

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: LUMARK

Report Number: P196614

Luminaire Tested: **NAV-AF-06-D-UNV-SL3-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196614
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-SL3-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22924.8 lumens
Efficiency: N/A
Efficacy: 118.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G4

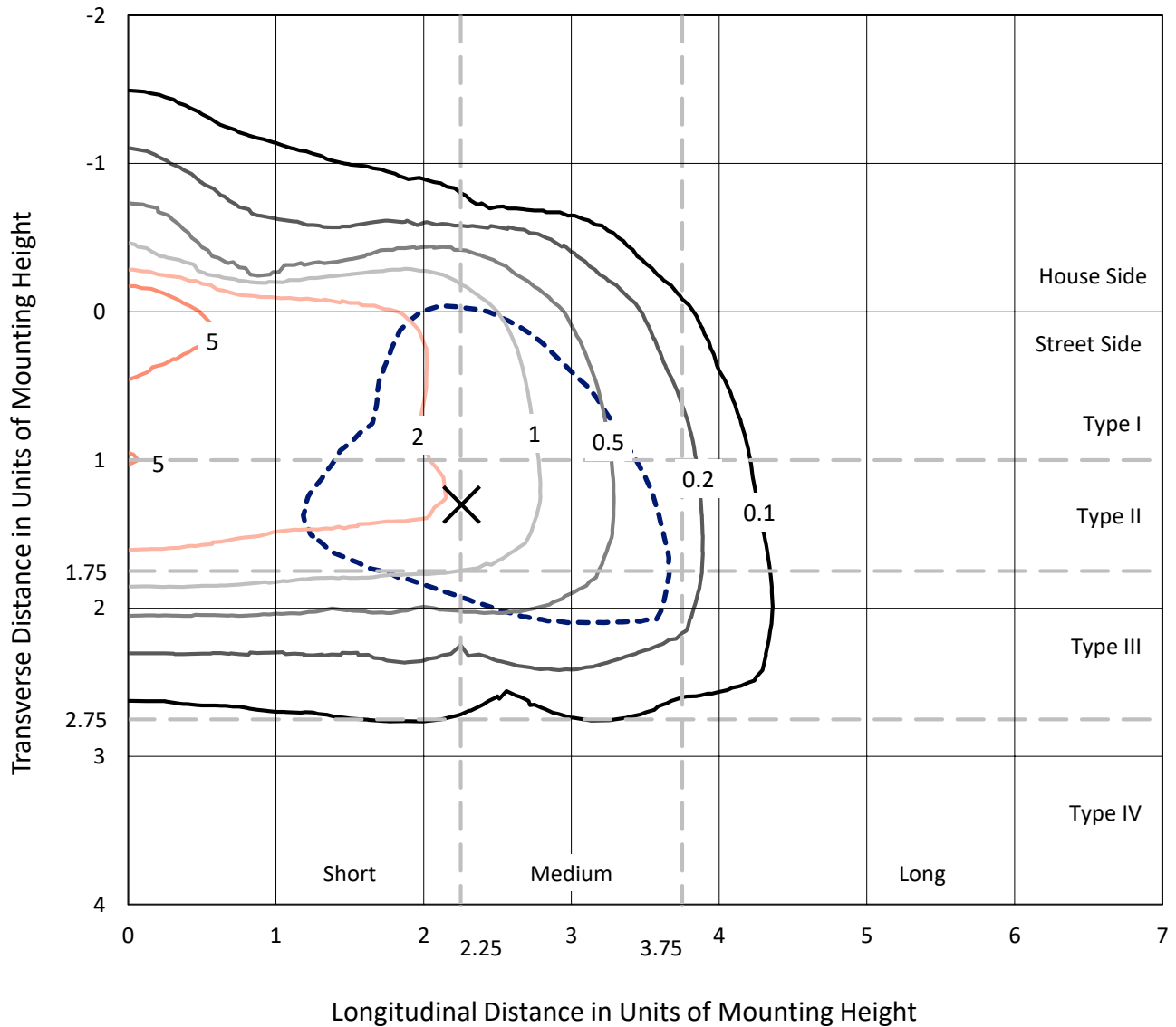
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

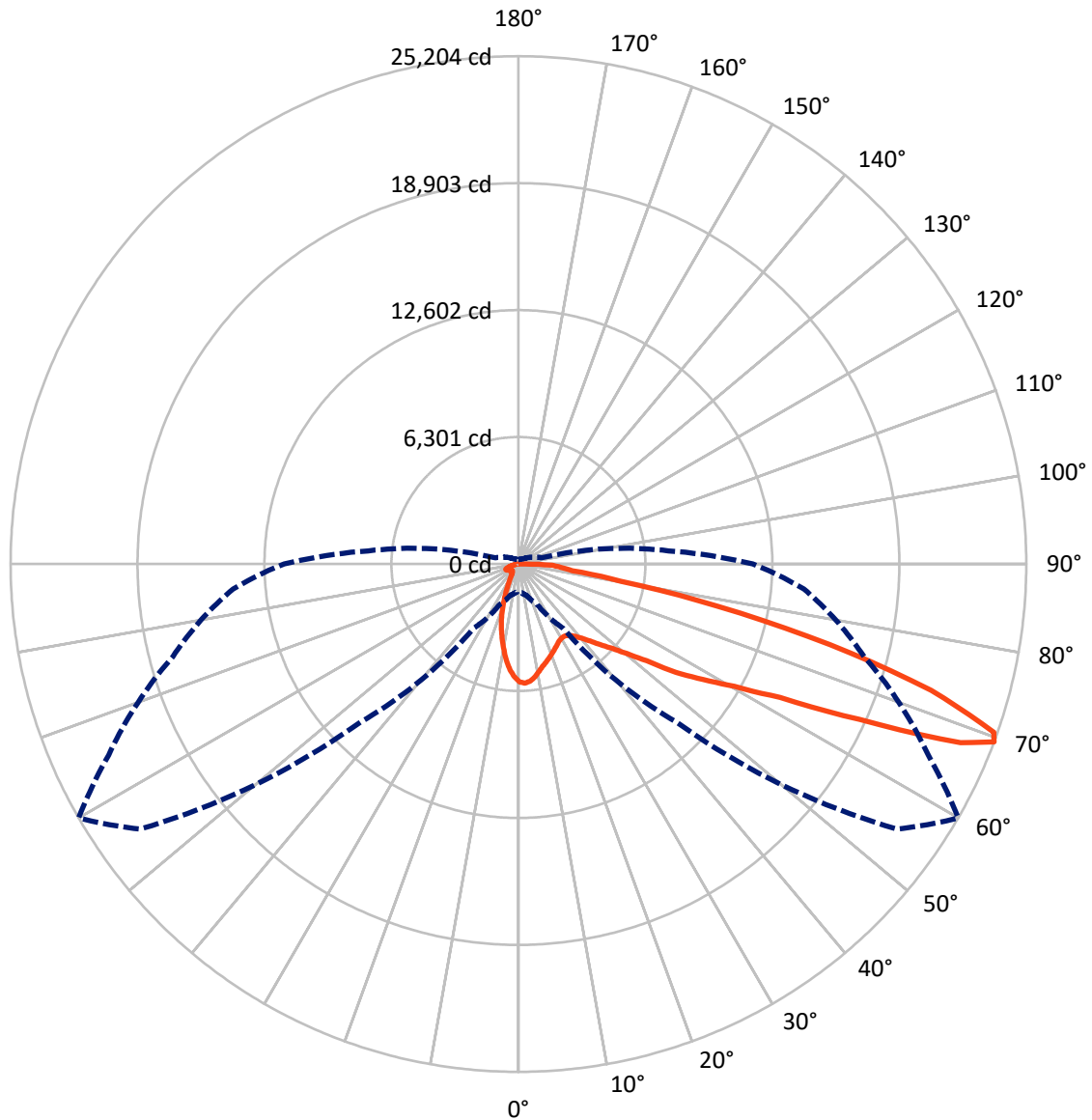
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.4 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3269.8 | 0.0 | 3269.8 |
| | % Fixture | 14.3 | 0.0 | 14.3 |
| Street Side | Lumens | 19655.0 | 0.0 | 19655.0 |
| | % Fixture | 85.7 | 0.0 | 85.7 |
| Total | Lumens | 22924.8 | 0.0 | 22924.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 496.2 | 2.2 |
| 10°-20° | 1062.5 | 4.6 |
| 20°-30° | 1355.4 | 5.9 |
| 30°-40° | 1865.1 | 8.1 |
| 40°-50° | 3021.2 | 13.2 |
| 50°-60° | 4741.6 | 20.7 |
| 60°-70° | 6321.4 | 27.6 |
| 70°-80° | 3516.1 | 15.3 |
| 80°-90° | 545.3 | 2.4 |
| 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° | 22924.8 | 100.0 |
| 0°-180° | 22924.8 | 100.0 |



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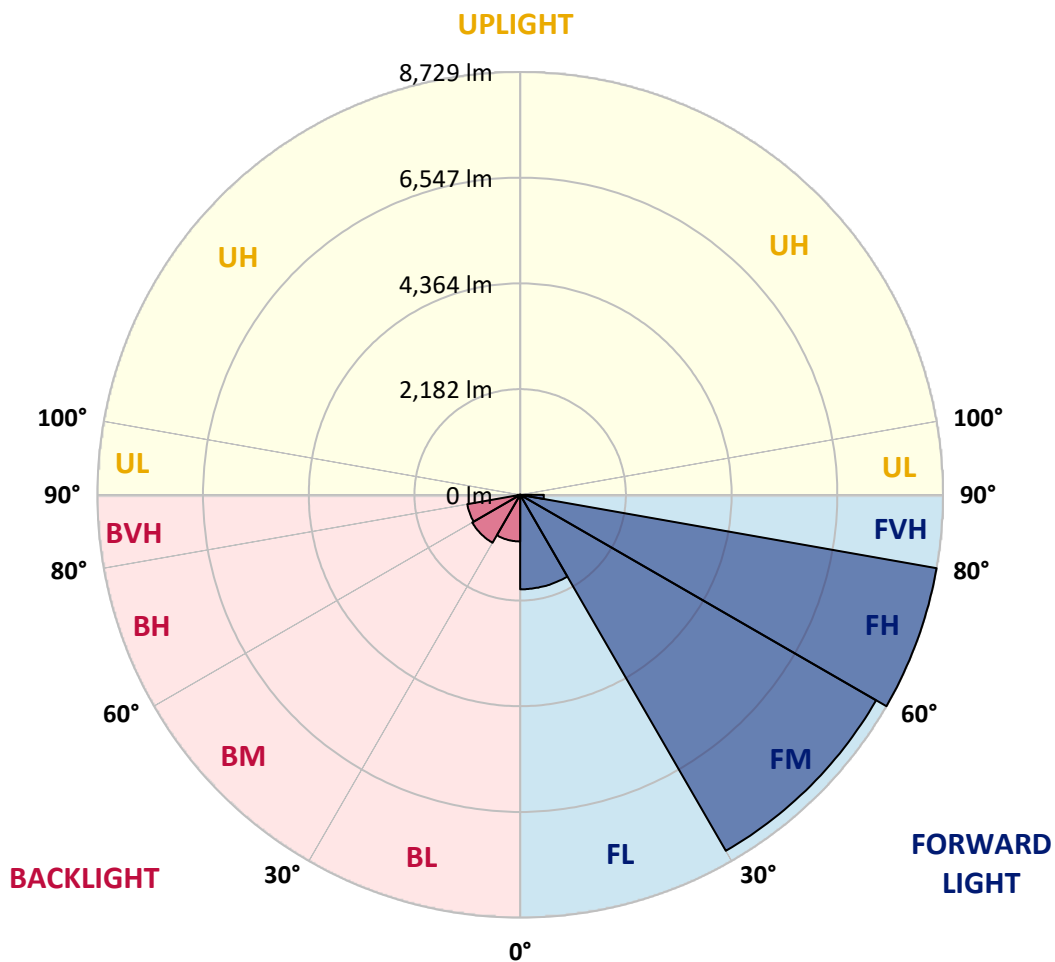
CATALOG NUMBER: NAV-AF-06-D-UNV-SL3-7030-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 1950.4 | 8.5 | | | |
| FM | (30°-60°) | 8485.6 | 37.0 | | | |
| FH | (60°-80°) | 8728.9 | 38.1 | | | G4/12000 |
| FVH | (80°-90°) | 490.1 | 2.1 | | | G3/500 |
| BL | (0°-30°) | 963.6 | 4.2 | B2/1000 | | |
| BM | (30°-60°) | 1142.3 | 5.0 | B2/2500 | | |
| BH | (60°-80°) | 1108.6 | 4.8 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 55.3 | 0.2 | | | G1/100 |
| 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 Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 60° | 65° | 75° | 85° |
|-------|---------|---------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 |
| 2.5° | 6005.1 | 6021.3 | 6021.3 | 6008.0 | 6000.7 | 5958.1 | 5933.1 | 5915.6 | 5884.6 | 5827.3 | 5775.9 |
| 5° | 5790.5 | 5821.5 | 5834.7 | 5840.6 | 5878.7 | 5865.5 | 5867.0 | 5855.2 | 5828.8 | 5767.0 | 5683.2 |
| 7.5° | 5396.6 | 5402.5 | 5426.0 | 5465.7 | 5558.2 | 5622.9 | 5675.9 | 5686.2 | 5680.3 | 5634.7 | 5517.0 |
| 10° | 5008.5 | 5018.8 | 5046.6 | 5114.3 | 5202.5 | 5295.1 | 5409.8 | 5456.9 | 5492.1 | 5477.3 | 5328.9 |
| 12.5° | 4686.5 | 4688.0 | 4718.9 | 4796.8 | 4895.3 | 5011.4 | 5167.2 | 5240.7 | 5324.5 | 5358.3 | 5192.2 |
| 15° | 4376.4 | 4396.9 | 4426.3 | 4520.4 | 4642.4 | 4789.4 | 4968.8 | 5070.1 | 5180.4 | 5277.4 | 5086.3 |
| 17.5° | 4141.2 | 4157.4 | 4174.9 | 4252.8 | 4394.0 | 4577.8 | 4799.8 | 4908.5 | 5054.0 | 5202.5 | 4977.7 |
| 20° | 4011.8 | 4017.7 | 4004.5 | 4042.6 | 4161.6 | 4360.2 | 4617.4 | 4748.3 | 4921.7 | 5130.5 | 4865.9 |
| 22.5° | 3985.3 | 3985.3 | 3936.8 | 3929.4 | 3982.4 | 4150.0 | 4429.3 | 4589.6 | 4801.2 | 5080.4 | 4765.9 |
| 25° | 4108.8 | 4100.0 | 4008.8 | 3925.0 | 3905.9 | 3991.2 | 4249.9 | 4446.9 | 4698.2 | 5079.0 | 4690.9 |
| 27.5° | 4342.5 | 4330.8 | 4217.6 | 4076.5 | 3954.4 | 3917.7 | 4111.8 | 4313.1 | 4617.4 | 5128.9 | 4652.7 |
| 30° | 4633.5 | 4629.2 | 4514.5 | 4338.1 | 4136.8 | 3947.1 | 4057.4 | 4244.0 | 4563.0 | 5221.6 | 4651.2 |
| 32.5° | 4952.6 | 4932.1 | 4861.5 | 4685.0 | 4423.4 | 4110.3 | 4089.7 | 4247.0 | 4548.4 | 5356.9 | 4685.0 |
| 35° | 5292.2 | 5277.4 | 5259.8 | 5081.9 | 4788.0 | 4398.3 | 4232.2 | 4348.4 | 4620.3 | 5545.0 | 4780.6 |
| 37.5° | 5724.4 | 5708.2 | 5737.6 | 5543.6 | 5221.6 | 4776.2 | 4473.4 | 4551.3 | 4767.4 | 5818.5 | 4958.5 |
| 40° | 6493.2 | 6446.2 | 6363.8 | 6065.4 | 5727.3 | 5239.3 | 4821.7 | 4833.5 | 5018.8 | 6184.5 | 5243.7 |
| 42.5° | 7756.0 | 7604.6 | 7197.4 | 6649.1 | 6261.0 | 5777.3 | 5276.0 | 5220.2 | 5365.7 | 6668.2 | 5658.2 |
| 45° | 9021.6 | 8851.2 | 8163.2 | 7285.5 | 6813.7 | 6355.1 | 5837.6 | 5703.8 | 5797.9 | 7231.3 | 6191.8 |
| 47.5° | 9839.1 | 9755.2 | 8979.0 | 7922.1 | 7392.9 | 6984.2 | 6479.9 | 6259.5 | 6327.1 | 7869.2 | 6850.4 |
| 50° | 10078.6 | 10006.6 | 9396.6 | 8420.5 | 7939.8 | 7744.2 | 7275.2 | 6982.8 | 6994.4 | 8614.5 | 7639.9 |
| 52.5° | 9899.3 | 9869.9 | 9465.6 | 8729.2 | 8442.5 | 8545.3 | 8376.4 | 7969.2 | 7872.1 | 9431.8 | 8495.5 |
| 55° | 9659.7 | 9670.0 | 9514.2 | 9039.3 | 8954.2 | 9292.2 | 9817.0 | 9489.1 | 9077.6 | 10283.1 | 9386.3 |
| 57.5° | 8905.6 | 8913.0 | 9321.6 | 9630.3 | 9930.1 | 10338.8 | 10938.6 | 10800.5 | 10321.1 | 11201.8 | 10384.4 |
| 60° | 7170.9 | 7228.3 | 8138.1 | 9508.3 | 11046.0 | 12401.4 | 12548.3 | 12310.2 | 11644.3 | 12260.2 | 11682.4 |
| 62.5° | 5123.1 | 5174.6 | 6228.7 | 8254.3 | 10915.1 | 14735.8 | 15520.9 | 14574.1 | 13439.2 | 13843.4 | 13508.3 |
| 65° | 2691.7 | 2682.9 | 3498.7 | 5703.8 | 9193.7 | 15276.7 | 20204.3 | 18593.2 | 16463.0 | 16020.5 | 15272.4 |
| 67.5° | 1503.9 | 1552.3 | 1868.5 | 2876.9 | 5991.9 | 13445.1 | 23196.0 | 23670.8 | 20667.5 | 17748.0 | 15195.9 |
| 69° | 1390.7 | 1406.8 | 1618.5 | 2224.2 | 3905.9 | 11093.0 | 22938.7 | 25204.0 | 22440.3 | 17755.2 | 14216.9 |
| 70° | 1351.0 | 1368.6 | 1561.2 | 2049.2 | 3281.2 | 9089.3 | 22002.2 | 25024.6 | 22871.0 | 17361.3 | 13326.1 |
| 72.5° | 1211.3 | 1234.8 | 1421.6 | 1842.0 | 2765.2 | 4685.0 | 17723.0 | 21418.6 | 20717.4 | 15173.8 | 10332.9 |
| 75° | 1033.5 | 1073.2 | 1355.4 | 1828.8 | 2619.6 | 2978.3 | 11819.2 | 15957.5 | 15419.3 | 10851.9 | 5862.6 |
| 77.5° | 427.7 | 432.2 | 592.4 | 1339.2 | 2749.0 | 2850.5 | 6352.2 | 10108.0 | 8948.3 | 4758.6 | 1765.5 |
| 80° | 298.4 | 292.5 | 295.4 | 391.0 | 2218.3 | 2869.5 | 3259.1 | 5140.7 | 3995.6 | 1255.4 | 826.2 |
| 82.5° | 251.4 | 248.4 | 260.1 | 245.5 | 751.1 | 3256.2 | 2725.5 | 2679.9 | 1881.7 | 676.2 | 394.0 |
| 85° | 166.1 | 161.7 | 213.2 | 223.4 | 357.2 | 2585.8 | 2931.3 | 2106.6 | 1402.5 | 361.6 | 167.6 |
| 87.5° | 80.9 | 82.3 | 122.1 | 151.5 | 189.7 | 818.8 | 2807.8 | 1665.5 | 1083.5 | 157.4 | 67.6 |
| 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):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 | 5849.3 |
| 2.5° | 5755.2 | 5711.1 | 5671.4 | 5621.5 | 5583.2 | 5550.9 | 5506.7 | 5505.3 | 5498.0 | 5508.3 | 5511.2 |
| 5° | 5627.4 | 5553.8 | 5442.1 | 5317.2 | 5228.9 | 5112.8 | 4999.6 | 4961.5 | 4918.8 | 4914.4 | 4927.6 |
| 7.5° | 5434.8 | 5320.2 | 5128.9 | 4937.9 | 4746.8 | 4551.3 | 4366.0 | 4271.9 | 4180.8 | 4153.0 | 4166.2 |
| 10° | 5220.2 | 5074.6 | 4782.1 | 4470.5 | 4201.4 | 3910.3 | 3628.1 | 3445.8 | 3279.6 | 3209.2 | 3226.8 |
| 12.5° | 5052.5 | 4867.4 | 4455.7 | 4051.5 | 3648.7 | 3231.2 | 2859.2 | 2499.1 | 2227.1 | 2105.1 | 2112.4 |
| 15° | 4908.5 | 4671.8 | 4150.0 | 3611.9 | 3107.7 | 2535.8 | 2019.8 | 1602.4 | 1364.2 | 1276.0 | 1273.1 |
| 17.5° | 4752.7 | 4466.0 | 3830.9 | 3203.3 | 2549.0 | 1842.0 | 1352.4 | 1105.4 | 1011.4 | 982.0 | 982.0 |
| 20° | 4586.6 | 4254.3 | 3497.3 | 2757.8 | 1961.1 | 1286.3 | 1017.3 | 921.7 | 886.4 | 877.6 | 876.1 |
| 22.5° | 4432.2 | 4047.1 | 3162.1 | 2283.0 | 1418.6 | 976.1 | 865.9 | 829.1 | 823.3 | 830.6 | 830.6 |
| 25° | 4310.2 | 3864.7 | 2822.5 | 1783.2 | 1032.0 | 817.4 | 770.3 | 765.9 | 788.0 | 814.4 | 818.8 |
| 27.5° | 4219.0 | 3701.6 | 2487.3 | 1302.5 | 811.5 | 711.5 | 695.3 | 714.4 | 765.9 | 818.8 | 829.1 |
| 30° | 4155.7 | 3562.0 | 2086.0 | 936.5 | 676.2 | 623.4 | 630.7 | 664.6 | 742.4 | 823.3 | 845.2 |
| 32.5° | 4128.0 | 3448.8 | 1681.7 | 718.8 | 577.8 | 548.4 | 567.5 | 611.6 | 692.3 | 773.2 | 799.7 |
| 35° | 4154.4 | 3366.4 | 1308.4 | 596.9 | 505.7 | 483.7 | 505.7 | 551.3 | 604.2 | 643.9 | 660.0 |
| 37.5° | 4249.9 | 3337.0 | 985.0 | 529.3 | 458.7 | 436.6 | 454.3 | 485.1 | 508.6 | 523.4 | 530.7 |
| 40° | 4451.3 | 3367.9 | 771.8 | 494.0 | 432.2 | 407.2 | 411.6 | 426.3 | 442.5 | 454.3 | 455.7 |
| 42.5° | 4771.8 | 3469.3 | 686.4 | 480.7 | 416.1 | 383.7 | 376.3 | 386.7 | 404.3 | 420.4 | 423.4 |
| 45° | 5198.1 | 3638.4 | 677.7 | 485.1 | 408.6 | 364.6 | 349.8 | 360.1 | 383.7 | 410.2 | 414.5 |
| 47.5° | 5749.3 | 3905.9 | 718.8 | 508.6 | 413.1 | 354.3 | 332.2 | 342.5 | 373.3 | 408.6 | 414.5 |
| 50° | 6402.0 | 4276.4 | 795.3 | 543.9 | 433.6 | 354.3 | 324.8 | 333.7 | 366.0 | 405.7 | 411.6 |
| 52.5° | 7170.9 | 4792.3 | 874.7 | 579.2 | 463.0 | 367.5 | 327.8 | 326.3 | 355.7 | 392.5 | 399.9 |
| 55° | 8019.1 | 5433.4 | 951.1 | 610.1 | 479.2 | 385.1 | 335.2 | 317.5 | 341.0 | 370.5 | 376.3 |
| 57.5° | 9017.2 | 6311.0 | 1085.0 | 639.5 | 488.1 | 398.4 | 343.9 | 308.6 | 322.0 | 342.5 | 346.9 |
| 60° | 10371.2 | 7600.2 | 1345.1 | 689.4 | 504.2 | 404.3 | 345.5 | 299.9 | 298.4 | 313.1 | 314.5 |
| 62.5° | 12136.7 | 9109.9 | 1593.5 | 748.2 | 536.6 | 405.7 | 339.6 | 294.0 | 279.2 | 283.7 | 283.7 |
| 65° | 13392.1 | 9665.6 | 1521.6 | 798.2 | 566.0 | 404.3 | 333.7 | 289.6 | 264.6 | 257.3 | 257.3 |
| 67.5° | 12677.7 | 8538.1 | 1292.2 | 811.5 | 568.9 | 388.1 | 320.4 | 279.2 | 251.4 | 233.7 | 233.7 |
| 69° | 11628.1 | 7484.0 | 1186.3 | 788.0 | 545.4 | 369.0 | 305.8 | 269.0 | 242.5 | 222.1 | 222.1 |
| 70° | 10772.5 | 6685.8 | 1121.6 | 760.0 | 517.5 | 352.8 | 292.5 | 258.7 | 233.7 | 216.2 | 214.5 |
| 72.5° | 8042.7 | 4461.6 | 958.4 | 655.7 | 424.8 | 298.4 | 255.7 | 230.7 | 210.3 | 198.5 | 198.5 |
| 75° | 4244.0 | 2236.0 | 785.0 | 535.2 | 327.8 | 238.1 | 210.3 | 194.1 | 182.3 | 180.9 | 179.3 |
| 77.5° | 1390.7 | 1011.4 | 564.6 | 402.8 | 241.1 | 185.2 | 167.6 | 157.4 | 155.8 | 161.7 | 161.7 |
| 80° | 751.1 | 604.2 | 363.1 | 271.9 | 167.6 | 138.2 | 129.4 | 128.0 | 132.3 | 141.2 | 141.2 |
| 82.5° | 364.6 | 298.4 | 216.2 | 167.6 | 114.6 | 101.4 | 101.4 | 102.9 | 108.8 | 119.1 | 119.1 |
| 85° | 157.4 | 141.2 | 125.0 | 94.1 | 70.6 | 63.3 | 72.0 | 79.4 | 83.8 | 91.1 | 94.1 |
| 87.5° | 75.0 | 66.1 | 57.4 | 36.7 | 30.9 | 32.3 | 38.2 | 47.1 | 55.8 | 61.7 | 63.3 |
| 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)