

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: P195338

Luminaire Tested: **NAV-AF-02-D-UNV-T3-7060-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195338  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-T3-7060-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8028 lumens  
Efficiency: N/A  
Efficacy: 121.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

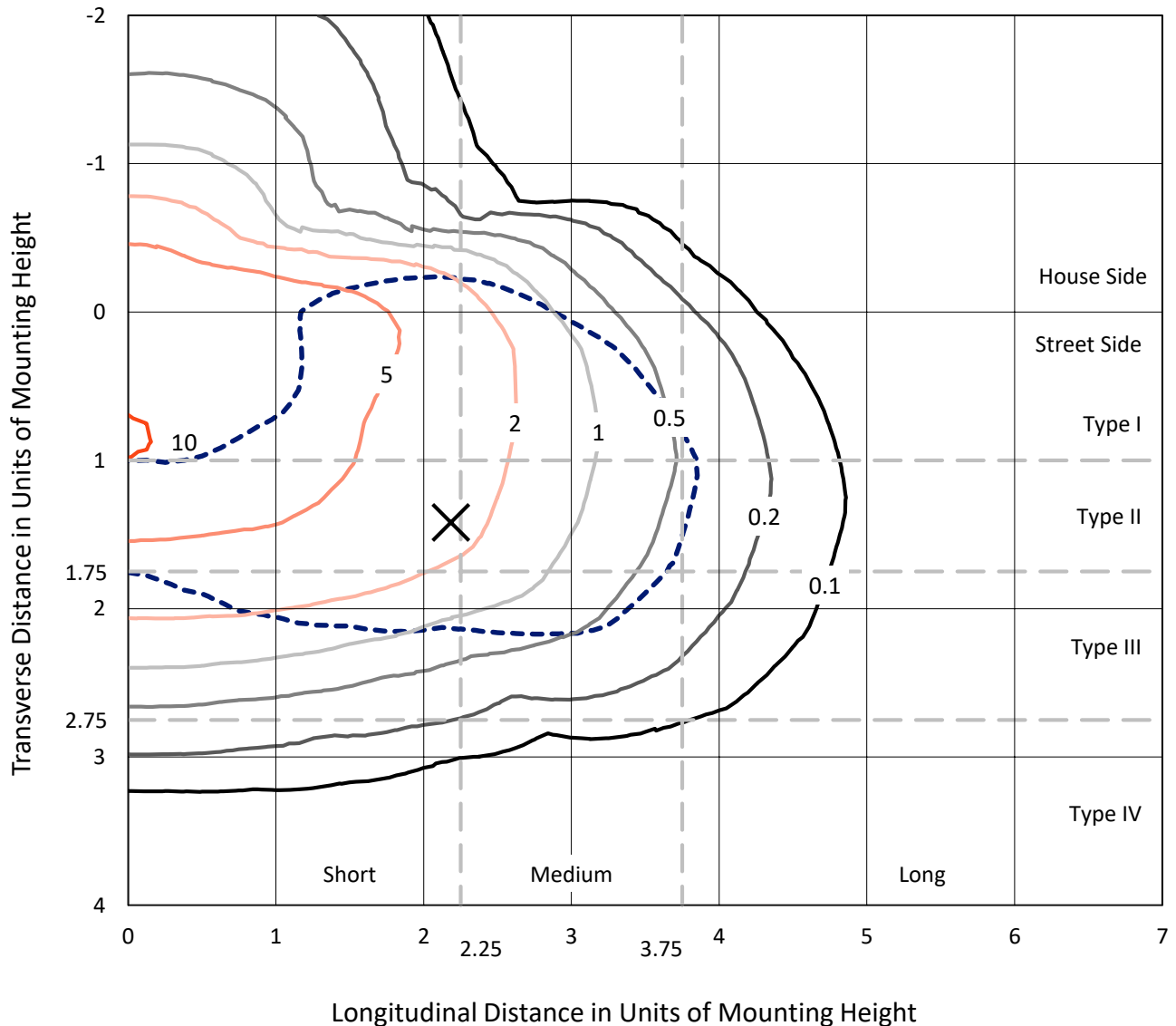
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

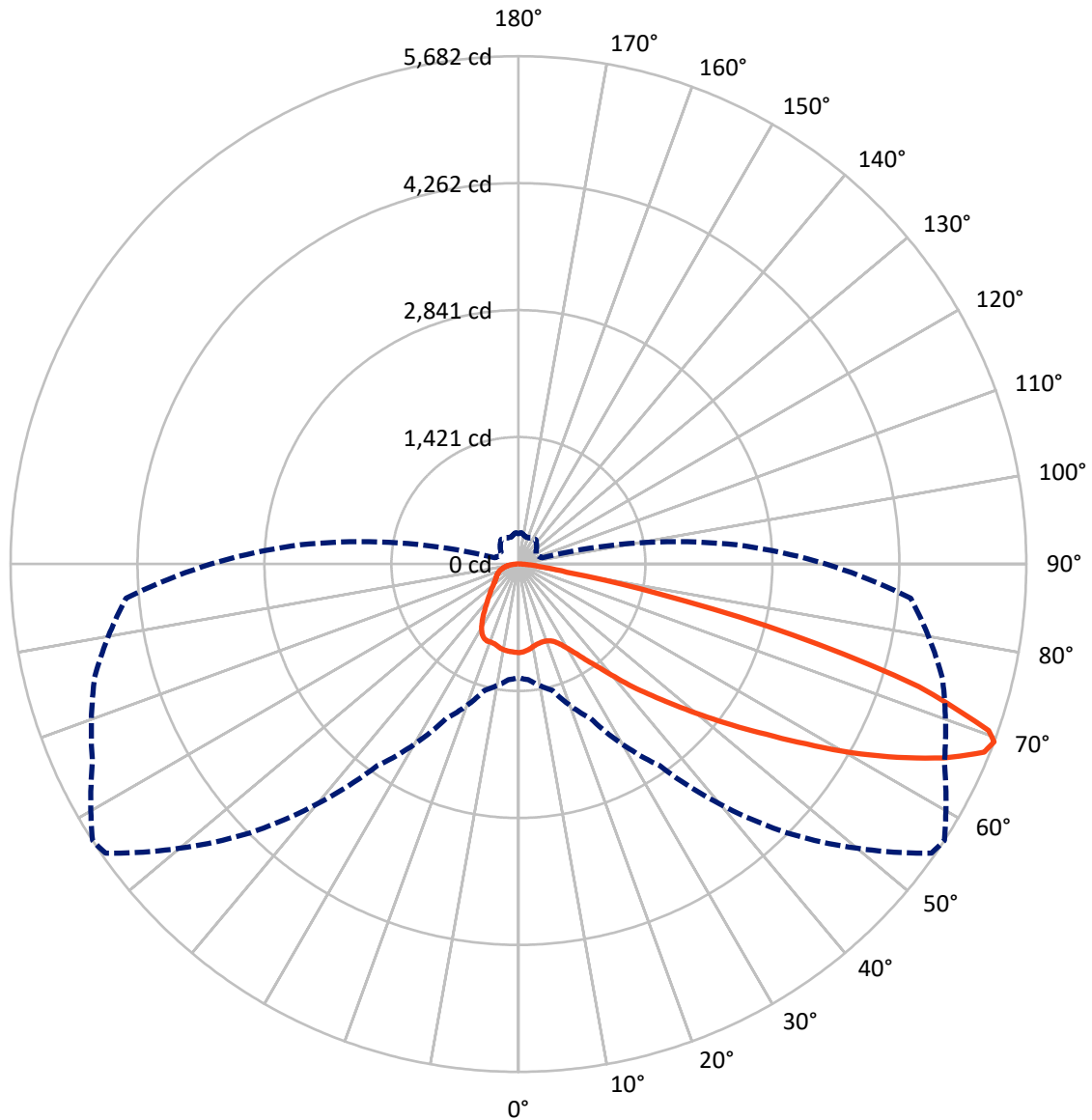
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.1 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1771.5   | 0.0    | 1771.5 |
|                    | % Fixture | 22.1     | 0.0    | 22.1   |
| <b>Street Side</b> | Lumens    | 6256.5   | 0.0    | 6256.5 |
|                    | % Fixture | 77.9     | 0.0    | 77.9   |
| <b>Total</b>       | Lumens    | 8028.0   | 0.0    | 8028.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 92.9   | 1.2       |
| 10°-20°   | 264.0  | 3.3       |
| 20°-30°   | 439.2  | 5.5       |
| 30°-40°   | 717.2  | 8.9       |
| 40°-50°   | 1210.5 | 15.1      |
| 50°-60°   | 1883.1 | 23.5      |
| 60°-70°   | 2243.1 | 27.9      |
| 70°-80°   | 1045.0 | 13.0      |
| 80°-90°   | 132.9  | 1.7       |
| 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°    | 8028.0 | 100.0     |
| 0°-180°   | 8028.0 | 100.0     |



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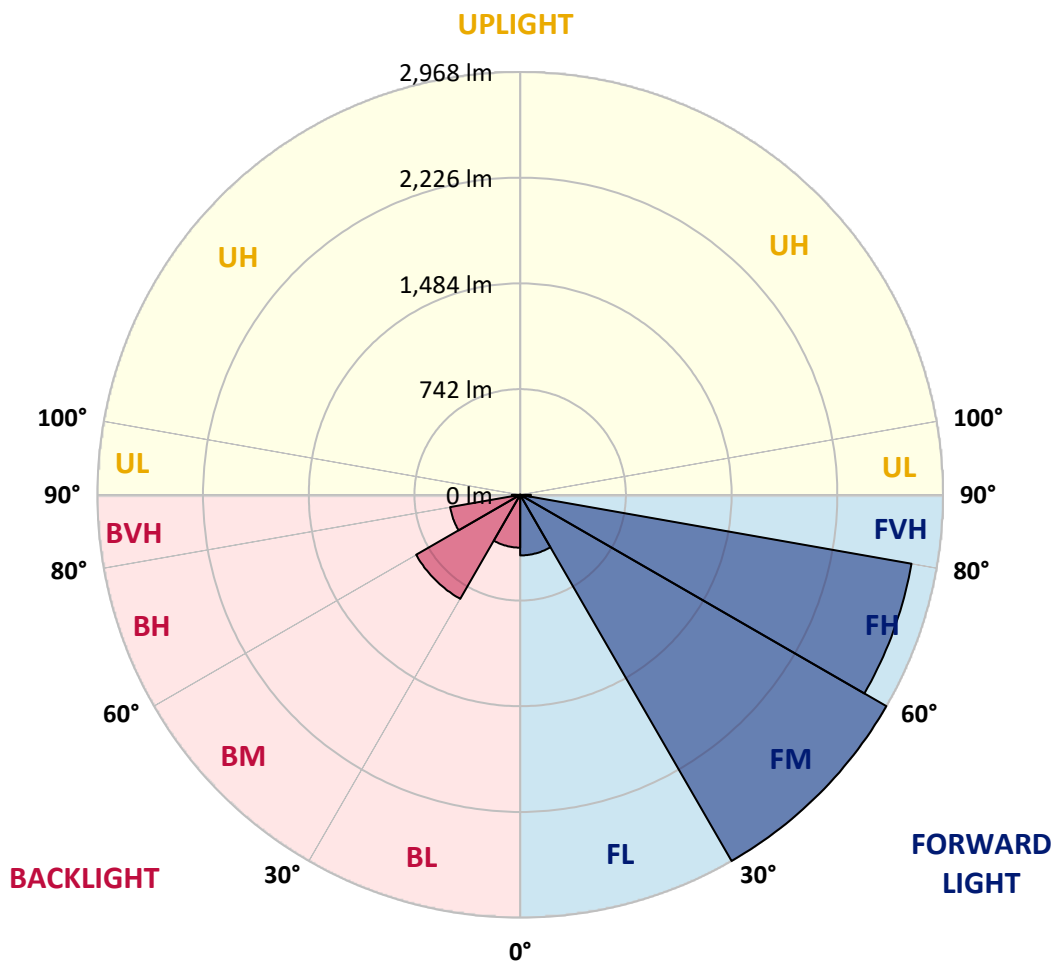
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 425.1  | 5.3       |                         |      |         |
| FM   | (30°-60°)   | 2967.7 | 37.0      |                         |      |         |
| FH   | (60°-80°)   | 2788.9 | 34.7      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 74.7   | 0.9       |                         |      | G1/100  |
| BL   | (0°-30°)    | 371.0  | 4.6       | B1/500                  |      |         |
| BM   | (30°-60°)   | 843.1  | 10.5      | B1/1000                 |      |         |
| BH   | (60°-80°)   | 499.2  | 6.2       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 58.2   | 0.7       |                         |      | 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 III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 57°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 991.9  | 991.9  | 991.9  | 991.9  | 991.9  | 991.9  | 991.9  | 991.9  | 991.9  | 991.9  | 991.9  |
| 2.5°  | 986.3  | 986.3  | 988.9  | 988.9  | 988.9  | 987.8  | 984.7  | 985.8  | 983.7  | 982.2  | 979.6  |
| 5°    | 966.2  | 967.3  | 970.4  | 971.4  | 972.9  | 973.4  | 973.4  | 972.9  | 973.4  | 973.4  | 971.9  |
| 7.5°  | 938.5  | 939.5  | 943.1  | 945.2  | 949.8  | 953.9  | 956.0  | 956.0  | 958.5  | 960.6  | 961.1  |
| 10°   | 921.5  | 921.5  | 923.6  | 923.6  | 927.2  | 929.2  | 935.9  | 935.4  | 942.6  | 949.3  | 952.4  |
| 12.5° | 919.5  | 919.5  | 918.4  | 914.8  | 912.8  | 912.3  | 919.0  | 920.0  | 930.8  | 942.6  | 948.3  |
| 15°   | 926.2  | 926.2  | 923.1  | 915.9  | 908.2  | 904.6  | 911.2  | 913.3  | 925.1  | 939.0  | 947.7  |
| 17.5° | 947.7  | 947.2  | 940.5  | 926.2  | 912.8  | 907.1  | 909.2  | 911.2  | 922.0  | 938.0  | 948.8  |
| 20°   | 995.5  | 995.5  | 981.1  | 954.9  | 931.8  | 918.4  | 915.4  | 916.9  | 924.6  | 939.5  | 953.4  |
| 22.5° | 1079.3 | 1080.9 | 1055.2 | 1012.0 | 972.4  | 944.1  | 931.8  | 933.3  | 936.9  | 951.3  | 966.8  |
| 25°   | 1202.7 | 1198.5 | 1162.1 | 1100.9 | 1039.2 | 990.9  | 965.7  | 967.3  | 967.3  | 980.6  | 996.6  |
| 27.5° | 1333.2 | 1334.2 | 1281.8 | 1216.0 | 1134.8 | 1062.9 | 1022.8 | 1022.3 | 1021.7 | 1034.6 | 1051.6 |
| 30°   | 1480.7 | 1481.2 | 1420.6 | 1344.5 | 1251.5 | 1159.5 | 1099.4 | 1098.8 | 1094.2 | 1110.1 | 1132.2 |
| 32.5° | 1642.1 | 1641.6 | 1571.2 | 1485.3 | 1382.0 | 1277.7 | 1199.6 | 1199.1 | 1195.5 | 1217.1 | 1243.8 |
| 35°   | 1821.0 | 1821.0 | 1751.1 | 1645.2 | 1533.6 | 1417.5 | 1327.0 | 1326.5 | 1328.6 | 1357.9 | 1383.1 |
| 37.5° | 2036.3 | 2040.9 | 1956.6 | 1828.1 | 1706.3 | 1582.5 | 1477.1 | 1474.0 | 1458.6 | 1508.0 | 1549.6 |
| 40°   | 2260.9 | 2273.7 | 2186.4 | 2036.3 | 1904.7 | 1776.8 | 1660.6 | 1658.5 | 1645.2 | 1697.6 | 1764.9 |
| 42.5° | 2504.0 | 2533.3 | 2436.2 | 2283.0 | 2139.6 | 2001.3 | 1884.7 | 1879.0 | 1827.6 | 1909.4 | 2014.7 |
| 45°   | 2822.7 | 2841.7 | 2700.8 | 2562.1 | 2426.9 | 2269.1 | 2130.4 | 2100.0 | 2048.6 | 2153.5 | 2290.2 |
| 47.5° | 3039.5 | 3030.3 | 2942.4 | 2849.4 | 2762.5 | 2611.4 | 2398.1 | 2359.6 | 2296.9 | 2435.6 | 2586.2 |
| 50°   | 3174.2 | 3180.9 | 3131.5 | 3126.9 | 3122.3 | 3016.9 | 2700.3 | 2654.1 | 2581.6 | 2746.1 | 2921.8 |
| 52.5° | 3263.1 | 3232.8 | 3241.5 | 3346.4 | 3473.3 | 3423.0 | 3042.1 | 2990.7 | 2916.2 | 3080.7 | 3279.0 |
| 55°   | 3226.1 | 3186.0 | 3266.7 | 3473.3 | 3771.9 | 3783.2 | 3417.3 | 3364.4 | 3300.6 | 3436.3 | 3708.7 |
| 57.5° | 3073.0 | 3093.0 | 3220.5 | 3507.8 | 3976.0 | 4106.0 | 3848.5 | 3794.5 | 3669.1 | 3806.9 | 4116.8 |
| 60°   | 2857.6 | 2898.2 | 3093.0 | 3453.3 | 4118.9 | 4357.3 | 4321.9 | 4285.9 | 4070.0 | 4167.7 | 4545.4 |
| 62.5° | 2626.3 | 2666.4 | 2905.9 | 3360.3 | 4054.6 | 4579.9 | 4786.5 | 4764.4 | 4512.5 | 4515.1 | 4817.3 |
| 65°   | 2284.5 | 2301.0 | 2545.6 | 3106.4 | 3876.3 | 4780.8 | 5251.6 | 5232.1 | 4935.5 | 4811.7 | 4893.4 |
| 67.5° | 1725.4 | 1745.9 | 1946.9 | 2452.1 | 3333.5 | 4671.9 | 5623.2 | 5620.1 | 5189.9 | 4921.7 | 4712.5 |
| 69°   | 1274.1 | 1299.3 | 1463.2 | 1903.7 | 2756.4 | 4256.6 | 5640.7 | 5682.3 | 5258.8 | 4910.3 | 4406.7 |
| 70°   | 932.3  | 961.1  | 1112.7 | 1511.0 | 2295.8 | 3798.1 | 5491.1 | 5580.5 | 5232.6 | 4838.9 | 4168.2 |
| 72.5° | 396.3  | 406.0  | 480.6  | 682.0  | 1164.6 | 2290.2 | 4497.6 | 4685.7 | 4725.8 | 4335.7 | 3256.4 |
| 75°   | 248.2  | 251.3  | 280.6  | 350.0  | 518.1  | 947.2  | 2912.6 | 3169.1 | 3528.3 | 3363.9 | 2180.2 |
| 77.5° | 187.1  | 189.7  | 206.6  | 241.0  | 321.7  | 353.6  | 1351.2 | 1611.3 | 2020.9 | 1978.7 | 1085.0 |
| 80°   | 143.4  | 144.9  | 156.2  | 175.3  | 226.7  | 221.5  | 438.4  | 551.0  | 843.4  | 744.2  | 383.9  |
| 82.5° | 112.6  | 113.1  | 122.8  | 126.4  | 158.3  | 149.0  | 220.0  | 245.2  | 340.8  | 283.2  | 187.6  |
| 85°   | 99.7   | 101.2  | 111.0  | 92.5   | 101.2  | 89.9   | 120.8  | 131.1  | 180.9  | 170.6  | 70.9   |
| 87.5° | 50.9   | 53.5   | 93.0   | 79.1   | 50.9   | 42.7   | 52.9   | 57.0   | 73.5   | 79.7   | 34.4   |
| 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°    | 991.9  | 991.9  | 991.9  | 991.9 | 991.9 | 991.9 | 991.9  | 991.9  | 991.9  | 991.9  | 991.9  |
| 2.5°  | 980.1  | 980.6  | 982.2  | 984.7 | 988.9 | 994.0 | 1000.2 | 1006.3 | 1009.9 | 1012.5 | 1011.5 |
| 5°    | 971.9  | 972.4  | 975.5  | 980.1 | 985.3 | 993.0 | 1003.2 | 1011.0 | 1016.6 | 1020.2 | 1019.7 |
| 7.5°  | 961.6  | 963.2  | 969.3  | 974.5 | 981.7 | 987.8 | 996.0  | 1003.2 | 1008.9 | 1012.5 | 1012.0 |
| 10°   | 953.9  | 955.4  | 963.2  | 969.8 | 976.0 | 977.0 | 975.5  | 973.4  | 972.9  | 975.5  | 974.5  |
| 12.5° | 950.3  | 953.4  | 960.6  | 965.2 | 962.6 | 952.9 | 941.6  | 936.9  | 935.4  | 940.5  | 941.1  |
| 15°   | 951.3  | 953.9  | 960.1  | 957.0 | 943.1 | 926.7 | 920.5  | 924.1  | 927.2  | 930.3  | 930.8  |
| 17.5° | 953.9  | 955.4  | 957.0  | 945.7 | 926.2 | 915.4 | 913.3  | 909.7  | 900.5  | 895.3  | 894.8  |
| 20°   | 958.5  | 960.6  | 958.0  | 940.0 | 922.6 | 908.2 | 883.5  | 861.4  | 840.3  | 829.0  | 824.4  |
| 22.5° | 974.5  | 976.0  | 968.3  | 950.8 | 924.1 | 877.3 | 827.5  | 789.4  | 757.1  | 739.6  | 732.9  |
| 25°   | 1005.8 | 1008.4 | 997.6  | 975.5 | 905.6 | 823.9 | 753.5  | 702.1  | 661.5  | 640.4  | 634.7  |
| 27.5° | 1060.8 | 1063.4 | 1051.6 | 994.0 | 862.4 | 752.4 | 667.1  | 616.2  | 581.3  | 563.3  | 560.7  |
| 30°   | 1143.0 | 1146.6 | 1135.8 | 993.5 | 796.6 | 661.5 | 582.8  | 553.0  | 533.0  | 520.6  | 520.1  |
| 32.5° | 1257.1 | 1270.5 | 1226.3 | 976.0 | 715.4 | 569.5 | 519.1  | 508.8  | 499.1  | 490.8  | 490.8  |
| 35°   | 1402.1 | 1433.4 | 1315.7 | 939.5 | 626.0 | 506.8 | 483.6  | 473.9  | 461.5  | 452.8  | 451.8  |
| 37.5° | 1575.3 | 1624.1 | 1379.5 | 874.8 | 548.9 | 476.4 | 462.0  | 446.1  | 426.6  | 409.6  | 405.5  |
| 40°   | 1813.2 | 1824.5 | 1410.8 | 769.4 | 491.3 | 460.0 | 442.0  | 422.0  | 397.3  | 378.3  | 376.2  |
| 42.5° | 2052.2 | 2015.2 | 1404.6 | 656.3 | 458.4 | 445.1 | 421.4  | 399.3  | 377.2  | 361.3  | 361.3  |
| 45°   | 2324.1 | 2181.7 | 1357.9 | 542.7 | 428.6 | 428.1 | 402.4  | 381.4  | 364.4  | 352.6  | 350.0  |
| 47.5° | 2584.2 | 2331.3 | 1277.2 | 459.0 | 397.8 | 411.2 | 390.1  | 373.1  | 357.7  | 346.4  | 344.4  |
| 50°   | 2899.7 | 2504.5 | 1191.4 | 400.4 | 368.0 | 396.3 | 385.0  | 376.2  | 361.3  | 341.8  | 339.7  |
| 52.5° | 3213.3 | 2707.0 | 1125.1 | 356.2 | 341.8 | 384.4 | 388.0  | 389.1  | 375.2  | 337.2  | 334.6  |
| 55°   | 3549.9 | 2923.4 | 1055.2 | 321.7 | 320.2 | 378.8 | 395.2  | 394.2  | 387.5  | 338.2  | 334.1  |
| 57.5° | 3870.1 | 3140.8 | 950.8  | 297.6 | 303.2 | 373.1 | 396.8  | 380.3  | 368.5  | 343.3  | 336.6  |
| 60°   | 4135.3 | 3320.7 | 797.7  | 280.6 | 288.8 | 361.8 | 386.5  | 361.8  | 341.8  | 342.3  | 336.1  |
| 62.5° | 4264.3 | 3371.0 | 610.1  | 261.1 | 277.0 | 343.3 | 371.6  | 347.9  | 329.4  | 344.4  | 340.8  |
| 65°   | 4166.1 | 3227.7 | 434.8  | 243.1 | 262.6 | 321.7 | 362.9  | 336.1  | 323.3  | 354.6  | 350.5  |
| 67.5° | 3813.6 | 2837.0 | 315.6  | 227.2 | 248.8 | 299.6 | 346.4  | 325.3  | 317.1  | 362.3  | 353.1  |
| 69°   | 3438.9 | 2449.5 | 273.4  | 217.9 | 239.0 | 287.8 | 335.6  | 319.7  | 312.5  | 351.5  | 338.2  |
| 70°   | 3127.4 | 2150.9 | 252.4  | 212.3 | 230.8 | 281.1 | 327.4  | 316.1  | 307.9  | 338.7  | 322.8  |
| 72.5° | 2242.4 | 1390.3 | 212.3  | 195.3 | 209.2 | 266.2 | 309.4  | 302.7  | 290.4  | 305.8  | 295.5  |
| 75°   | 1354.8 | 725.7  | 180.4  | 177.8 | 186.6 | 245.7 | 288.3  | 280.1  | 267.8  | 269.3  | 264.2  |
| 77.5° | 622.4  | 335.1  | 151.1  | 157.3 | 162.9 | 220.0 | 262.6  | 253.4  | 242.1  | 238.0  | 238.5  |
| 80°   | 272.9  | 195.8  | 126.4  | 134.1 | 137.2 | 197.9 | 234.9  | 224.6  | 212.3  | 234.4  | 217.4  |
| 82.5° | 147.5  | 113.6  | 98.7   | 103.8 | 112.6 | 172.2 | 204.0  | 190.7  | 178.9  | 208.2  | 168.1  |
| 85°   | 59.6   | 58.1   | 66.8   | 72.0  | 78.1  | 123.9 | 170.6  | 156.8  | 142.4  | 127.5  | 124.4  |
| 87.5° | 25.7   | 27.8   | 32.9   | 34.9  | 41.6  | 77.1  | 114.6  | 100.2  | 100.7  | 86.3   | 84.8   |
| 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)