

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: P299994

Luminaire Tested: **GLNA-AF-10-LED-E1-5WQ-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P299994
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24143)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: GLNA-AF-10-LED-E1-5WQ-7060-600
Description: GALLEONAIRE AREA AND ROADWAY LUMINAIRE
(10) 70 CRI, 5700K CCT 600mA LIGHTSQUARE WITH 16 LEDS EACH AND Type IV
w/Spill Control OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 40738.7 lumens
Efficiency: N/A
Efficacy: 126.1 lumens/watt
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B5 - U0 - G4

Input Watts (W): 323
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: 25 FT

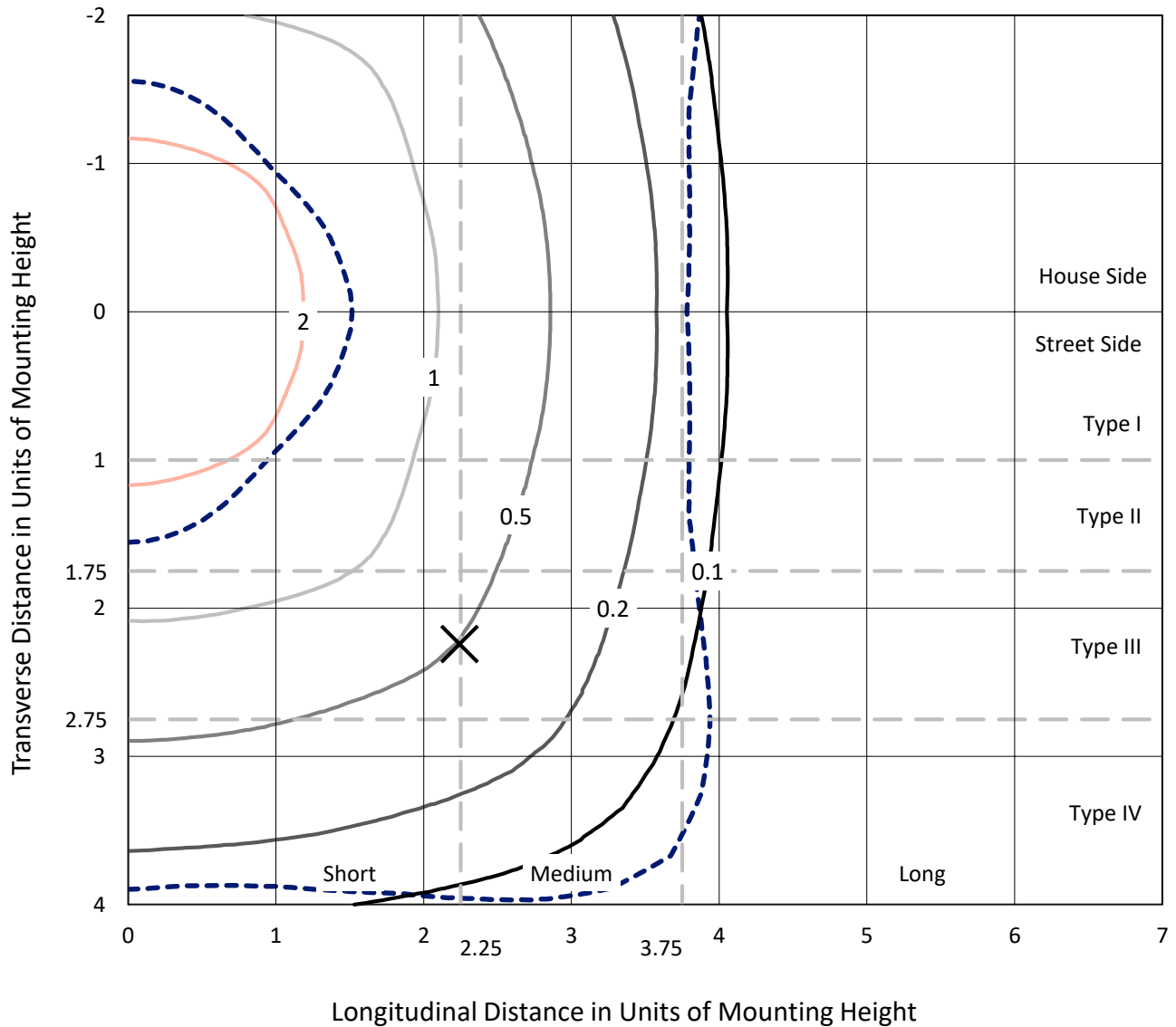


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

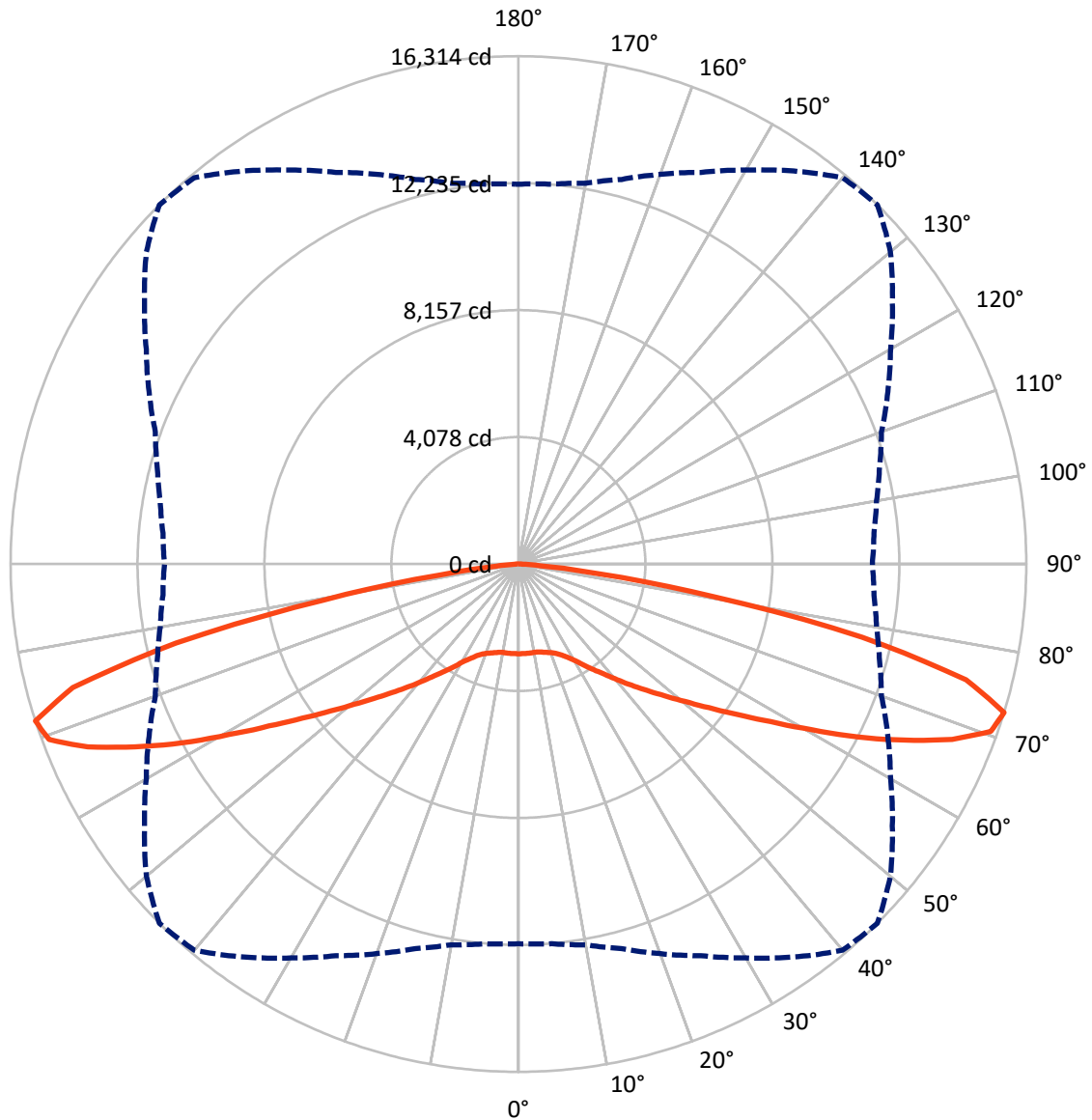


Based on 30 foot mounting height. Maximum calculated value = 3.2 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 20369.4 | 0.0 | 20369.4 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 20369.4 | 0.0 | 20369.4 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 40738.7 | 0.0 | 40738.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 275.5 | 0.7 |
| 10°-20° | 836.7 | 2.1 |
| 20°-30° | 1528.9 | 3.8 |
| 30°-40° | 2636.1 | 6.5 |
| 40°-50° | 4506.4 | 11.1 |
| 50°-60° | 7304.3 | 17.9 |
| 60°-70° | 12117.6 | 29.7 |
| 70°-80° | 10672.7 | 26.2 |
| 80°-90° | 860.5 | 2.1 |
| 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° | 40738.7 | 100.0 |
| 0°-180° | 40738.7 | 100.0 |



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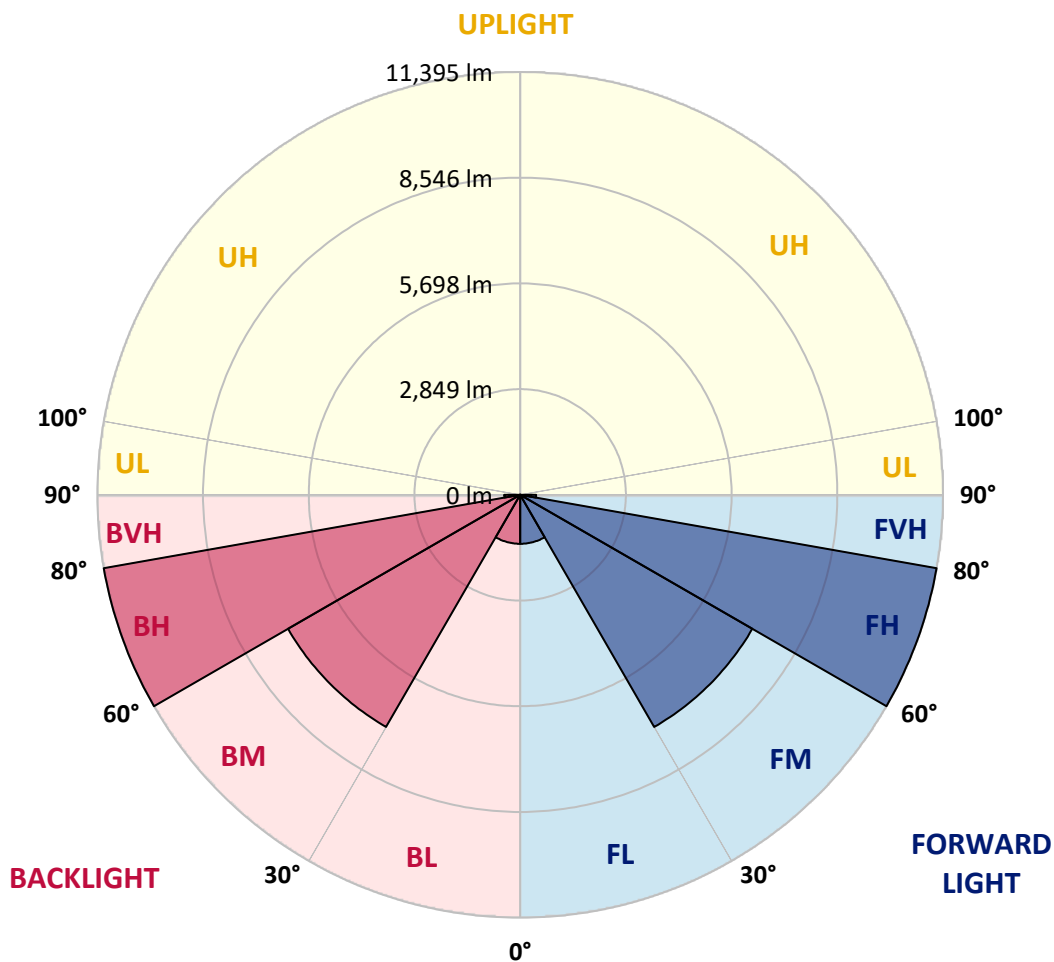
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|---------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 1320.5 | 3.2 | | | |
| FM | (30°-60°) | 7223.4 | 17.7 | | | |
| FH | (60°-80°) | 11395.2 | 28.0 | | | G4/12000 |
| FVH | (80°-90°) | 430.3 | 1.1 | | | G3/500 |
| BL | (0°-30°) | 1320.5 | 3.2 | B3/2500 | | |
| BM | (30°-60°) | 7223.4 | 17.7 | B4/8500 | | |
| BH | (60°-80°) | 11395.2 | 28.0 | B5 | | G4/12000 |
| BVH | (80°-90°) | 430.3 | 1.1 | | | G3/500 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B5-U0-G4

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 |
| 2.5° | 2884.9 | 2886.8 | 2888.7 | 2886.8 | 2886.8 | 2884.9 | 2883.1 | 2884.9 | 2883.1 | 2879.3 | 2881.2 |
| 5° | 2894.3 | 2898.0 | 2898.0 | 2894.3 | 2896.1 | 2894.3 | 2890.5 | 2892.4 | 2888.7 | 2883.1 | 2883.1 |
| 7.5° | 2905.5 | 2907.4 | 2907.4 | 2903.6 | 2905.5 | 2901.8 | 2898.0 | 2896.1 | 2892.4 | 2884.9 | 2879.3 |
| 10° | 2922.3 | 2924.2 | 2922.3 | 2918.6 | 2918.6 | 2913.0 | 2903.6 | 2899.9 | 2892.4 | 2881.2 | 2875.6 |
| 12.5° | 2941.0 | 2942.9 | 2941.0 | 2937.3 | 2935.4 | 2926.0 | 2918.6 | 2913.0 | 2907.4 | 2898.0 | 2888.7 |
| 15° | 2967.1 | 2970.9 | 2967.1 | 2959.7 | 2954.1 | 2946.6 | 2942.9 | 2944.7 | 2946.6 | 2939.1 | 2929.8 |
| 17.5° | 3015.7 | 3017.6 | 3012.0 | 2995.2 | 2987.7 | 2980.2 | 2980.2 | 2984.0 | 2989.6 | 2985.8 | 2976.5 |
| 20° | 3105.4 | 3099.8 | 3086.7 | 3066.2 | 3056.8 | 3043.8 | 3041.9 | 3043.8 | 3043.8 | 3041.9 | 3034.4 |
| 22.5° | 3217.5 | 3213.8 | 3197.0 | 3170.8 | 3157.7 | 3150.3 | 3139.0 | 3129.7 | 3127.8 | 3122.2 | 3114.8 |
| 25° | 3352.1 | 3350.2 | 3329.6 | 3307.2 | 3297.9 | 3288.5 | 3279.2 | 3266.1 | 3254.9 | 3241.8 | 3234.3 |
| 27.5° | 3524.0 | 3516.5 | 3486.6 | 3475.4 | 3462.3 | 3456.7 | 3443.6 | 3428.7 | 3419.3 | 3402.5 | 3393.2 |
| 30° | 3712.7 | 3712.7 | 3688.4 | 3684.6 | 3684.6 | 3671.6 | 3656.6 | 3630.5 | 3613.6 | 3596.8 | 3591.2 |
| 32.5° | 3901.4 | 3903.3 | 3879.0 | 3886.4 | 3892.0 | 3901.4 | 3905.1 | 3895.8 | 3884.6 | 3882.7 | 3871.5 |
| 35° | 4174.2 | 4166.7 | 4142.4 | 4148.0 | 4146.2 | 4144.3 | 4144.3 | 4164.8 | 4168.6 | 4172.3 | 4149.9 |
| 37.5° | 4512.4 | 4512.4 | 4488.1 | 4488.1 | 4476.9 | 4465.7 | 4450.7 | 4463.8 | 4484.4 | 4490.0 | 4475.0 |
| 40° | 4899.2 | 4912.2 | 4882.3 | 4880.5 | 4884.2 | 4848.7 | 4831.9 | 4852.4 | 4865.5 | 4887.9 | 4871.1 |
| 42.5° | 5355.1 | 5345.7 | 5315.8 | 5312.1 | 5291.5 | 5280.3 | 5265.4 | 5282.2 | 5302.7 | 5317.7 | 5323.3 |
| 45° | 5792.3 | 5784.8 | 5751.2 | 5751.2 | 5730.6 | 5721.3 | 5728.8 | 5756.8 | 5766.1 | 5786.7 | 5807.2 |
| 47.5° | 6223.9 | 6214.6 | 6192.1 | 6201.5 | 6203.4 | 6220.2 | 6244.5 | 6270.6 | 6296.8 | 6324.8 | 6334.1 |
| 50° | 6664.9 | 6666.7 | 6642.4 | 6664.9 | 6692.9 | 6739.6 | 6805.0 | 6848.0 | 6902.2 | 6937.7 | 6948.9 |
| 52.5° | 7066.6 | 7074.1 | 7100.2 | 7152.5 | 7208.6 | 7300.2 | 7412.3 | 7516.9 | 7606.6 | 7666.4 | 7662.6 |
| 55° | 7548.7 | 7559.9 | 7623.4 | 7713.1 | 7804.6 | 7942.9 | 8109.2 | 8294.2 | 8443.7 | 8529.6 | 8475.4 |
| 57.5° | 8165.3 | 8189.6 | 8260.6 | 8382.0 | 8518.4 | 8697.8 | 8925.7 | 9204.1 | 9435.8 | 9551.7 | 9463.9 |
| 60° | 9011.7 | 9026.6 | 9112.6 | 9247.1 | 9411.5 | 9633.9 | 9938.4 | 10312.1 | 10639.1 | 10792.3 | 10691.4 |
| 62.5° | 10127.2 | 10155.2 | 10224.3 | 10360.7 | 10528.9 | 10781.1 | 11153.0 | 11620.1 | 12027.4 | 12240.4 | 12012.5 |
| 65° | 11459.4 | 11549.1 | 11607.0 | 11745.3 | 11902.2 | 12169.4 | 12558.1 | 13058.8 | 13496.0 | 13636.2 | 13372.7 |
| 67.5° | 12778.5 | 12857.0 | 12957.9 | 13116.7 | 13275.6 | 13576.4 | 13937.0 | 14422.8 | 14903.0 | 15030.1 | 14620.9 |
| 70° | 13355.9 | 13400.7 | 13557.7 | 13774.4 | 14079.0 | 14434.0 | 14850.7 | 15396.3 | 15990.5 | 16095.1 | 15575.7 |
| 72.5° | 12199.3 | 12244.2 | 12419.8 | 12787.9 | 13318.5 | 13882.8 | 14609.7 | 15411.2 | 16196.0 | 16313.7 | 15598.1 |
| 75° | 9226.6 | 9153.7 | 9413.4 | 9901.1 | 10616.7 | 11403.3 | 12419.8 | 13568.9 | 14703.1 | 14850.7 | 13996.8 |
| 77.5° | 4768.4 | 4759.0 | 4955.2 | 5560.6 | 6414.5 | 7309.5 | 8428.7 | 9727.3 | 10837.2 | 11285.6 | 10590.5 |
| 80° | 1343.4 | 1358.4 | 1451.8 | 1752.6 | 2251.5 | 2898.0 | 3772.5 | 4988.8 | 5896.9 | 6360.3 | 5971.7 |
| 82.5° | 526.9 | 568.0 | 603.5 | 659.6 | 725.0 | 820.3 | 1094.9 | 1629.3 | 2186.1 | 2612.1 | 2139.4 |
| 85° | 188.7 | 201.8 | 285.9 | 338.2 | 343.8 | 362.5 | 412.9 | 482.1 | 581.1 | 693.2 | 569.9 |
| 87.5° | 71.0 | 78.5 | 91.6 | 151.3 | 149.5 | 136.4 | 166.3 | 173.8 | 130.8 | 119.6 | 147.6 |
| 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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CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 | 2884.9 |
| 2.5° | 2877.5 | 2879.3 | 2879.3 | 2881.2 | 2883.1 | 2883.1 | 2886.8 | 2886.8 |
| 5° | 2879.3 | 2879.3 | 2875.6 | 2877.5 | 2875.6 | 2875.6 | 2877.5 | 2877.5 |
| 7.5° | 2875.6 | 2873.7 | 2870.0 | 2868.1 | 2864.4 | 2864.4 | 2864.4 | 2864.4 |
| 10° | 2870.0 | 2868.1 | 2864.4 | 2862.5 | 2860.6 | 2860.6 | 2860.6 | 2860.6 |
| 12.5° | 2884.9 | 2879.3 | 2875.6 | 2873.7 | 2873.7 | 2873.7 | 2873.7 | 2873.7 |
| 15° | 2924.2 | 2911.1 | 2901.8 | 2901.8 | 2903.6 | 2907.4 | 2907.4 | 2911.1 |
| 17.5° | 2972.8 | 2957.8 | 2948.5 | 2941.0 | 2944.7 | 2950.3 | 2954.1 | 2957.8 |
| 20° | 3030.7 | 3023.2 | 3010.1 | 3002.6 | 3002.6 | 3010.1 | 3013.9 | 3015.7 |
| 22.5° | 3111.0 | 3105.4 | 3099.8 | 3090.5 | 3090.5 | 3094.2 | 3101.7 | 3101.7 |
| 25° | 3230.6 | 3226.9 | 3223.1 | 3215.7 | 3213.8 | 3213.8 | 3217.5 | 3221.3 |
| 27.5° | 3380.1 | 3382.0 | 3378.2 | 3376.3 | 3370.7 | 3368.9 | 3374.5 | 3372.6 |
| 30° | 3580.0 | 3589.4 | 3598.7 | 3591.2 | 3581.9 | 3576.3 | 3570.7 | 3563.2 |
| 32.5° | 3850.9 | 3839.7 | 3832.3 | 3819.2 | 3802.4 | 3787.4 | 3776.2 | 3763.1 |
| 35° | 4106.9 | 4088.2 | 4080.8 | 4092.0 | 4090.1 | 4080.8 | 4067.7 | 4056.5 |
| 37.5° | 4420.8 | 4417.1 | 4420.8 | 4441.4 | 4437.6 | 4447.0 | 4420.8 | 4419.0 |
| 40° | 4816.9 | 4820.7 | 4846.8 | 4871.1 | 4884.2 | 4897.3 | 4882.3 | 4867.4 |
| 42.5° | 5276.6 | 5274.7 | 5284.1 | 5317.7 | 5340.1 | 5355.1 | 5323.3 | 5319.6 |
| 45° | 5762.4 | 5749.3 | 5756.8 | 5784.8 | 5807.2 | 5824.1 | 5788.6 | 5788.6 |
| 47.5° | 6296.8 | 6274.4 | 6250.1 | 6281.8 | 6294.9 | 6306.1 | 6278.1 | 6268.8 |
| 50° | 6892.8 | 6846.1 | 6793.8 | 6806.9 | 6806.9 | 6803.1 | 6767.6 | 6765.8 |
| 52.5° | 7576.7 | 7490.7 | 7395.4 | 7359.9 | 7339.4 | 7317.0 | 7255.3 | 7225.4 |
| 55° | 8363.3 | 8234.4 | 8084.9 | 7993.4 | 7944.8 | 7883.1 | 7780.4 | 7752.3 |
| 57.5° | 9282.6 | 9080.8 | 8823.0 | 8710.9 | 8602.5 | 8501.6 | 8387.6 | 8355.8 |
| 60° | 10371.9 | 10074.8 | 9732.9 | 9525.5 | 9407.8 | 9310.6 | 9192.9 | 9187.3 |
| 62.5° | 11586.4 | 11117.5 | 10730.7 | 10543.8 | 10457.9 | 10371.9 | 10259.8 | 10274.8 |
| 65° | 12821.5 | 12332.0 | 11969.5 | 11818.1 | 11737.8 | 11666.8 | 11554.7 | 11571.5 |
| 67.5° | 14039.8 | 13589.5 | 13191.5 | 13036.4 | 12946.7 | 12857.0 | 12756.1 | 12772.9 |
| 70° | 14914.2 | 14355.5 | 13907.1 | 13563.3 | 13348.4 | 13105.5 | 12948.6 | 12909.3 |
| 72.5° | 14663.8 | 13802.5 | 13090.6 | 12408.6 | 12008.7 | 11683.6 | 11463.1 | 11367.8 |
| 75° | 12690.7 | 11513.6 | 10598.0 | 9760.9 | 9290.1 | 8907.0 | 8628.6 | 8454.9 |
| 77.5° | 9424.6 | 8101.7 | 7019.9 | 6055.7 | 5293.4 | 4781.4 | 4420.8 | 4187.3 |
| 80° | 5158.9 | 3923.8 | 2868.1 | 2016.1 | 1481.7 | 1231.3 | 1087.5 | 1018.3 |
| 82.5° | 1606.9 | 1037.0 | 764.2 | 659.6 | 612.9 | 586.7 | 543.7 | 474.6 |
| 85° | 512.0 | 448.4 | 416.7 | 398.0 | 379.3 | 330.7 | 228.0 | 207.4 |
| 87.5° | 198.1 | 203.7 | 201.8 | 190.6 | 194.3 | 140.1 | 112.1 | 99.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)