1    | 7.7    | 11.1   | 12.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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**CANDELA DISTRIBUTION (continued):**

|       | 185°   | 195°   | 205°   | 215°   | 225°   | 235°   | 245°   | 255°   | 265°   | 270°   | 275°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 |
| 2.5°  | 1277.3 | 1286.7 | 1309.8 | 1338.9 | 1367.2 | 1396.3 | 1428.0 | 1447.7 | 1471.7 | 1502.6 | 1503.4 |
| 5°    | 1188.2 | 1209.6 | 1243.0 | 1287.6 | 1333.8 | 1386.9 | 1448.6 | 1500.0 | 1561.7 | 1610.5 | 1630.2 |
| 7.5°  | 1133.4 | 1164.2 | 1206.2 | 1262.7 | 1323.5 | 1389.5 | 1470.0 | 1556.5 | 1657.6 | 1722.7 | 1761.3 |
| 10°   | 1138.5 | 1185.6 | 1227.6 | 1275.6 | 1330.4 | 1401.5 | 1505.1 | 1619.9 | 1744.1 | 1829.8 | 1877.8 |
| 12.5° | 1230.2 | 1279.8 | 1272.1 | 1269.6 | 1306.4 | 1392.9 | 1533.4 | 1684.2 | 1835.8 | 1921.5 | 1978.9 |
| 15°   | 1345.8 | 1364.6 | 1291.8 | 1237.0 | 1259.3 | 1362.1 | 1548.8 | 1741.6 | 1912.1 | 2016.6 | 2073.1 |
| 17.5° | 1404.9 | 1367.2 | 1279.0 | 1196.7 | 1190.7 | 1315.0 | 1556.5 | 1799.8 | 1997.7 | 2102.2 | 2162.2 |
| 20°   | 1377.5 | 1322.7 | 1248.1 | 1170.2 | 1127.4 | 1250.7 | 1552.3 | 1846.1 | 2075.7 | 2192.2 | 2241.0 |
| 22.5° | 1318.4 | 1270.4 | 1212.2 | 1137.6 | 1076.0 | 1180.5 | 1541.1 | 1892.3 | 2145.1 | 2262.4 | 2305.3 |
| 25°   | 1254.1 | 1218.2 | 1170.2 | 1105.1 | 1046.8 | 1118.8 | 1533.4 | 1954.0 | 2224.7 | 2337.0 | 2364.4 |
| 27.5° | 1189.9 | 1163.3 | 1123.9 | 1073.4 | 1040.0 | 1076.0 | 1536.0 | 2034.6 | 2327.5 | 2433.8 | 2422.6 |
| 30°   | 1126.5 | 1103.4 | 1076.0 | 1053.7 | 1039.1 | 1065.7 | 1529.1 | 2120.2 | 2440.6 | 2539.1 | 2473.2 |
| 32.5° | 1066.5 | 1045.1 | 1028.0 | 1031.4 | 1040.0 | 1070.0 | 1494.0 | 2198.2 | 2544.3 | 2628.2 | 2528.0 |
| 35°   | 1015.1 | 992.9  | 992.9  | 1004.9 | 1036.6 | 1055.4 | 1403.2 | 2259.0 | 2659.1 | 2743.0 | 2605.9 |
| 37.5° | 967.2  | 947.5  | 960.3  | 980.0  | 1010.0 | 1016.0 | 1286.7 | 2318.1 | 2826.1 | 2904.9 | 2726.7 |
| 40°   | 925.2  | 905.5  | 928.6  | 953.5  | 968.9  | 966.3  | 1168.5 | 2400.3 | 3023.1 | 3104.5 | 2886.9 |
| 42.5° | 891.8  | 873.8  | 894.3  | 926.0  | 928.6  | 931.2  | 1082.0 | 2479.2 | 3251.9 | 3355.5 | 3162.8 |
| 45°   | 864.4  | 851.5  | 861.8  | 893.5  | 893.5  | 932.9  | 1028.0 | 2545.1 | 3596.2 | 3779.6 | 3669.0 |
| 47.5° | 842.9  | 835.2  | 840.4  | 850.7  | 867.8  | 963.7  | 993.7  | 2595.7 | 4223.3 | 4583.1 | 4471.7 |
| 50°   | 831.0  | 823.2  | 830.1  | 808.7  | 860.1  | 979.2  | 982.6  | 2634.2 | 5050.0 | 5613.7 | 5475.7 |
| 52.5° | 820.7  | 818.1  | 822.4  | 772.7  | 877.2  | 968.9  | 974.0  | 2582.8 | 5604.2 | 6627.9 | 6764.1 |
| 55°   | 817.2  | 819.0  | 798.4  | 746.1  | 897.8  | 934.6  | 948.3  | 2215.3 | 5755.0 | 7502.6 | 8348.1 |
| 57.5° | 819.0  | 813.8  | 761.6  | 748.7  | 898.6  | 866.1  | 985.2  | 1580.5 | 5535.7 | 7882.9 | 9897.8 |
| 60°   | 813.0  | 787.3  | 717.0  | 771.8  | 859.2  | 785.6  | 958.6  | 1030.6 | 4957.5 | 7590.8 | 9987.7 |
| 62.5° | 786.4  | 748.7  | 678.5  | 784.7  | 789.0  | 737.6  | 870.4  | 794.1  | 4186.5 | 6965.5 | 9120.8 |
| 65°   | 747.9  | 697.3  | 645.9  | 758.1  | 717.9  | 715.3  | 654.5  | 636.5  | 3366.6 | 6221.0 | 8298.4 |
| 67.5° | 684.5  | 633.9  | 621.9  | 697.3  | 645.9  | 633.9  | 526.0  | 527.7  | 2686.5 | 5427.8 | 7471.7 |
| 70°   | 612.5  | 562.0  | 571.4  | 630.5  | 574.8  | 526.8  | 425.8  | 439.5  | 2038.0 | 4522.3 | 6357.2 |
| 72.5° | 565.4  | 497.7  | 498.6  | 555.1  | 505.4  | 426.6  | 350.4  | 362.4  | 1293.5 | 3408.6 | 5054.3 |
| 75°   | 477.2  | 438.6  | 419.8  | 449.7  | 429.2  | 332.4  | 294.7  | 292.1  | 766.7  | 2443.2 | 3784.7 |
| 77.5° | 398.3  | 368.4  | 358.9  | 370.9  | 320.4  | 245.9  | 237.3  | 233.0  | 434.3  | 1565.1 | 2480.0 |
| 80°   | 288.7  | 281.0  | 280.1  | 286.1  | 246.7  | 180.8  | 180.8  | 181.6  | 233.9  | 849.8  | 1398.1 |
| 82.5° | 183.3  | 200.5  | 177.3  | 197.0  | 167.9  | 128.5  | 119.9  | 136.2  | 134.5  | 362.4  | 589.4  |
| 85°   | 76.2   | 104.5  | 97.7   | 103.7  | 79.7   | 70.2   | 75.4   | 81.4   | 78.0   | 139.6  | 229.6  |
| 87.5° | 14.6   | 17.1   | 18.8   | 18.0   | 18.0   | 22.3   | 24.8   | 30.0   | 30.0   | 40.3   | 69.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

REPORT NUMBER: P633587

CATALOG NUMBER: GWS-SA2F-722-U-SLL-W

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°    | 315°    | 325°    | 335°   | 345°   | 355°   | 358°   | 360°   |
|-------|--------|--------|---------|---------|---------|--------|--------|--------|--------|--------|
| 0°    | 1396.3 | 1396.3 | 1396.3  | 1396.3  | 1396.3  | 1396.3 | 1396.3 | 1396.3 | 1396.3 | 1396.3 |
| 2.5°  | 1536.0 | 1560.8 | 1555.7  | 1566.8  | 1552.3  | 1557.4 | 1528.3 | 1520.6 | 1515.4 | 1517.1 |
| 5°    | 1693.6 | 1744.1 | 1753.6  | 1772.4  | 1759.6  | 1759.6 | 1708.2 | 1669.6 | 1655.9 | 1645.6 |
| 7.5°  | 1853.8 | 1926.6 | 1974.6  | 1979.7  | 1972.9  | 1959.2 | 1884.6 | 1815.2 | 1790.4 | 1769.0 |
| 10°   | 1996.0 | 2083.4 | 2137.4  | 2163.1  | 2150.2  | 2128.8 | 2036.3 | 1941.2 | 1911.2 | 1892.3 |
| 12.5° | 2104.8 | 2181.9 | 2217.9  | 2235.0  | 2233.3  | 2225.6 | 2150.2 | 2047.4 | 2015.7 | 1986.6 |
| 15°   | 2175.0 | 2213.6 | 2199.9  | 2199.0  | 2211.0  | 2241.9 | 2218.7 | 2138.2 | 2101.4 | 2074.8 |
| 17.5° | 2220.4 | 2183.6 | 2122.8  | 2094.5  | 2120.2  | 2193.0 | 2246.1 | 2200.7 | 2167.3 | 2138.2 |
| 20°   | 2236.7 | 2105.7 | 2017.4  | 1965.2  | 1995.1  | 2100.5 | 2231.6 | 2246.1 | 2217.9 | 2193.9 |
| 22.5° | 2217.9 | 2010.6 | 1890.6  | 1829.0  | 1858.1  | 1984.0 | 2188.8 | 2283.0 | 2264.1 | 2241.0 |
| 25°   | 2171.6 | 1911.2 | 1767.3  | 1711.6  | 1743.3  | 1871.8 | 2112.5 | 2317.2 | 2318.1 | 2299.3 |
| 27.5° | 2114.2 | 1819.5 | 1680.8  | 1628.5  | 1659.3  | 1779.3 | 2038.0 | 2347.2 | 2377.2 | 2370.4 |
| 30°   | 2056.0 | 1764.7 | 1639.6  | 1602.8  | 1625.9  | 1732.2 | 1961.7 | 2378.1 | 2438.0 | 2450.0 |
| 32.5° | 2029.4 | 1791.3 | 1736.4  | 1752.7  | 1722.7  | 1759.6 | 1934.3 | 2421.8 | 2511.7 | 2531.4 |
| 35°   | 2064.5 | 2026.8 | 2165.6  | 2229.9  | 2123.6  | 1984.0 | 1969.4 | 2487.7 | 2615.4 | 2644.5 |
| 37.5° | 2235.0 | 2531.4 | 2738.7  | 2964.9  | 2780.7  | 2473.2 | 2143.3 | 2599.9 | 2763.6 | 2809.8 |
| 40°   | 2605.9 | 2971.7 | 3346.1  | 3638.2  | 3359.8  | 2946.0 | 2474.0 | 2767.0 | 2967.4 | 3009.4 |
| 42.5° | 2955.5 | 3384.6 | 3900.3  | 4278.1  | 3916.6  | 3332.4 | 2830.4 | 3048.0 | 3236.4 | 3259.6 |
| 45°   | 3298.1 | 3789.8 | 4571.1  | 5096.2  | 4605.4  | 3699.9 | 3194.5 | 3522.6 | 3664.8 | 3665.6 |
| 47.5° | 3699.9 | 4246.4 | 5412.3  | 6160.2  | 5519.4  | 4106.8 | 3536.3 | 4273.8 | 4471.7 | 4374.9 |
| 50°   | 4180.5 | 4700.5 | 6278.4  | 7398.1  | 6633.9  | 4607.1 | 3970.6 | 5189.6 | 5459.5 | 5349.8 |
| 52.5° | 4823.8 | 5200.7 | 7232.7  | 8605.1  | 7848.7  | 5176.8 | 4600.2 | 6399.2 | 6488.3 | 6283.6 |
| 55°   | 5729.3 | 5922.9 | 8457.7  | 10095.7 | 9204.7  | 5878.4 | 5521.1 | 7917.2 | 7667.9 | 7081.1 |
| 57.5° | 7791.3 | 7065.7 | 10030.6 | 11796.1 | 10739.0 | 7153.1 | 7539.4 | 9591.1 | 8704.5 | 7715.0 |
| 60°   | 9516.6 | 8453.5 | 11486.0 | 13483.7 | 12054.0 | 8558.0 | 9434.3 | 9882.4 | 8665.9 | 7644.8 |
| 62.5° | 8934.9 | 8807.3 | 12011.1 | 13669.6 | 12502.9 | 9249.3 | 9082.2 | 9148.2 | 8100.5 | 7177.9 |
| 65°   | 7839.2 | 8124.5 | 11542.6 | 12788.1 | 12005.1 | 8629.9 | 8215.3 | 8469.7 | 7453.7 | 6524.3 |
| 67.5° | 7192.5 | 7402.3 | 10709.0 | 11377.2 | 11100.5 | 7960.0 | 7541.1 | 7356.9 | 6449.7 | 5659.9 |
| 70°   | 6531.1 | 6705.0 | 9538.8  | 9606.5  | 9689.6  | 6846.4 | 6166.2 | 5617.9 | 4807.5 | 4255.0 |
| 72.5° | 5643.6 | 5653.1 | 8059.4  | 7667.1  | 7824.7  | 5357.5 | 4963.5 | 4200.2 | 3499.4 | 2998.3 |
| 75°   | 4734.7 | 4476.0 | 6379.5  | 5359.2  | 5675.3  | 4167.6 | 4121.4 | 3165.3 | 2639.4 | 2228.2 |
| 77.5° | 3609.9 | 3307.5 | 4660.2  | 3524.3  | 3986.0  | 2775.6 | 3098.5 | 2146.8 | 1857.2 | 1482.9 |
| 80°   | 2423.5 | 2235.0 | 2575.1  | 1989.2  | 2607.7  | 1912.9 | 2020.8 | 1216.4 | 1054.5 | 818.1  |
| 82.5° | 1278.1 | 1091.4 | 1591.7  | 1179.6  | 1572.8  | 1051.1 | 758.1  | 376.1  | 320.4  | 258.7  |
| 85°   | 495.1  | 573.1  | 780.4   | 419.8   | 609.9   | 375.2  | 219.3  | 93.4   | 78.0   | 59.1   |
| 87.5° | 95.9   | 148.2  | 81.4    | 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    |

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

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-10-R4

Test Date: 10/25/2019

Luminaire Tested: SA1C-722-U-5WQ

Data in this report applies to families of products SA1C-722-U-5WQ.

### 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:  $4\pi$   
 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    | CRI (Ra): | 72.0 |      |       |
| CIE u':                   | 0.2876  | R1:       | 68.9 | R9:  | -17.4 |
| CIE v':                   | 0.5346  | R2:       | 83.0 | R10: | 61.3  |
| Duv:                      | -0.0006 | R3:       | 95.2 | R11: | 59.8  |
| CIE x:                    | 0.5005  | R4:       | 66.2 | R12: | 50.5  |
| CIE y:                    | 0.4134  | R5:       | 65.9 | R13: | 71.1  |
| CIE z:                    | 0.0860  | R6:       | 76.3 | R14: | 96.9  |
| Peak Wavelength (nm):     | 603     | R7:       | 76.7 |      |       |
| Dominant Wavelength (nm): | 587     | R8:       | 43.8 |      |       |
| Purity:                   | 74.5    |           |      |      |       |
| Rf:                       | 69.8    |           |      |      |       |
| Rg:                       | 99.2    |           |      |      |       |



### 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            |

REPORT NUMBER: SP1-1908-441-10-R4

**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

REPORT NUMBER: SP1-1908-441-10-R4

**Photopic Flux vs. Wavelength**



#####

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 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               |           |                  |                  |

REPORT NUMBER: SP1-1908-441-10-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 4696.9

S/P: 0.85

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 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<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 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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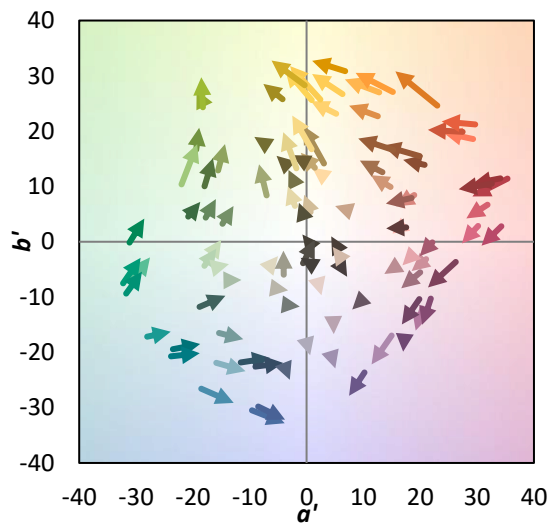
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### Summary

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



### 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)