

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: P270593

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7027**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270593  
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-05-D-UNV-SL3-7027  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 2700K, 1050mA 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: 26090.7 lumens  
Efficiency: N/A  
Efficacy: 93.5 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

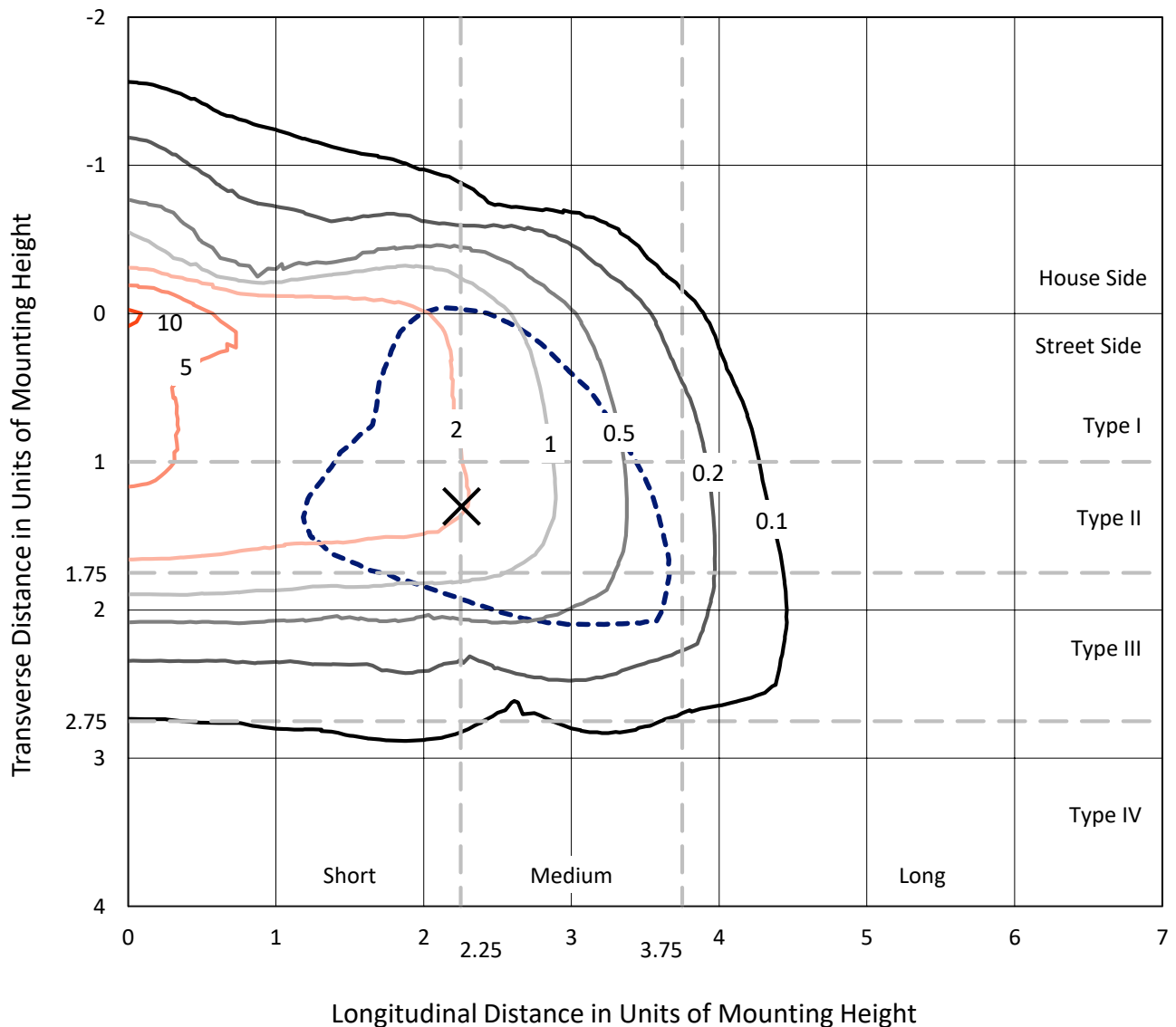
Input Watts (W): 279  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

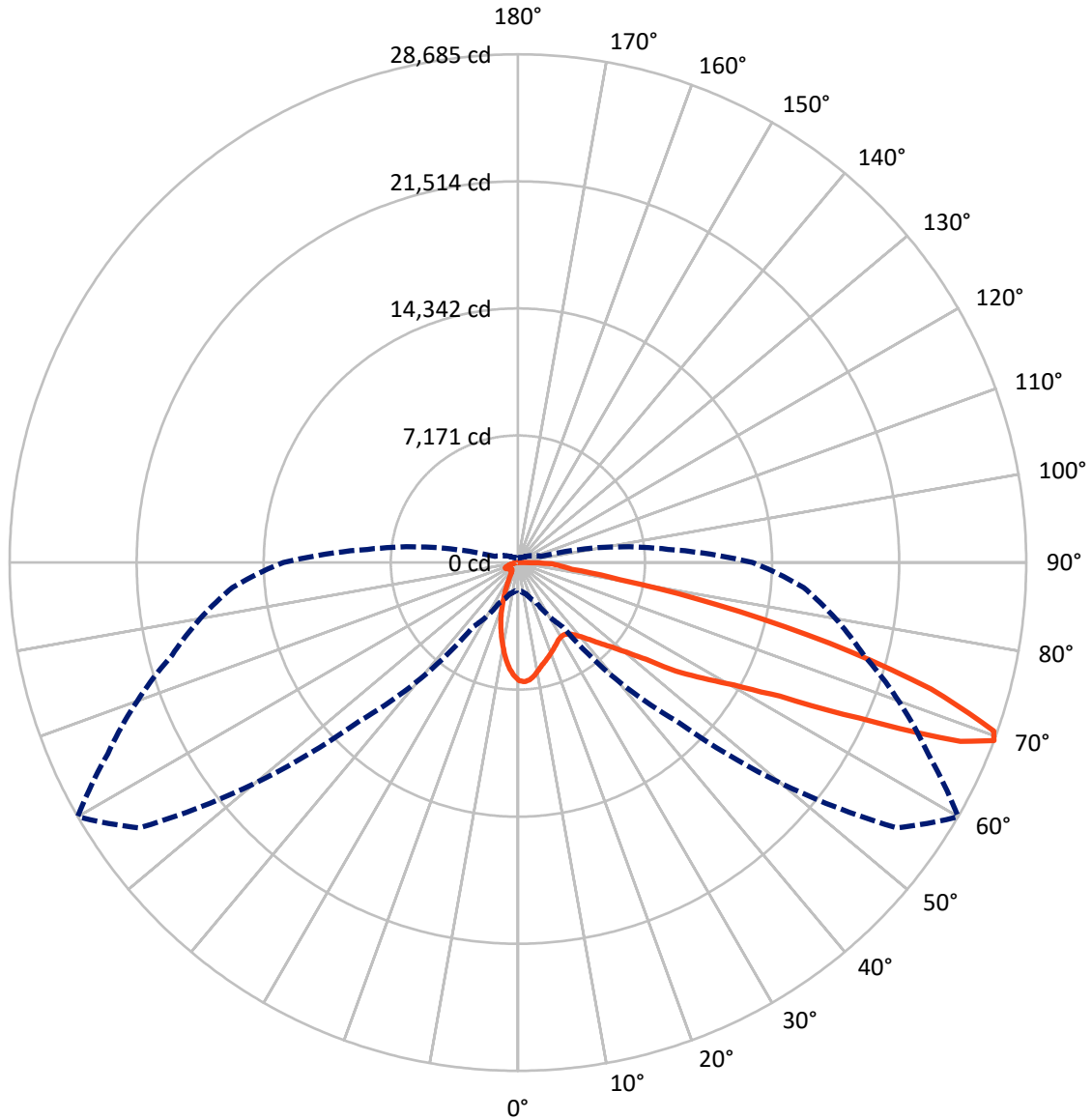
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.7 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   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 3721.4   | 0.0    | 3721.4  |
|                    | % Fixture | 14.3     | 0.0    | 14.3    |
| <b>Street Side</b> | Lumens    | 22369.3  | 0.0    | 22369.3 |
|                    | % Fixture | 85.7     | 0.0    | 85.7    |
| <b>Total</b>       | Lumens    | 26090.7  | 0.0    | 26090.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 564.7   | 2.2       |
| 10°-20°   | 1209.2  | 4.6       |
| 20°-30°   | 1542.6  | 5.9       |
| 30°-40°   | 2122.7  | 8.1       |
| 40°-50°   | 3438.4  | 13.2      |
| 50°-60°   | 5396.4  | 20.7      |
| 60°-70°   | 7194.4  | 27.6      |
| 70°-80°   | 4001.7  | 15.3      |
| 80°-90°   | 620.6   | 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°    | 26090.7 | 100.0     |
| 0°-180°   | 26090.7 | 100.0     |

**Coefficient of Utilization**



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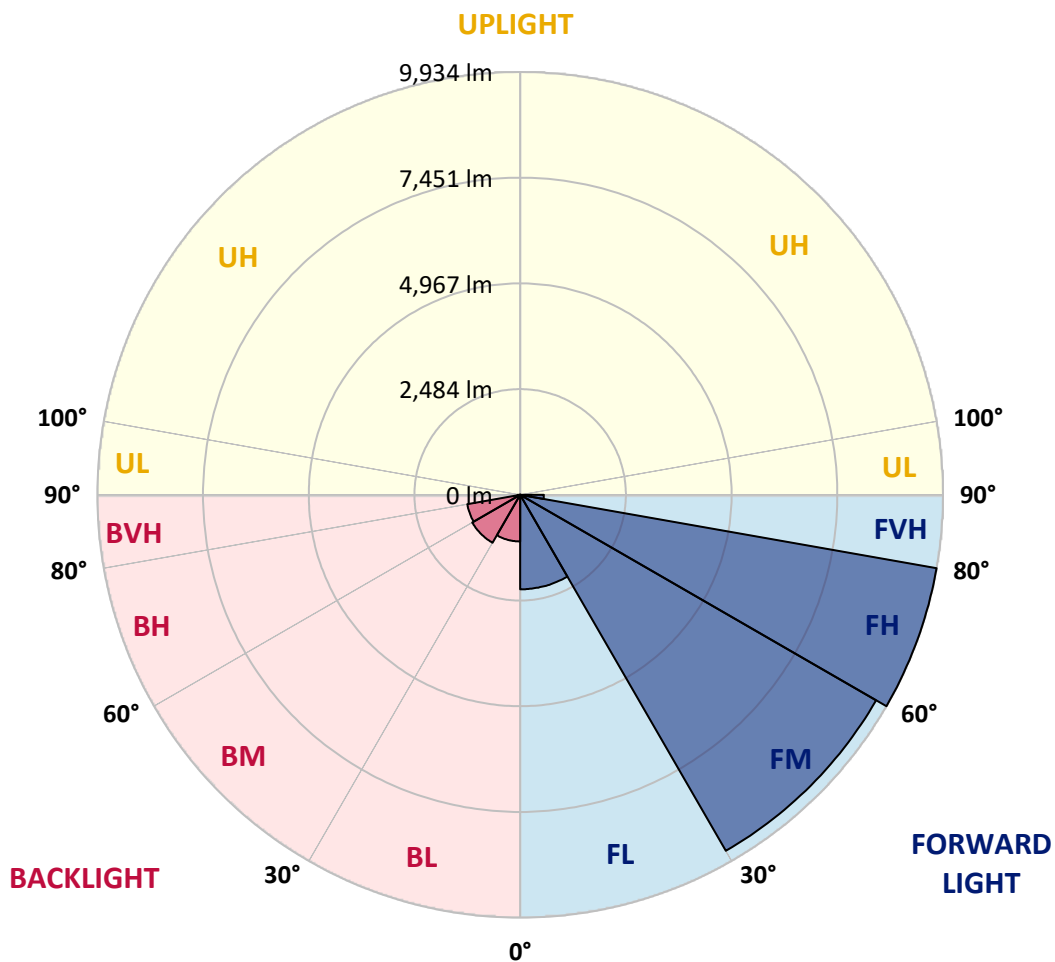
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 2219.8 | 8.5       |                         |      |          |
| FM   | (30°-60°)   | 9657.4 | 37.0      |                         |      |          |
| FH   | (60°-80°)   | 9934.3 | 38.1      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 557.7  | 2.1       |                         |      | G4/750   |
| BL   | (0°-30°)    | 1096.7 | 4.2       | B3/2500                 |      |          |
| BM   | (30°-60°)   | 1300.0 | 5.0       | B2/2500                 |      |          |
| BH   | (60°-80°)   | 1261.8 | 4.8       | B3/2500                 |      | G3/2500  |
| BVH  | (80°-90°)   | 62.9   | 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°    | 6657.1  | 6657.1  | 6657.1  | 6657.1  | 6657.1  | 6657.1  | 6657.1  | 6657.1  | 6657.1  | 6657.1  | 6657.1  |
| 2.5°  | 6834.5  | 6852.9  | 6852.9  | 6837.8  | 6829.5  | 6780.9  | 6752.5  | 6732.3  | 6697.3  | 6632.0  | 6573.4  |
| 5°    | 6590.2  | 6625.3  | 6640.5  | 6647.1  | 6690.5  | 6675.6  | 6677.2  | 6663.8  | 6633.8  | 6563.5  | 6468.1  |
| 7.5°  | 6141.8  | 6148.4  | 6175.3  | 6220.5  | 6325.9  | 6399.4  | 6459.7  | 6471.4  | 6464.7  | 6412.9  | 6279.1  |
| 10°   | 5700.1  | 5711.9  | 5743.7  | 5820.6  | 5921.0  | 6026.4  | 6157.0  | 6210.4  | 6250.5  | 6233.9  | 6064.8  |
| 12.5° | 5333.7  | 5335.5  | 5370.5  | 5459.2  | 5571.3  | 5703.5  | 5880.8  | 5964.4  | 6059.8  | 6098.4  | 5909.3  |
| 15°   | 4980.7  | 5004.2  | 5037.6  | 5144.7  | 5283.6  | 5450.8  | 5655.0  | 5770.4  | 5895.8  | 6006.2  | 5788.8  |
| 17.5° | 4713.0  | 4731.5  | 4751.6  | 4840.2  | 5000.8  | 5209.9  | 5462.6  | 5586.4  | 5751.9  | 5921.0  | 5665.0  |
| 20°   | 4565.7  | 4572.6  | 4557.5  | 4600.8  | 4736.5  | 4962.2  | 5255.2  | 5404.1  | 5601.4  | 5839.1  | 5537.8  |
| 22.5° | 4535.7  | 4535.7  | 4480.4  | 4472.1  | 4532.4  | 4723.1  | 5041.0  | 5223.4  | 5464.2  | 5782.1  | 5424.1  |
| 25°   | 4676.2  | 4666.2  | 4562.4  | 4467.1  | 4445.4  | 4542.4  | 4836.8  | 5061.1  | 5347.2  | 5780.5  | 5338.7  |
| 27.5° | 4942.3  | 4928.9  | 4800.1  | 4639.3  | 4500.6  | 4458.6  | 4679.6  | 4908.8  | 5255.2  | 5837.4  | 5295.2  |
| 30°   | 5273.5  | 5268.5  | 5137.9  | 4937.3  | 4707.9  | 4492.2  | 4617.6  | 4830.1  | 5193.2  | 5942.7  | 5293.6  |
| 32.5° | 5636.5  | 5613.1  | 5532.8  | 5332.1  | 5034.2  | 4678.0  | 4654.5  | 4833.5  | 5176.5  | 6096.6  | 5332.1  |
| 35°   | 6023.0  | 6006.2  | 5986.2  | 5783.7  | 5449.2  | 5005.9  | 4816.7  | 4948.9  | 5258.5  | 6310.9  | 5440.9  |
| 37.5° | 6514.9  | 6496.5  | 6530.0  | 6309.2  | 5942.7  | 5435.9  | 5091.1  | 5179.7  | 5425.8  | 6621.9  | 5643.2  |
| 40°   | 7389.9  | 7336.4  | 7242.8  | 6903.0  | 6518.3  | 5962.8  | 5487.7  | 5501.0  | 5711.9  | 7038.6  | 5967.8  |
| 42.5° | 8827.0  | 8654.8  | 8191.4  | 7567.3  | 7125.5  | 6575.1  | 6004.6  | 5941.1  | 6106.7  | 7589.1  | 6439.6  |
| 45°   | 10267.5 | 10073.6 | 9290.5  | 8291.7  | 7754.7  | 7232.7  | 6643.8  | 6491.5  | 6598.6  | 8229.8  | 7046.9  |
| 47.5° | 11197.8 | 11102.4 | 10219.1 | 9016.2  | 8413.9  | 7948.7  | 7374.8  | 7123.9  | 7200.9  | 8955.9  | 7796.5  |
| 50°   | 11470.5 | 11388.5 | 10694.2 | 9583.3  | 9036.2  | 8813.7  | 8279.9  | 7947.0  | 7960.4  | 9804.2  | 8695.0  |
| 52.5° | 11266.5 | 11232.9 | 10772.8 | 9934.6  | 9608.5  | 9725.5  | 9533.2  | 9069.6  | 8959.2  | 10734.3 | 9668.6  |
| 55°   | 10993.6 | 11005.5 | 10828.1 | 10287.7 | 10190.6 | 10575.4 | 11172.7 | 10799.7 | 10331.1 | 11703.1 | 10682.6 |
| 57.5° | 10135.4 | 10143.8 | 10609.0 | 10960.3 | 11301.5 | 11766.7 | 12449.3 | 12292.0 | 11746.5 | 12748.7 | 11818.6 |
| 60°   | 8161.2  | 8226.5  | 9262.2  | 10821.4 | 12571.4 | 14114.0 | 14281.3 | 14010.2 | 13252.3 | 13953.4 | 13295.9 |
| 62.5° | 5830.5  | 5889.2  | 7088.7  | 9394.3  | 12422.5 | 16770.7 | 17664.2 | 16586.8 | 15295.3 | 15755.3 | 15373.9 |
| 65°   | 3063.4  | 3053.3  | 3981.8  | 6491.5  | 10463.4 | 17386.5 | 22994.6 | 21161.0 | 18736.7 | 18233.1 | 17381.5 |
| 67.5° | 1711.5  | 1766.7  | 2126.5  | 3274.2  | 6819.5  | 15301.9 | 26399.3 | 26939.7 | 23521.6 | 20198.8 | 17294.4 |
| 69°   | 1582.8  | 1601.0  | 1842.1  | 2531.3  | 4445.4  | 12625.0 | 26106.5 | 28684.7 | 25539.4 | 20207.4 | 16180.2 |
| 70°   | 1537.5  | 1557.7  | 1776.8  | 2332.3  | 3734.3  | 10344.5 | 25040.8 | 28480.7 | 26029.6 | 19758.8 | 15166.4 |
| 72.5° | 1378.5  | 1405.4  | 1617.8  | 2096.4  | 3147.0  | 5332.1  | 20170.5 | 24376.5 | 23578.5 | 17269.3 | 11760.0 |
| 75°   | 1176.2  | 1221.3  | 1542.6  | 2081.4  | 2981.5  | 3389.7  | 13451.5 | 18161.2 | 17548.7 | 12350.5 | 6672.3  |
| 77.5° | 486.8   | 491.9   | 674.3   | 1524.2  | 3128.6  | 3244.0  | 7229.3  | 11504.1 | 10183.9 | 5415.7  | 2009.4  |
| 80°   | 339.6   | 332.9   | 336.2   | 445.0   | 2524.6  | 3265.8  | 3709.2  | 5850.8  | 4547.4  | 1428.8  | 940.3   |
| 82.5° | 286.1   | 282.7   | 296.1   | 279.5   | 854.9   | 3705.9  | 3101.8  | 3049.9  | 2141.5  | 769.6   | 448.3   |
| 85°   | 189.1   | 184.1   | 242.6   | 254.3   | 406.6   | 2942.9  | 3336.0  | 2397.4  | 1596.1  | 411.6   | 190.7   |
| 87.5° | 92.0    | 93.8    | 138.9   | 172.4   | 215.9   | 931.9   | 3195.5  | 1895.6  | 1233.1  | 179.0   | 77.0    |
| 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°    | 6657.1  | 6657.1  | 6657.1 | 6657.1 | 6657.1 | 6657.1 | 6657.1 | 6657.1 | 6657.1 | 6657.1 | 6657.1 |
| 2.5°  | 6550.0  | 6499.9  | 6454.7 | 6397.8 | 6354.3 | 6317.5 | 6267.4 | 6265.7 | 6257.2 | 6269.0 | 6272.3 |
| 5°    | 6404.5  | 6320.8  | 6193.8 | 6051.5 | 5951.1 | 5819.0 | 5690.1 | 5646.6 | 5598.1 | 5593.0 | 5608.1 |
| 7.5°  | 6185.3  | 6054.8  | 5837.4 | 5619.8 | 5402.3 | 5179.7 | 4969.1 | 4861.9 | 4758.2 | 4726.4 | 4741.4 |
| 10°   | 5941.1  | 5775.5  | 5442.6 | 5087.8 | 4781.6 | 4450.4 | 4129.1 | 3921.7 | 3732.5 | 3652.2 | 3672.5 |
| 12.5° | 5750.3  | 5539.5  | 5071.0 | 4611.0 | 4152.5 | 3677.4 | 3254.1 | 2844.3 | 2534.7 | 2395.8 | 2404.3 |
| 15°   | 5586.4  | 5317.0  | 4723.1 | 4110.7 | 3536.8 | 2886.1 | 2298.9 | 1823.6 | 1552.6 | 1452.2 | 1448.8 |
| 17.5° | 5409.1  | 5082.8  | 4360.1 | 3645.6 | 2901.0 | 2096.4 | 1539.2 | 1258.2 | 1151.1 | 1117.6 | 1117.6 |
| 20°   | 5220.1  | 4841.9  | 3980.2 | 3138.7 | 2231.8 | 1464.0 | 1157.7 | 1049.0 | 1008.8 | 998.8  | 997.2  |
| 22.5° | 5044.3  | 4606.0  | 3598.8 | 2598.3 | 1614.6 | 1110.9 | 985.4  | 943.6  | 936.9  | 945.2  | 945.2  |
| 25°   | 4905.5  | 4398.6  | 3212.2 | 2029.5 | 1174.5 | 930.3  | 876.7  | 871.6  | 896.8  | 927.0  | 931.9  |
| 27.5° | 4801.7  | 4212.8  | 2830.7 | 1482.4 | 923.5  | 809.7  | 791.3  | 813.1  | 871.6  | 931.9  | 943.6  |
| 30°   | 4729.8  | 4053.8  | 2374.1 | 1065.7 | 769.6  | 709.4  | 717.7  | 756.3  | 844.9  | 936.9  | 962.1  |
| 32.5° | 4698.0  | 3925.1  | 1914.0 | 818.1  | 657.5  | 624.1  | 645.8  | 695.9  | 788.1  | 880.0  | 910.2  |
| 35°   | 4728.0  | 3831.4  | 1489.0 | 679.3  | 575.5  | 550.4  | 575.5  | 627.3  | 687.7  | 732.7  | 751.3  |
| 37.5° | 4836.8  | 3797.9  | 1120.9 | 602.4  | 521.9  | 496.9  | 517.0  | 552.1  | 578.9  | 595.5  | 604.0  |
| 40°   | 5066.0  | 3833.0  | 878.4  | 562.2  | 491.9  | 463.4  | 468.5  | 485.2  | 503.6  | 517.0  | 518.6  |
| 42.5° | 5430.8  | 3948.4  | 781.3  | 547.1  | 473.4  | 436.7  | 428.3  | 440.0  | 460.1  | 478.4  | 481.9  |
| 45°   | 5916.0  | 4140.8  | 771.3  | 552.1  | 465.1  | 414.8  | 398.2  | 409.8  | 436.7  | 466.8  | 471.8  |
| 47.5° | 6543.3  | 4445.4  | 818.1  | 578.9  | 470.2  | 403.2  | 378.0  | 389.9  | 425.0  | 465.1  | 471.8  |
| 50°   | 7286.2  | 4866.9  | 905.1  | 619.0  | 493.6  | 403.2  | 369.7  | 379.9  | 416.6  | 461.8  | 468.5  |
| 52.5° | 8161.2  | 5454.1  | 995.5  | 659.1  | 527.0  | 418.3  | 373.1  | 371.4  | 404.9  | 446.6  | 455.1  |
| 55°   | 9126.6  | 6183.7  | 1082.5 | 694.3  | 545.5  | 438.4  | 381.5  | 361.4  | 388.2  | 421.7  | 428.3  |
| 57.5° | 10262.5 | 7182.5  | 1234.7 | 727.7  | 555.4  | 453.5  | 391.5  | 351.3  | 366.4  | 389.9  | 394.9  |
| 60°   | 11803.5 | 8649.8  | 1530.8 | 784.7  | 573.8  | 460.1  | 393.2  | 341.3  | 339.6  | 356.4  | 358.1  |
| 62.5° | 13812.9 | 10368.0 | 1813.6 | 851.7  | 610.7  | 461.8  | 386.5  | 334.6  | 317.9  | 322.9  | 322.9  |
| 65°   | 15241.6 | 11000.5 | 1731.7 | 908.5  | 644.2  | 460.1  | 379.9  | 329.6  | 301.1  | 292.8  | 292.8  |
| 67.5° | 14428.5 | 9717.1  | 1470.6 | 923.5  | 647.5  | 441.6  | 364.7  | 317.9  | 286.1  | 266.0  | 266.0  |
| 69°   | 13234.0 | 8517.5  | 1350.2 | 896.8  | 620.6  | 420.0  | 348.1  | 306.1  | 276.0  | 252.7  | 252.7  |
| 70°   | 12260.2 | 7609.2  | 1276.5 | 865.0  | 588.8  | 401.5  | 332.9  | 294.5  | 266.0  | 246.0  | 244.2  |
| 72.5° | 9153.3  | 5077.8  | 1090.8 | 746.2  | 483.5  | 339.6  | 291.1  | 262.7  | 239.3  | 225.8  | 225.8  |
| 75°   | 4830.1  | 2544.7  | 893.5  | 609.1  | 373.1  | 271.1  | 239.3  | 220.9  | 207.5  | 205.8  | 204.2  |
| 77.5° | 1582.8  | 1151.1  | 642.5  | 458.5  | 274.4  | 210.8  | 190.7  | 179.0  | 177.3  | 184.1  | 184.1  |
| 80°   | 854.9   | 687.7   | 413.2  | 309.6  | 190.7  | 157.3  | 147.2  | 145.5  | 150.6  | 160.5  | 160.5  |
| 82.5° | 414.8   | 339.6   | 246.0  | 190.7  | 130.6  | 115.4  | 115.4  | 117.0  | 123.7  | 135.6  | 135.6  |
| 85°   | 179.0   | 160.5   | 142.2  | 107.1  | 80.3   | 72.0   | 81.9   | 90.4   | 95.4   | 103.8  | 107.1  |
| 87.5° | 85.2    | 75.3    | 65.2   | 41.9   | 35.2   | 36.8   | 43.5   | 53.4   | 63.6   | 70.2   | 72.0   |
| 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)