

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P452911

Luminaire Tested: **GALN-SA3D-827-U-T3R**

Issue Date: 1/4/2021

Test Information

Test Method: LM-79-08
Report Number: P452911
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-042-8)
Test Lab: INNOVATION CENTER
Issue Date: 1/4/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: GALN-SA3D-827-U-T3R
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(3) 80 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17373 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Medium
BUG Rating: B2 - U0 - G3

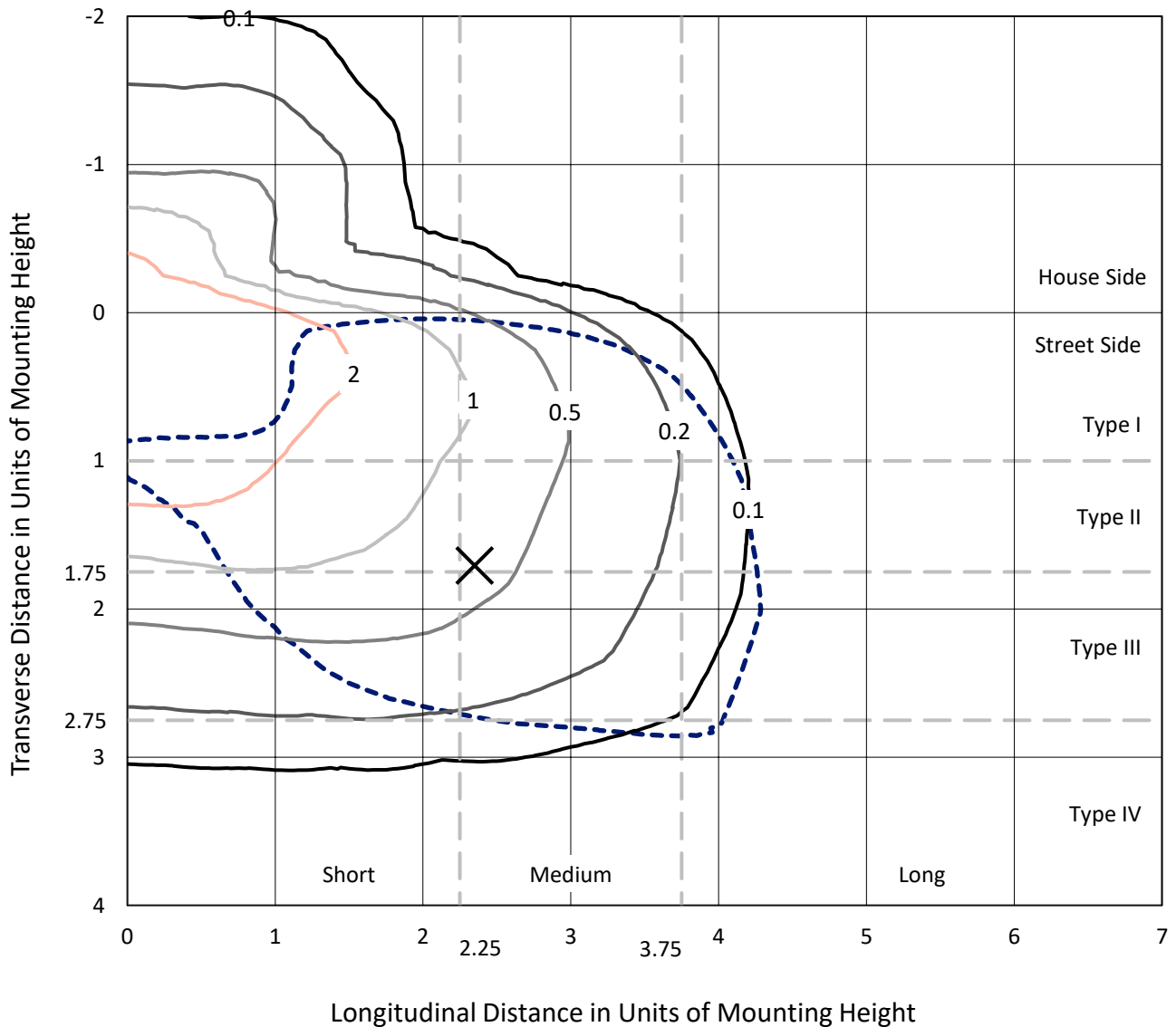
Input Watts (W): 184
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

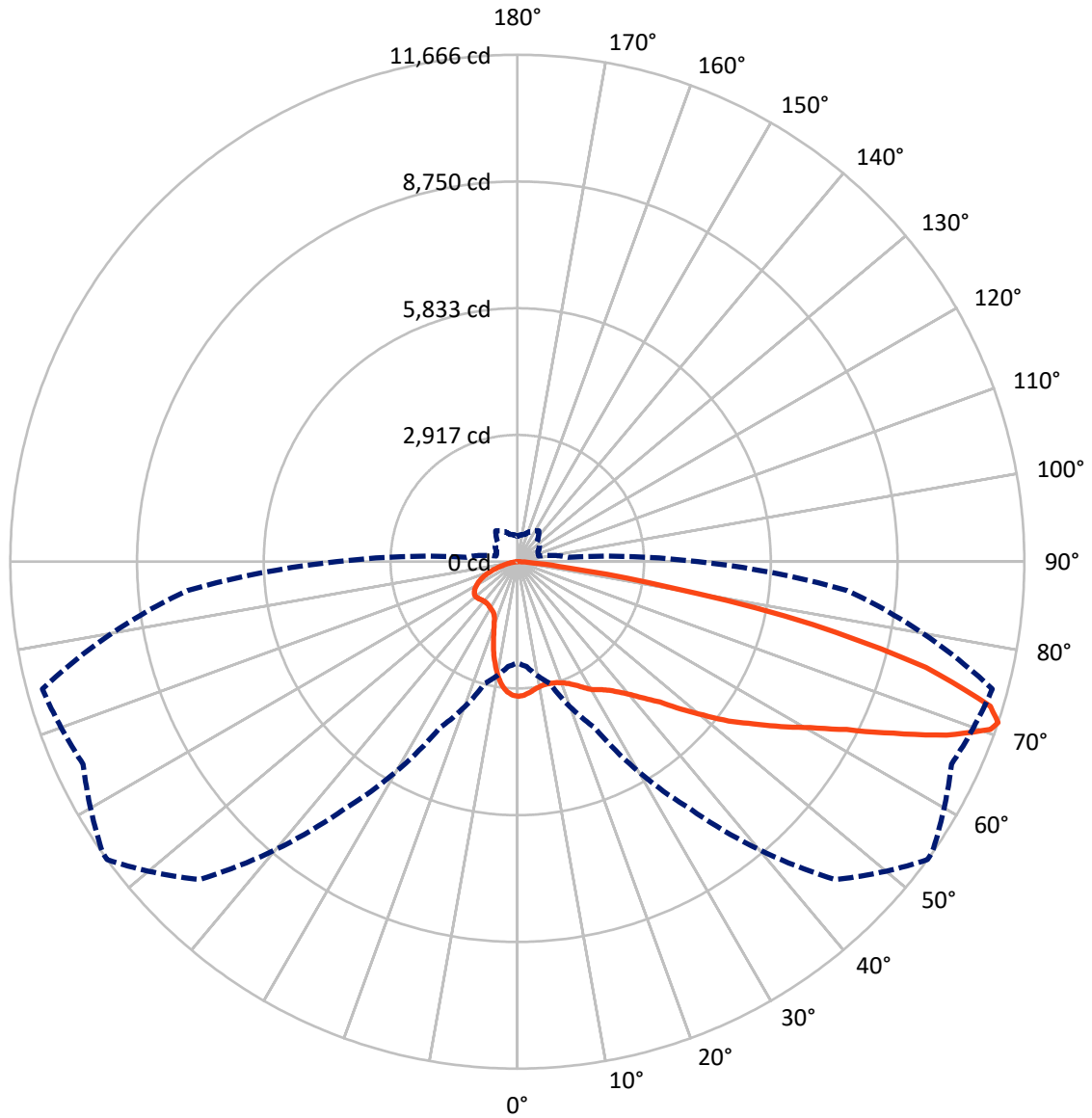
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc
 Type IV - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 54-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3136.6 | 0.0 | 3136.6 |
| | % Fixture | 18.1 | 0.0 | 18.1 |
| Street Side | Lumens | 14236.4 | 0.0 | 14236.4 |
| | % Fixture | 81.9 | 0.0 | 81.9 |
| Total | Lumens | 17373.0 | 0.0 | 17373.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 276.2 | 1.6 |
| 10°-20° | 729.4 | 4.2 |
| 20°-30° | 1214.4 | 7.0 |
| 30°-40° | 1795.7 | 10.3 |
| 40°-50° | 2529.3 | 14.6 |
| 50°-60° | 3386.9 | 19.5 |
| 60°-70° | 4268.9 | 24.6 |
| 70°-80° | 2915.7 | 16.8 |
| 80°-90° | 256.4 | 1.5 |
| 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° | 17373.0 | 100.0 |
| 0°-180° | 17373.0 | 100.0 |

Coefficient of Utilization



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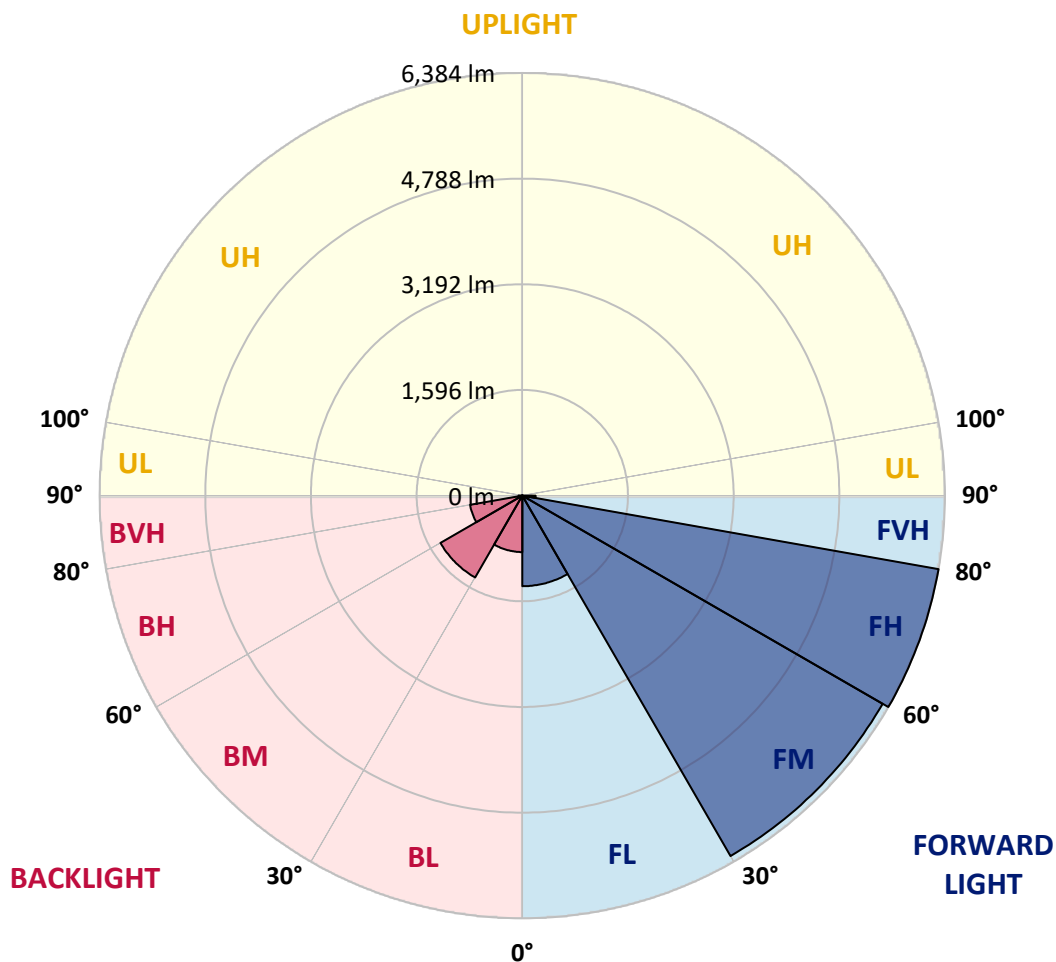
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 1367.5 | 7.9 | | | |
| FM | (30°-60°) | 6284.9 | 36.2 | | | |
| FH | (60°-80°) | 6383.5 | 36.7 | | | G3/7500 |
| FVH | (80°-90°) | 200.4 | 1.2 | | | G2/225 |
| BL | (0°-30°) | 852.5 | 4.9 | B2/1000 | | |
| BM | (30°-60°) | 1427.1 | 8.2 | B2/2500 | | |
| BH | (60°-80°) | 801.1 | 4.6 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 56.0 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G3

Type IV Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 54° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|--------|
| 0° | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 |
| 2.5° | 2994.5 | 3008.6 | 3012.3 | 3021.7 | 3041.4 | 3057.4 | 3073.3 | 3071.4 | 3094.0 | 3103.4 | 3111.8 |
| 5° | 2861.2 | 2865.0 | 2879.1 | 2897.8 | 2932.6 | 2976.7 | 3019.8 | 3020.8 | 3076.1 | 3120.2 | 3141.8 |
| 7.5° | 2763.6 | 2775.8 | 2785.2 | 2804.9 | 2841.5 | 2889.4 | 2957.9 | 2963.5 | 3062.1 | 3149.3 | 3195.3 |
| 10° | 2699.8 | 2713.9 | 2724.2 | 2748.6 | 2785.2 | 2838.7 | 2912.9 | 2923.2 | 3051.7 | 3195.3 | 3276.0 |
| 12.5° | 2641.7 | 2655.7 | 2665.1 | 2697.0 | 2744.9 | 2810.6 | 2894.1 | 2906.3 | 3055.5 | 3248.8 | 3364.2 |
| 15° | 2677.3 | 2688.6 | 2684.8 | 2694.2 | 2726.1 | 2801.2 | 2901.6 | 2913.8 | 3069.6 | 3300.4 | 3451.5 |
| 17.5° | 2835.9 | 2845.3 | 2814.3 | 2778.7 | 2763.6 | 2819.0 | 2925.1 | 2938.2 | 3097.7 | 3353.9 | 3540.7 |
| 20° | 3069.6 | 3094.9 | 3027.3 | 2947.6 | 2875.3 | 2882.8 | 2973.9 | 2987.9 | 3137.1 | 3407.4 | 3631.7 |
| 22.5° | 3373.6 | 3392.4 | 3309.8 | 3178.4 | 3045.2 | 2976.7 | 3047.0 | 3055.5 | 3196.3 | 3476.8 | 3731.2 |
| 25° | 3731.2 | 3742.4 | 3627.9 | 3459.0 | 3266.6 | 3137.1 | 3147.5 | 3162.5 | 3293.9 | 3555.7 | 3819.4 |
| 27.5° | 4078.4 | 4114.0 | 3981.7 | 3775.3 | 3521.9 | 3306.1 | 3285.4 | 3294.8 | 3399.9 | 3599.8 | 3880.4 |
| 30° | 4490.3 | 4487.5 | 4347.7 | 4108.4 | 3783.7 | 3490.0 | 3415.8 | 3414.0 | 3457.1 | 3621.4 | 3924.5 |
| 32.5° | 4818.8 | 4857.3 | 4720.3 | 4459.4 | 4083.1 | 3680.5 | 3505.9 | 3502.2 | 3501.2 | 3658.9 | 3990.2 |
| 35° | 5192.3 | 5197.9 | 5072.2 | 4809.4 | 4406.8 | 3919.8 | 3631.7 | 3612.9 | 3591.3 | 3739.6 | 4079.3 |
| 37.5° | 5526.4 | 5552.6 | 5437.2 | 5142.5 | 4724.9 | 4168.5 | 3804.4 | 3792.2 | 3726.5 | 3879.4 | 4222.0 |
| 40° | 5787.2 | 5806.9 | 5737.5 | 5456.9 | 5038.4 | 4436.8 | 4023.9 | 4001.4 | 3921.7 | 4108.4 | 4412.4 |
| 42.5° | 5872.6 | 5913.0 | 5940.2 | 5802.2 | 5398.7 | 4755.0 | 4294.2 | 4266.1 | 4205.1 | 4455.6 | 4632.0 |
| 45° | 5879.2 | 5943.0 | 6086.6 | 6093.2 | 5761.0 | 5136.0 | 4609.5 | 4589.8 | 4585.1 | 4900.4 | 4940.8 |
| 47.5° | 5829.5 | 5894.2 | 6135.4 | 6265.8 | 6083.8 | 5520.7 | 5064.7 | 5033.7 | 5036.5 | 5450.3 | 5287.1 |
| 50° | 5709.3 | 5786.3 | 6079.1 | 6376.6 | 6336.2 | 5920.5 | 5545.1 | 5534.8 | 5593.0 | 6078.1 | 5646.5 |
| 52.5° | 5483.2 | 5576.1 | 6020.9 | 6446.0 | 6523.9 | 6264.9 | 6091.3 | 6062.2 | 6209.5 | 6759.4 | 6039.7 |
| 55° | 4857.3 | 4997.1 | 5807.9 | 6484.5 | 6702.2 | 6594.3 | 6583.0 | 6635.6 | 6830.8 | 7502.7 | 6472.3 |
| 57.5° | 4530.7 | 4635.8 | 5345.2 | 6491.0 | 6927.4 | 6977.2 | 7157.3 | 7170.5 | 7512.1 | 8291.9 | 6961.2 |
| 60° | 4352.4 | 4445.3 | 5091.9 | 6447.9 | 7241.8 | 7451.1 | 7744.8 | 7791.7 | 8177.4 | 9146.8 | 7467.9 |
| 62.5° | 4196.6 | 4276.4 | 4939.8 | 6298.7 | 7596.5 | 8153.9 | 8505.8 | 8528.4 | 8932.8 | 10090.8 | 7968.1 |
| 65° | 3829.7 | 3920.7 | 4633.9 | 6149.5 | 7902.4 | 9032.3 | 9515.6 | 9489.3 | 9737.0 | 10905.4 | 8281.6 |
| 67.5° | 3335.1 | 3450.6 | 4062.4 | 5634.3 | 8053.5 | 9992.3 | 10652.9 | 10620.1 | 10530.9 | 11439.3 | 8371.6 |
| 70° | 2703.6 | 2765.5 | 3331.4 | 4743.7 | 7450.1 | 10496.2 | 11551.0 | 11516.3 | 11022.7 | 11509.7 | 7945.6 |
| 71° | 2326.3 | 2423.0 | 2900.7 | 4213.5 | 6948.1 | 10342.3 | 11666.4 | 11657.1 | 11023.6 | 11315.5 | 7624.7 |
| 72.5° | 1815.8 | 1875.0 | 2297.3 | 3264.8 | 5905.5 | 9467.7 | 11381.2 | 11416.8 | 10784.3 | 10775.9 | 6963.1 |
| 75° | 1148.6 | 1174.9 | 1441.4 | 1921.9 | 3240.4 | 6705.0 | 9715.5 | 9812.1 | 9575.6 | 8820.2 | 5178.2 |
| 77.5° | 667.2 | 701.0 | 863.3 | 1132.7 | 1400.1 | 3639.2 | 6951.8 | 7056.9 | 6653.4 | 4856.3 | 2119.9 |
| 80° | 388.5 | 426.0 | 568.7 | 657.8 | 642.8 | 1350.4 | 3539.7 | 3719.0 | 2880.9 | 1226.5 | 595.0 |
| 82.5° | 215.8 | 241.2 | 399.8 | 400.7 | 342.5 | 441.1 | 1113.9 | 1165.5 | 822.1 | 494.5 | 243.1 |
| 85° | 156.7 | 177.4 | 258.1 | 233.7 | 164.2 | 189.6 | 387.6 | 406.3 | 332.2 | 208.3 | 78.8 |
| 87.5° | 55.4 | 78.8 | 141.7 | 112.6 | 45.0 | 39.4 | 111.7 | 91.0 | 84.5 | 58.2 | 17.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 | 3099.6 |
| 2.5° | 3116.5 | 3118.4 | 3109.0 | 3092.1 | 3075.2 | 3053.6 | 3029.2 | 3010.5 | 3002.0 | 3001.1 | 3000.1 |
| 5° | 3150.3 | 3155.0 | 3119.3 | 3066.8 | 3008.6 | 2937.3 | 2876.3 | 2806.8 | 2789.0 | 2760.8 | 2769.3 |
| 7.5° | 3204.7 | 3201.9 | 3131.5 | 3019.8 | 2883.8 | 2732.7 | 2605.1 | 2530.9 | 2454.0 | 2432.4 | 2433.3 |
| 10° | 3282.6 | 3264.8 | 3131.5 | 2924.1 | 2697.0 | 2472.7 | 2294.4 | 2181.8 | 2120.8 | 2070.2 | 2051.4 |
| 12.5° | 3365.2 | 3320.1 | 3101.5 | 2789.9 | 2456.8 | 2181.8 | 1990.4 | 1838.4 | 1799.0 | 1757.7 | 1758.6 |
| 15° | 3444.0 | 3368.9 | 3042.4 | 2601.3 | 2197.8 | 1871.2 | 1685.4 | 1594.4 | 1582.2 | 1586.9 | 1585.9 |
| 17.5° | 3515.3 | 3403.6 | 2952.3 | 2391.1 | 1895.6 | 1604.7 | 1506.2 | 1512.7 | 1545.6 | 1569.0 | 1571.9 |
| 20° | 3587.6 | 3424.3 | 2818.1 | 2109.6 | 1610.3 | 1443.3 | 1447.0 | 1498.7 | 1548.4 | 1580.3 | 1585.0 |
| 22.5° | 3656.1 | 3433.7 | 2660.4 | 1837.4 | 1403.9 | 1374.8 | 1430.2 | 1485.5 | 1534.3 | 1565.3 | 1570.0 |
| 25° | 3701.1 | 3412.1 | 2437.1 | 1553.1 | 1302.5 | 1350.4 | 1408.6 | 1455.5 | 1496.8 | 1528.7 | 1536.2 |
| 27.5° | 3713.3 | 3342.7 | 2160.2 | 1323.2 | 1255.6 | 1326.9 | 1380.4 | 1415.1 | 1447.0 | 1477.1 | 1482.7 |
| 30° | 3706.8 | 3240.4 | 1856.2 | 1188.0 | 1228.4 | 1299.7 | 1341.0 | 1366.3 | 1404.8 | 1428.3 | 1433.0 |
| 32.5° | 3696.4 | 3121.2 | 1539.0 | 1115.8 | 1205.9 | 1274.4 | 1298.8 | 1321.3 | 1320.4 | 1311.0 | 1317.5 |
| 35° | 3700.2 | 2978.5 | 1281.9 | 1072.6 | 1186.2 | 1255.6 | 1276.3 | 1248.1 | 1167.4 | 1163.6 | 1159.9 |
| 37.5° | 3719.9 | 2837.8 | 1095.1 | 1042.6 | 1175.8 | 1252.8 | 1264.1 | 1134.5 | 1063.2 | 1030.4 | 1021.9 |
| 40° | 3770.6 | 2673.6 | 972.2 | 1020.1 | 1174.9 | 1274.4 | 1208.7 | 1077.3 | 940.3 | 876.5 | 871.8 |
| 42.5° | 3838.1 | 2512.1 | 897.1 | 1006.0 | 1186.2 | 1307.2 | 1186.2 | 996.6 | 847.4 | 809.9 | 804.2 |
| 45° | 3938.5 | 2327.3 | 855.8 | 999.4 | 1203.1 | 1319.4 | 1178.7 | 937.5 | 809.9 | 779.8 | 779.8 |
| 47.5° | 4052.1 | 2150.9 | 833.3 | 994.7 | 1224.6 | 1311.0 | 1112.0 | 918.7 | 792.0 | 795.8 | 813.6 |
| 50° | 4164.7 | 1997.9 | 816.4 | 984.4 | 1243.4 | 1306.3 | 1084.8 | 917.8 | 796.7 | 844.6 | 876.5 |
| 52.5° | 4295.1 | 1890.0 | 795.8 | 967.5 | 1243.4 | 1276.3 | 1076.4 | 936.5 | 809.9 | 823.9 | 838.0 |
| 55° | 4452.8 | 1856.2 | 769.5 | 930.9 | 1220.9 | 1201.2 | 1071.7 | 963.8 | 819.2 | 786.4 | 792.0 |
| 57.5° | 4661.1 | 1910.6 | 744.2 | 884.9 | 1169.3 | 1123.3 | 1069.8 | 971.3 | 797.7 | 770.4 | 764.8 |
| 60° | 4903.2 | 2018.5 | 736.7 | 838.0 | 1098.9 | 1056.7 | 1058.5 | 949.7 | 767.6 | 739.5 | 744.2 |
| 62.5° | 5073.1 | 2083.3 | 732.0 | 802.3 | 1021.9 | 983.5 | 1031.3 | 923.4 | 754.5 | 730.1 | 734.8 |
| 65° | 5073.1 | 2004.5 | 688.8 | 747.9 | 922.5 | 895.3 | 998.5 | 890.6 | 737.6 | 709.4 | 704.8 |
| 67.5° | 4880.7 | 1774.6 | 623.1 | 666.3 | 812.7 | 794.8 | 952.5 | 851.1 | 712.3 | 690.7 | 679.4 |
| 70° | 4379.6 | 1345.7 | 540.5 | 570.6 | 673.8 | 689.7 | 893.4 | 797.7 | 670.0 | 643.8 | 626.9 |
| 71° | 4159.1 | 1172.1 | 505.8 | 521.8 | 620.3 | 643.8 | 865.2 | 775.1 | 651.3 | 613.7 | 583.7 |
| 72.5° | 3734.0 | 987.2 | 453.3 | 459.8 | 530.2 | 572.4 | 806.1 | 732.0 | 615.6 | 562.1 | 528.3 |
| 75° | 2836.8 | 720.7 | 365.0 | 361.3 | 392.3 | 454.2 | 682.2 | 652.2 | 539.6 | 467.3 | 447.6 |
| 77.5° | 1225.6 | 392.3 | 273.1 | 275.9 | 266.5 | 344.4 | 536.8 | 560.2 | 462.6 | 380.1 | 362.2 |
| 80° | 371.6 | 226.2 | 186.7 | 190.5 | 178.3 | 230.9 | 378.2 | 439.2 | 371.6 | 295.6 | 271.2 |
| 82.5° | 190.5 | 135.1 | 127.6 | 125.7 | 113.5 | 130.4 | 229.0 | 300.3 | 265.6 | 184.9 | 163.3 |
| 85° | 82.6 | 72.3 | 62.9 | 61.0 | 53.5 | 46.9 | 81.6 | 150.1 | 140.8 | 103.2 | 98.5 |
| 87.5° | 20.6 | 18.8 | 12.2 | 11.3 | 6.6 | 0.9 | 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 |

(END OF REPORT)