

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: P638981

Luminaire Tested: GWS-SA4F-830-U-SLR-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P638981
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-SA4F-830-U-SLR-W
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND
SPILL LIGHT ELIMINATOR RIGHT OPTICS
Light Source: (64) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25592 lumens
Efficiency: N/A
Efficacy: 113.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G4

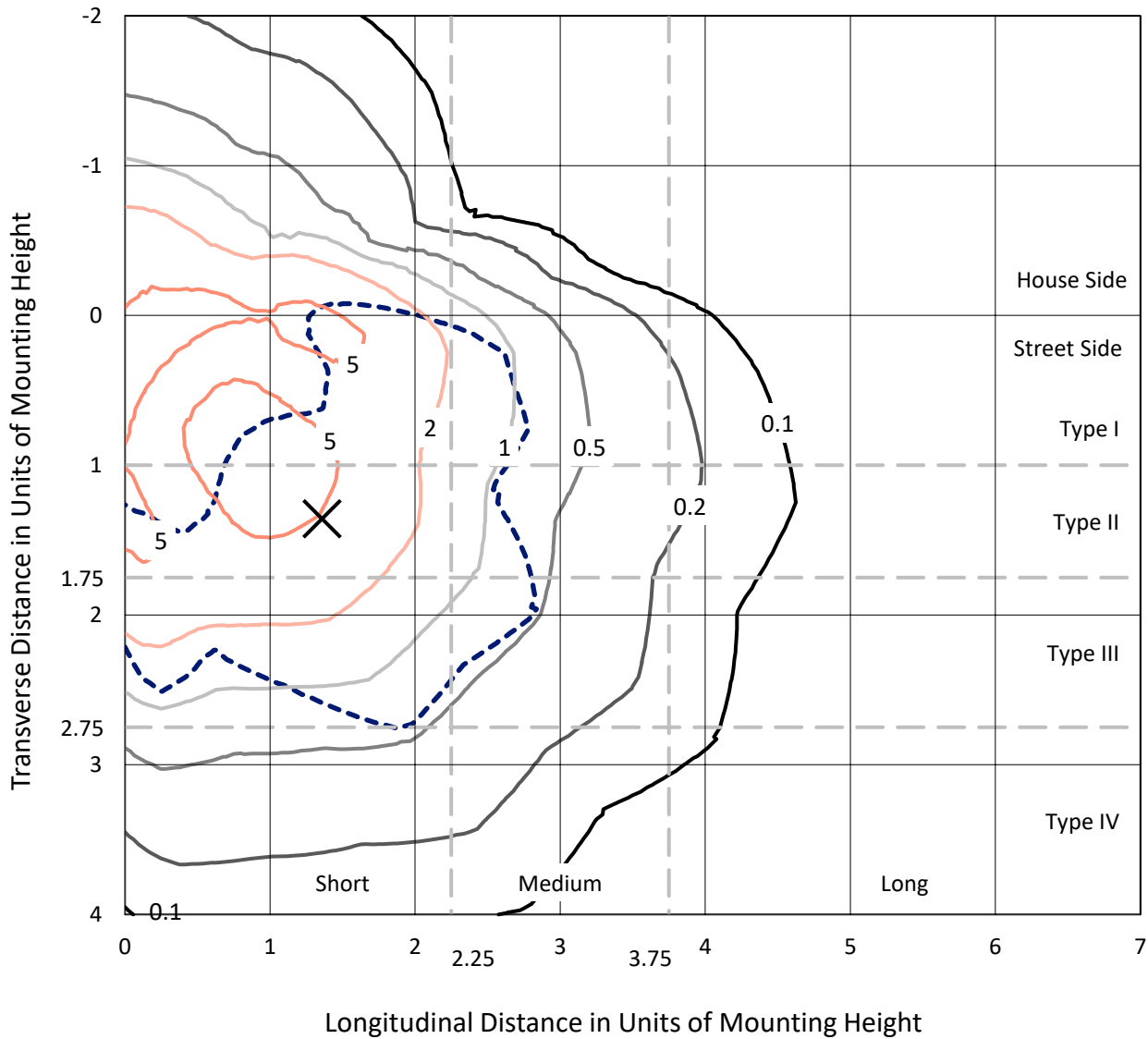
Input Watts (W): 225.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

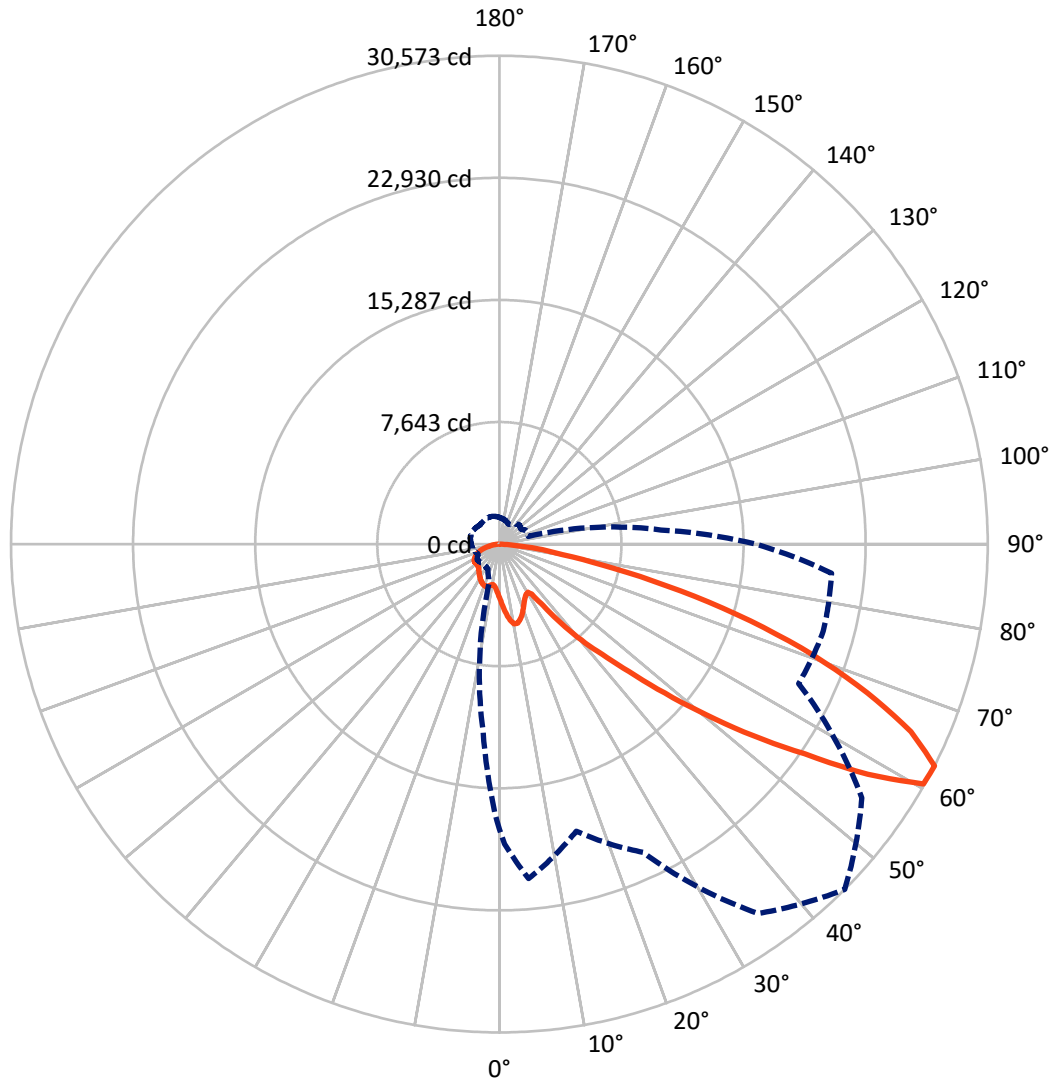
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.8 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6106.7 | 0.0 | 6106.7 |
| | % Fixture | 23.9 | 0.0 | 23.9 |
| Street Side | Lumens | 19485.3 | 0.0 | 19485.3 |
| | % Fixture | 76.1 | 0.0 | 76.1 |
| Total | Lumens | 25592.0 | 0.0 | 25592.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 331.7 | 1.3 |
| 10°-20° | 1039.9 | 4.1 |
| 20°-30° | 1615.2 | 6.3 |
| 30°-40° | 2193.0 | 8.6 |
| 40°-50° | 3475.7 | 13.6 |
| 50°-60° | 6131.1 | 24.0 |
| 60°-70° | 6821.8 | 26.7 |
| 70°-80° | 3459.8 | 13.5 |
| 80°-90° | 523.9 | 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° | 25592.0 | 100.0 |
| 0°-180° | 25592.0 | 100.0 |

Coefficient of Utilization



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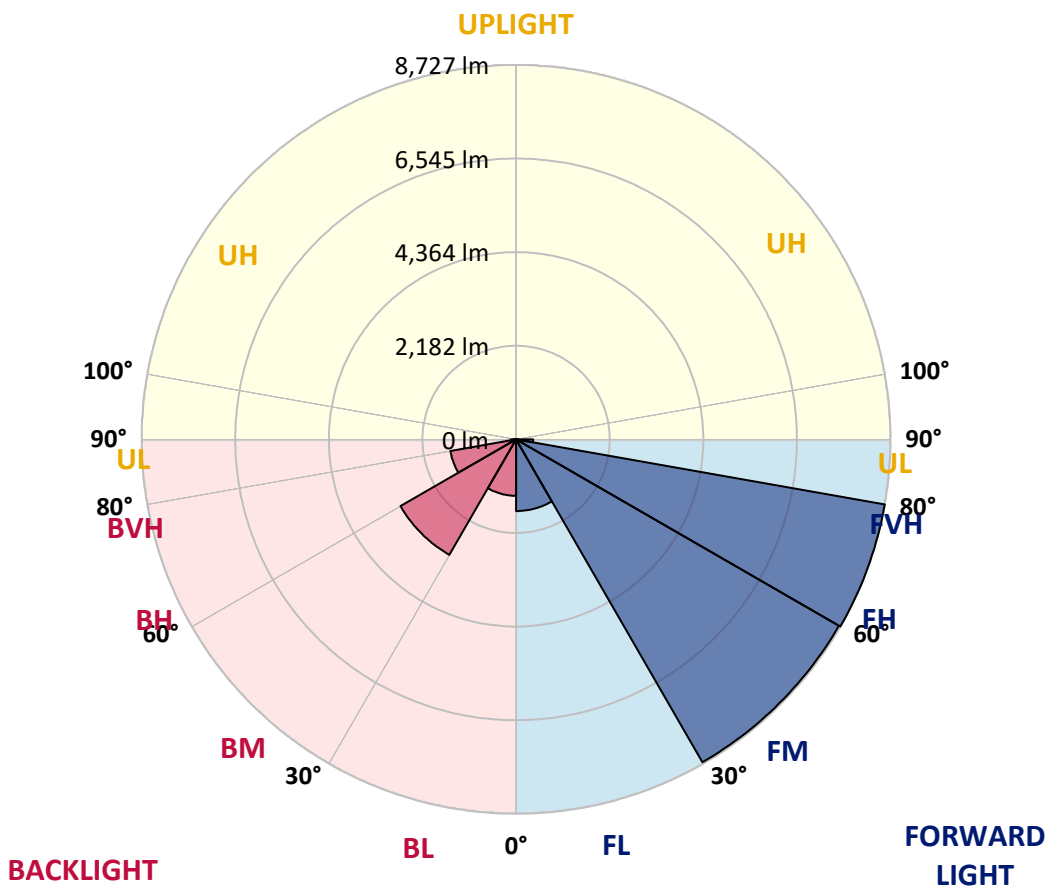
CATALOG NUMBER: GWS-SA4F-830-U-SLR-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 1670.9 | 6.5 | | | |
| FM (30°-60°) | 8689.6 | 34.0 | | | |
| FH (60°-80°) | 8727.1 | 34.1 | | | G4/12000 |
| FVH (80°-90°) | 397.6 | 1.6 | | | G3/500 |
| BL (0°-30°) | 1315.8 | 5.1 | B3/2500 | | |
| BM (30°-60°) | 3110.2 | 12.2 | B3/5000 | | |
| BH (60°-80°) | 1554.5 | 6.1 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 126.2 | 0.5 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 1° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 |
| 2.5° | 3650.4 | 3648.5 | 3685.3 | 3741.5 | 3793.8 | 3817.0 | 3855.8 | 3851.9 | 3820.9 | 3780.2 | 3766.7 |
| 5° | 3937.2 | 3944.9 | 4008.9 | 4132.9 | 4270.4 | 4328.6 | 4353.7 | 4344.1 | 4287.9 | 4216.2 | 4090.2 |
| 7.5° | 4196.8 | 4210.4 | 4309.2 | 4495.2 | 4665.7 | 4743.2 | 4805.2 | 4793.6 | 4712.2 | 4578.5 | 4392.5 |
| 10° | 4386.7 | 4402.2 | 4520.4 | 4739.3 | 4929.2 | 4997.0 | 5076.5 | 5080.3 | 5008.6 | 4828.5 | 4638.6 |
| 12.5° | 4576.6 | 4592.1 | 4702.5 | 4902.1 | 5026.1 | 5028.0 | 5074.5 | 5099.7 | 5103.6 | 5020.3 | 4830.4 |
| 15° | 4774.2 | 4787.8 | 4888.5 | 5000.9 | 4995.1 | 4886.6 | 4886.6 | 4935.0 | 5041.6 | 5101.7 | 4969.9 |
| 17.5° | 4942.8 | 4960.2 | 5037.7 | 5000.9 | 4828.5 | 4632.8 | 4609.5 | 4671.5 | 4857.5 | 5088.1 | 5074.5 |
| 20° | 5082.3 | 5095.8 | 5138.5 | 4894.3 | 4580.4 | 4324.7 | 4280.1 | 4351.8 | 4603.7 | 5004.8 | 5154.0 |
| 22.5° | 5216.0 | 5223.7 | 5200.5 | 4754.8 | 4313.1 | 4020.5 | 3966.2 | 4041.8 | 4313.1 | 4857.5 | 5221.8 |
| 25° | 5374.9 | 5367.1 | 5256.7 | 4609.5 | 4068.9 | 3780.2 | 3724.0 | 3809.3 | 4092.2 | 4661.8 | 5295.4 |
| 27.5° | 5558.9 | 5529.9 | 5305.1 | 4452.6 | 3881.0 | 3602.0 | 3563.2 | 3654.3 | 3917.8 | 4481.6 | 5353.5 |
| 30° | 5715.9 | 5659.7 | 5312.8 | 4313.1 | 3784.1 | 3526.4 | 3503.1 | 3588.4 | 3832.5 | 4359.6 | 5427.2 |
| 32.5° | 5890.2 | 5812.7 | 5357.4 | 4276.2 | 3838.3 | 3708.5 | 3739.5 | 3745.3 | 3855.8 | 4324.7 | 5537.6 |
| 35° | 6140.2 | 6039.4 | 5479.5 | 4382.8 | 4396.4 | 4615.3 | 4727.7 | 4576.6 | 4206.5 | 4402.2 | 5746.9 |
| 37.5° | 6518.0 | 6390.1 | 5727.5 | 4844.0 | 5549.2 | 6039.4 | 6310.7 | 5965.8 | 5272.2 | 4694.8 | 6062.7 |
| 40° | 6977.2 | 6814.5 | 6045.3 | 5696.5 | 6626.5 | 7411.3 | 7893.7 | 7388.0 | 6368.8 | 5425.2 | 6506.4 |
| 42.5° | 7618.6 | 7448.1 | 6661.4 | 6533.5 | 7624.4 | 8792.7 | 9422.5 | 8668.7 | 7335.7 | 6368.8 | 7217.5 |
| 45° | 8736.6 | 8571.9 | 7791.0 | 7372.5 | 8792.7 | 10493.9 | 11377.5 | 10329.2 | 8318.0 | 7316.3 | 8546.7 |
| 47.5° | 10802.0 | 10608.3 | 9469.0 | 8302.5 | 10125.8 | 12702.8 | 13939.0 | 12412.1 | 9339.1 | 8401.4 | 10778.8 |
| 50° | 13282.1 | 13096.1 | 11575.1 | 9403.1 | 11598.4 | 15064.7 | 16783.3 | 14859.3 | 10515.3 | 9720.8 | 13446.8 |
| 52.5° | 16266.0 | 16231.1 | 14580.3 | 10794.3 | 13131.0 | 17583.6 | 19939.7 | 17570.0 | 11803.7 | 11497.6 | 16469.4 |
| 55° | 18955.4 | 19296.4 | 18397.3 | 12915.9 | 15111.2 | 20747.6 | 23185.1 | 20526.7 | 13551.4 | 14435.0 | 20009.4 |
| 57.5° | 20404.7 | 21321.2 | 22702.6 | 17244.5 | 17990.4 | 24529.8 | 27190.1 | 24136.5 | 16554.7 | 19325.4 | 23291.7 |
| 60° | 19447.5 | 20486.1 | 22989.4 | 20503.5 | 20846.4 | 27560.2 | 30495.6 | 27170.7 | 19503.7 | 22720.1 | 23105.7 |
| 62.5° | 17854.8 | 18786.8 | 21013.1 | 18600.8 | 21288.2 | 28226.7 | 30573.1 | 27699.7 | 20675.9 | 20997.6 | 20871.6 |
| 65° | 15965.7 | 16905.4 | 19263.4 | 16236.9 | 19883.5 | 26643.7 | 28317.8 | 26143.8 | 18569.8 | 18970.9 | 19017.4 |
| 67.5° | 13456.5 | 14324.5 | 16725.2 | 14436.9 | 18124.1 | 24320.5 | 24855.3 | 23927.2 | 17101.1 | 17740.5 | 17072.0 |
| 70° | 10054.1 | 10836.9 | 12956.6 | 11732.1 | 15277.8 | 21294.0 | 20861.9 | 20999.5 | 15452.2 | 16087.7 | 14260.6 |
| 72.5° | 6870.7 | 7459.7 | 9277.1 | 9219.0 | 11699.1 | 17046.8 | 16444.3 | 17748.2 | 12906.2 | 13749.1 | 10871.8 |
| 75° | 4805.2 | 5264.4 | 6706.0 | 7283.4 | 8843.1 | 12635.0 | 11710.7 | 13284.1 | 10079.3 | 11282.5 | 7932.5 |
| 77.5° | 2949.0 | 3253.2 | 4235.6 | 5396.2 | 5688.7 | 8647.4 | 7273.7 | 9996.0 | 7078.0 | 8228.9 | 5291.5 |
| 80° | 1474.5 | 1621.8 | 2057.7 | 3392.7 | 3772.5 | 5095.8 | 4016.6 | 5803.1 | 4789.7 | 5095.8 | 2927.7 |
| 82.5° | 445.6 | 492.1 | 602.6 | 1288.5 | 1955.0 | 2933.5 | 2373.5 | 3371.4 | 2615.7 | 2389.0 | 1152.9 |
| 85° | 118.2 | 133.7 | 166.6 | 381.7 | 685.9 | 1052.1 | 802.2 | 1633.4 | 1253.6 | 881.6 | 434.0 |
| 87.5° | 9.7 | 9.7 | 7.8 | 7.8 | 3.9 | 0.0 | 0.0 | 116.3 | 234.4 | 133.7 | 75.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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 CATALOG NUMBER: GWS-SA4F-830-U-SLR-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 |
| 2.5° | 3698.8 | 3691.1 | 3611.7 | 3553.5 | 3485.7 | 3419.8 | 3352.0 | 3292.0 | 3224.1 | 3156.3 | 3136.9 |
| 5° | 3997.2 | 3943.0 | 3774.4 | 3633.0 | 3493.5 | 3371.4 | 3264.8 | 3154.4 | 3065.3 | 2978.1 | 2945.1 |
| 7.5° | 4260.7 | 4165.8 | 3921.7 | 3706.6 | 3512.8 | 3361.7 | 3204.8 | 3043.9 | 2918.0 | 2794.0 | 2763.0 |
| 10° | 4499.1 | 4373.1 | 4065.0 | 3793.8 | 3578.7 | 3406.3 | 3222.2 | 3007.1 | 2825.0 | 2673.9 | 2633.2 |
| 12.5° | 4675.4 | 4537.8 | 4189.1 | 3877.1 | 3633.0 | 3439.2 | 3257.1 | 3067.2 | 2875.4 | 2679.7 | 2635.1 |
| 15° | 4814.9 | 4671.5 | 4291.7 | 3941.0 | 3634.9 | 3385.0 | 3208.6 | 3142.8 | 3082.7 | 2890.9 | 2809.5 |
| 17.5° | 4927.3 | 4776.1 | 4380.9 | 3979.8 | 3582.6 | 3220.3 | 3067.2 | 3164.1 | 3317.1 | 3197.0 | 3043.9 |
| 20° | 5030.0 | 4876.9 | 4448.7 | 4006.9 | 3466.3 | 2993.6 | 2908.3 | 3113.7 | 3344.3 | 3340.4 | 3202.8 |
| 22.5° | 5142.3 | 4993.1 | 4547.5 | 4022.4 | 3303.6 | 2763.0 | 2813.4 | 3040.1 | 3228.0 | 3284.2 | 3198.9 |
| 25° | 5285.7 | 5154.0 | 4685.1 | 4057.3 | 3119.5 | 2604.1 | 2743.6 | 2945.1 | 3102.1 | 3115.6 | 3065.3 |
| 27.5° | 5452.4 | 5353.5 | 4890.5 | 4138.7 | 2941.2 | 2522.7 | 2662.2 | 2811.4 | 2954.8 | 2960.6 | 2900.6 |
| 30° | 5634.5 | 5568.6 | 5080.3 | 4206.5 | 2807.6 | 2497.5 | 2557.6 | 2677.7 | 2768.8 | 2784.3 | 2732.0 |
| 32.5° | 5867.0 | 5808.9 | 5248.9 | 4161.9 | 2728.1 | 2491.7 | 2460.7 | 2522.7 | 2598.3 | 2598.3 | 2557.6 |
| 35° | 6186.7 | 6105.3 | 5427.2 | 3991.4 | 2631.2 | 2468.5 | 2358.0 | 2375.5 | 2408.4 | 2414.2 | 2391.0 |
| 37.5° | 6640.1 | 6506.4 | 5607.4 | 3654.3 | 2472.4 | 2385.2 | 2239.8 | 2218.5 | 2230.2 | 2245.7 | 2239.8 |
| 40° | 7202.0 | 6983.0 | 5870.9 | 3249.3 | 2282.5 | 2224.3 | 2117.8 | 2077.1 | 2067.4 | 2098.4 | 2110.0 |
| 42.5° | 7909.2 | 7574.0 | 6153.8 | 2871.5 | 2110.0 | 2040.3 | 1974.4 | 1939.5 | 1924.0 | 1976.3 | 2007.3 |
| 45° | 9038.8 | 8486.6 | 6425.0 | 2497.5 | 2013.1 | 1883.3 | 1838.8 | 1813.6 | 1821.3 | 1883.3 | 1922.1 |
| 47.5° | 10990.0 | 9879.7 | 6682.7 | 2261.2 | 2005.4 | 1770.9 | 1716.7 | 1722.5 | 1743.8 | 1809.7 | 1856.2 |
| 50° | 13458.4 | 11745.6 | 6855.2 | 2162.3 | 2028.6 | 1703.1 | 1631.4 | 1662.4 | 1695.4 | 1759.3 | 1813.6 |
| 52.5° | 15971.5 | 13483.6 | 6649.8 | 2108.1 | 2026.7 | 1705.1 | 1552.0 | 1645.0 | 1660.5 | 1724.4 | 1782.6 |
| 55° | 17699.8 | 13677.4 | 5744.9 | 2024.8 | 1995.7 | 1782.6 | 1490.0 | 1637.3 | 1646.9 | 1705.1 | 1757.4 |
| 57.5° | 18358.6 | 13014.7 | 4380.9 | 2048.0 | 1902.7 | 1842.6 | 1462.9 | 1583.0 | 1652.8 | 1703.1 | 1757.4 |
| 60° | 17562.2 | 11765.0 | 2662.2 | 2108.1 | 1753.5 | 1838.8 | 1480.3 | 1484.2 | 1604.3 | 1689.6 | 1743.8 |
| 62.5° | 16060.6 | 10160.7 | 1869.8 | 1937.6 | 1645.0 | 1736.1 | 1521.0 | 1367.9 | 1519.1 | 1621.8 | 1670.2 |
| 65° | 14340.0 | 8273.5 | 1426.1 | 1668.3 | 1592.7 | 1577.2 | 1534.6 | 1265.2 | 1402.8 | 1503.6 | 1546.2 |
| 67.5° | 12547.8 | 6430.8 | 1158.7 | 1243.9 | 1439.6 | 1426.1 | 1402.8 | 1174.2 | 1265.2 | 1336.9 | 1385.4 |
| 70° | 10290.5 | 4499.1 | 978.5 | 933.9 | 1234.2 | 1278.8 | 1226.5 | 1059.9 | 1088.9 | 1162.5 | 1201.3 |
| 72.5° | 7527.5 | 2803.7 | 804.1 | 771.2 | 992.0 | 1118.0 | 1090.9 | 933.9 | 947.5 | 1017.2 | 1048.2 |
| 75° | 5413.6 | 1604.3 | 645.2 | 635.5 | 757.6 | 957.2 | 902.9 | 804.1 | 819.6 | 871.9 | 893.2 |
| 77.5° | 3441.1 | 893.2 | 498.0 | 511.5 | 542.5 | 715.0 | 771.2 | 687.8 | 687.8 | 718.8 | 736.3 |
| 80° | 1842.6 | 511.5 | 364.3 | 370.1 | 379.8 | 546.4 | 608.4 | 532.8 | 532.8 | 511.5 | 532.8 |
| 82.5° | 751.8 | 294.5 | 249.9 | 232.5 | 253.8 | 374.0 | 426.3 | 339.1 | 354.6 | 319.7 | 327.5 |
| 85° | 248.0 | 147.3 | 124.0 | 122.1 | 120.1 | 164.7 | 205.4 | 168.6 | 201.5 | 127.9 | 133.7 |
| 87.5° | 32.9 | 27.1 | 15.5 | 11.6 | 13.6 | 5.8 | 11.6 | 13.6 | 13.6 | 9.7 | 9.7 |
| 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):

| | 185° | 195° | 205° | 215° | 225° | 235° | 245° | 255° | 265° | 270° | 275° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 | 3396.6 |
| 2.5° | 3123.4 | 3107.9 | 3051.7 | 3065.3 | 3055.6 | 3040.1 | 3055.6 | 3026.5 | 3049.8 | 3057.5 | 3105.9 |
| 5° | 2919.9 | 2883.1 | 2828.9 | 2801.7 | 2795.9 | 2780.4 | 2782.4 | 2768.8 | 2772.7 | 2805.6 | 2859.9 |
| 7.5° | 2737.8 | 2702.9 | 2660.3 | 2640.9 | 2623.5 | 2606.0 | 2604.1 | 2602.2 | 2617.7 | 2646.7 | 2699.1 |
| 10° | 2606.0 | 2586.7 | 2569.2 | 2577.0 | 2569.2 | 2561.5 | 2547.9 | 2547.9 | 2573.1 | 2625.4 | 2689.4 |
| 12.5° | 2606.0 | 2602.2 | 2606.0 | 2629.3 | 2627.4 | 2629.3 | 2611.9 | 2621.5 | 2691.3 | 2780.4 | 2871.5 |
| 15° | 2745.6 | 2714.6 | 2714.6 | 2726.2 | 2722.3 | 2722.3 | 2722.3 | 2763.0 | 2921.9 | 3059.4 | 3156.3 |
| 17.5° | 2916.1 | 2825.0 | 2786.2 | 2780.4 | 2778.5 | 2778.5 | 2786.2 | 2873.4 | 3121.4 | 3266.8 | 3323.0 |
| 20° | 3034.3 | 2861.8 | 2797.9 | 2772.7 | 2774.6 | 2778.5 | 2801.7 | 2921.9 | 3195.1 | 3268.7 | 3255.1 |
| 22.5° | 3055.6 | 2832.7 | 2755.2 | 2718.4 | 2724.2 | 2728.1 | 2763.0 | 2890.9 | 3094.3 | 3105.9 | 3078.8 |
| 25° | 2956.7 | 2751.4 | 2668.1 | 2639.0 | 2646.7 | 2644.8 | 2675.8 | 2768.8 | 2914.1 | 2910.2 | 2894.7 |
| 27.5° | 2809.5 | 2621.5 | 2559.5 | 2540.2 | 2553.7 | 2538.2 | 2547.9 | 2619.6 | 2732.0 | 2728.1 | 2722.3 |
| 30° | 2658.4 | 2495.6 | 2439.4 | 2429.7 | 2447.2 | 2423.9 | 2425.9 | 2485.9 | 2563.4 | 2559.5 | 2557.6 |
| 32.5° | 2507.2 | 2369.7 | 2319.3 | 2319.3 | 2336.7 | 2311.5 | 2315.4 | 2367.7 | 2420.0 | 2404.5 | 2404.5 |
| 35° | 2363.8 | 2267.0 | 2226.3 | 2218.5 | 2232.1 | 2214.7 | 2222.4 | 2270.8 | 2290.2 | 2268.9 | 2255.3 |
| 37.5° | 2237.9 | 2195.3 | 2154.6 | 2127.5 | 2129.4 | 2131.3 | 2154.6 | 2191.4 | 2179.8 | 2148.8 | 2131.3 |
| 40° | 2121.7 | 2121.7 | 2082.9 | 2032.5 | 2026.7 | 2040.3 | 2079.0 | 2119.7 | 2086.8 | 2051.9 | 2030.6 |
| 42.5° | 2038.3 | 2055.8 | 2019.0 | 1968.6 | 1957.0 | 1980.2 | 2022.8 | 2051.9 | 2013.1 | 1974.4 | 1945.3 |
| 45° | 1960.8 | 2003.5 | 1978.3 | 1922.1 | 1906.6 | 1933.7 | 1988.0 | 1999.6 | 1947.3 | 1910.5 | 1889.1 |
| 47.5° | 1906.6 | 1964.7 | 1947.3 | 1893.0 | 1869.8 | 1908.5 | 1964.7 | 1962.8 | 1896.9 | 1858.1 | 1840.7 |
| 50° | 1867.8 | 1941.5 | 1939.5 | 1893.0 | 1867.8 | 1916.3 | 1966.6 | 1941.5 | 1869.8 | 1829.1 | 1811.6 |
| 52.5° | 1836.8 | 1939.5 | 1953.1 | 1926.0 | 1908.5 | 1951.1 | 1982.1 | 1933.7 | 1850.4 | 1807.8 | 1794.2 |
| 55° | 1823.3 | 1947.3 | 1957.0 | 1931.8 | 1916.3 | 1955.0 | 1982.1 | 1949.2 | 1850.4 | 1811.6 | 1800.0 |
| 57.5° | 1827.1 | 1937.6 | 1939.5 | 1904.6 | 1877.5 | 1926.0 | 1968.6 | 1958.9 | 1871.7 | 1827.1 | 1813.6 |
| 60° | 1803.9 | 1885.3 | 1889.1 | 1834.9 | 1803.9 | 1862.0 | 1937.6 | 1931.8 | 1862.0 | 1815.5 | 1790.3 |
| 62.5° | 1726.4 | 1798.1 | 1800.0 | 1749.6 | 1705.1 | 1788.4 | 1871.7 | 1869.8 | 1805.8 | 1759.3 | 1730.3 |
| 65° | 1596.6 | 1672.1 | 1691.5 | 1643.1 | 1608.2 | 1697.3 | 1784.5 | 1780.6 | 1716.7 | 1674.1 | 1645.0 |
| 67.5° | 1435.7 | 1517.1 | 1553.9 | 1521.0 | 1507.4 | 1588.8 | 1670.2 | 1668.3 | 1615.9 | 1575.3 | 1550.1 |
| 70° | 1240.1 | 1307.9 | 1369.9 | 1369.9 | 1360.2 | 1453.2 | 1540.4 | 1532.6 | 1484.2 | 1453.2 | 1433.8 |
| 72.5° | 1077.3 | 1129.6 | 1149.0 | 1168.4 | 1197.4 | 1294.3 | 1367.9 | 1373.7 | 1338.9 | 1323.4 | 1338.9 |
| 75° | 916.5 | 949.4 | 966.9 | 951.4 | 1001.7 | 1102.5 | 1199.4 | 1209.1 | 1172.2 | 1147.0 | 1152.9 |
| 77.5° | 753.7 | 790.5 | 808.0 | 773.1 | 769.2 | 897.1 | 1015.3 | 1036.6 | 1005.6 | 966.9 | 978.5 |
| 80° | 544.5 | 592.9 | 622.0 | 598.7 | 591.0 | 647.2 | 809.9 | 833.2 | 804.1 | 773.1 | 790.5 |
| 82.5° | 333.3 | 360.4 | 368.1 | 391.4 | 439.8 | 463.1 | 521.2 | 598.7 | 577.4 | 550.3 | 598.7 |
| 85° | 131.8 | 156.9 | 174.4 | 197.6 | 230.6 | 273.2 | 321.6 | 383.6 | 348.8 | 337.1 | 397.2 |
| 87.5° | 7.8 | 1.9 | 0.0 | 3.9 | 32.9 | 63.9 | 137.6 | 189.9 | 158.9 | 170.5 | 205.4 |
| 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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| 50° | 1817.5 | 1850.4 | 1763.2 | 1922.1 | 2129.4 | 2332.8 | 7444.2 | 12609.8 | 13408.1 | 13282.1 |
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| 60° | 1718.6 | 1540.4 | 1703.1 | 1802.0 | 1676.0 | 2092.6 | 3483.8 | 13483.6 | 18343.1 | 19447.5 |
| 62.5° | 1623.7 | 1478.4 | 1697.3 | 1639.2 | 1615.9 | 1712.8 | 2394.9 | 11753.4 | 16775.6 | 17854.8 |
| 65° | 1517.1 | 1428.0 | 1606.3 | 1482.3 | 1495.8 | 1317.6 | 1693.4 | 9800.3 | 14903.9 | 15965.7 |
| 67.5° | 1402.8 | 1397.0 | 1472.6 | 1319.5 | 1263.3 | 1044.4 | 1234.2 | 7855.0 | 12499.3 | 13456.5 |
| 70° | 1273.0 | 1315.6 | 1338.9 | 1172.2 | 1025.0 | 819.6 | 916.5 | 5493.0 | 9221.0 | 10054.1 |
| 72.5° | 1143.2 | 1147.0 | 1180.0 | 1019.2 | 767.3 | 656.8 | 687.8 | 3326.8 | 6264.2 | 6870.7 |
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| 77.5° | 870.0 | 829.3 | 788.6 | 623.9 | 459.2 | 416.6 | 406.9 | 1152.9 | 2654.5 | 2949.0 |
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| 85° | 385.6 | 325.5 | 228.6 | 114.3 | 93.0 | 75.6 | 73.6 | 63.9 | 106.6 | 118.2 |
| 87.5° | 215.1 | 141.4 | 73.6 | 13.6 | 15.5 | 17.4 | 13.6 | 9.7 | 9.7 | 9.7 |
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