

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: P196867

Luminaire Tested: **NAV-AF-01-D-UNV-T4W-7030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196867  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-01-D-UNV-T4W-7030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6405.9 lumens  
Efficiency: N/A  
Efficacy: 95.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

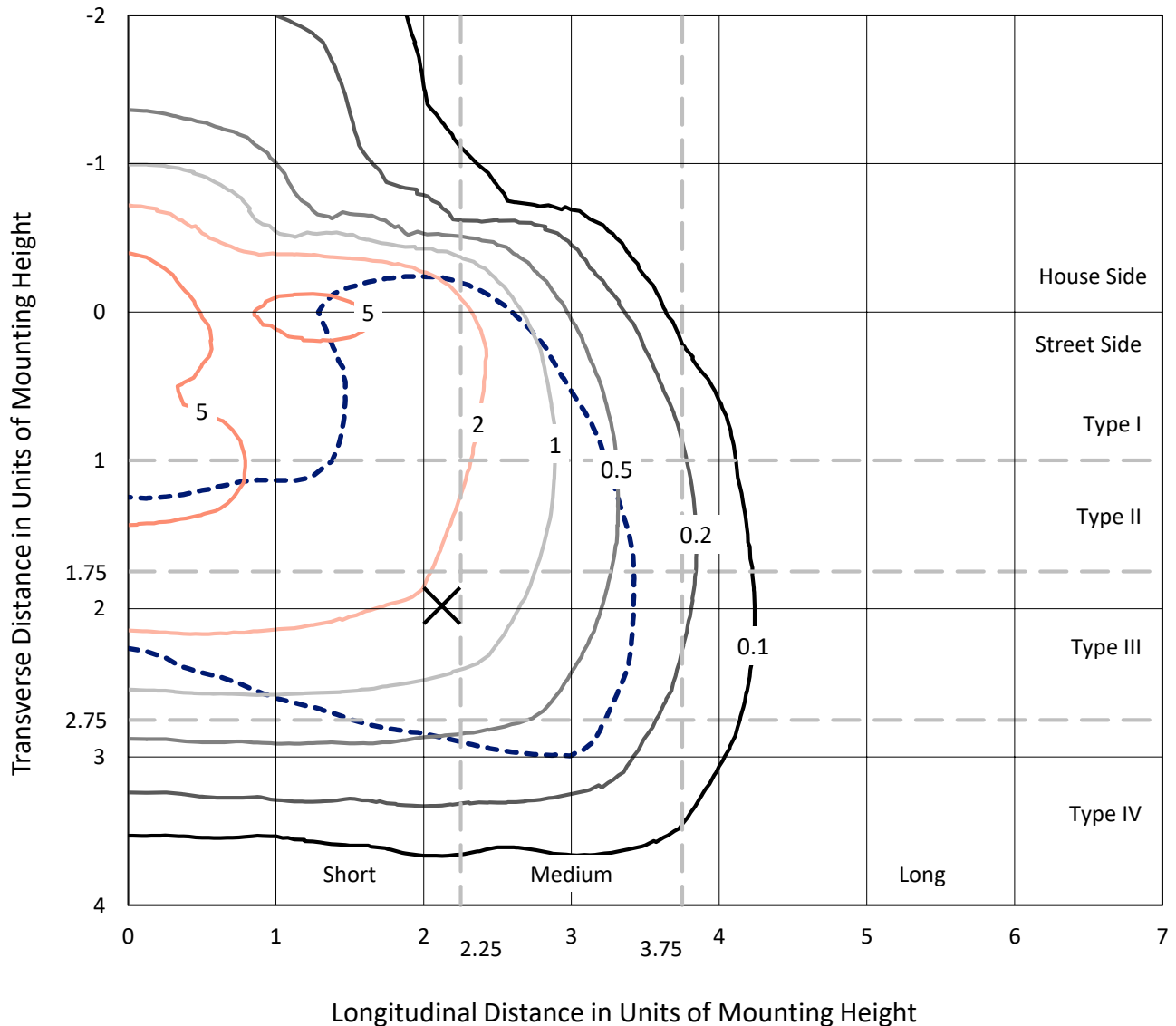
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

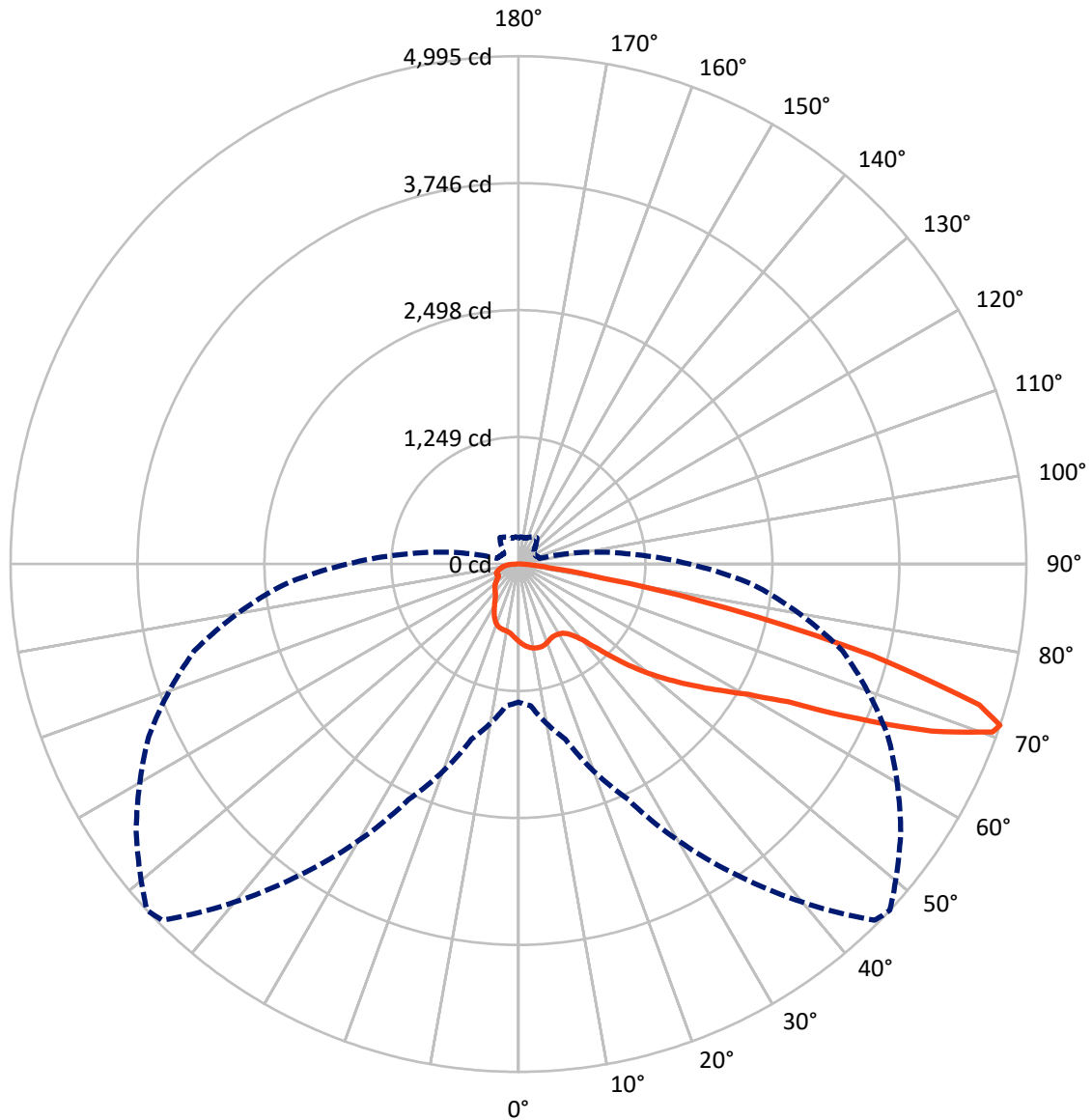
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.7 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral    - - - Horizontal Cone Through 71-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1372.9   | 0.0    | 1372.9 |
|                    | % Fixture | 21.4     | 0.0    | 21.4   |
| <b>Street Side</b> | Lumens    | 5033.0   | 0.0    | 5033.0 |
|                    | % Fixture | 78.6     | 0.0    | 78.6   |
| <b>Total</b>       | Lumens    | 6405.9   | 0.0    | 6405.9 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 72.7   | 1.1       |
| 10°-20°   | 212.8  | 3.3       |
| 20°-30°   | 316.2  | 4.9       |
| 30°-40°   | 454.0  | 7.1       |
| 40°-50°   | 805.0  | 12.6      |
| 50°-60°   | 1377.4 | 21.5      |
| 60°-70°   | 1955.4 | 30.5      |
| 70°-80°   | 1071.0 | 16.7      |
| 80°-90°   | 141.4  | 2.2       |
| 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°    | 6405.9 | 100.0     |
| 0°-180°   | 6405.9 | 100.0     |



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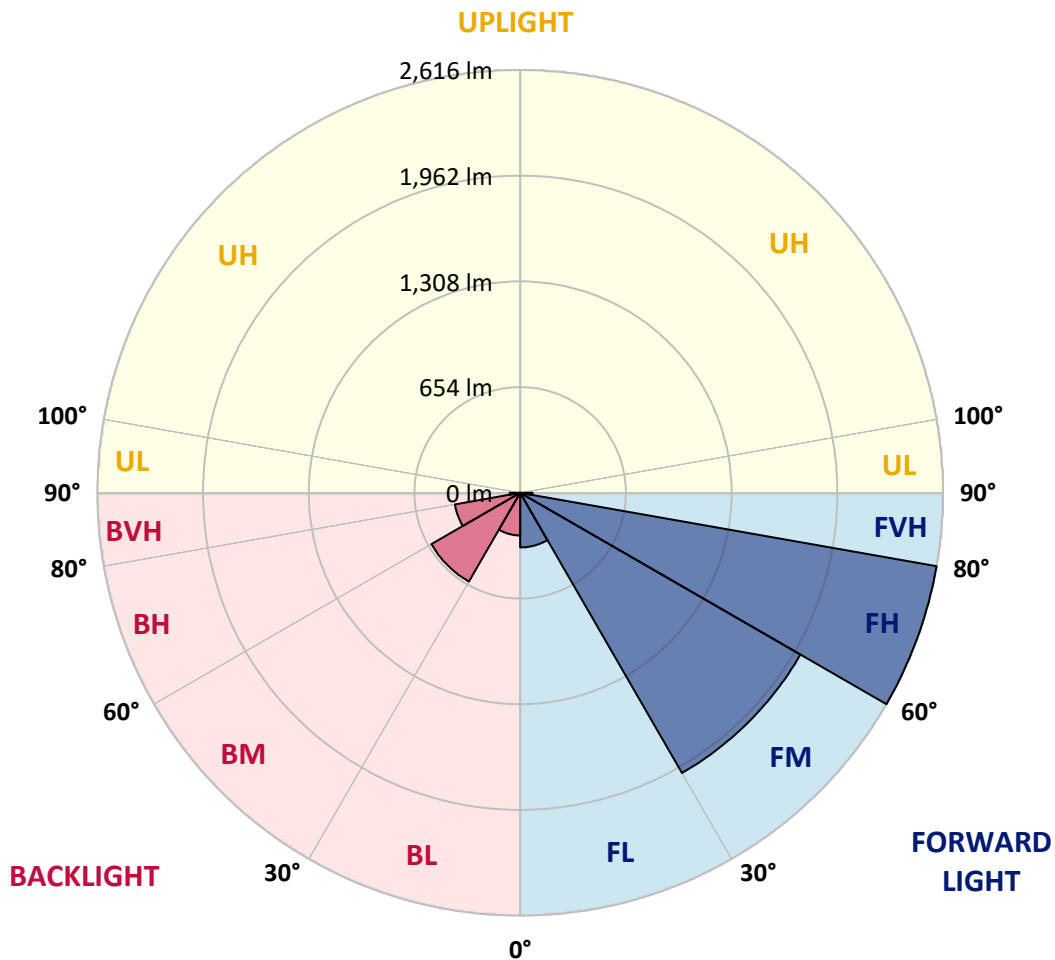
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 338.1  | 5.3       |                         |      |         |
| FM   | (30°-60°)   | 2002.0 | 31.3      |                         |      |         |
| FH   | (60°-80°)   | 2616.2 | 40.8      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 76.7   | 1.2       |                         |      | G1/100  |
| BL   | (0°-30°)    | 263.6  | 4.1       | B1/500                  |      |         |
| BM   | (30°-60°)   | 634.3  | 9.9       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 410.2  | 6.4       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 64.7   | 1.0       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 47°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 761.7  | 761.7  | 761.7  | 761.7  | 761.7  | 761.7  | 761.7  | 761.7  | 761.7  | 761.7  | 761.7  |
| 2.5°  | 808.3  | 806.6  | 807.4  | 804.4  | 797.5  | 790.0  | 790.0  | 782.1  | 773.8  | 765.5  | 756.4  |
| 5°    | 858.4  | 856.0  | 854.0  | 844.8  | 831.1  | 815.7  | 813.2  | 797.5  | 780.4  | 763.4  | 746.8  |
| 7.5°  | 900.4  | 897.9  | 891.7  | 875.0  | 855.2  | 832.3  | 829.4  | 808.6  | 786.2  | 762.6  | 739.3  |
| 10°   | 930.4  | 928.6  | 916.5  | 895.5  | 872.2  | 845.2  | 840.2  | 819.0  | 792.4  | 762.9  | 733.5  |
| 12.5° | 947.0  | 944.4  | 929.9  | 905.0  | 877.6  | 850.1  | 845.2  | 824.9  | 794.6  | 762.2  | 727.7  |
| 15°   | 940.2  | 939.0  | 925.3  | 900.0  | 872.7  | 849.0  | 844.8  | 824.1  | 793.3  | 759.3  | 722.3  |
| 17.5° | 912.1  | 914.9  | 904.1  | 879.2  | 856.8  | 840.2  | 835.7  | 816.1  | 787.1  | 752.2  | 714.0  |
| 20°   | 873.0  | 876.4  | 870.9  | 845.6  | 832.8  | 821.9  | 819.5  | 803.7  | 776.8  | 741.9  | 704.0  |
| 22.5° | 831.5  | 834.4  | 834.8  | 811.1  | 807.0  | 802.8  | 800.8  | 789.6  | 767.5  | 735.7  | 697.4  |
| 25°   | 802.8  | 806.3  | 807.0  | 786.2  | 788.8  | 790.0  | 789.6  | 781.6  | 765.9  | 735.7  | 698.2  |
| 27.5° | 795.4  | 797.0  | 796.2  | 777.2  | 781.6  | 788.8  | 789.2  | 787.5  | 772.6  | 743.9  | 709.8  |
| 30°   | 821.1  | 821.9  | 811.6  | 783.0  | 787.5  | 796.6  | 797.0  | 796.2  | 786.6  | 765.5  | 736.1  |
| 32.5° | 932.4  | 931.6  | 895.8  | 821.9  | 806.3  | 809.5  | 810.7  | 818.3  | 819.0  | 801.2  | 773.8  |
| 35°   | 1101.8 | 1101.4 | 1059.9 | 933.6  | 859.4  | 841.9  | 843.6  | 855.2  | 865.6  | 853.6  | 837.7  |
| 37.5° | 1288.1 | 1289.4 | 1264.0 | 1093.0 | 973.9  | 901.3  | 899.6  | 908.3  | 926.9  | 931.1  | 933.2  |
| 40°   | 1494.8 | 1501.1 | 1499.9 | 1276.1 | 1134.5 | 1002.6 | 985.9  | 976.0  | 1012.1 | 1034.9 | 1064.4 |
| 42.5° | 1731.1 | 1729.5 | 1730.2 | 1477.0 | 1318.0 | 1162.0 | 1131.3 | 1084.7 | 1126.7 | 1166.2 | 1231.0 |
| 45°   | 1934.1 | 1940.8 | 1945.7 | 1690.8 | 1523.5 | 1344.2 | 1313.1 | 1228.4 | 1266.1 | 1325.1 | 1423.8 |
| 47.5° | 2138.3 | 2126.7 | 2135.8 | 1928.7 | 1752.3 | 1552.1 | 1511.9 | 1397.8 | 1433.1 | 1516.1 | 1666.3 |
| 50°   | 2376.2 | 2370.8 | 2329.3 | 2239.3 | 2028.7 | 1763.0 | 1710.4 | 1574.7 | 1626.1 | 1736.9 | 1965.7 |
| 52.5° | 2589.6 | 2560.5 | 2528.2 | 2483.4 | 2300.7 | 1976.4 | 1909.7 | 1758.5 | 1853.1 | 1990.6 | 2337.2 |
| 55°   | 2667.7 | 2648.1 | 2687.1 | 2745.2 | 2588.4 | 2193.9 | 2119.2 | 1973.1 | 2109.2 | 2280.7 | 2774.3 |
| 57.5° | 2750.7 | 2757.2 | 2845.3 | 2962.8 | 2860.6 | 2426.0 | 2345.0 | 2227.1 | 2390.4 | 2605.4 | 3262.9 |
| 60°   | 2792.1 | 2818.8 | 2994.4 | 3214.7 | 3119.7 | 2680.4 | 2602.9 | 2519.0 | 2702.1 | 2963.9 | 3750.4 |
| 62.5° | 2799.2 | 2835.0 | 3083.7 | 3303.2 | 3476.3 | 3070.3 | 2980.6 | 2889.7 | 3091.5 | 3360.5 | 4103.1 |
| 65°   | 2669.8 | 2724.5 | 3075.7 | 3411.9 | 3801.3 | 3721.7 | 3664.8 | 3506.2 | 3612.8 | 3709.6 | 4163.4 |
| 67.5° | 2289.0 | 2348.8 | 2771.4 | 3367.2 | 4062.0 | 4397.4 | 4386.6 | 4152.5 | 4015.6 | 3844.5 | 3717.1 |
| 70°   | 1680.1 | 1728.2 | 2134.2 | 2878.6 | 3948.3 | 4928.0 | 4947.2 | 4571.4 | 4128.1 | 3558.1 | 2763.9 |
| 71°   | 1358.7 | 1400.2 | 1783.0 | 2555.6 | 3726.7 | 4955.5 | 4995.3 | 4590.1 | 4011.0 | 3299.4 | 2313.9 |
| 72.5° | 845.6  | 868.8  | 1184.0 | 1928.7 | 3209.0 | 4673.1 | 4740.4 | 4351.0 | 3642.3 | 2788.9 | 1635.6 |
| 75°   | 319.2  | 328.4  | 439.2  | 850.6  | 1915.5 | 3510.7 | 3592.1 | 3288.2 | 2558.9 | 1592.0 | 684.5  |
| 77.5° | 171.4  | 176.0  | 218.0  | 353.7  | 767.5  | 2012.5 | 2117.1 | 1875.6 | 1227.5 | 557.1  | 279.8  |
| 80°   | 114.9  | 117.9  | 150.7  | 209.7  | 352.9  | 766.4  | 853.6  | 753.1  | 459.6  | 318.0  | 199.3  |
| 82.5° | 74.3   | 75.9   | 102.4  | 137.7  | 228.0  | 269.5  | 307.6  | 321.3  | 286.8  | 228.0  | 120.4  |
| 85°   | 48.9   | 50.3   | 67.6   | 88.0   | 141.2  | 132.9  | 136.1  | 178.1  | 195.6  | 150.2  | 61.4   |
| 87.5° | 28.2   | 29.1   | 40.7   | 45.3   | 63.5   | 49.8   | 54.0   | 84.6   | 116.3  | 98.0   | 35.3   |
| 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°    | 761.7  | 761.7  | 761.7  | 761.7 | 761.7 | 761.7 | 761.7 | 761.7 | 761.7 | 761.7 | 761.7 |
| 2.5°  | 752.2  | 748.9  | 741.5  | 736.9 | 734.8 | 734.0 | 733.1 | 734.8 | 734.8 | 734.0 | 732.2 |
| 5°    | 738.5  | 732.2  | 719.8  | 711.2 | 706.6 | 705.3 | 707.0 | 709.1 | 710.3 | 710.3 | 709.1 |
| 7.5°  | 728.5  | 719.5  | 702.9  | 690.7 | 683.8 | 681.7 | 686.2 | 693.7 | 698.7 | 701.1 | 701.6 |
| 10°   | 720.2  | 707.8  | 689.5  | 677.1 | 671.3 | 670.5 | 676.2 | 685.8 | 696.2 | 700.8 | 701.6 |
| 12.5° | 712.8  | 698.7  | 678.7  | 667.1 | 662.9 | 665.1 | 672.9 | 681.7 | 693.7 | 700.4 | 700.8 |
| 15°   | 705.7  | 691.2  | 670.0  | 658.0 | 657.2 | 660.5 | 667.9 | 675.0 | 684.2 | 692.4 | 692.4 |
| 17.5° | 697.4  | 681.7  | 659.6  | 648.5 | 648.5 | 651.3 | 656.3 | 660.0 | 665.8 | 673.8 | 673.4 |
| 20°   | 687.5  | 671.3  | 648.9  | 637.2 | 634.7 | 633.0 | 633.0 | 633.9 | 638.8 | 645.9 | 647.2 |
| 22.5° | 680.0  | 663.4  | 639.7  | 625.6 | 614.4 | 603.5 | 599.1 | 597.3 | 601.9 | 608.6 | 610.2 |
| 25°   | 680.0  | 663.4  | 636.8  | 613.2 | 585.7 | 565.0 | 556.2 | 553.8 | 558.4 | 564.6 | 567.0 |
| 27.5° | 691.2  | 674.5  | 643.4  | 601.9 | 551.8 | 518.6 | 508.2 | 506.1 | 510.2 | 515.1 | 517.7 |
| 30°   | 717.4  | 701.1  | 662.5  | 589.0 | 513.9 | 470.4 | 458.7 | 456.6 | 458.7 | 460.7 | 463.7 |
| 32.5° | 760.9  | 747.3  | 693.7  | 577.4 | 475.8 | 426.7 | 412.7 | 409.2 | 410.2 | 410.6 | 413.1 |
| 35°   | 831.9  | 825.7  | 735.2  | 563.8 | 439.7 | 391.0 | 376.5 | 369.9 | 369.6 | 371.6 | 374.4 |
| 37.5° | 940.7  | 944.4  | 788.8  | 543.8 | 409.7 | 365.7 | 351.2 | 344.6 | 341.2 | 345.4 | 348.7 |
| 40°   | 1094.2 | 1103.0 | 850.6  | 516.8 | 385.2 | 350.8 | 335.4 | 329.2 | 324.6 | 323.4 | 325.0 |
| 42.5° | 1293.9 | 1291.5 | 913.7  | 482.4 | 358.7 | 340.8 | 324.6 | 318.0 | 310.6 | 301.0 | 299.0 |
| 45°   | 1530.6 | 1494.8 | 966.4  | 440.0 | 328.4 | 331.3 | 314.6 | 305.5 | 293.9 | 279.8 | 278.2 |
| 47.5° | 1810.0 | 1711.5 | 998.8  | 394.8 | 300.1 | 318.8 | 303.4 | 289.3 | 272.3 | 263.2 | 261.9 |
| 50°   | 2146.6 | 1965.2 | 1021.7 | 348.7 | 274.8 | 303.0 | 287.7 | 269.0 | 252.4 | 249.8 | 249.5 |
| 52.5° | 2545.2 | 2264.5 | 1049.9 | 307.2 | 254.9 | 282.7 | 271.9 | 252.8 | 239.5 | 240.8 | 240.8 |
| 55°   | 2969.0 | 2574.2 | 1050.7 | 274.3 | 237.4 | 259.1 | 260.2 | 245.0 | 234.6 | 238.7 | 240.0 |
| 57.5° | 3355.5 | 2844.9 | 968.0  | 251.2 | 220.8 | 240.4 | 256.5 | 247.8 | 240.0 | 254.5 | 255.6 |
| 60°   | 3692.6 | 3053.2 | 790.4  | 232.0 | 207.1 | 233.3 | 264.9 | 265.7 | 264.0 | 303.4 | 306.4 |
| 62.5° | 3815.9 | 3055.3 | 561.3  | 215.9 | 199.7 | 237.4 | 282.3 | 283.5 | 283.5 | 320.0 | 325.5 |
| 65°   | 3643.1 | 2800.9 | 373.6  | 206.3 | 194.7 | 246.6 | 296.4 | 290.9 | 278.2 | 303.4 | 297.6 |
| 67.5° | 3034.5 | 2180.3 | 273.1  | 200.1 | 187.6 | 247.0 | 308.8 | 295.1 | 273.1 | 294.8 | 284.7 |
| 70°   | 2085.6 | 1387.4 | 228.8  | 194.3 | 179.3 | 236.2 | 315.5 | 293.9 | 265.7 | 274.8 | 261.5 |
| 71°   | 1678.8 | 1107.2 | 217.1  | 192.2 | 176.0 | 230.0 | 316.3 | 292.3 | 261.9 | 267.8 | 255.6 |
| 72.5° | 1105.9 | 682.1  | 203.0  | 187.6 | 171.0 | 219.2 | 314.2 | 288.6 | 257.0 | 257.5 | 249.5 |
| 75°   | 436.3  | 282.7  | 182.7  | 177.2 | 156.9 | 201.8 | 305.2 | 280.6 | 247.5 | 239.2 | 235.8 |
| 77.5° | 220.4  | 184.7  | 160.6  | 162.7 | 140.3 | 183.9 | 292.3 | 267.8 | 234.2 | 222.9 | 220.4 |
| 80°   | 161.0  | 140.3  | 137.4  | 141.2 | 121.6 | 166.5 | 276.1 | 250.3 | 217.1 | 228.8 | 223.8 |
| 82.5° | 98.0   | 85.5   | 107.5  | 116.7 | 101.7 | 148.6 | 257.0 | 230.0 | 195.6 | 180.2 | 174.4 |
| 85°   | 46.6   | 50.3   | 77.7   | 85.9  | 75.2  | 118.8 | 235.0 | 207.6 | 170.7 | 147.4 | 149.9 |
| 87.5° | 22.8   | 27.9   | 44.5   | 51.5  | 49.3  | 87.2  | 177.2 | 161.0 | 134.5 | 110.8 | 108.3 |
| 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)