

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: P637988

Luminaire Tested: GWS-SA4D-830-U-SLR-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P637988  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-42)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA4D-830-U-SLR-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR RIGHT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (64) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

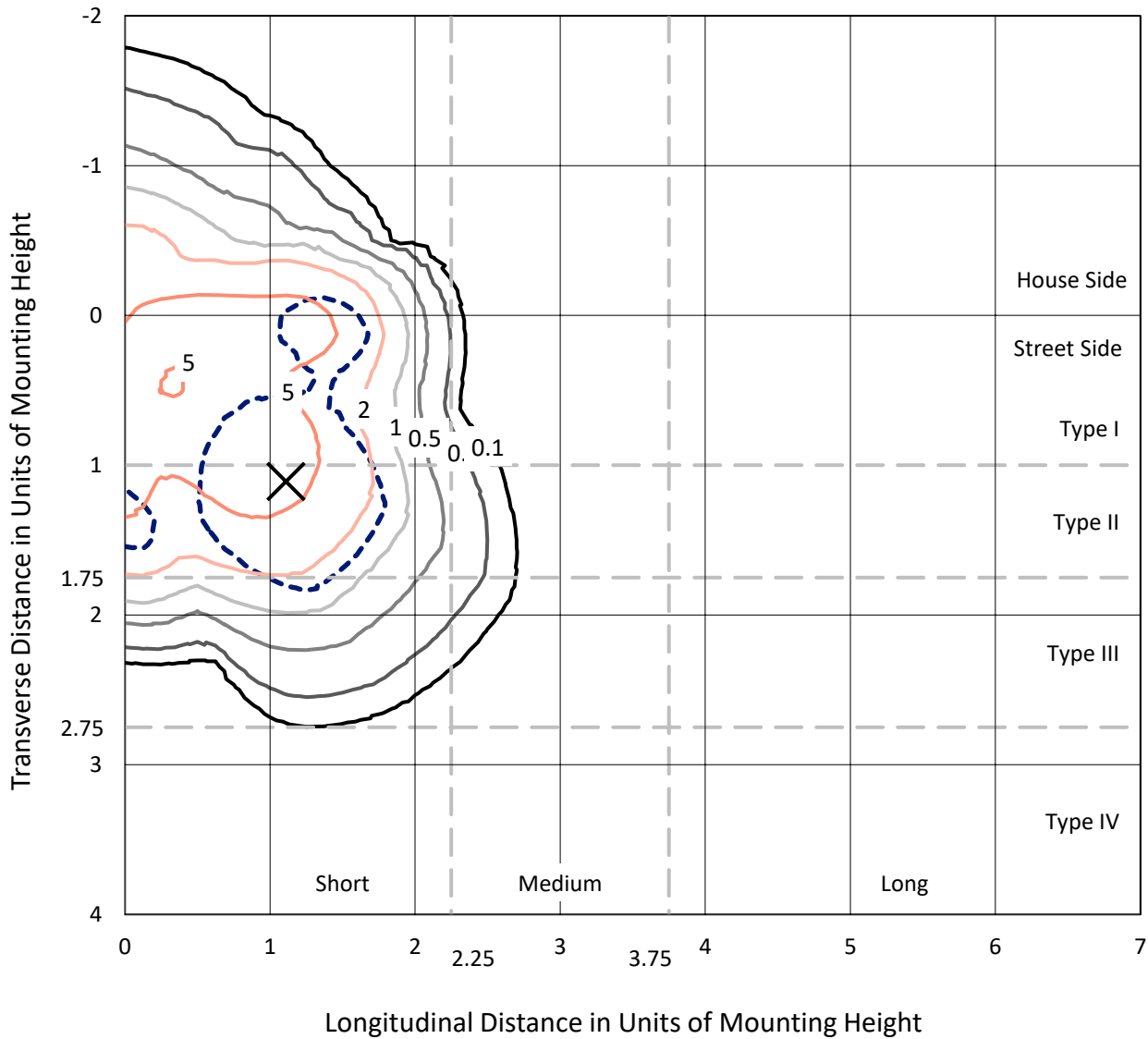
Lumens per Lamp: N/A  
Luminaire Lumens: 10378.5 lumens  
Efficiency: N/A  
Efficacy: 64.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G1  
  
Input Watts (W): 162.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
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

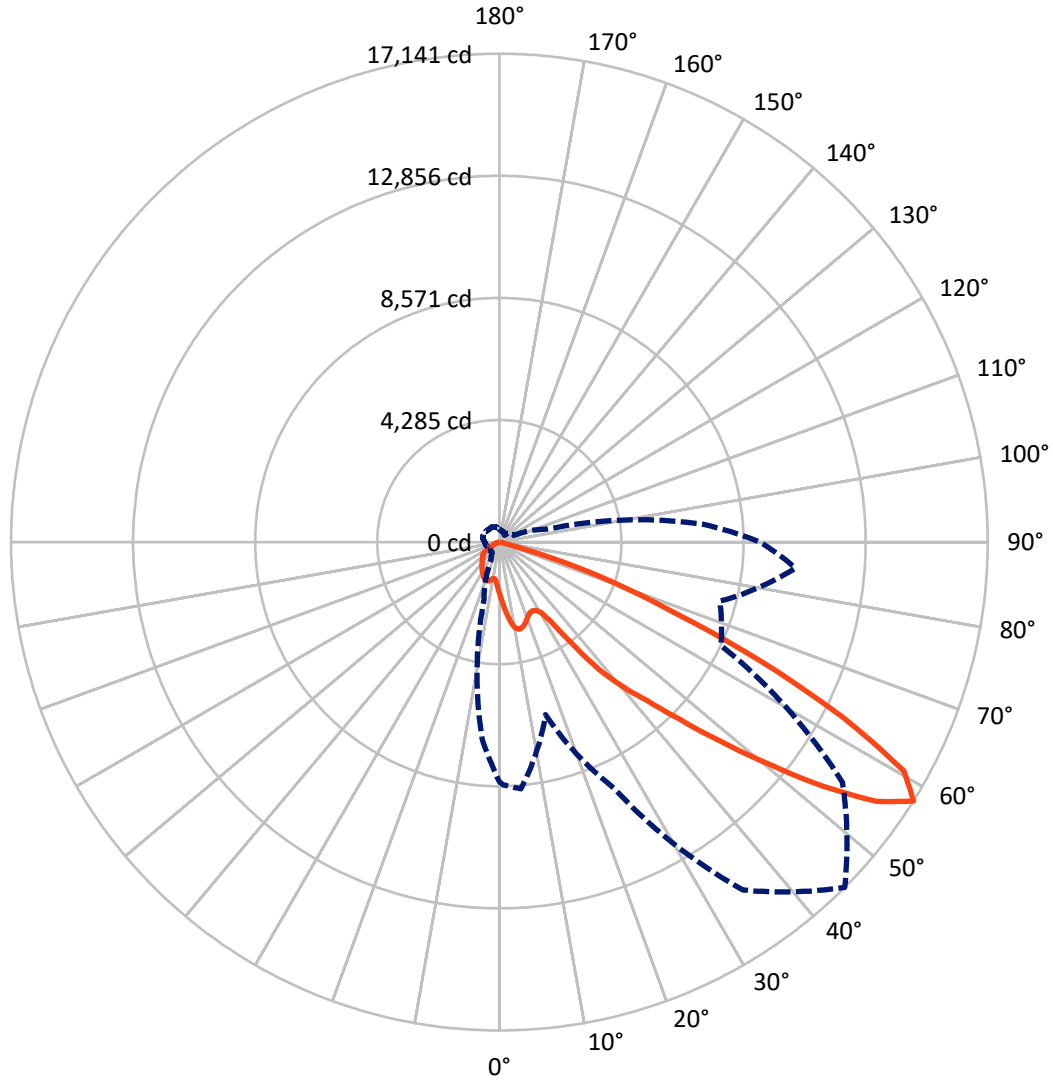
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.1 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2324.0   | 0.0    | 2324.0  |
|                    | % Fixture | 22.4     | 0.0    | 22.4    |
| <b>Street Side</b> | Lumens    | 8054.5   | 0.0    | 8054.5  |
|                    | % Fixture | 77.6     | 0.0    | 77.6    |
| <b>Total</b>       | Lumens    | 10378.5  | 0.0    | 10378.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 179.5   | 1.7       |
| 10°-20°   | 580.5   | 5.6       |
| 20°-30°   | 943.0   | 9.1       |
| 30°-40°   | 1457.1  | 14.0      |
| 40°-50°   | 2336.5  | 22.5      |
| 50°-60°   | 3193.3  | 30.8      |
| 60°-70°   | 1546.6  | 14.9      |
| 70°-80°   | 141.6   | 1.4       |
| 80°-90°   | 0.4     | 0.0       |
| 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°    | 10378.5 | 100.0     |
| 0°-180°   | 10378.5 | 100.0     |

**Coefficient of Utilization**



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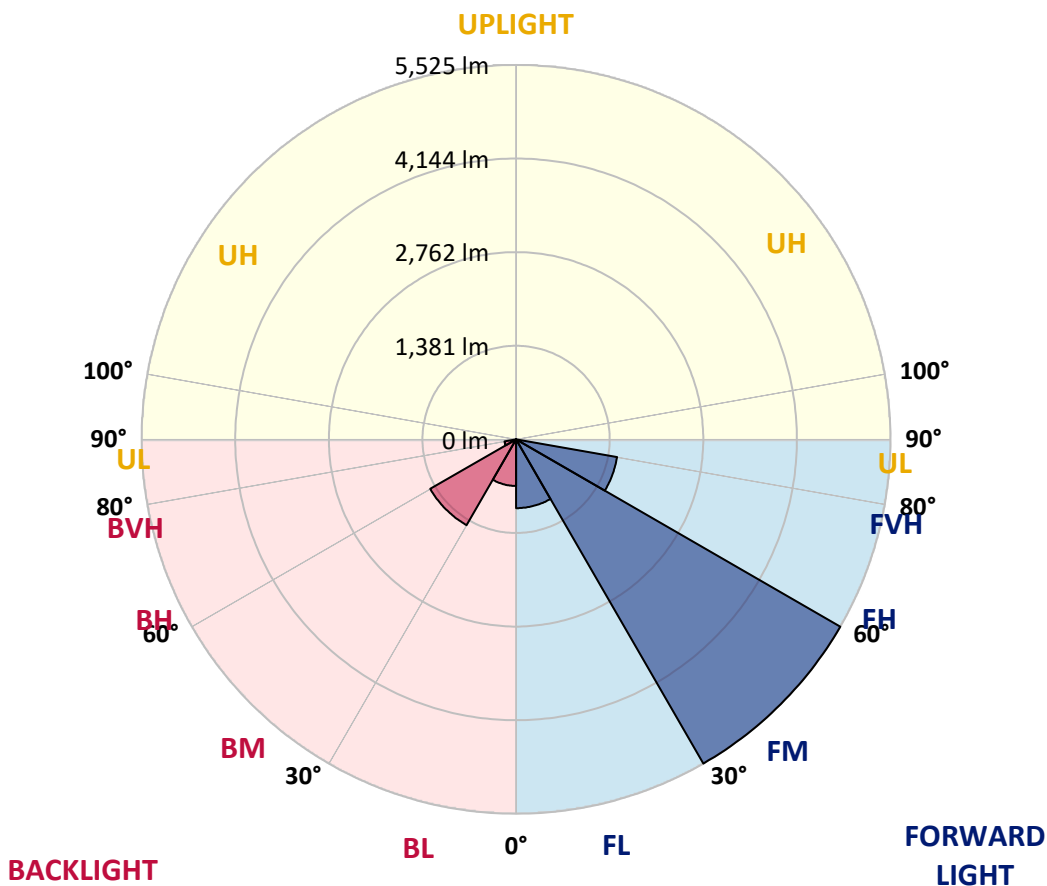
CATALOG NUMBER: GWS-SA4D-830-U-SLR-W-GRSBK

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

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 1015.3 | 9.8       |                         |      |         |
| FM (30°-60°)   | 5524.7 | 53.2      |                         |      |         |
| FH (60°-80°)   | 1514.0 | 14.6      |                         |      | G1/1800 |
| FVH (80°-90°)  | 0.4    | 0.0       |                         |      | G0/10   |
| BL (0°-30°)    | 687.7  | 6.6       | B2/1000                 |      |         |
| BM (30°-60°)   | 1462.2 | 14.1      | B2/2500                 |      |         |
| BH (60°-80°)   | 174.2  | 1.7       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 0.0    | 0.0       |                         |      | G0/10   |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 1°     | 5°     | 15°    | 25°    | 35°     | 45°     | 55°     | 65°    | 75°    | 85°     |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|---------|
| 0°    | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1  | 1824.1  | 1824.1  | 1824.1 | 1824.1 | 1824.1  |
| 2.5°  | 1976.1 | 1988.7 | 2009.6 | 2054.2 | 2091.9 | 2117.0  | 2128.2  | 2125.4  | 2110.0 | 2098.9 | 2076.6  |
| 5°    | 2188.1 | 2188.1 | 2228.6 | 2330.4 | 2408.5 | 2457.3  | 2482.4  | 2467.0  | 2436.4 | 2387.5 | 2312.2  |
| 7.5°  | 2373.6 | 2380.6 | 2448.9 | 2594.0 | 2712.5 | 2782.2  | 2822.7  | 2814.3  | 2759.9 | 2666.5 | 2515.9  |
| 10°   | 2518.6 | 2527.0 | 2617.7 | 2794.8 | 2934.2 | 3005.4  | 3065.3  | 3070.9  | 3010.9 | 2886.8 | 2713.9  |
| 12.5° | 2659.5 | 2667.9 | 2762.7 | 2932.8 | 3055.6 | 3084.8  | 3137.8  | 3158.8  | 3143.4 | 3055.6 | 2875.7  |
| 15°   | 2811.5 | 2831.0 | 2911.9 | 3038.8 | 3090.4 | 3055.6  | 3090.4  | 3128.1  | 3179.7 | 3171.3 | 3009.5  |
| 17.5° | 2960.7 | 2974.7 | 3057.0 | 3101.6 | 3044.4 | 2953.8  | 2970.5  | 3015.1  | 3132.3 | 3246.6 | 3142.0  |
| 20°   | 3098.8 | 3118.3 | 3186.7 | 3128.1 | 2955.2 | 2814.3  | 2815.7  | 2874.3  | 3052.8 | 3292.6 | 3277.3  |
| 22.5° | 3243.8 | 3273.1 | 3321.9 | 3157.4 | 2872.9 | 2704.1  | 2711.1  | 2764.1  | 2990.0 | 3335.9 | 3430.7  |
| 25°   | 3433.5 | 3461.4 | 3493.5 | 3229.9 | 2846.4 | 2649.7  | 2676.2  | 2725.0  | 2990.0 | 3409.8 | 3620.4  |
| 27.5° | 3690.1 | 3709.6 | 3711.0 | 3365.2 | 2892.4 | 2658.1  | 2713.9  | 2769.7  | 3079.3 | 3557.6 | 3874.2  |
| 30°   | 4012.3 | 4042.9 | 4002.5 | 3575.7 | 3036.0 | 2769.7  | 2852.0  | 2921.7  | 3271.7 | 3807.2 | 4247.9  |
| 32.5° | 4404.1 | 4447.4 | 4393.0 | 3888.1 | 3335.9 | 3154.6  | 3303.8  | 3344.2  | 3578.5 | 4168.5 | 4671.9  |
| 35°   | 4864.4 | 4900.6 | 4842.0 | 4320.5 | 4036.0 | 4069.4  | 4340.0  | 4288.4  | 4194.9 | 4613.3 | 5167.0  |
| 37.5° | 5369.2 | 5402.7 | 5289.7 | 4975.9 | 5070.8 | 5215.8  | 5648.1  | 5471.0  | 5169.8 | 5186.5 | 5703.9  |
| 40°   | 5832.2 | 5868.5 | 5691.4 | 5688.6 | 5883.8 | 6148.8  | 6670.4  | 6426.3  | 6016.3 | 5936.8 | 6207.4  |
| 42.5° | 6311.9 | 6337.0 | 6176.7 | 6067.9 | 6511.4 | 7056.7  | 7608.9  | 7279.8  | 6576.9 | 6490.5 | 6837.7  |
| 45°   | 6996.7 | 7049.7 | 6763.8 | 6254.8 | 7076.2 | 8101.2  | 8871.0  | 8228.1  | 6959.0 | 6889.3 | 7802.8  |
| 47.5° | 8003.6 | 8042.6 | 7459.7 | 6371.9 | 7601.9 | 9402.4  | 10448.3 | 9458.2  | 7295.1 | 7136.2 | 9122.1  |
| 50°   | 8836.2 | 8862.7 | 8099.8 | 6500.2 | 8161.2 | 10805.3 | 12246.0 | 10916.9 | 7673.1 | 7544.8 | 10353.5 |
| 52.5° | 9449.8 | 9550.2 | 8940.8 | 6763.8 | 8896.1 | 12455.1 | 14236.0 | 12644.8 | 8263.0 | 8334.1 | 11374.3 |
| 55°   | 9576.7 | 9713.4 | 9515.3 | 6925.6 | 9543.2 | 14135.6 | 16074.1 | 14191.4 | 8851.5 | 8932.4 | 11717.4 |
| 57.5° | 8416.4 | 8525.2 | 8689.7 | 6272.9 | 9527.9 | 14905.5 | 17141.0 | 14704.6 | 8583.7 | 8010.6 | 10433.0 |
| 60°   | 6305.0 | 6380.3 | 6678.7 | 4794.6 | 8762.3 | 14224.9 | 16309.8 | 13831.6 | 7505.7 | 6112.5 | 7949.2  |
| 62.5° | 3738.9 | 3772.4 | 4150.3 | 3105.8 | 7272.8 | 12250.1 | 13526.2 | 11935.0 | 5931.2 | 4111.3 | 4868.5  |
| 65°   | 1435.0 | 1421.1 | 1709.8 | 1532.7 | 5348.3 | 9758.0  | 10060.6 | 9098.4  | 4069.4 | 1884.1 | 1856.2  |
| 67.5° | 221.7  | 212.0  | 285.9  | 453.2  | 3857.5 | 6762.4  | 6638.3  | 6557.4  | 2549.3 | 439.3  | 383.5   |
| 70°   | 50.2   | 50.2   | 61.4   | 133.9  | 2356.9 | 3973.2  | 4252.1  | 4054.1  | 1631.7 | 93.4   | 50.2    |
| 72.5° | 23.7   | 23.7   | 29.3   | 57.2   | 853.5  | 1637.3  | 1907.8  | 1878.5  | 529.9  | 30.7   | 18.1    |
| 75°   | 8.4    | 9.8    | 9.8    | 12.6   | 51.6   | 85.1    | 195.2   | 139.5   | 33.5   | 0.0    | 0.0     |
| 77.5° | 2.8    | 2.8    | 2.8    | 2.8    | 0.0    | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     |
| 80°   | 1.4    | 1.4    | 1.4    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     |
| 82.5° | 1.4    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     |



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**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1824.1  | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 |
| 2.5°  | 2027.7  | 2018.0 | 1981.7 | 1932.9 | 1885.5 | 1843.7 | 1800.4 | 1748.8 | 1711.2 | 1667.9 | 1654.0 |
| 5°    | 2253.7  | 2192.3 | 2093.3 | 1990.1 | 1895.3 | 1814.4 | 1736.3 | 1652.6 | 1591.2 | 1529.9 | 1509.0 |
| 7.5°  | 2444.7  | 2354.1 | 2193.7 | 2038.9 | 1909.2 | 1794.8 | 1681.9 | 1567.5 | 1478.3 | 1405.8 | 1383.4 |
| 10°   | 2616.3  | 2511.7 | 2296.9 | 2105.8 | 1942.7 | 1810.2 | 1673.5 | 1529.9 | 1414.1 | 1327.7 | 1306.7 |
| 12.5° | 2764.1  | 2642.8 | 2384.8 | 2156.0 | 1956.6 | 1804.6 | 1672.1 | 1557.8 | 1453.2 | 1354.2 | 1327.7 |
| 15°   | 2888.2  | 2754.3 | 2458.7 | 2189.5 | 1935.7 | 1734.9 | 1619.1 | 1601.0 | 1592.6 | 1483.9 | 1432.3 |
| 17.5° | 3009.5  | 2858.9 | 2518.6 | 2204.9 | 1877.1 | 1612.2 | 1528.5 | 1610.8 | 1698.6 | 1627.5 | 1561.9 |
| 20°   | 3136.4  | 2964.9 | 2580.0 | 2207.6 | 1779.5 | 1474.1 | 1460.1 | 1589.8 | 1701.4 | 1679.1 | 1617.7 |
| 22.5° | 3285.7  | 3097.4 | 2656.7 | 2206.3 | 1656.8 | 1356.9 | 1409.9 | 1549.4 | 1640.0 | 1638.7 | 1589.8 |
| 25°   | 3501.8  | 3264.8 | 2759.9 | 2214.6 | 1522.9 | 1266.3 | 1354.2 | 1481.1 | 1555.0 | 1552.2 | 1511.7 |
| 27.5° | 3733.3  | 3464.2 | 2893.8 | 2235.5 | 1408.5 | 1213.3 | 1288.6 | 1387.6 | 1451.8 | 1449.0 | 1414.1 |
| 30°   | 4058.3  | 3694.3 | 3022.1 | 2236.9 | 1326.3 | 1185.4 | 1216.1 | 1284.4 | 1345.8 | 1338.8 | 1312.3 |
| 32.5° | 4452.9  | 3953.7 | 3129.5 | 2157.4 | 1274.7 | 1158.9 | 1140.8 | 1175.6 | 1223.1 | 1213.3 | 1206.3 |
| 35°   | 4929.9  | 4261.9 | 3221.5 | 1983.1 | 1195.2 | 1105.9 | 1057.1 | 1064.1 | 1097.5 | 1103.1 | 1100.3 |
| 37.5° | 5473.8  | 4628.7 | 3335.9 | 1753.0 | 1087.8 | 1029.2 | 963.7  | 958.1  | 977.6  | 995.7  | 1009.7 |
| 40°   | 6010.7  | 5041.5 | 3490.7 | 1520.1 | 990.2  | 931.6  | 868.8  | 854.9  | 863.3  | 895.3  | 924.6  |
| 42.5° | 6614.6  | 5519.8 | 3658.0 | 1320.7 | 923.2  | 824.2  | 764.2  | 737.7  | 761.4  | 813.1  | 847.9  |
| 45°   | 7484.8  | 6190.6 | 3821.2 | 1161.7 | 895.3  | 729.4  | 648.5  | 645.7  | 672.2  | 739.1  | 778.2  |
| 47.5° | 8706.5  | 7058.1 | 3928.6 | 1037.6 | 893.9  | 655.5  | 559.2  | 576.0  | 606.6  | 672.2  | 716.8  |
| 50°   | 9897.5  | 8144.4 | 3810.0 | 942.7  | 864.7  | 606.6  | 492.3  | 525.8  | 556.4  | 613.6  | 659.6  |
| 52.5° | 10615.7 | 8728.8 | 3348.4 | 853.5  | 774.0  | 584.3  | 426.7  | 485.3  | 490.9  | 542.5  | 591.3  |
| 55°   | 10540.4 | 8350.8 | 2564.7 | 715.4  | 640.1  | 552.3  | 358.4  | 437.9  | 440.7  | 479.7  | 521.6  |
| 57.5° | 9148.6  | 7169.6 | 1761.4 | 580.2  | 481.1  | 456.0  | 295.7  | 369.6  | 396.1  | 419.8  | 450.5  |
| 60°   | 6818.2  | 5231.1 | 785.2  | 471.4  | 305.4  | 308.2  | 252.4  | 278.9  | 319.4  | 347.3  | 373.8  |
| 62.5° | 4017.8  | 3009.5 | 319.4  | 283.1  | 168.7  | 193.8  | 203.6  | 203.6  | 228.7  | 249.6  | 266.4  |
| 65°   | 1518.7  | 1052.9 | 129.7  | 142.2  | 87.9   | 90.6   | 119.9  | 147.8  | 167.4  | 185.5  | 207.8  |
| 67.5° | 266.4   | 184.1  | 66.9   | 53.0   | 51.6   | 46.0   | 61.4   | 96.2   | 107.4  | 121.3  | 131.1  |
| 70°   | 44.6    | 37.7   | 27.9   | 26.5   | 23.7   | 25.1   | 40.4   | 68.3   | 75.3   | 79.5   | 83.7   |
| 72.5° | 12.6    | 11.2   | 8.4    | 7.0    | 5.6    | 7.0    | 25.1   | 53.0   | 55.8   | 58.6   | 62.8   |
| 75°   | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 9.8    | 37.7   | 40.4   | 41.8   | 46.0   |
| 77.5° | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 8.4    | 11.2   | 13.9   | 11.2   |
| 80°   | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 82.5° | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |





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**CANDELA DISTRIBUTION (continued):**

|       | 185°   | 195°   | 205°   | 215°   | 225°   | 235°   | 245°   | 255°   | 265°   | 270°   | 275°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 |
| 2.5°  | 1645.6 | 1617.7 | 1602.4 | 1594.0 | 1594.0 | 1582.9 | 1570.3 | 1566.1 | 1584.3 | 1584.3 | 1614.9 |
| 5°    | 1482.5 | 1460.1 | 1435.0 | 1419.7 | 1396.0 | 1400.2 | 1386.2 | 1384.8 | 1403.0 | 1411.3 | 1443.4 |
| 7.5°  | 1369.5 | 1341.6 | 1326.3 | 1316.5 | 1303.9 | 1298.4 | 1285.8 | 1281.6 | 1291.4 | 1305.3 | 1336.0 |
| 10°   | 1294.2 | 1290.0 | 1288.6 | 1295.6 | 1295.6 | 1288.6 | 1277.5 | 1270.5 | 1273.3 | 1299.8 | 1334.6 |
| 12.5° | 1313.7 | 1322.1 | 1324.9 | 1336.0 | 1341.6 | 1336.0 | 1327.7 | 1330.4 | 1348.6 | 1397.4 | 1449.0 |
| 15°   | 1398.8 | 1391.8 | 1389.0 | 1394.6 | 1398.8 | 1393.2 | 1390.4 | 1411.3 | 1474.1 | 1543.8 | 1602.4 |
| 17.5° | 1489.4 | 1444.8 | 1425.3 | 1425.3 | 1428.1 | 1425.3 | 1428.1 | 1468.5 | 1570.3 | 1640.0 | 1683.3 |
| 20°   | 1535.5 | 1453.2 | 1422.5 | 1415.5 | 1421.1 | 1422.5 | 1432.3 | 1478.3 | 1589.8 | 1638.7 | 1648.4 |
| 22.5° | 1521.5 | 1418.3 | 1383.4 | 1377.9 | 1383.4 | 1389.0 | 1398.8 | 1437.8 | 1542.4 | 1567.5 | 1563.3 |
| 25°   | 1451.8 | 1350.0 | 1322.1 | 1322.1 | 1334.6 | 1333.2 | 1337.4 | 1365.3 | 1451.8 | 1467.1 | 1460.1 |
| 27.5° | 1363.9 | 1267.7 | 1244.0 | 1257.9 | 1269.1 | 1266.3 | 1267.7 | 1291.4 | 1355.5 | 1359.7 | 1352.8 |
| 30°   | 1274.7 | 1191.0 | 1168.7 | 1185.4 | 1200.7 | 1198.0 | 1199.4 | 1223.1 | 1263.5 | 1259.3 | 1249.6 |
| 32.5° | 1184.0 | 1122.7 | 1105.9 | 1115.7 | 1139.4 | 1136.6 | 1142.2 | 1167.3 | 1182.6 | 1164.5 | 1153.3 |
| 35°   | 1100.3 | 1068.3 | 1055.7 | 1061.3 | 1079.4 | 1083.6 | 1093.4 | 1110.1 | 1110.1 | 1087.8 | 1068.3 |
| 37.5° | 1022.2 | 1018.1 | 1009.7 | 1002.7 | 1019.5 | 1032.0 | 1045.9 | 1065.5 | 1037.6 | 1005.5 | 987.4  |
| 40°   | 949.7  | 967.9  | 956.7  | 938.6  | 948.3  | 966.5  | 994.3  | 1009.7 | 976.2  | 944.1  | 913.5  |
| 42.5° | 882.8  | 913.5  | 909.3  | 887.0  | 895.3  | 912.1  | 944.1  | 956.7  | 917.6  | 881.4  | 852.1  |
| 45°   | 818.6  | 861.9  | 864.7  | 836.8  | 845.1  | 861.9  | 899.5  | 903.7  | 853.5  | 814.4  | 793.5  |
| 47.5° | 762.8  | 810.3  | 811.7  | 790.7  | 793.5  | 817.2  | 852.1  | 853.5  | 796.3  | 760.1  | 733.6  |
| 50°   | 709.8  | 764.2  | 768.4  | 750.3  | 753.1  | 781.0  | 810.3  | 804.7  | 743.3  | 705.7  | 682.0  |
| 52.5° | 645.7  | 719.6  | 729.4  | 721.0  | 732.2  | 754.5  | 772.6  | 753.1  | 682.0  | 644.3  | 623.4  |
| 55°   | 576.0  | 672.2  | 693.1  | 687.5  | 700.1  | 718.2  | 722.4  | 709.8  | 620.6  | 582.9  | 563.4  |
| 57.5° | 495.1  | 553.7  | 589.9  | 578.8  | 588.5  | 606.6  | 619.2  | 609.4  | 542.5  | 513.2  | 496.5  |
| 60°   | 410.0  | 449.1  | 457.4  | 439.3  | 430.9  | 463.0  | 492.3  | 479.7  | 422.6  | 404.4  | 384.9  |
| 62.5° | 299.8  | 344.5  | 350.0  | 326.3  | 316.6  | 351.4  | 376.5  | 364.0  | 301.2  | 281.7  | 266.4  |
| 65°   | 239.9  | 281.7  | 292.9  | 270.6  | 265.0  | 291.5  | 306.8  | 276.1  | 231.5  | 210.6  | 193.8  |
| 67.5° | 157.6  | 191.1  | 220.3  | 219.0  | 207.8  | 216.2  | 205.0  | 179.9  | 147.8  | 136.7  | 125.5  |
| 70°   | 97.6   | 117.1  | 135.3  | 142.2  | 140.9  | 138.1  | 122.7  | 104.6  | 94.8   | 90.6   | 85.1   |
| 72.5° | 75.3   | 94.8   | 108.8  | 113.0  | 114.4  | 110.2  | 97.6   | 80.9   | 71.1   | 65.5   | 61.4   |
| 75°   | 55.8   | 71.1   | 82.3   | 87.9   | 90.6   | 87.9   | 75.3   | 64.2   | 54.4   | 50.2   | 46.0   |
| 77.5° | 19.5   | 23.7   | 29.3   | 32.1   | 30.7   | 29.3   | 26.5   | 26.5   | 20.9   | 19.5   | 16.7   |
| 80°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P637988

CATALOG NUMBER: GWS-SA4D-830-U-SLR-W-GRSBK

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|       | 285°   | 295°   | 305°   | 315°   | 325°   | 335°   | 345°   | 355°   | 359°   | 360°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 | 1824.1 |
| 2.5°  | 1649.8 | 1674.9 | 1720.9 | 1762.8 | 1807.4 | 1853.4 | 1903.6 | 1955.2 | 1978.9 | 1976.1 |
| 5°    | 1492.2 | 1546.6 | 1621.9 | 1704.2 | 1796.2 | 1895.3 | 2005.4 | 2118.4 | 2167.2 | 2188.1 |
| 7.5°  | 1393.2 | 1469.9 | 1568.9 | 1673.5 | 1794.8 | 1935.7 | 2101.7 | 2278.8 | 2349.9 | 2373.6 |
| 10°   | 1405.8 | 1495.0 | 1577.3 | 1679.1 | 1808.8 | 1991.5 | 2197.9 | 2408.5 | 2492.1 | 2518.6 |
| 12.5° | 1507.6 | 1527.1 | 1549.4 | 1633.1 | 1796.2 | 2033.3 | 2285.7 | 2536.8 | 2633.0 | 2659.5 |
| 15°   | 1599.6 | 1509.0 | 1467.1 | 1543.8 | 1751.6 | 2062.6 | 2375.0 | 2674.8 | 2780.8 | 2811.5 |
| 17.5° | 1603.8 | 1467.1 | 1373.7 | 1433.6 | 1679.1 | 2075.2 | 2462.9 | 2815.7 | 2931.4 | 2960.7 |
| 20°   | 1552.2 | 1421.1 | 1301.2 | 1302.6 | 1580.1 | 2072.4 | 2535.4 | 2942.6 | 3072.3 | 3098.8 |
| 22.5° | 1476.9 | 1366.7 | 1242.6 | 1199.4 | 1474.1 | 2066.8 | 2614.9 | 3077.9 | 3218.7 | 3243.8 |
| 25°   | 1393.2 | 1297.0 | 1186.8 | 1121.3 | 1368.1 | 2072.4 | 2726.4 | 3255.0 | 3409.8 | 3433.5 |
| 27.5° | 1302.6 | 1220.3 | 1143.6 | 1090.6 | 1278.8 | 2093.3 | 2860.3 | 3480.9 | 3665.0 | 3690.1 |
| 30°   | 1207.7 | 1146.4 | 1115.7 | 1083.6 | 1223.1 | 2098.9 | 3005.4 | 3744.5 | 3977.4 | 4012.3 |
| 32.5° | 1114.3 | 1080.8 | 1082.2 | 1087.8 | 1170.1 | 2059.8 | 3137.8 | 4037.4 | 4348.4 | 4404.1 |
| 35°   | 1027.8 | 1018.1 | 1045.9 | 1073.8 | 1093.4 | 1959.4 | 3253.6 | 4383.2 | 4807.2 | 4864.4 |
| 37.5° | 953.9  | 962.3  | 997.1  | 1025.0 | 1009.7 | 1817.2 | 3407.0 | 4815.5 | 5320.4 | 5369.2 |
| 40°   | 882.8  | 903.7  | 944.1  | 956.7  | 945.5  | 1651.2 | 3591.1 | 5232.5 | 5765.3 | 5832.2 |
| 42.5° | 817.2  | 832.6  | 889.8  | 892.5  | 927.4  | 1482.5 | 3768.2 | 5681.6 | 6277.1 | 6311.9 |
| 45°   | 764.2  | 761.4  | 820.0  | 838.2  | 951.1  | 1295.6 | 3941.1 | 6279.9 | 6946.5 | 6996.7 |
| 47.5° | 712.6  | 709.8  | 723.8  | 806.1  | 960.9  | 1122.7 | 4112.7 | 7155.7 | 7917.1 | 8003.6 |
| 50°   | 663.8  | 668.0  | 624.8  | 790.7  | 907.9  | 990.2  | 4190.8 | 7965.9 | 8799.9 | 8836.2 |
| 52.5° | 620.6  | 605.3  | 529.9  | 740.5  | 794.9  | 864.7  | 3969.0 | 8334.1 | 9346.6 | 9449.8 |
| 55°   | 559.2  | 474.2  | 436.5  | 601.1  | 627.6  | 754.5  | 3250.8 | 8120.7 | 9394.0 | 9576.7 |
| 57.5° | 478.3  | 372.4  | 371.0  | 443.5  | 443.5  | 700.1  | 2082.1 | 6938.1 | 8095.6 | 8416.4 |
| 60°   | 368.2  | 288.7  | 306.8  | 308.2  | 284.5  | 510.4  | 1168.7 | 5026.1 | 5985.6 | 6305.0 |
| 62.5° | 262.2  | 220.3  | 231.5  | 184.1  | 163.2  | 255.2  | 560.6  | 2893.8 | 3694.3 | 3738.9 |
| 65°   | 175.7  | 149.2  | 121.3  | 101.8  | 100.4  | 108.8  | 231.5  | 1045.9 | 1271.9 | 1435.0 |
| 67.5° | 115.8  | 90.6   | 64.2   | 64.2   | 72.5   | 72.5   | 87.9   | 172.9  | 242.7  | 221.7  |
| 70°   | 75.3   | 62.8   | 40.4   | 39.0   | 47.4   | 47.4   | 44.6   | 47.4   | 50.2   | 50.2   |
| 72.5° | 55.8   | 47.4   | 23.7   | 20.9   | 26.5   | 27.9   | 25.1   | 23.7   | 23.7   | 23.7   |
| 75°   | 41.8   | 33.5   | 13.9   | 9.8    | 12.6   | 16.7   | 13.9   | 9.8    | 9.8    | 8.4    |
| 77.5° | 16.7   | 12.6   | 5.6    | 4.2    | 7.0    | 9.8    | 8.4    | 4.2    | 2.8    | 2.8    |
| 80°   | 1.4    | 2.8    | 2.8    | 2.8    | 4.2    | 5.6    | 7.0    | 2.8    | 1.4    | 1.4    |
| 82.5° | 0.0    | 1.4    | 1.4    | 1.4    | 2.8    | 4.2    | 5.6    | 2.8    | 1.4    | 1.4    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 2.8    | 4.2    | 2.8    | 1.4    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 1.4    | 4.2    | 2.8    | 1.4    | 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    |

(END OF REPORT)