

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: INVUE

Report Number: P401432

Luminaire Tested: **ENT-SA1D-727-U-SL2**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401432  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/20/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-SA1D-727-U-SL2  
Description: ENTRI LED LUMINAIRE  
(1) 70 CRI, 2700K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4664 lumens  
Efficiency: N/A  
Efficacy: 108.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B1 - U0 - G1

Input Watts (W): 43.1  
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

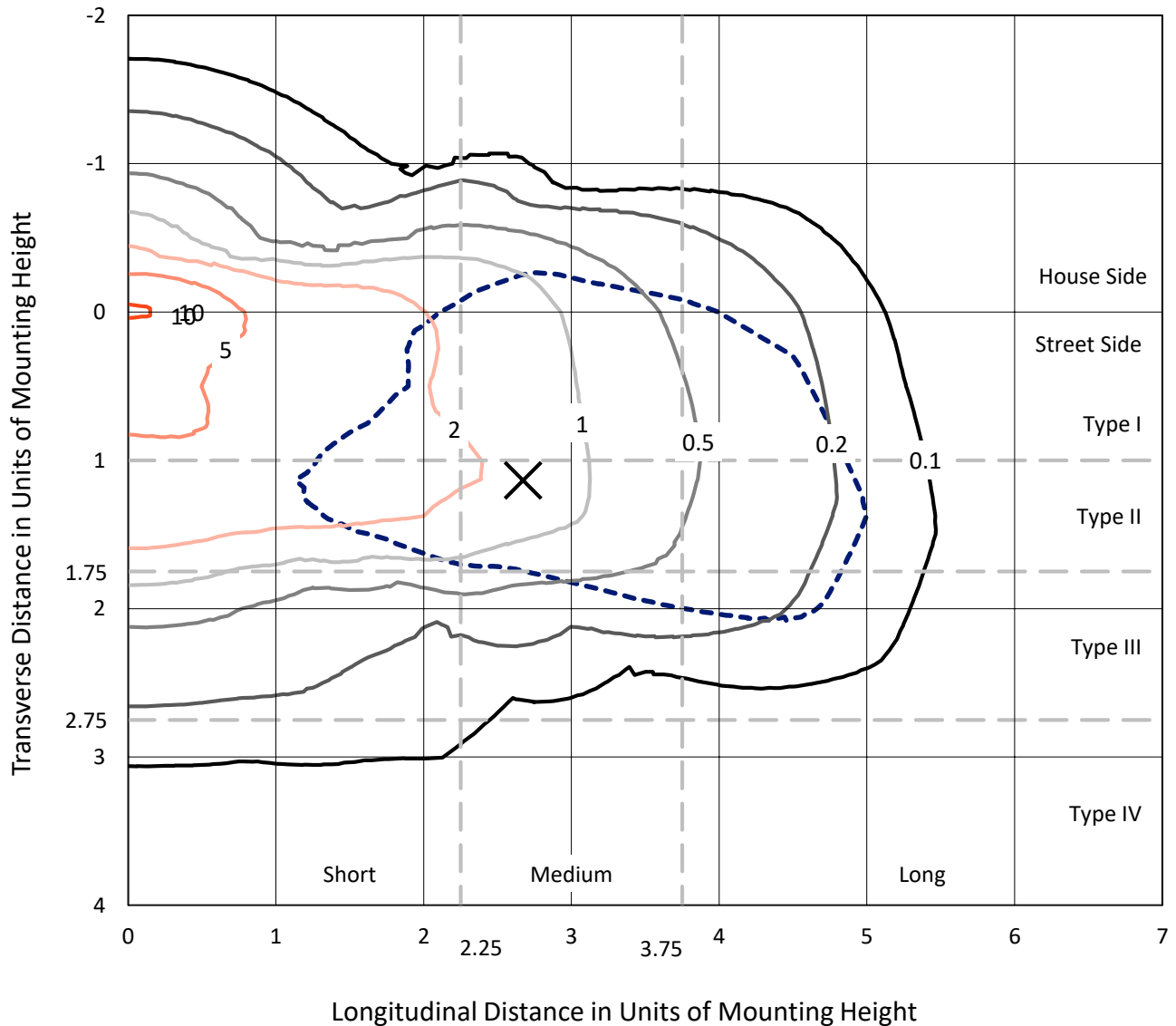


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

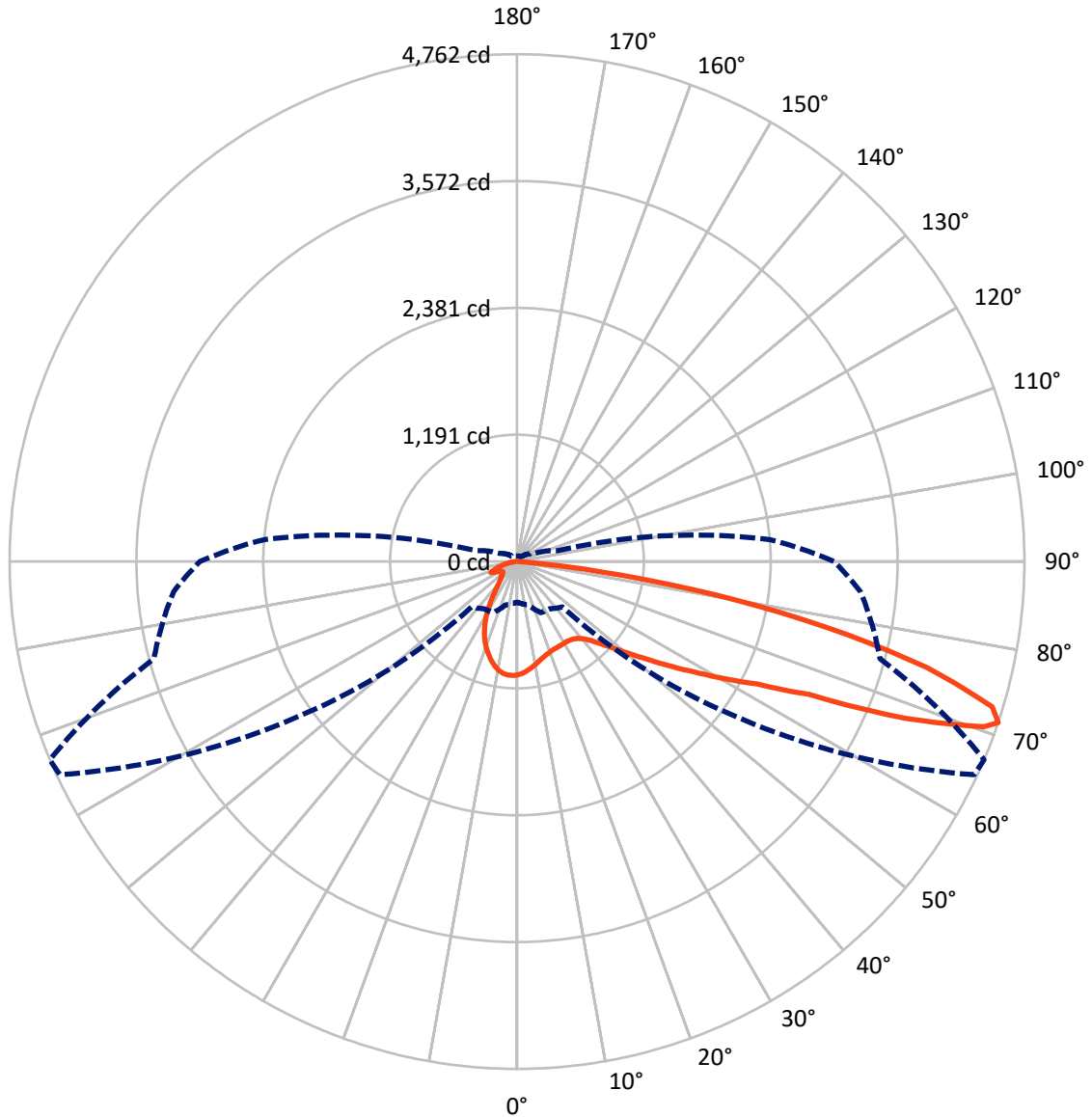


Based on 10 foot mounting height. Maximum calculated value = 10.6 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral      - - - Horizontal Cone Through 71-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 955.5    | 0.0    | 955.5  |
|                    | % Fixture | 20.5     | 0.0    | 20.5   |
| <b>Street Side</b> | Lumens    | 3708.5   | 0.0    | 3708.5 |
|                    | % Fixture | 79.5     | 0.0    | 79.5   |
| <b>Total</b>       | Lumens    | 4664.0   | 0.0    | 4664.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 94.2   | 2.0       |
| 10°-20°   | 231.6  | 5.0       |
| 20°-30°   | 312.7  | 6.7       |
| 30°-40°   | 411.8  | 8.8       |
| 40°-50°   | 586.6  | 12.6      |
| 50°-60°   | 896.1  | 19.2      |
| 60°-70°   | 1118.9 | 24.0      |
| 70°-80°   | 903.2  | 19.4      |
| 80°-90°   | 108.9  | 2.3       |
| 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°    | 4664.0 | 100.0     |
| 0°-180°   | 4664.0 | 100.0     |



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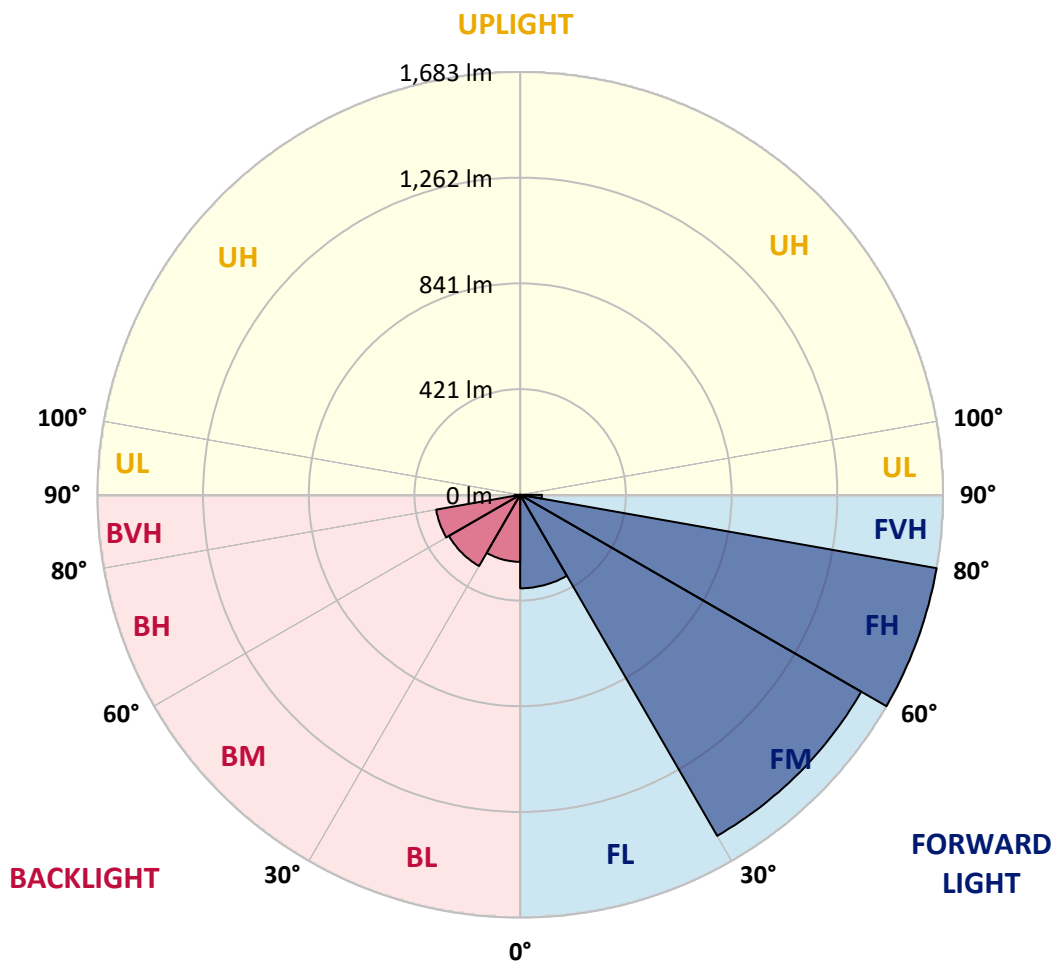
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 371.9  | 8.0       |                         |      |         |
| FM   | (30°-60°)   | 1567.2 | 33.6      |                         |      |         |
| FH   | (60°-80°)   | 1682.6 | 36.1      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 86.8   | 1.9       |                         |      | G1/100  |
| BL   | (0°-30°)    | 266.6  | 5.7       | B1/500                  |      |         |
| BM   | (30°-60°)   | 327.4  | 7.0       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 339.5  | 7.3       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 22.0   | 0.5       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G1**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 67°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 |
| 2.5°  | 1003.1 | 1007.8 | 1008.5 | 1017.9 | 1021.2 | 1032.0 | 1038.0 | 1048.1 | 1049.4 | 1055.5 | 1059.5 |
| 5°    | 938.0  | 938.6  | 942.7  | 950.7  | 963.5  | 982.9  | 997.7  | 1022.6 | 1027.3 | 1044.7 | 1060.2 |
| 7.5°  | 879.5  | 882.9  | 889.6  | 901.7  | 916.5  | 939.3  | 962.1  | 996.4  | 1003.1 | 1031.3 | 1060.8 |
| 10°   | 839.9  | 843.3  | 848.7  | 862.1  | 876.9  | 902.4  | 929.9  | 969.5  | 976.9  | 1015.8 | 1058.8 |
| 12.5° | 808.4  | 811.7  | 815.8  | 830.5  | 846.6  | 872.2  | 900.4  | 944.7  | 952.1  | 997.0  | 1054.1 |
| 15°   | 787.6  | 788.2  | 793.6  | 805.7  | 823.8  | 848.7  | 876.9  | 922.5  | 931.2  | 982.3  | 1052.8 |
| 17.5° | 774.8  | 776.2  | 780.9  | 790.3  | 806.4  | 830.5  | 858.1  | 904.4  | 914.5  | 970.2  | 1053.4 |
| 20°   | 775.5  | 776.8  | 779.5  | 782.9  | 794.3  | 815.1  | 844.0  | 891.0  | 901.0  | 962.8  | 1058.1 |
| 22.5° | 789.6  | 790.3  | 790.9  | 786.2  | 790.3  | 805.0  | 833.2  | 881.6  | 892.3  | 959.4  | 1063.5 |
| 25°   | 816.4  | 816.4  | 815.1  | 804.4  | 795.6  | 801.7  | 827.2  | 878.2  | 888.9  | 956.8  | 1068.9 |
| 27.5° | 853.4  | 856.0  | 849.3  | 836.6  | 816.4  | 806.4  | 825.8  | 875.5  | 886.3  | 956.8  | 1071.6 |
| 30°   | 903.7  | 905.1  | 902.4  | 885.6  | 852.7  | 825.2  | 829.9  | 873.5  | 884.2  | 955.4  | 1072.2 |
| 32.5° | 954.7  | 958.8  | 962.1  | 947.4  | 907.7  | 858.7  | 846.0  | 876.2  | 885.6  | 954.7  | 1070.2 |
| 35°   | 1006.4 | 1009.1 | 1025.2 | 1022.6 | 979.6  | 909.1  | 872.2  | 886.9  | 895.0  | 958.1  | 1071.6 |
| 37.5° | 1050.8 | 1056.8 | 1080.3 | 1098.4 | 1064.9 | 977.6  | 917.1  | 910.4  | 915.1  | 974.9  | 1079.0 |
| 40°   | 1098.4 | 1107.2 | 1142.1 | 1176.3 | 1161.5 | 1063.5 | 980.9  | 952.7  | 951.4  | 1005.8 | 1097.1 |
| 42.5° | 1152.1 | 1162.2 | 1207.2 | 1256.9 | 1261.6 | 1173.0 | 1066.2 | 1012.5 | 1011.1 | 1058.8 | 1136.7 |
| 45°   | 1215.3 | 1224.7 | 1285.8 | 1344.8 | 1373.7 | 1295.2 | 1170.9 | 1097.1 | 1097.8 | 1132.7 | 1199.8 |
| 47.5° | 1293.1 | 1307.9 | 1367.0 | 1442.2 | 1493.9 | 1432.8 | 1297.8 | 1215.3 | 1209.9 | 1244.1 | 1303.2 |
| 50°   | 1402.6 | 1414.7 | 1463.7 | 1536.9 | 1627.5 | 1599.3 | 1457.6 | 1357.6 | 1353.6 | 1369.7 | 1441.5 |
| 52.5° | 1517.4 | 1521.4 | 1544.9 | 1620.8 | 1773.2 | 1801.4 | 1654.4 | 1534.2 | 1518.7 | 1527.5 | 1613.4 |
| 55°   | 1524.1 | 1532.8 | 1548.3 | 1644.3 | 1904.1 | 2043.8 | 1871.2 | 1742.3 | 1722.2 | 1716.1 | 1808.8 |
| 57.5° | 1384.5 | 1398.6 | 1418.7 | 1542.9 | 1909.5 | 2323.8 | 2179.4 | 1985.4 | 1949.1 | 1918.9 | 2017.6 |
| 60°   | 1088.4 | 1106.5 | 1143.4 | 1295.8 | 1773.2 | 2483.6 | 2693.7 | 2258.0 | 2225.7 | 2123.0 | 2221.7 |
| 62.5° | 786.9  | 794.3  | 829.9  | 898.3  | 1407.3 | 2493.0 | 3229.5 | 2613.8 | 2533.9 | 2321.7 | 2397.6 |
| 65°   | 633.8  | 645.9  | 656.6  | 656.0  | 833.2  | 2211.0 | 3585.3 | 3246.9 | 3005.9 | 2544.0 | 2591.0 |
| 67.5° | 522.4  | 526.4  | 552.6  | 598.2  | 566.7  | 1365.7 | 3620.9 | 4172.2 | 3927.8 | 2843.4 | 2820.6 |
| 70°   | 436.4  | 437.8  | 463.9  | 545.9  | 542.5  | 705.0  | 3036.1 | 4704.6 | 4645.5 | 3334.9 | 3179.8 |
| 71°   | 382.0  | 393.4  | 422.3  | 528.4  | 539.8  | 602.3  | 2579.6 | 4732.8 | 4762.3 | 3527.6 | 3235.5 |
| 72.5° | 300.8  | 300.8  | 341.7  | 484.8  | 544.5  | 555.9  | 1900.8 | 4579.0 | 4664.3 | 3746.5 | 3138.8 |
| 75°   | 176.6  | 175.2  | 197.4  | 337.7  | 556.6  | 553.9  | 1038.0 | 3805.6 | 3978.1 | 3786.1 | 2905.2 |
| 77.5° | 99.4   | 101.4  | 113.5  | 188.0  | 441.8  | 531.8  | 596.2  | 2770.9 | 2974.4 | 3167.0 | 2456.7 |
| 80°   | 45.7   | 48.3   | 57.1   | 91.3   | 260.5  | 459.2  | 425.7  | 1799.4 | 1876.6 | 1903.5 | 1160.9 |
| 82.5° | 12.1   | 13.4   | 17.5   | 34.9   | 100.7  | 312.9  | 314.9  | 753.3  | 778.2  | 449.8  | 249.1  |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 1.3    | 38.3   | 89.3   | 135.6  | 112.8  | 59.8   | 51.0   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 1.3    | 2.0    | 2.7    | 2.7    | 2.7    | 3.4    |
| 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°    | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 | 1063.5 |
| 2.5°  | 1062.8 | 1065.5 | 1070.2 | 1069.6 | 1068.2 | 1060.2 | 1064.9 | 1060.2 | 1059.5 | 1057.5 | 1058.1 |
| 5°    | 1065.5 | 1069.6 | 1072.2 | 1066.2 | 1056.1 | 1038.7 | 1032.6 | 1017.2 | 1007.1 | 1001.7 | 999.1  |
| 7.5°  | 1069.6 | 1072.2 | 1070.9 | 1054.1 | 1027.9 | 995.0  | 966.8  | 944.7  | 921.2  | 917.1  | 915.8  |
| 10°   | 1069.6 | 1072.2 | 1061.5 | 1029.3 | 984.3  | 932.6  | 889.6  | 853.4  | 817.1  | 803.7  | 805.7  |
| 12.5° | 1066.9 | 1068.2 | 1043.4 | 991.7  | 926.5  | 856.0  | 795.6  | 735.9  | 689.5  | 661.3  | 656.0  |
| 15°   | 1064.9 | 1062.8 | 1019.2 | 944.7  | 858.1  | 770.8  | 679.5  | 598.9  | 543.8  | 506.9  | 502.2  |
| 17.5° | 1064.9 | 1057.5 | 990.3  | 891.0  | 783.5  | 663.4  | 542.5  | 455.2  | 394.1  | 372.6  | 372.0  |
| 20°   | 1066.2 | 1050.1 | 959.4  | 835.2  | 690.9  | 535.8  | 404.9  | 330.3  | 307.5  | 304.1  | 304.8  |
| 22.5° | 1067.5 | 1040.0 | 925.9  | 772.1  | 587.5  | 399.5  | 289.4  | 262.5  | 264.5  | 272.6  | 271.9  |
| 25°   | 1066.2 | 1026.6 | 886.3  | 701.6  | 474.7  | 288.0  | 233.7  | 226.9  | 239.0  | 248.4  | 251.1  |
| 27.5° | 1062.8 | 1009.1 | 844.0  | 617.7  | 361.9  | 226.9  | 204.1  | 203.4  | 215.5  | 224.3  | 223.6  |
| 30°   | 1052.8 | 988.3  | 795.0  | 529.1  | 261.2  | 193.4  | 184.0  | 186.0  | 194.0  | 202.1  | 202.1  |
| 32.5° | 1042.0 | 964.8  | 743.3  | 432.4  | 200.8  | 175.2  | 171.9  | 172.6  | 177.9  | 184.0  | 183.3  |
| 35°   | 1030.6 | 942.0  | 690.2  | 331.7  | 175.9  | 164.5  | 163.2  | 162.5  | 164.5  | 165.8  | 165.8  |
| 37.5° | 1023.9 | 921.8  | 631.8  | 249.8  | 162.5  | 157.8  | 155.1  | 152.4  | 151.7  | 150.4  | 149.1  |
| 40°   | 1026.6 | 908.4  | 575.4  | 193.4  | 154.4  | 150.4  | 146.4  | 142.3  | 139.7  | 138.3  | 137.6  |
| 42.5° | 1045.4 | 904.4  | 513.0  | 166.5  | 147.0  | 143.7  | 138.3  | 131.6  | 128.9  | 128.9  | 128.2  |
| 45°   | 1089.0 | 916.5  | 454.5  | 153.1  | 140.3  | 136.3  | 127.6  | 122.9  | 120.9  | 121.5  | 121.5  |
| 47.5° | 1157.5 | 950.7  | 402.2  | 146.4  | 135.6  | 129.6  | 119.5  | 114.8  | 113.5  | 114.1  | 114.1  |
| 50°   | 1260.2 | 1015.2 | 348.5  | 140.3  | 130.3  | 122.2  | 113.5  | 108.1  | 106.1  | 106.1  | 106.1  |
| 52.5° | 1410.6 | 1121.3 | 309.5  | 136.3  | 125.6  | 116.2  | 107.4  | 101.4  | 98.7   | 98.7   | 98.0   |
| 55°   | 1593.9 | 1259.6 | 294.7  | 133.6  | 119.5  | 110.8  | 101.4  | 95.3   | 91.3   | 90.0   | 90.6   |
| 57.5° | 1794.7 | 1438.8 | 316.2  | 132.9  | 112.8  | 104.7  | 95.3   | 88.0   | 83.9   | 83.3   | 82.6   |
| 60°   | 2001.5 | 1616.8 | 378.0  | 129.6  | 107.4  | 97.4   | 88.6   | 81.9   | 77.9   | 76.5   | 75.9   |
| 62.5° | 2180.1 | 1794.0 | 480.1  | 126.9  | 103.4  | 90.6   | 81.2   | 75.2   | 71.8   | 69.8   | 69.8   |
| 65°   | 2395.6 | 1997.4 | 635.8  | 130.3  | 101.4  | 83.9   | 74.5   | 69.2   | 66.5   | 64.5   | 64.5   |
| 67.5° | 2689.7 | 2298.9 | 754.0  | 146.4  | 106.1  | 78.6   | 67.1   | 63.1   | 61.1   | 59.8   | 59.8   |
| 70°   | 2979.1 | 2468.1 | 524.4  | 171.9  | 118.2  | 73.9   | 60.4   | 57.7   | 56.4   | 55.1   | 55.1   |
| 71°   | 2975.0 | 2377.5 | 394.1  | 177.9  | 122.2  | 72.5   | 57.7   | 55.7   | 54.4   | 53.7   | 53.0   |
| 72.5° | 2826.0 | 2161.3 | 282.7  | 172.6  | 120.2  | 68.5   | 54.4   | 52.4   | 51.0   | 51.0   | 50.4   |
| 75°   | 2534.6 | 1904.8 | 220.9  | 144.4  | 100.7  | 61.1   | 48.3   | 47.0   | 45.7   | 45.0   | 45.7   |
| 77.5° | 2076.7 | 1524.1 | 173.9  | 114.1  | 76.5   | 50.4   | 43.0   | 41.0   | 40.3   | 39.6   | 40.3   |
| 80°   | 954.1  | 664.0  | 126.9  | 88.6   | 57.1   | 40.3   | 36.3   | 35.6   | 34.9   | 34.2   | 34.2   |
| 82.5° | 229.6  | 186.0  | 67.8   | 59.1   | 38.9   | 30.9   | 28.9   | 28.9   | 28.9   | 28.2   | 28.2   |
| 85°   | 50.4   | 50.4   | 27.5   | 27.5   | 23.5   | 21.5   | 22.8   | 22.8   | 22.8   | 21.5   | 21.5   |
| 87.5° | 2.7    | 8.1    | 8.7    | 12.8   | 13.4   | 12.8   | 15.4   | 16.1   | 15.4   | 14.8   | 14.1   |
| 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)