

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: P299684

Luminaire Tested: **GLNA-AF-09-LED-E1-5MQ-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P299684
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24142)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: GLNA-AF-09-LED-E1-5MQ-7030-800
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(9) 70 CRI, 3000K CCT 800mA LIGHTSQUARE WITH 16 LEDS EACH AND Type III
w/Spill Control OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 43535.6 lumens
Efficiency: N/A
Efficacy: 116.4 lumens/watt
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B5 - U0 - G4

Input Watts (W): 374
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

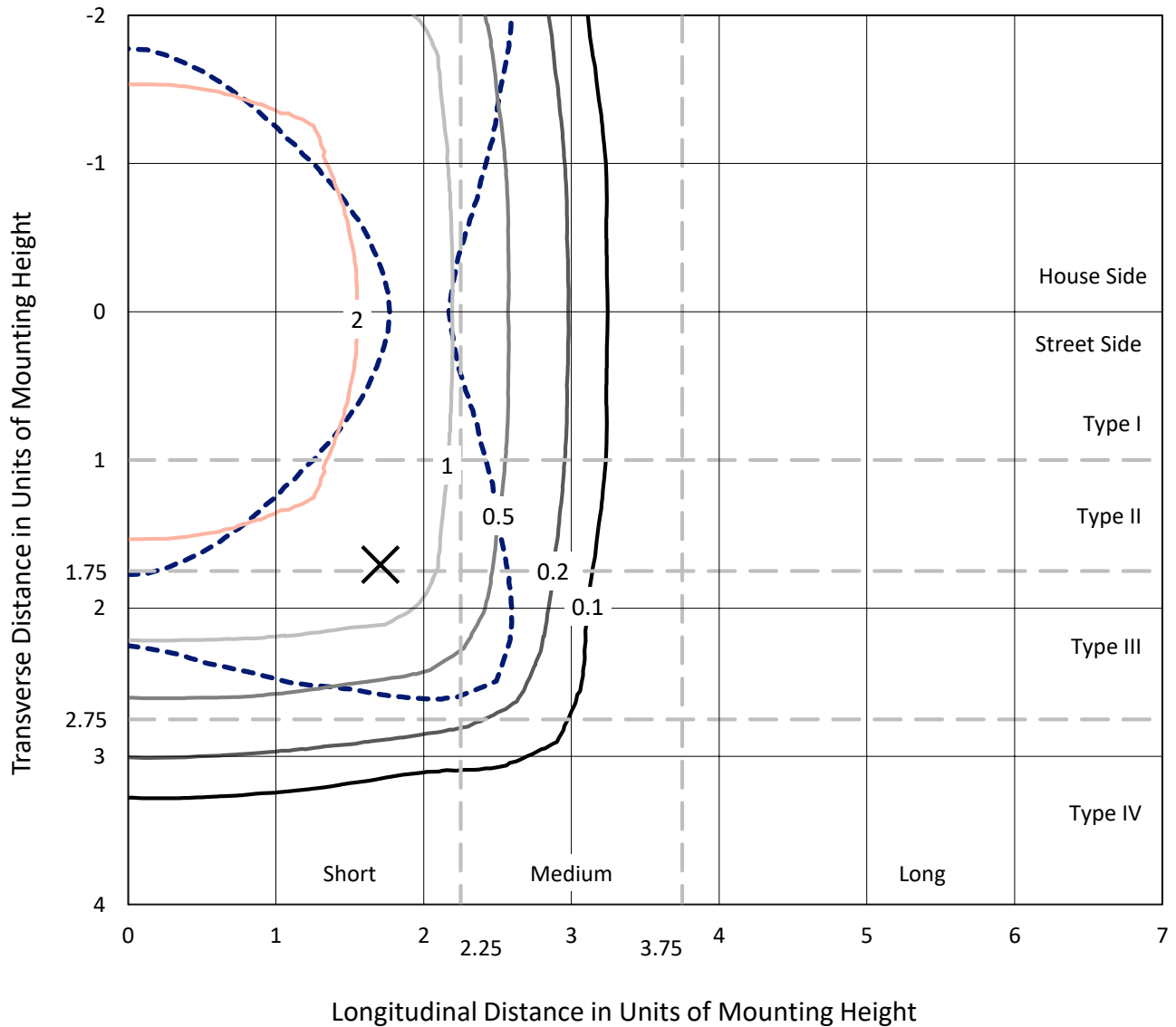


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

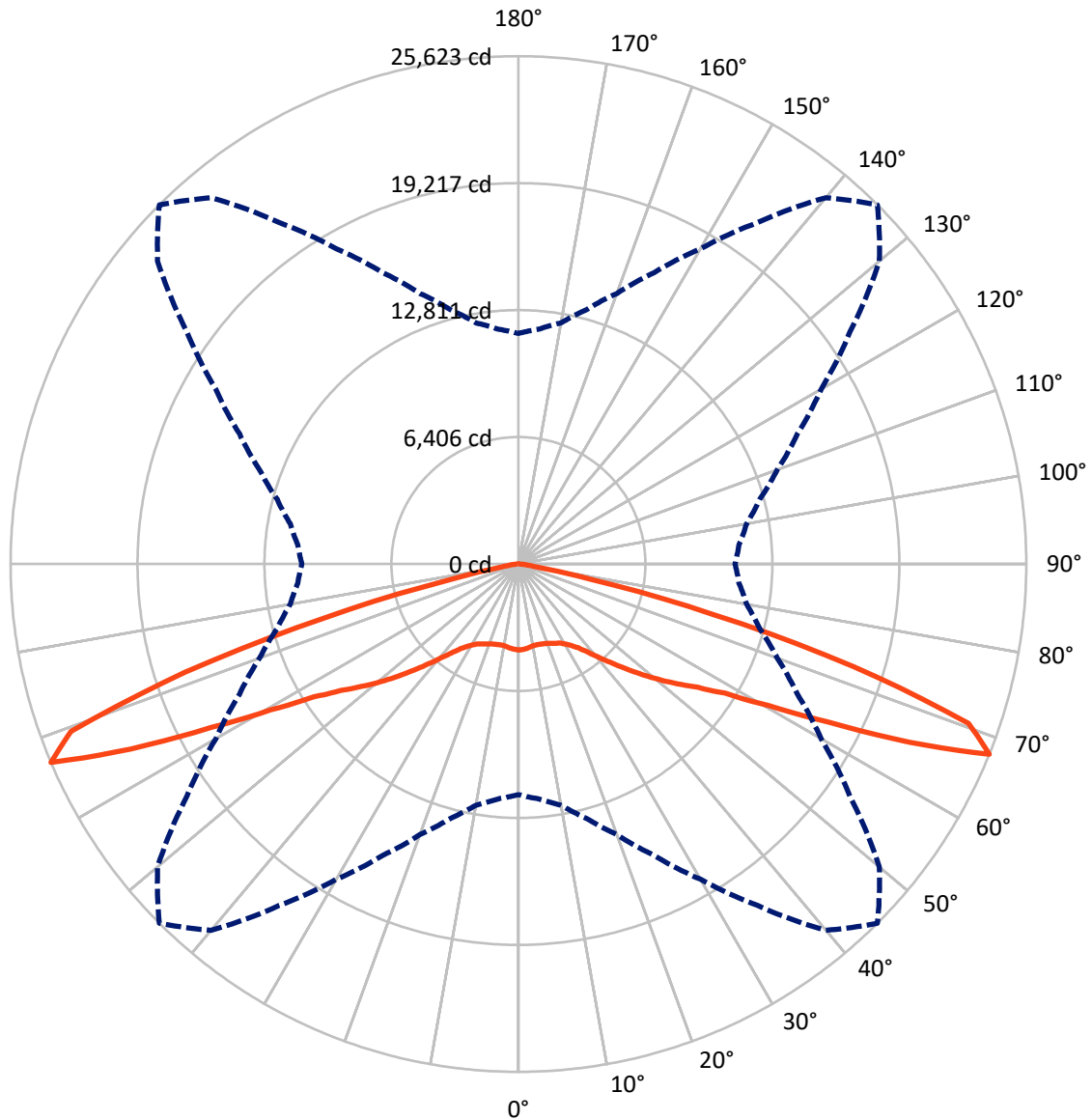


Based on 30 foot mounting height. Maximum calculated value = 4.8 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 21767.8 | 0.0 | 21767.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 21767.8 | 0.0 | 21767.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 43535.6 | 0.0 | 43535.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 406.1 | 0.9 |
| 10°-20° | 1178.3 | 2.7 |
| 20°-30° | 2003.1 | 4.6 |
| 30°-40° | 3274.5 | 7.5 |
| 40°-50° | 5845.6 | 13.4 |
| 50°-60° | 9855.8 | 22.6 |
| 60°-70° | 15294.7 | 35.1 |
| 70°-80° | 5373.9 | 12.3 |
| 80°-90° | 303.7 | 0.7 |
| 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° | 43535.6 | 100.0 |
| 0°-180° | 43535.6 | 100.0 |



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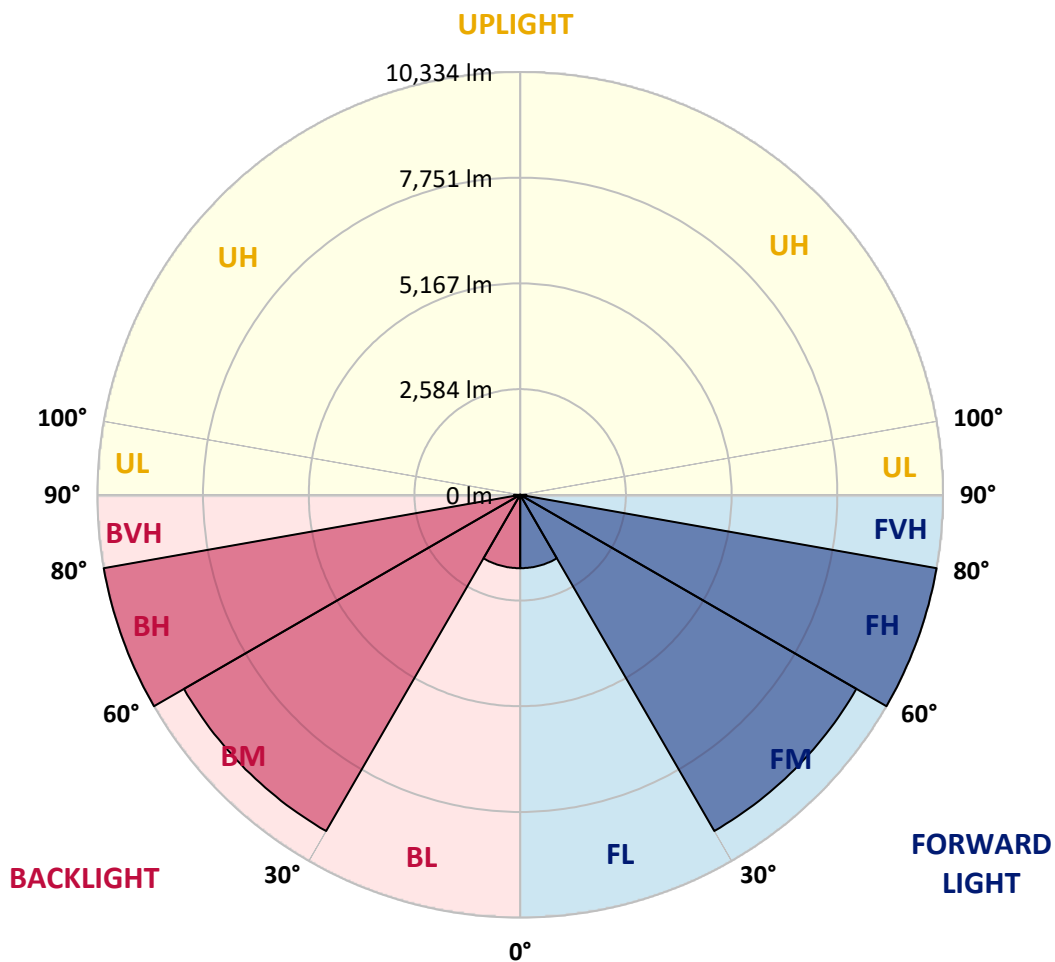
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|---------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 1793.8 | 4.1 | | | |
| FM | (30°-60°) | 9487.9 | 21.8 | | | |
| FH | (60°-80°) | 10334.3 | 23.7 | | | G4/12000 |
| FVH | (80°-90°) | 151.8 | 0.3 | | | G2/225 |
| BL | (0°-30°) | 1793.8 | 4.1 | B3/2500 | | |
| BM | (30°-60°) | 9487.9 | 21.8 | B5 | | |
| BH | (60°-80°) | 10334.3 | 23.7 | B5 | | G4/12000 |
| BVH | (80°-90°) | 151.8 | 0.3 | | | G2/225 |
| 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° | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 |
| 2.5° | 4322.5 | 4326.5 | 4326.5 | 4326.5 | 4324.5 | 4324.5 | 4320.5 | 4324.5 | 4322.5 | 4316.5 | 4318.5 |
| 5° | 4286.5 | 4290.5 | 4290.5 | 4288.5 | 4294.5 | 4292.5 | 4286.5 | 4290.5 | 4288.5 | 4284.5 | 4286.5 |
| 7.5° | 4234.4 | 4240.4 | 4240.4 | 4238.4 | 4244.4 | 4242.4 | 4238.4 | 4240.4 | 4240.4 | 4234.4 | 4234.4 |
| 10° | 4176.3 | 4180.3 | 4180.3 | 4178.3 | 4188.4 | 4188.4 | 4186.4 | 4192.4 | 4194.4 | 4188.4 | 4184.3 |
| 12.5° | 4122.3 | 4128.3 | 4128.3 | 4136.3 | 4146.3 | 4150.3 | 4160.3 | 4168.3 | 4176.3 | 4174.3 | 4166.3 |
| 15° | 4090.3 | 4094.3 | 4102.3 | 4112.3 | 4128.3 | 4142.3 | 4158.3 | 4176.3 | 4192.4 | 4196.4 | 4184.3 |
| 17.5° | 4070.2 | 4076.2 | 4088.2 | 4102.3 | 4124.3 | 4148.3 | 4172.3 | 4196.4 | 4218.4 | 4226.4 | 4212.4 |
| 20° | 4064.2 | 4068.2 | 4080.2 | 4104.3 | 4134.3 | 4170.3 | 4204.4 | 4232.4 | 4262.4 | 4272.4 | 4262.4 |
| 22.5° | 4076.2 | 4084.2 | 4098.3 | 4126.3 | 4166.3 | 4212.4 | 4252.4 | 4290.5 | 4328.5 | 4346.5 | 4332.5 |
| 25° | 4130.3 | 4138.3 | 4156.3 | 4192.4 | 4236.4 | 4284.5 | 4330.5 | 4374.5 | 4408.6 | 4426.6 | 4416.6 |
| 27.5° | 4230.4 | 4240.4 | 4262.4 | 4298.5 | 4346.5 | 4398.6 | 4448.6 | 4484.7 | 4512.7 | 4518.7 | 4506.7 |
| 30° | 4380.6 | 4402.6 | 4428.6 | 4468.6 | 4524.7 | 4568.7 | 4618.8 | 4650.8 | 4684.9 | 4684.9 | 4674.9 |
| 32.5° | 4614.8 | 4636.8 | 4664.8 | 4702.9 | 4746.9 | 4795.0 | 4839.0 | 4867.1 | 4903.1 | 4905.1 | 4881.1 |
| 35° | 4965.2 | 4975.2 | 4999.2 | 5023.2 | 5063.3 | 5105.3 | 5143.3 | 5161.4 | 5191.4 | 5193.4 | 5171.4 |
| 37.5° | 5427.6 | 5429.6 | 5445.7 | 5453.7 | 5489.7 | 5535.8 | 5571.8 | 5583.8 | 5611.8 | 5607.8 | 5585.8 |
| 40° | 5966.2 | 5976.2 | 5982.2 | 5994.2 | 6032.3 | 6076.3 | 6114.4 | 6120.4 | 6150.4 | 6144.4 | 6116.4 |
| 42.5° | 6588.8 | 6592.9 | 6626.9 | 6644.9 | 6680.9 | 6703.0 | 6751.0 | 6757.0 | 6793.1 | 6777.0 | 6745.0 |
| 45° | 7287.6 | 7323.6 | 7355.6 | 7391.7 | 7429.7 | 7455.7 | 7493.8 | 7485.8 | 7509.8 | 7485.8 | 7467.8 |
| 47.5° | 8022.3 | 8048.4 | 8120.4 | 8176.5 | 8238.6 | 8260.6 | 8314.6 | 8290.6 | 8314.6 | 8280.6 | 8274.6 |
| 50° | 8831.2 | 8877.2 | 8939.3 | 9003.4 | 9069.4 | 9105.5 | 9175.5 | 9145.5 | 9177.5 | 9145.5 | 9127.5 |
| 52.5° | 9628.0 | 9640.0 | 9776.2 | 9870.3 | 9962.4 | 10004.4 | 10046.4 | 10032.4 | 10034.4 | 10032.4 | 10014.4 |
| 55° | 10384.8 | 10412.8 | 10549.0 | 10677.1 | 10837.3 | 10955.4 | 11027.5 | 11019.5 | 11001.4 | 10983.4 | 10953.4 |
| 57.5° | 11237.7 | 11265.7 | 11421.9 | 11580.0 | 11762.2 | 11930.4 | 12076.6 | 12226.7 | 12284.8 | 12300.8 | 12234.7 |
| 60° | 12390.9 | 12388.9 | 12597.1 | 12789.3 | 13049.6 | 13299.8 | 13620.2 | 13946.5 | 14320.9 | 14495.1 | 14264.8 |
| 62.5° | 13564.1 | 13612.1 | 13912.5 | 14252.8 | 14789.4 | 15311.9 | 15902.5 | 16483.1 | 17075.7 | 17558.2 | 17045.7 |
| 65° | 13424.0 | 13608.1 | 14054.6 | 14825.4 | 15816.4 | 16993.7 | 18267.0 | 19614.4 | 20831.7 | 21668.5 | 20729.5 |
| 67.5° | 11634.1 | 11896.4 | 12350.8 | 13287.8 | 14527.1 | 16224.9 | 18363.1 | 21027.9 | 24125.1 | 25622.6 | 23766.7 |
| 70° | 8432.8 | 8729.1 | 9205.6 | 10120.5 | 11347.8 | 12961.5 | 15283.9 | 18483.2 | 22583.5 | 24093.0 | 22048.9 |
| 72.5° | 4196.4 | 4356.5 | 4650.8 | 5233.4 | 6162.4 | 7471.8 | 9578.0 | 12653.2 | 16280.9 | 17666.4 | 15798.4 |
| 75° | 1425.5 | 1499.6 | 1549.6 | 1739.8 | 2034.1 | 2548.6 | 3595.7 | 5531.7 | 8438.8 | 10116.5 | 8318.6 |
| 77.5° | 822.9 | 824.9 | 858.9 | 892.9 | 943.0 | 999.0 | 1139.2 | 1495.6 | 2586.7 | 3673.8 | 2676.8 |
| 80° | 532.6 | 530.6 | 558.6 | 584.6 | 618.6 | 646.7 | 654.7 | 692.7 | 798.8 | 947.0 | 846.9 |
| 82.5° | 276.3 | 310.3 | 372.4 | 406.4 | 470.5 | 482.5 | 466.5 | 452.5 | 478.5 | 496.5 | 508.5 |
| 85° | 152.2 | 132.1 | 198.2 | 256.3 | 284.3 | 288.3 | 288.3 | 272.3 | 282.3 | 276.3 | 300.3 |
| 87.5° | 70.1 | 64.1 | 78.1 | 126.1 | 134.1 | 114.1 | 120.1 | 106.1 | 76.1 | 74.1 | 84.1 |
| 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° | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 | 4338.5 |
| 2.5° | 4318.5 | 4320.5 | 4320.5 | 4326.5 | 4328.5 | 4332.5 | 4336.5 | 4338.5 |
| 5° | 4284.5 | 4290.5 | 4286.5 | 4292.5 | 4292.5 | 4296.5 | 4296.5 | 4298.5 |
| 7.5° | 4234.4 | 4240.4 | 4240.4 | 4240.4 | 4238.4 | 4244.4 | 4244.4 | 4244.4 |
| 10° | 4182.3 | 4186.4 | 4184.3 | 4180.3 | 4176.3 | 4182.3 | 4180.3 | 4178.3 |
| 12.5° | 4166.3 | 4156.3 | 4148.3 | 4144.3 | 4136.3 | 4138.3 | 4132.3 | 4132.3 |
| 15° | 4176.3 | 4158.3 | 4144.3 | 4138.3 | 4130.3 | 4126.3 | 4122.3 | 4124.3 |
| 17.5° | 4202.4 | 4180.3 | 4162.3 | 4152.3 | 4142.3 | 4136.3 | 4128.3 | 4130.3 |
| 20° | 4248.4 | 4222.4 | 4196.4 | 4176.3 | 4158.3 | 4148.3 | 4142.3 | 4140.3 |
| 22.5° | 4316.5 | 4278.4 | 4240.4 | 4210.4 | 4186.4 | 4172.3 | 4166.3 | 4162.3 |
| 25° | 4394.6 | 4352.5 | 4308.5 | 4274.4 | 4250.4 | 4232.4 | 4220.4 | 4220.4 |
| 27.5° | 4492.7 | 4458.6 | 4418.6 | 4378.6 | 4356.5 | 4338.5 | 4330.5 | 4326.5 |
| 30° | 4656.8 | 4624.8 | 4592.8 | 4554.7 | 4526.7 | 4508.7 | 4494.7 | 4482.7 |
| 32.5° | 4867.1 | 4841.0 | 4815.0 | 4787.0 | 4760.9 | 4736.9 | 4714.9 | 4704.9 |
| 35° | 5163.4 | 5143.3 | 5125.3 | 5093.3 | 5083.3 | 5069.3 | 5057.3 | 5047.2 |
| 37.5° | 5571.8 | 5563.8 | 5563.8 | 5529.7 | 5521.7 | 5515.7 | 5503.7 | 5505.7 |
| 40° | 6108.3 | 6116.4 | 6106.3 | 6094.3 | 6088.3 | 6072.3 | 6072.3 | 6086.3 |
| 42.5° | 6743.0 | 6749.0 | 6771.0 | 6751.0 | 6773.0 | 6753.0 | 6741.0 | 6751.0 |
| 45° | 7479.8 | 7501.8 | 7545.8 | 7525.8 | 7539.8 | 7505.8 | 7463.8 | 7465.8 |
| 47.5° | 8306.6 | 8326.7 | 8344.7 | 8330.7 | 8332.7 | 8276.6 | 8220.5 | 8206.5 |
| 50° | 9165.5 | 9173.5 | 9183.5 | 9163.5 | 9167.5 | 9105.5 | 9041.4 | 9043.4 |
| 52.5° | 10014.4 | 10052.4 | 10092.5 | 10038.4 | 10026.4 | 9956.3 | 9866.3 | 9830.2 |
| 55° | 10985.4 | 11039.5 | 10993.4 | 10899.3 | 10805.2 | 10711.1 | 10593.0 | 10573.0 |
| 57.5° | 12182.7 | 12090.6 | 11946.4 | 11768.2 | 11638.1 | 11506.0 | 11385.8 | 11335.8 |
| 60° | 13848.4 | 13502.0 | 13241.8 | 12977.5 | 12811.3 | 12649.1 | 12491.0 | 12467.0 |
| 62.5° | 16202.8 | 15604.2 | 15085.7 | 14539.1 | 14092.6 | 13744.3 | 13466.0 | 13387.9 |
| 65° | 19153.9 | 17738.4 | 16511.2 | 15366.0 | 14370.9 | 13620.2 | 13147.7 | 12939.4 |
| 67.5° | 20423.2 | 17628.3 | 15524.1 | 13898.4 | 12597.1 | 11688.1 | 11177.6 | 10923.4 |
| 70° | 17946.7 | 14619.2 | 12330.8 | 10703.1 | 9517.9 | 8548.9 | 8086.4 | 7814.1 |
| 72.5° | 12346.8 | 9299.7 | 7353.6 | 6002.2 | 5055.3 | 4244.4 | 3924.1 | 3900.1 |
| 75° | 5543.8 | 3671.8 | 2530.6 | 1950.0 | 1641.7 | 1427.5 | 1361.4 | 1311.4 |
| 77.5° | 1551.6 | 1147.2 | 1023.1 | 957.0 | 892.9 | 818.9 | 790.8 | 796.8 |
| 80° | 754.8 | 712.7 | 684.7 | 642.7 | 584.6 | 522.5 | 494.5 | 506.5 |
| 82.5° | 500.5 | 494.5 | 512.5 | 482.5 | 398.4 | 338.4 | 284.3 | 260.3 |
| 85° | 304.3 | 308.3 | 314.3 | 316.3 | 268.3 | 188.2 | 128.1 | 144.1 |
| 87.5° | 120.1 | 138.1 | 150.2 | 156.2 | 146.2 | 90.1 | 72.1 | 74.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)