

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: P639476

Luminaire Tested: GWS-SA5B-830-U-SLR-W

Issue Date: 1/10/2023

### Test Information

Test Method: LM-79-2019  
Report Number: P639476  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-41)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5B-830-U-SLR-W  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR RIGHT OPTICS  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 13355.2 lumens  
Efficiency: N/A  
Efficacy: 115.4 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G2

Input Watts (W): 115.7  
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



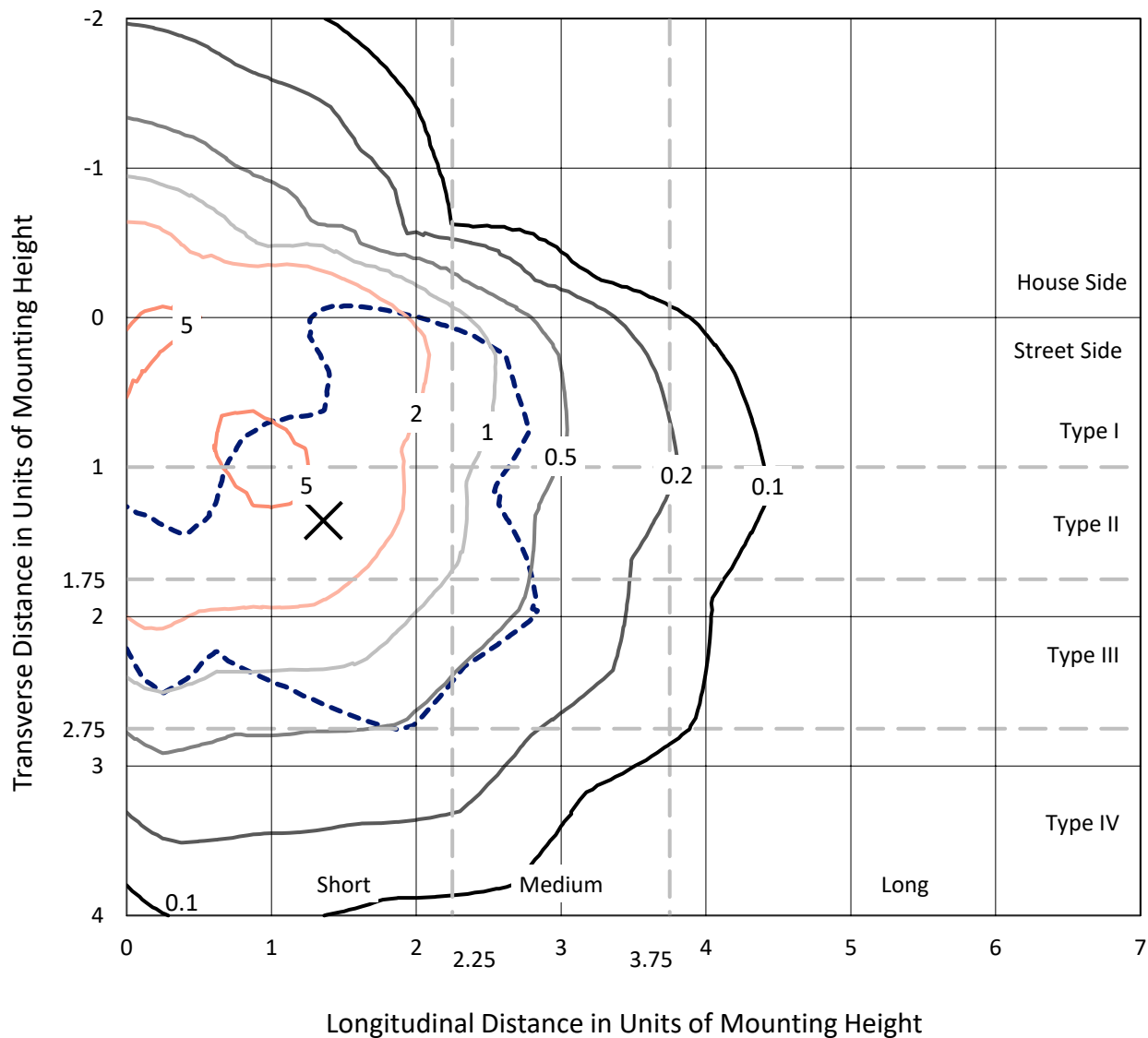
REPORT NUMBER: P639476

CATALOG NUMBER: GWS-SA5B-830-U-SLR-W

## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

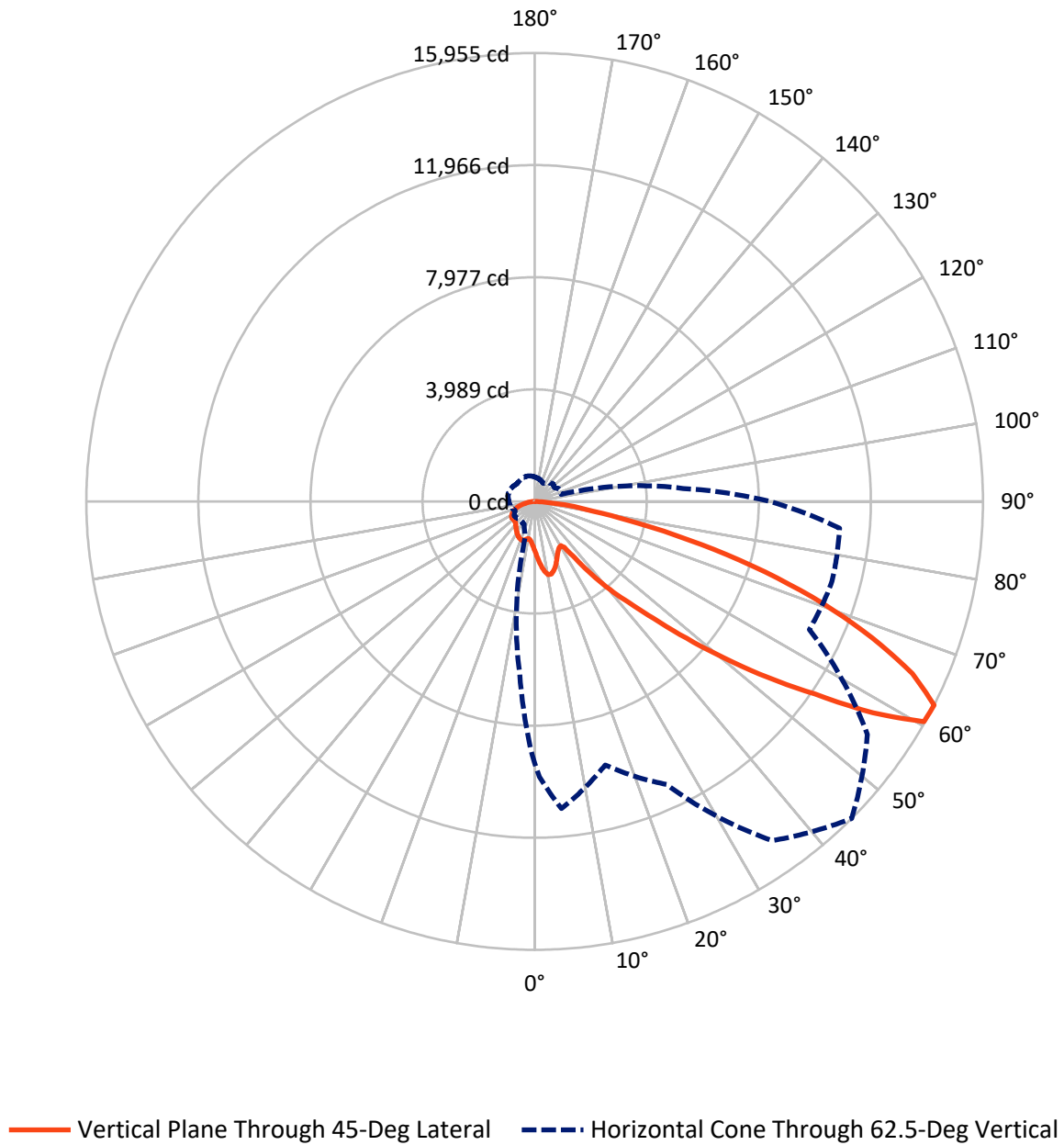


Based on 20 foot mounting height. Maximum calculated value = 6.3 fc  
 Type III - Short - N/A

REPORT NUMBER: P639476

CATALOG NUMBER: GWS-SA5B-830-U-SLR-W

## Luminous Intensity Polar Plot



REPORT NUMBER: P639476

CATALOG NUMBER: GWS-SA5B-830-U-SLR-W

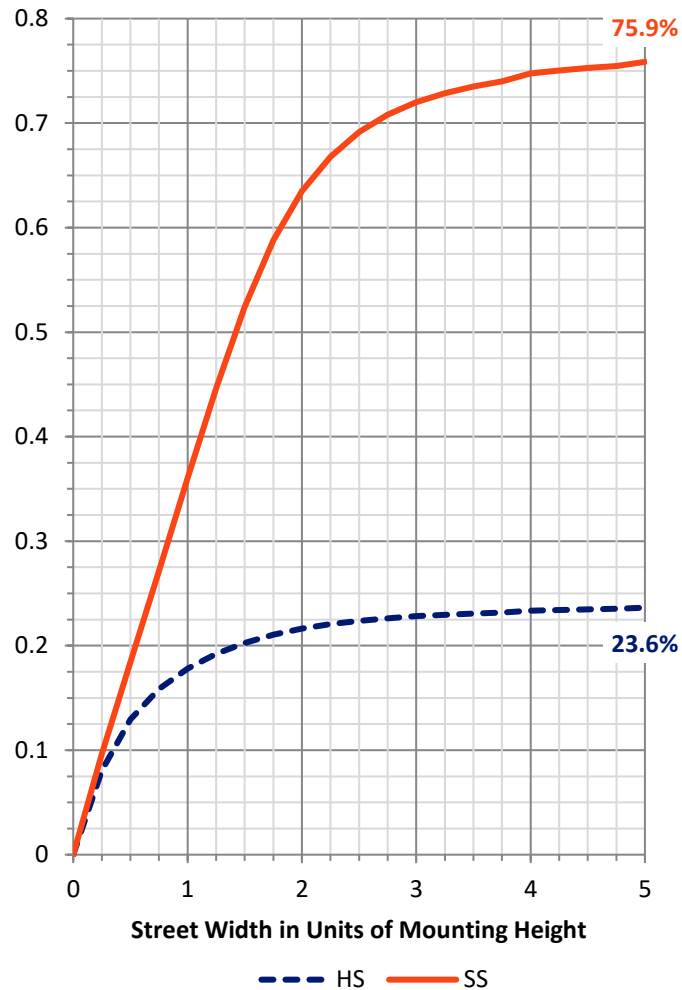
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 3186.8   | 0.0    | 3186.8  |
|                    | % Fixture | 23.9     | 0.0    | 23.9    |
| <b>Street Side</b> | Lumens    | 10168.4  | 0.0    | 10168.4 |
|                    | % Fixture | 76.1     | 0.0    | 76.1    |
| <b>Total</b>       | Lumens    | 13355.2  | 0.0    | 13355.2 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 173.1   | 1.3       |
| 10°-20°   | 542.7   | 4.1       |
| 20°-30°   | 842.9   | 6.3       |
| 30°-40°   | 1144.4  | 8.6       |
| 40°-50°   | 1813.8  | 13.6      |
| 50°-60°   | 3199.5  | 24.0      |
| 60°-70°   | 3560.0  | 26.7      |
| 70°-80°   | 1805.5  | 13.5      |
| 80°-90°   | 273.4   | 2.0       |
| 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°    | 13355.2 | 100.0     |
| 0°-180°   | 13355.2 | 100.0     |

**Coefficient of Utilization**



REPORT NUMBER: P639476

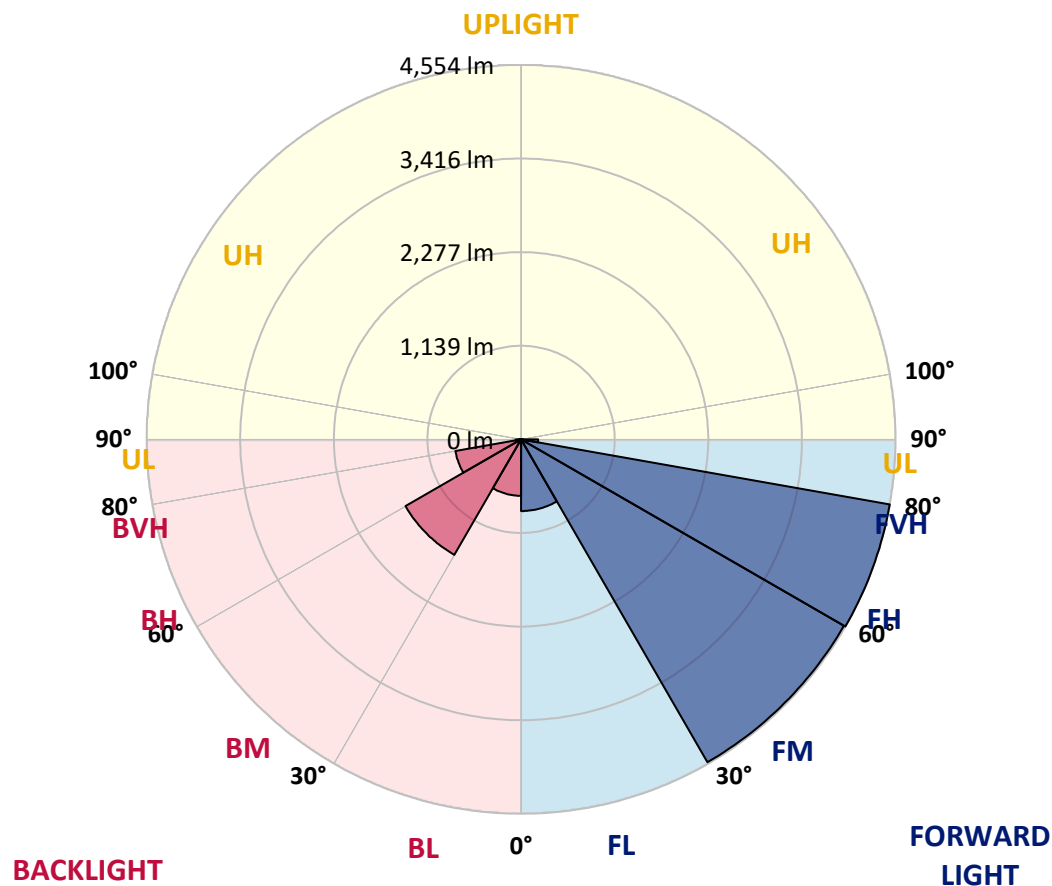
CATALOG NUMBER: GWS-SA5B-830-U-SLR-W

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 872.0  | 6.5       |                         |      |         |
| FM   | (30°-60°)   | 4534.7 | 34.0      |                         |      |         |
| FH   | (60°-80°)   | 4554.2 | 34.1      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 207.5  | 1.6       |                         |      | G2/225  |
| BL   | (0°-30°)    | 686.7  | 5.1       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 1623.1 | 12.2      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 811.2  | 6.1       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 65.9   | 0.5       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

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

Type III Short





REPORT NUMBER: P639476

CATALOG NUMBER: GWS-SA5B-830-U-SLR-W

**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 1°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 1772.5  | 1772.5  | 1772.5  | 1772.5  | 1772.5  | 1772.5  | 1772.5  | 1772.5  | 1772.5  | 1772.5  | 1772.5  |
| 2.5°  | 1905.0  | 1904.0  | 1923.2  | 1952.5  | 1979.8  | 1991.9  | 2012.1  | 2010.1  | 1993.9  | 1972.7  | 1965.6  |
| 5°    | 2054.6  | 2058.7  | 2092.0  | 2156.7  | 2228.5  | 2258.9  | 2272.0  | 2266.9  | 2237.6  | 2200.2  | 2134.5  |
| 7.5°  | 2190.1  | 2197.2  | 2248.7  | 2345.8  | 2434.8  | 2475.2  | 2507.6  | 2501.5  | 2459.1  | 2389.3  | 2292.2  |
| 10°   | 2289.2  | 2297.3  | 2359.0  | 2473.2  | 2572.3  | 2607.7  | 2649.2  | 2651.2  | 2613.8  | 2519.7  | 2420.6  |
| 12.5° | 2388.3  | 2396.4  | 2454.0  | 2558.2  | 2622.9  | 2623.9  | 2648.1  | 2661.3  | 2663.3  | 2619.8  | 2520.7  |
| 15°   | 2491.4  | 2498.5  | 2551.1  | 2609.7  | 2606.7  | 2550.1  | 2550.1  | 2575.3  | 2631.0  | 2662.3  | 2593.5  |
| 17.5° | 2579.4  | 2588.5  | 2628.9  | 2609.7  | 2519.7  | 2417.6  | 2405.5  | 2437.8  | 2534.9  | 2655.2  | 2648.1  |
| 20°   | 2652.2  | 2659.3  | 2681.5  | 2554.1  | 2390.3  | 2256.8  | 2233.6  | 2271.0  | 2402.4  | 2611.7  | 2689.6  |
| 22.5° | 2722.0  | 2726.0  | 2713.9  | 2481.3  | 2250.8  | 2098.1  | 2069.8  | 2109.2  | 2250.8  | 2534.9  | 2725.0  |
| 25°   | 2804.9  | 2800.8  | 2743.2  | 2405.5  | 2123.4  | 1972.7  | 1943.4  | 1987.9  | 2135.5  | 2432.8  | 2763.4  |
| 27.5° | 2900.9  | 2885.8  | 2768.5  | 2323.6  | 2025.3  | 1879.7  | 1859.5  | 1907.0  | 2044.5  | 2338.7  | 2793.7  |
| 30°   | 2982.8  | 2953.5  | 2772.5  | 2250.8  | 1974.7  | 1840.3  | 1828.1  | 1872.6  | 2000.0  | 2275.0  | 2832.2  |
| 32.5° | 3073.8  | 3033.4  | 2795.8  | 2231.6  | 2003.0  | 1935.3  | 1951.5  | 1954.5  | 2012.1  | 2256.8  | 2889.8  |
| 35°   | 3204.3  | 3151.7  | 2859.5  | 2287.2  | 2294.2  | 2408.5  | 2467.2  | 2388.3  | 2195.2  | 2297.3  | 2999.0  |
| 37.5° | 3401.4  | 3334.7  | 2988.9  | 2527.8  | 2895.9  | 3151.7  | 3293.2  | 3113.3  | 2751.3  | 2450.0  | 3163.8  |
| 40°   | 3641.1  | 3556.1  | 3154.7  | 2972.7  | 3458.1  | 3867.6  | 4119.3  | 3855.4  | 3323.6  | 2831.2  | 3395.4  |
| 42.5° | 3975.8  | 3886.8  | 3476.3  | 3409.5  | 3978.8  | 4588.5  | 4917.1  | 4523.8  | 3828.1  | 3323.6  | 3766.5  |
| 45°   | 4559.2  | 4473.2  | 4065.7  | 3847.3  | 4588.5  | 5476.3  | 5937.3  | 5390.3  | 4340.8  | 3818.0  | 4460.1  |
| 47.5° | 5637.0  | 5535.9  | 4941.4  | 4332.7  | 5284.2  | 6629.0  | 7274.1  | 6477.3  | 4873.6  | 4384.3  | 5624.9  |
| 50°   | 6931.3  | 6834.2  | 6040.5  | 4907.0  | 6052.6  | 7861.5  | 8758.4  | 7754.3  | 5487.4  | 5072.8  | 7017.2  |
| 52.5° | 8488.4  | 8470.2  | 7608.7  | 5633.0  | 6852.4  | 9176.0  | 10405.5 | 9168.9  | 6159.8  | 6000.0  | 8594.6  |
| 55°   | 9891.9  | 10069.8 | 9600.7  | 6740.2  | 7885.8  | 10827.2 | 12099.2 | 10711.9 | 7071.8  | 7532.9  | 10441.9 |
| 57.5° | 10648.2 | 11126.5 | 11847.4 | 8999.0  | 9388.3  | 12800.9 | 14189.2 | 12595.6 | 8639.1  | 10085.0 | 12154.8 |
| 60°   | 10148.7 | 10690.7 | 11997.0 | 10699.8 | 10878.7 | 14382.3 | 15914.1 | 14179.1 | 10178.0 | 11856.5 | 12057.7 |
| 62.5° | 9317.5  | 9803.9  | 10965.7 | 9706.8  | 11109.3 | 14730.1 | 15954.6 | 14455.1 | 10789.7 | 10957.6 | 10891.9 |
| 65°   | 8331.7  | 8822.1  | 10052.6 | 8473.3  | 10376.2 | 13904.0 | 14777.6 | 13643.2 | 9690.7  | 9900.0  | 9924.2  |
| 67.5° | 7022.3  | 7475.3  | 8728.1  | 7533.9  | 9458.1  | 12691.7 | 12970.8 | 12486.4 | 8924.2  | 9257.9  | 8909.1  |
| 70°   | 5246.7  | 5655.2  | 6761.4  | 6122.4  | 7972.7  | 11112.3 | 10886.8 | 10958.6 | 8063.7  | 8395.4  | 7441.9  |
| 72.5° | 3585.5  | 3892.8  | 4841.3  | 4810.9  | 6105.2  | 8895.9  | 8581.4  | 9261.9  | 6735.1  | 7175.0  | 5673.4  |
| 75°   | 2507.6  | 2747.2  | 3499.5  | 3800.8  | 4614.8  | 6593.6  | 6111.3  | 6932.3  | 5259.9  | 5887.8  | 4139.6  |
| 77.5° | 1538.9  | 1697.7  | 2210.3  | 2816.0  | 2968.7  | 4512.7  | 3795.8  | 5216.4  | 3693.7  | 4294.3  | 2761.4  |
| 80°   | 769.5   | 846.3   | 1073.8  | 1770.5  | 1968.7  | 2659.3  | 2096.1  | 3028.3  | 2499.5  | 2659.3  | 1527.8  |
| 82.5° | 232.6   | 256.8   | 314.5   | 672.4   | 1020.2  | 1530.8  | 1238.6  | 1759.4  | 1365.0  | 1246.7  | 601.6   |
| 85°   | 61.7    | 69.8    | 87.0    | 199.2   | 357.9   | 549.0   | 418.6   | 852.4   | 654.2   | 460.1   | 226.5   |
| 87.5° | 5.1     | 5.1     | 4.0     | 4.0     | 2.0     | 0.0     | 0.0     | 60.7    | 122.3   | 69.8    | 39.4    |
| 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: P639476

CATALOG NUMBER: GWS-SA5B-830-U-SLR-W

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 |
| 2.5°  | 1930.2 | 1926.2 | 1884.7 | 1854.4 | 1819.0 | 1784.6 | 1749.3 | 1717.9 | 1682.5 | 1647.1 | 1637.0 |
| 5°    | 2086.0 | 2057.6 | 1969.7 | 1895.9 | 1823.1 | 1759.4 | 1703.8 | 1646.1 | 1599.6 | 1554.1 | 1536.9 |
| 7.5°  | 2223.5 | 2173.9 | 2046.5 | 1934.3 | 1833.2 | 1754.3 | 1672.4 | 1588.5 | 1522.8 | 1458.0 | 1441.9 |
| 10°   | 2347.8 | 2282.1 | 2121.3 | 1979.8 | 1867.6 | 1777.6 | 1681.5 | 1569.3 | 1474.2 | 1395.4 | 1374.1 |
| 12.5° | 2439.9 | 2368.1 | 2186.1 | 2023.3 | 1895.9 | 1794.8 | 1699.7 | 1600.6 | 1500.5 | 1398.4 | 1375.1 |
| 15°   | 2512.7 | 2437.8 | 2239.6 | 2056.6 | 1896.9 | 1766.4 | 1674.4 | 1640.0 | 1608.7 | 1508.6 | 1466.1 |
| 17.5° | 2571.3 | 2492.4 | 2286.2 | 2076.9 | 1869.6 | 1680.5 | 1600.6 | 1651.2 | 1731.1 | 1668.4 | 1588.5 |
| 20°   | 2624.9 | 2545.0 | 2321.6 | 2091.0 | 1808.9 | 1562.2 | 1517.7 | 1624.9 | 1745.2 | 1743.2 | 1671.4 |
| 22.5° | 2683.5 | 2605.7 | 2373.1 | 2099.1 | 1724.0 | 1441.9 | 1468.2 | 1586.5 | 1684.5 | 1713.9 | 1669.4 |
| 25°   | 2758.4 | 2689.6 | 2444.9 | 2117.3 | 1627.9 | 1359.0 | 1431.8 | 1536.9 | 1618.8 | 1625.9 | 1599.6 |
| 27.5° | 2845.3 | 2793.7 | 2552.1 | 2159.8 | 1534.9 | 1316.5 | 1389.3 | 1467.1 | 1542.0 | 1545.0 | 1513.7 |
| 30°   | 2940.4 | 2906.0 | 2651.2 | 2195.2 | 1465.1 | 1303.3 | 1334.7 | 1397.4 | 1444.9 | 1453.0 | 1425.7 |
| 32.5° | 3061.7 | 3031.4 | 2739.1 | 2171.9 | 1423.7 | 1300.3 | 1284.1 | 1316.5 | 1355.9 | 1355.9 | 1334.7 |
| 35°   | 3228.5 | 3186.1 | 2832.2 | 2082.9 | 1373.1 | 1288.2 | 1230.5 | 1239.6 | 1256.8 | 1259.9 | 1247.7 |
| 37.5° | 3465.1 | 3395.4 | 2926.2 | 1907.0 | 1290.2 | 1244.7 | 1168.9 | 1157.7 | 1163.8 | 1171.9 | 1168.9 |
| 40°   | 3758.4 | 3644.1 | 3063.7 | 1695.7 | 1191.1 | 1160.8 | 1105.2 | 1083.9 | 1078.9 | 1095.1 | 1101.1 |
| 42.5° | 4127.4 | 3952.5 | 3211.3 | 1498.5 | 1101.1 | 1064.7 | 1030.3 | 1012.1 | 1004.1 | 1031.4 | 1047.5 |
| 45°   | 4716.9 | 4428.7 | 3352.9 | 1303.3 | 1050.6 | 982.8  | 959.6  | 946.4  | 950.5  | 982.8  | 1003.0 |
| 47.5° | 5735.1 | 5155.7 | 3487.4 | 1180.0 | 1046.5 | 924.2  | 895.9  | 898.9  | 910.0  | 944.4  | 968.7  |
| 50°   | 7023.3 | 6129.5 | 3577.4 | 1128.4 | 1058.7 | 888.8  | 851.4  | 867.5  | 884.7  | 918.1  | 946.4  |
| 52.5° | 8334.7 | 7036.4 | 3470.2 | 1100.1 | 1057.6 | 889.8  | 809.9  | 858.4  | 866.5  | 899.9  | 930.2  |
| 55°   | 9236.7 | 7137.6 | 2998.0 | 1056.6 | 1041.5 | 930.2  | 777.6  | 854.4  | 859.5  | 889.8  | 917.1  |
| 57.5° | 9580.4 | 6791.7 | 2286.2 | 1068.8 | 992.9  | 961.6  | 763.4  | 826.1  | 862.5  | 888.8  | 917.1  |
| 60°   | 9164.9 | 6139.6 | 1389.3 | 1100.1 | 915.1  | 959.6  | 772.5  | 774.5  | 837.2  | 881.7  | 910.0  |
| 62.5° | 8381.2 | 5302.4 | 975.7  | 1011.1 | 858.4  | 906.0  | 793.7  | 713.9  | 792.7  | 846.3  | 871.6  |
| 65°   | 7483.4 | 4317.5 | 744.2  | 870.6  | 831.1  | 823.1  | 800.8  | 660.3  | 732.1  | 784.6  | 806.9  |
| 67.5° | 6548.1 | 3355.9 | 604.7  | 649.1  | 751.3  | 744.2  | 732.1  | 612.7  | 660.3  | 697.7  | 723.0  |
| 70°   | 5370.1 | 2347.8 | 510.6  | 487.4  | 644.1  | 667.3  | 640.0  | 553.1  | 568.3  | 606.7  | 626.9  |
| 72.5° | 3928.2 | 1463.1 | 419.6  | 402.4  | 517.7  | 583.4  | 569.3  | 487.4  | 494.4  | 530.8  | 547.0  |
| 75°   | 2825.1 | 837.2  | 336.7  | 331.7  | 395.4  | 499.5  | 471.2  | 419.6  | 427.7  | 455.0  | 466.1  |
| 77.5° | 1795.8 | 466.1  | 259.9  | 266.9  | 283.1  | 373.1  | 402.4  | 359.0  | 359.0  | 375.1  | 384.2  |
| 80°   | 961.6  | 266.9  | 190.1  | 193.1  | 198.2  | 285.1  | 317.5  | 278.1  | 278.1  | 266.9  | 278.1  |
| 82.5° | 392.3  | 153.7  | 130.4  | 121.3  | 132.5  | 195.1  | 222.4  | 176.9  | 185.0  | 166.8  | 170.9  |
| 85°   | 129.4  | 76.8   | 64.7   | 63.7   | 62.7   | 85.9   | 107.2  | 88.0   | 105.2  | 66.7   | 69.8   |
| 87.5° | 17.2   | 14.2   | 8.1    | 6.1    | 7.1    | 3.0    | 6.1    | 7.1    | 7.1    | 5.1    | 5.1    |
| 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: P639476

CATALOG NUMBER: GWS-SA5B-830-U-SLR-W

**CANDELA DISTRIBUTION (continued):**

|       | 185°   | 195°   | 205°   | 215°   | 225°   | 235°   | 245°   | 255°   | 265°   | 270°   | 275°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 |
| 2.5°  | 1629.9 | 1621.8 | 1592.5 | 1599.6 | 1594.5 | 1586.5 | 1594.5 | 1579.4 | 1591.5 | 1595.6 | 1620.8 |
| 5°    | 1523.8 | 1504.6 | 1476.2 | 1462.1 | 1459.1 | 1451.0 | 1452.0 | 1444.9 | 1446.9 | 1464.1 | 1492.4 |
| 7.5°  | 1428.7 | 1410.5 | 1388.3 | 1378.2 | 1369.1 | 1360.0 | 1359.0 | 1357.9 | 1366.0 | 1381.2 | 1408.5 |
| 10°   | 1360.0 | 1349.9 | 1340.8 | 1344.8 | 1340.8 | 1336.7 | 1329.6 | 1329.6 | 1342.8 | 1370.1 | 1403.4 |
| 12.5° | 1360.0 | 1357.9 | 1360.0 | 1372.1 | 1371.1 | 1372.1 | 1363.0 | 1368.1 | 1404.5 | 1451.0 | 1498.5 |
| 15°   | 1432.8 | 1416.6 | 1416.6 | 1422.7 | 1420.6 | 1420.6 | 1420.6 | 1441.9 | 1524.8 | 1596.6 | 1647.1 |
| 17.5° | 1521.7 | 1474.2 | 1454.0 | 1451.0 | 1450.0 | 1450.0 | 1454.0 | 1499.5 | 1628.9 | 1704.8 | 1734.1 |
| 20°   | 1583.4 | 1493.4 | 1460.1 | 1446.9 | 1447.9 | 1450.0 | 1462.1 | 1524.8 | 1667.4 | 1705.8 | 1698.7 |
| 22.5° | 1594.5 | 1478.3 | 1437.8 | 1418.6 | 1421.6 | 1423.7 | 1441.9 | 1508.6 | 1614.8 | 1620.8 | 1606.7 |
| 25°   | 1543.0 | 1435.8 | 1392.3 | 1377.2 | 1381.2 | 1380.2 | 1396.4 | 1444.9 | 1520.7 | 1518.7 | 1510.6 |
| 27.5° | 1466.1 | 1368.1 | 1335.7 | 1325.6 | 1332.7 | 1324.6 | 1329.6 | 1367.0 | 1425.7 | 1423.7 | 1420.6 |
| 30°   | 1387.3 | 1302.3 | 1273.0 | 1268.0 | 1277.1 | 1264.9 | 1265.9 | 1297.3 | 1337.7 | 1335.7 | 1334.7 |
| 32.5° | 1308.4 | 1236.6 | 1210.3 | 1210.3 | 1219.4 | 1206.3 | 1208.3 | 1235.6 | 1262.9 | 1254.8 | 1254.8 |
| 35°   | 1233.6 | 1183.0 | 1161.8 | 1157.7 | 1164.8 | 1155.7 | 1159.8 | 1185.0 | 1195.2 | 1184.0 | 1177.0 |
| 37.5° | 1167.9 | 1145.6 | 1124.4 | 1110.2 | 1111.2 | 1112.2 | 1124.4 | 1143.6 | 1137.5 | 1121.3 | 1112.2 |
| 40°   | 1107.2 | 1107.2 | 1087.0 | 1060.7 | 1057.6 | 1064.7 | 1084.9 | 1106.2 | 1089.0 | 1070.8 | 1059.7 |
| 42.5° | 1063.7 | 1072.8 | 1053.6 | 1027.3 | 1021.2 | 1033.4 | 1055.6 | 1070.8 | 1050.6 | 1030.3 | 1015.2 |
| 45°   | 1023.3 | 1045.5 | 1032.4 | 1003.0 | 995.0  | 1009.1 | 1037.4 | 1043.5 | 1016.2 | 997.0  | 985.9  |
| 47.5° | 995.0  | 1025.3 | 1016.2 | 987.9  | 975.7  | 996.0  | 1025.3 | 1024.3 | 989.9  | 969.7  | 960.6  |
| 50°   | 974.7  | 1013.2 | 1012.1 | 987.9  | 974.7  | 1000.0 | 1026.3 | 1013.2 | 975.7  | 954.5  | 945.4  |
| 52.5° | 958.5  | 1012.1 | 1019.2 | 1005.1 | 996.0  | 1018.2 | 1034.4 | 1009.1 | 965.6  | 943.4  | 936.3  |
| 55°   | 951.5  | 1016.2 | 1021.2 | 1008.1 | 1000.0 | 1020.2 | 1034.4 | 1017.2 | 965.6  | 945.4  | 939.3  |
| 57.5° | 953.5  | 1011.1 | 1012.1 | 993.9  | 979.8  | 1005.1 | 1027.3 | 1022.3 | 976.7  | 953.5  | 946.4  |
| 60°   | 941.4  | 983.8  | 985.9  | 957.5  | 941.4  | 971.7  | 1011.1 | 1008.1 | 971.7  | 947.4  | 934.3  |
| 62.5° | 900.9  | 938.3  | 939.3  | 913.0  | 889.8  | 933.3  | 976.7  | 975.7  | 942.4  | 918.1  | 902.9  |
| 65°   | 833.2  | 872.6  | 882.7  | 857.4  | 839.2  | 885.7  | 931.2  | 929.2  | 895.9  | 873.6  | 858.4  |
| 67.5° | 749.2  | 791.7  | 810.9  | 793.7  | 786.7  | 829.1  | 871.6  | 870.6  | 843.3  | 822.0  | 808.9  |
| 70°   | 647.1  | 682.5  | 714.9  | 714.9  | 709.8  | 758.3  | 803.8  | 799.8  | 774.5  | 758.3  | 748.2  |
| 72.5° | 562.2  | 589.5  | 599.6  | 609.7  | 624.9  | 675.4  | 713.9  | 716.9  | 698.7  | 690.6  | 698.7  |
| 75°   | 478.3  | 495.5  | 504.6  | 496.5  | 522.8  | 575.3  | 625.9  | 630.9  | 611.7  | 598.6  | 601.6  |
| 77.5° | 393.3  | 412.5  | 421.6  | 403.4  | 401.4  | 468.2  | 529.8  | 541.0  | 524.8  | 504.6  | 510.6  |
| 80°   | 284.1  | 309.4  | 324.6  | 312.4  | 308.4  | 337.7  | 422.7  | 434.8  | 419.6  | 403.4  | 412.5  |
| 82.5° | 173.9  | 188.1  | 192.1  | 204.2  | 229.5  | 241.7  | 272.0  | 312.4  | 301.3  | 287.2  | 312.4  |
| 85°   | 68.8   | 81.9   | 91.0   | 103.1  | 120.3  | 142.6  | 167.8  | 200.2  | 182.0  | 175.9  | 207.3  |
| 87.5° | 4.0    | 1.0    | 0.0    | 2.0    | 17.2   | 33.4   | 71.8   | 99.1   | 82.9   | 89.0   | 107.2  |
| 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: P639476

CATALOG NUMBER: GWS-SA5B-830-U-SLR-W

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°   | 315°   | 325°   | 335°   | 345°   | 355°   | 359°    | 360°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| 0°    | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5 | 1772.5  | 1772.5  |
| 2.5°  | 1641.1 | 1667.4 | 1702.7 | 1732.1 | 1769.5 | 1804.9 | 1841.3 | 1877.7 | 1896.9  | 1905.0  |
| 5°    | 1524.8 | 1573.3 | 1629.9 | 1692.6 | 1765.4 | 1842.3 | 1920.1 | 2000.0 | 2050.6  | 2054.6  |
| 7.5°  | 1455.0 | 1524.8 | 1602.6 | 1681.5 | 1771.5 | 1877.7 | 2001.0 | 2124.4 | 2175.9  | 2190.1  |
| 10°   | 1477.3 | 1555.1 | 1616.8 | 1690.6 | 1789.7 | 1922.2 | 2067.8 | 2212.3 | 2272.0  | 2289.2  |
| 12.5° | 1566.2 | 1581.4 | 1600.6 | 1668.4 | 1789.7 | 1960.6 | 2136.5 | 2308.4 | 2372.1  | 2388.3  |
| 15°   | 1640.0 | 1567.2 | 1532.9 | 1604.7 | 1765.4 | 1993.9 | 2209.3 | 2399.4 | 2476.3  | 2491.4  |
| 17.5° | 1646.1 | 1520.7 | 1445.9 | 1510.6 | 1723.0 | 2017.2 | 2279.1 | 2500.5 | 2565.2  | 2579.4  |
| 20°   | 1584.4 | 1471.2 | 1374.1 | 1413.6 | 1665.3 | 2027.3 | 2329.6 | 2574.3 | 2638.0  | 2652.2  |
| 22.5° | 1514.7 | 1430.7 | 1325.6 | 1323.6 | 1595.6 | 2038.4 | 2390.3 | 2644.1 | 2712.9  | 2722.0  |
| 25°   | 1448.9 | 1375.1 | 1286.2 | 1257.8 | 1514.7 | 2059.7 | 2472.2 | 2749.3 | 2801.8  | 2804.9  |
| 27.5° | 1372.1 | 1315.5 | 1254.8 | 1227.5 | 1443.9 | 2100.1 | 2593.5 | 2874.6 | 2906.0  | 2900.9  |
| 30°   | 1302.3 | 1259.9 | 1232.6 | 1224.5 | 1399.4 | 2130.4 | 2708.8 | 2998.0 | 3000.0  | 2982.8  |
| 32.5° | 1228.5 | 1212.3 | 1212.3 | 1238.6 | 1363.0 | 2123.4 | 2802.8 | 3118.3 | 3099.1  | 3073.8  |
| 35°   | 1162.8 | 1165.8 | 1187.1 | 1248.7 | 1302.3 | 2052.6 | 2892.8 | 3269.0 | 3240.7  | 3204.3  |
| 37.5° | 1100.1 | 1123.4 | 1153.7 | 1213.4 | 1222.5 | 1947.4 | 2998.0 | 3482.3 | 3446.9  | 3401.4  |
| 40°   | 1046.5 | 1081.9 | 1117.3 | 1146.6 | 1137.5 | 1797.8 | 3144.6 | 3733.1 | 3693.7  | 3641.1  |
| 42.5° | 1004.1 | 1038.4 | 1077.9 | 1080.9 | 1083.9 | 1642.1 | 3300.3 | 4040.5 | 4033.4  | 3975.8  |
| 45°   | 976.7  | 999.0  | 1036.4 | 1031.4 | 1080.9 | 1470.2 | 3443.9 | 4509.6 | 4602.7  | 4559.2  |
| 47.5° | 958.5  | 975.7  | 979.8  | 1001.0 | 1107.2 | 1316.5 | 3628.9 | 5427.7 | 5686.6  | 5637.0  |
| 50°   | 948.4  | 965.6  | 920.1  | 1003.0 | 1111.2 | 1217.4 | 3884.8 | 6580.4 | 6997.0  | 6931.3  |
| 52.5° | 947.4  | 943.4  | 874.6  | 1024.3 | 1089.0 | 1156.7 | 4018.2 | 7421.7 | 8345.9  | 8488.4  |
| 55°   | 949.4  | 898.9  | 851.4  | 1030.3 | 1044.5 | 1134.5 | 3571.3 | 7826.1 | 9590.6  | 9891.9  |
| 57.5° | 931.2  | 850.4  | 864.5  | 1006.1 | 960.6  | 1194.1 | 2640.1 | 7681.5 | 10088.0 | 10648.2 |
| 60°   | 896.9  | 803.8  | 888.8  | 940.3  | 874.6  | 1092.0 | 1818.0 | 7036.4 | 9572.4  | 10148.7 |
| 62.5° | 847.3  | 771.5  | 885.7  | 855.4  | 843.3  | 893.8  | 1249.8 | 6133.5 | 8754.3  | 9317.5  |
| 65°   | 791.7  | 745.2  | 838.2  | 773.5  | 780.6  | 687.6  | 883.7  | 5114.3 | 7777.6  | 8331.7  |
| 67.5° | 732.1  | 729.0  | 768.5  | 688.6  | 659.3  | 545.0  | 644.1  | 4099.1 | 6522.8  | 7022.3  |
| 70°   | 664.3  | 686.6  | 698.7  | 611.7  | 534.9  | 427.7  | 478.3  | 2866.5 | 4812.0  | 5246.7  |
| 72.5° | 596.6  | 598.6  | 615.8  | 531.9  | 400.4  | 342.8  | 359.0  | 1736.1 | 3269.0  | 3585.5  |
| 75°   | 527.8  | 508.6  | 524.8  | 432.8  | 298.3  | 281.1  | 277.0  | 1072.8 | 2257.8  | 2507.6  |
| 77.5° | 454.0  | 432.8  | 411.5  | 325.6  | 239.6  | 217.4  | 212.3  | 601.6  | 1385.2  | 1538.9  |
| 80°   | 369.1  | 340.8  | 307.4  | 238.6  | 174.9  | 155.7  | 154.7  | 293.2  | 690.6   | 769.5   |
| 82.5° | 287.2  | 233.6  | 224.5  | 148.6  | 108.2  | 95.0   | 101.1  | 112.2  | 208.3   | 232.6   |
| 85°   | 201.2  | 169.9  | 119.3  | 59.7   | 48.5   | 39.4   | 38.4   | 33.4   | 55.6    | 61.7    |
| 87.5° | 112.2  | 73.8   | 38.4   | 7.1    | 8.1    | 9.1    | 7.1    | 5.1    | 5.1     | 5.1     |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     |

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

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2408-195-9  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 08/07/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW EDISON  
 Catalog Number: **GALN-SB1A-830-U-5WQ**  
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

### Spectral Parameters

CCT (K): 3050  
 CIE  $u'$ : 0.2476  
 CIE  $v'$ : 0.5251  
 Duv: 0.0034  
 CIE x: 0.4383  
 CIE y: 0.4131  
 CIE z: 0.1487  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 581  
 Purity: 55.55201  
 Rf: 81.5  
 Rg: 99.2

CRI (Ra): 81.0  
 R1: 79.6  
 R2: 85.6  
 R3: 92.0  
 R4: 82.6  
 R5: 78.9  
 R6: 81.7  
 R7: 85.2  
 R8: 62.0  
 R9: 7.1  
 R10: 67.0  
 R11: 82.7  
 R12: 63.2  
 R13: 80.3  
 R14: 95.0  
 R15: 71.7



### Test Conditions

Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/18/2024        | 12/18/2024           |
| Power Meter                    | INXT2011004           | 2/8/2024         | 2/8/2025             |
| AC Power Source                | IN0063                | 10/24/2023       | 10/24/2024           |
| DC Power Source                | IN0208                | 10/24/2023       | 10/24/2024           |
| Sphere Thermometer             | IN0085                | 10/24/2023       | 10/24/2024           |
| Room Thermometer               | IN0046                | 10/24/2023       | 10/24/2024           |

REPORT NUMBER: SP1-2408-195-9

**CIE 1931 Chromaticity Diagram**



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



REPORT NUMBER: SP1-2408-195-9

### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|
| 360               | 0                                      | NR                             | 490               | 168                                    | NR                             | 620               | 940                                    | NR                             | 750               | 35                                     | NR                             | 880               | 1                                      | NR                             |
| 365               | 0                                      | NR                             | 495               | 233                                    | NR                             | 625               | 897                                    | NR                             | 755               | 30                                     | NR                             | 885               | 1                                      | NR                             |
| 370               | 0                                      | NR                             | 500               | 300                                    | NR                             | 630               | 847                                    | NR                             | 760               | 26                                     | NR                             | 890               | 1                                      | NR                             |
| 375               | 0                                      | NR                             | 505               | 372                                    | NR                             | 635               | 790                                    | NR                             | 765               | 22                                     | NR                             | 895               | 1                                      | NR                             |
| 380               | 0                                      | NR                             | 510               | 430                                    | NR                             | 640               | 730                                    | NR                             | 770               | 19                                     | NR                             | 900               | 1                                      | NR                             |
| 385               | 0                                      | NR                             | 515               | 483                                    | NR                             | 645               | 668                                    | NR                             | 775               | 16                                     | NR                             | 905               | 1                                      | NR                             |
| 390               | 0                                      | NR                             | 520               | 524                                    | NR                             | 650               | 605                                    | NR                             | 780               | 14                                     | NR                             | 910               | 0                                      | NR                             |
| 395               | 2                                      | NR                             | 525               | 555                                    | NR                             | 655               | 545                                    | NR                             | 785               | 12                                     | NR                             | 915               | 0                                      | NR                             |
| 400               | 4                                      | NR                             | 530               | 581                                    | NR                             | 660               | 485                                    | NR                             | 790               | 10                                     | NR                             | 920               | 0                                      | NR                             |
| 405               | 7                                      | NR                             | 535               | 604                                    | NR                             | 665               | 430                                    | NR                             | 795               | 9                                      | NR                             | 925               | 0                                      | NR                             |
| 410               | 17                                     | NR                             | 540               | 623                                    | NR                             | 670               | 378                                    | NR                             | 800               | 8                                      | NR                             | 930               | 0                                      | NR                             |
| 415               | 34                                     | NR                             | 545               | 645                                    | NR                             | 675               | 331                                    | NR                             | 805               | 7                                      | NR                             | 935               | 0                                      | NR                             |
| 420               | 68                                     | NR                             | 550               | 667                                    | NR                             | 680               | 290                                    | NR                             | 810               | 6                                      | NR                             | 940               | 0                                      | NR                             |
| 425               | 128                                    | NR                             | 555               | 693                                    | NR                             | 685               | 251                                    | NR                             | 815               | 5                                      | NR                             | 945               | 0                                      | NR                             |
| 430               | 214                                    | NR                             | 560               | 719                                    | NR                             | 690               | 218                                    | NR                             | 820               | 4                                      | NR                             | 950               | 0                                      | NR                             |
| 435               | 339                                    | NR                             | 565               | 754                                    | NR                             | 695               | 188                                    | NR                             | 825               | 4                                      | NR                             | 955               | 0                                      | NR                             |
| 440               | 507                                    | NR                             | 570               | 791                                    | NR                             | 700               | 162                                    | NR                             | 830               | 3                                      | NR                             | 960               | 0                                      | NR                             |
| 445               | 573                                    | NR                             | 575               | 830                                    | NR                             | 705               | 139                                    | NR                             | 835               | 3                                      | NR                             | 965               | 0                                      | NR                             |
| 450               | 356                                    | NR                             | 580               | 873                                    | NR                             | 710               | 119                                    | NR                             | 840               | 3                                      | NR                             | 970               | 0                                      | NR                             |
| 455               | 217                                    | NR                             | 585               | 913                                    | NR                             | 715               | 102                                    | NR                             | 845               | 2                                      | NR                             | 975               | 0                                      | NR                             |
| 460               | 168                                    | NR                             | 590               | 948                                    | NR                             | 720               | 88                                     | NR                             | 850               | 2                                      | NR                             | 980               | 0                                      | NR                             |
| 465               | 113                                    | NR                             | 595               | 974                                    | NR                             | 725               | 76                                     | NR                             | 855               | 2                                      | NR                             | 985               | 0                                      | NR                             |
| 470               | 85                                     | NR                             | 600               | 994                                    | NR                             | 730               | 65                                     | NR                             | 860               | 1                                      | NR                             | 990               | 0                                      | NR                             |
| 475               | 85                                     | NR                             | 605               | 998                                    | NR                             | 735               | 55                                     | NR                             | 865               | 1                                      | NR                             | 995               | 0                                      | NR                             |
| 480               | 94                                     | NR                             | 610               | 994                                    | NR                             | 740               | 47                                     | NR                             | 870               | 1                                      | NR                             | 1000              | 0                                      | NR                             |
| 485               | 120                                    | NR                             | 615               | 973                                    | NR                             | 745               | 41                                     | NR                             | 875               | 1                                      | NR                             |                   |                                        |                                |

REPORT NUMBER: SP1-2408-195-9

### Scotopic Flux vs. Wavelength


**Scotopic Lumens: NR**
**S/P: 1.27**

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 168                      | NR            | 620    | 940                      | NR            | 750    | 35                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 233                      | NR            | 625    | 897                      | NR            | 755    | 30                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 300                      | NR            | 630    | 847                      | NR            | 760    | 26                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 372                      | NR            | 635    | 790                      | NR            | 765    | 22                       | NR            | 895    | 1                        | NR            |
| 380    | 0                        | NR            | 510    | 430                      | NR            | 640    | 730                      | NR            | 770    | 19                       | NR            | 900    | 1                        | NR            |
| 385    | 0                        | NR            | 515    | 483                      | NR            | 645    | 668                      | NR            | 775    | 16                       | NR            | 905    | 1                        | NR            |
| 390    | 0                        | NR            | 520    | 524                      | NR            | 650    | 605                      | NR            | 780    | 14                       | NR            | 910    | 0                        | NR            |
| 395    | 2                        | NR            | 525    | 555                      | NR            | 655    | 545                      | NR            | 785    | 12                       | NR            | 915    | 0                        | NR            |
| 400    | 4                        | NR            | 530    | 581                      | NR            | 660    | 485                      | NR            | 790    | 10                       | NR            | 920    | 0                        | NR            |
| 405    | 7                        | NR            | 535    | 604                      | NR            | 665    | 430                      | NR            | 795    | 9                        | NR            | 925    | 0                        | NR            |
| 410    | 17                       | NR            | 540    | 623                      | NR            | 670    | 378                      | NR            | 800    | 8                        | NR            | 930    | 0                        | NR            |
| 415    | 34                       | NR            | 545    | 645                      | NR            | 675    | 331                      | NR            | 805    | 7                        | NR            | 935    | 0                        | NR            |
| 420    | 68                       | NR            | 550    | 667                      | NR            | 680    | 290                      | NR            | 810    | 6                        | NR            | 940    | 0                        | NR            |
| 425    | 128                      | NR            | 555    | 693                      | NR            | 685    | 251                      | NR            | 815    | 5                        | NR            | 945    | 0                        | NR            |
| 430    | 214                      | NR            | 560    | 719                      | NR            | 690    | 218                      | NR            | 820    | 4                        | NR            | 950    | 0                        | NR            |
| 435    | 339                      | NR            | 565    | 754                      | NR            | 695    | 188                      | NR            | 825    | 4                        | NR            | 955    | 0                        | NR            |
| 440    | 507                      | NR            | 570    | 791                      | NR            | 700    | 162                      | NR            | 830    | 3                        | NR            | 960    | 0                        | NR            |
| 445    | 573                      | NR            | 575    | 830                      | NR            | 705    | 139                      | NR            | 835    | 3                        | NR            | 965    | 0                        | NR            |
| 450    | 356                      | NR            | 580    | 873                      | NR            | 710    | 119                      | NR            | 840    | 3                        | NR            | 970    | 0                        | NR            |
| 455    | 217                      | NR            | 585    | 913                      | NR            | 715    | 102                      | NR            | 845    | 2                        | NR            | 975    | 0                        | NR            |
| 460    | 168                      | NR            | 590    | 948                      | NR            | 720    | 88                       | NR            | 850    | 2                        | NR            | 980    | 0                        | NR            |
| 465    | 113                      | NR            | 595    | 974                      | NR            | 725    | 76                       | NR            | 855    | 2                        | NR            | 985    | 0                        | NR            |
| 470    | 85                       | NR            | 600    | 994                      | NR            | 730    | 65                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 85                       | NR            | 605    | 998                      | NR            | 735    | 55                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 94                       | NR            | 610    | 994                      | NR            | 740    | 47                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 120                      | NR            | 615    | 973                      | NR            | 745    | 41                       | NR            | 875    | 1                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2408-195-9

### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.32**

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 168                                  | NR                             | 620               | 940                                  | NR                             | 750               | 35                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 233                                  | NR                             | 625               | 897                                  | NR                             | 755               | 30                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 300                                  | NR                             | 630               | 847                                  | NR                             | 760               | 26                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 372                                  | NR                             | 635               | 790                                  | NR                             | 765               | 22                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 430                                  | NR                             | 640               | 730                                  | NR                             | 770               | 19                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 483                                  | NR                             | 645               | 668                                  | NR                             | 775               | 16                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 524                                  | NR                             | 650               | 605                                  | NR                             | 780               | 14                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 2                                    | NR                             | 525               | 555                                  | NR                             | 655               | 545                                  | NR                             | 785               | 12                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 4                                    | NR                             | 530               | 581                                  | NR                             | 660               | 485                                  | NR                             | 790               | 10                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 7                                    | NR                             | 535               | 604                                  | NR                             | 665               | 430                                  | NR                             | 795               | 9                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 17                                   | NR                             | 540               | 623                                  | NR                             | 670               | 378                                  | NR                             | 800               | 8                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 34                                   | NR                             | 545               | 645                                  | NR                             | 675               | 331                                  | NR                             | 805               | 7                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 68                                   | NR                             | 550               | 667                                  | NR                             | 680               | 290                                  | NR                             | 810               | 6                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 128                                  | NR                             | 555               | 693                                  | NR                             | 685               | 251                                  | NR                             | 815               | 5                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 214                                  | NR                             | 560               | 719                                  | NR                             | 690               | 218                                  | NR                             | 820               | 4                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 339                                  | NR                             | 565               | 754                                  | NR                             | 695               | 188                                  | NR                             | 825               | 4                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 507                                  | NR                             | 570               | 791                                  | NR                             | 700               | 162                                  | NR                             | 830               | 3                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 573                                  | NR                             | 575               | 830                                  | NR                             | 705               | 139                                  | NR                             | 835               | 3                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 356                                  | NR                             | 580               | 873                                  | NR                             | 710               | 119                                  | NR                             | 840               | 3                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 217                                  | NR                             | 585               | 913                                  | NR                             | 715               | 102                                  | NR                             | 845               | 2                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 168                                  | NR                             | 590               | 948                                  | NR                             | 720               | 88                                   | NR                             | 850               | 2                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 113                                  | NR                             | 595               | 974                                  | NR                             | 725               | 76                                   | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 85                                   | NR                             | 600               | 994                                  | NR                             | 730               | 65                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 85                                   | NR                             | 605               | 998                                  | NR                             | 735               | 55                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 94                                   | NR                             | 610               | 994                                  | NR                             | 740               | 47                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 120                                  | NR                             | 615               | 973                                  | NR                             | 745               | 41                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2408-195-9

TM-30-18

### Summary

$R_f = 81.5$   
 $R_g = 99.2$   
 $CIE R_a = 81.0$   
 $R_9 = 7.1$



### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 92 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 51 | CES31 = 71 | CES56 = 78 | CES81 = 78 |
| CES07 = 42 | CES32 = 70 | CES57 = 76 | CES82 = 95 |
| CES08 = 41 | CES33 = 71 | CES58 = 78 | CES83 = 90 |
| CES09 = 29 | CES34 = 82 | CES59 = 92 | CES84 = 94 |
| CES10 = 76 | CES35 = 90 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 93 | CES61 = 93 | CES86 = 72 |
| CES12 = 65 | CES37 = 87 | CES62 = 83 | CES87 = 85 |
| CES13 = 43 | CES38 = 75 | CES63 = 77 | CES88 = 83 |
| CES14 = 74 | CES39 = 94 | CES64 = 83 | CES89 = 75 |
| CES15 = 71 | CES40 = 89 | CES65 = 77 | CES90 = 81 |
| CES16 = 47 | CES41 = 85 | CES66 = 80 | CES91 = 96 |
| CES17 = 50 | CES42 = 86 | CES67 = 79 | CES92 = 73 |
| CES18 = 56 | CES43 = 81 | CES68 = 84 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 91 | CES94 = 64 |
| CES20 = 66 | CES45 = 87 | CES70 = 78 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 76 | CES96 = 84 |
| CES22 = 79 | CES47 = 77 | CES72 = 92 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 71 | CES98 = 81 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 74 |
| CES25 = 72 | CES50 = 89 | CES75 = 74 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)