

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: P401921

Luminaire Tested: **ENT-SA1F-827-U-SL4-HSS**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401921  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/20/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-SA1F-827-U-SL4-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 2700K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4696 lumens  
Efficiency: N/A  
Efficacy: 71.0 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): 66.1  
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

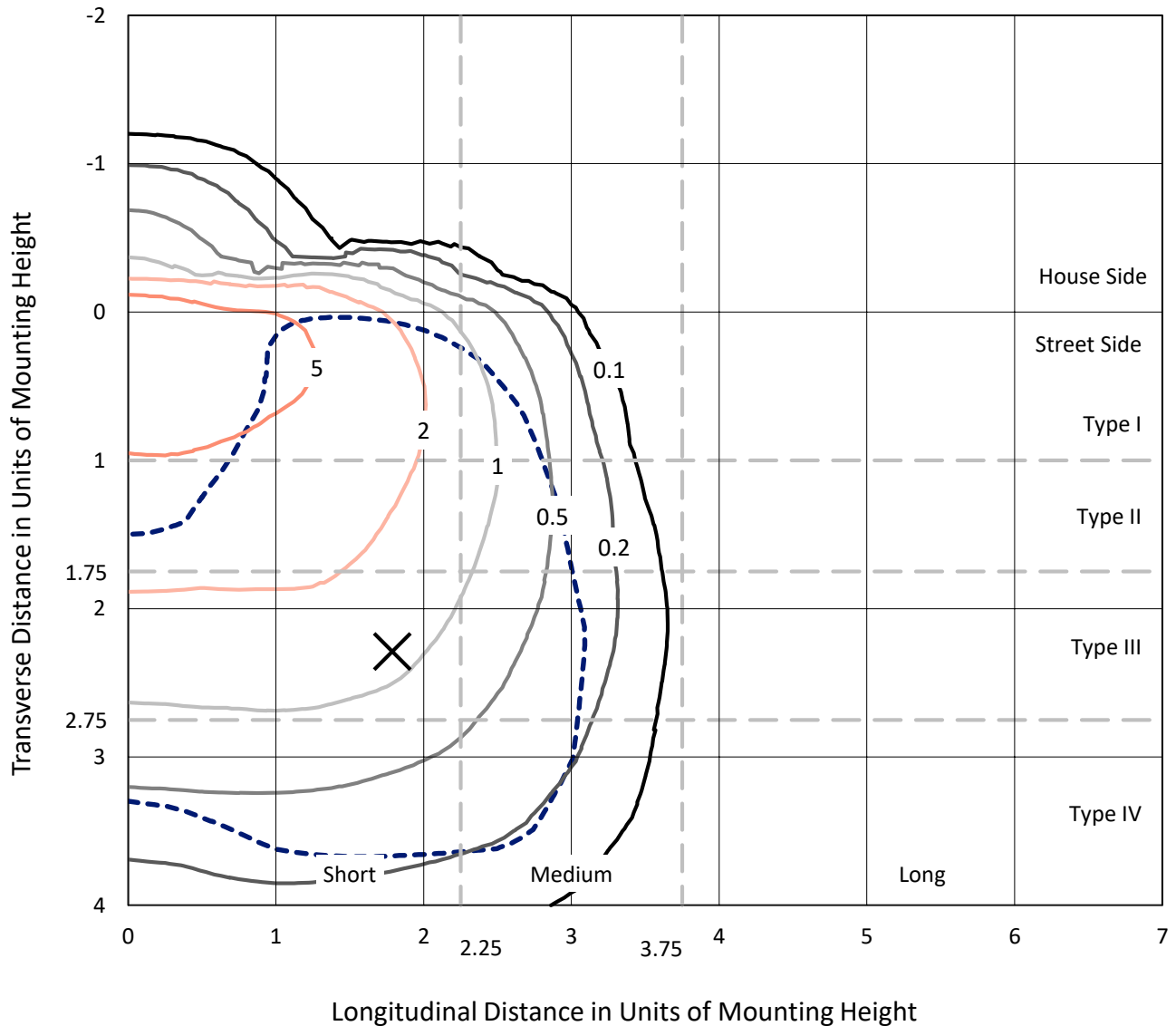


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

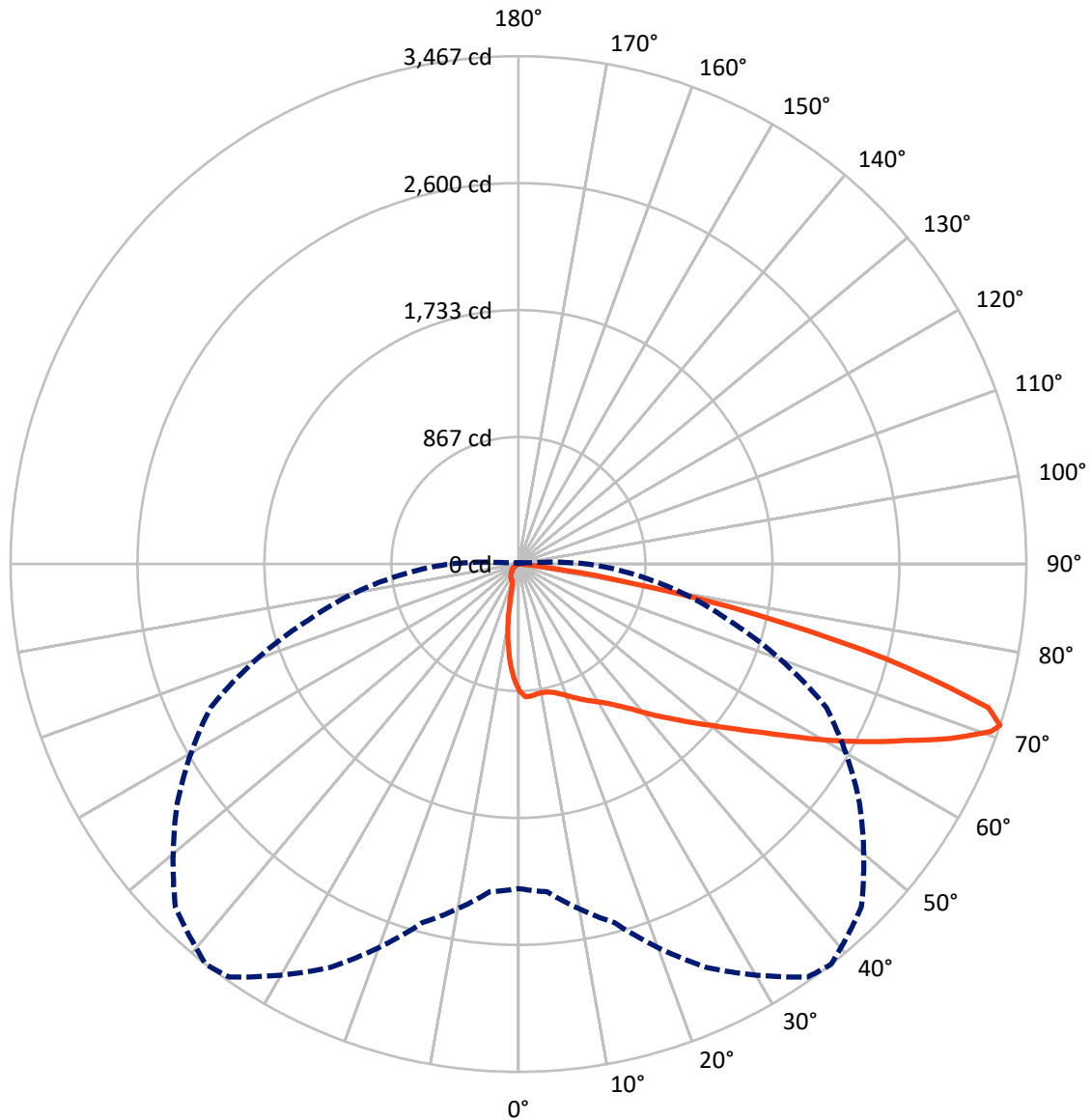


Based on 10 foot mounting height. Maximum calculated value = 8.9 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral    - - - Horizontal Cone Through 71-Deg Vertical

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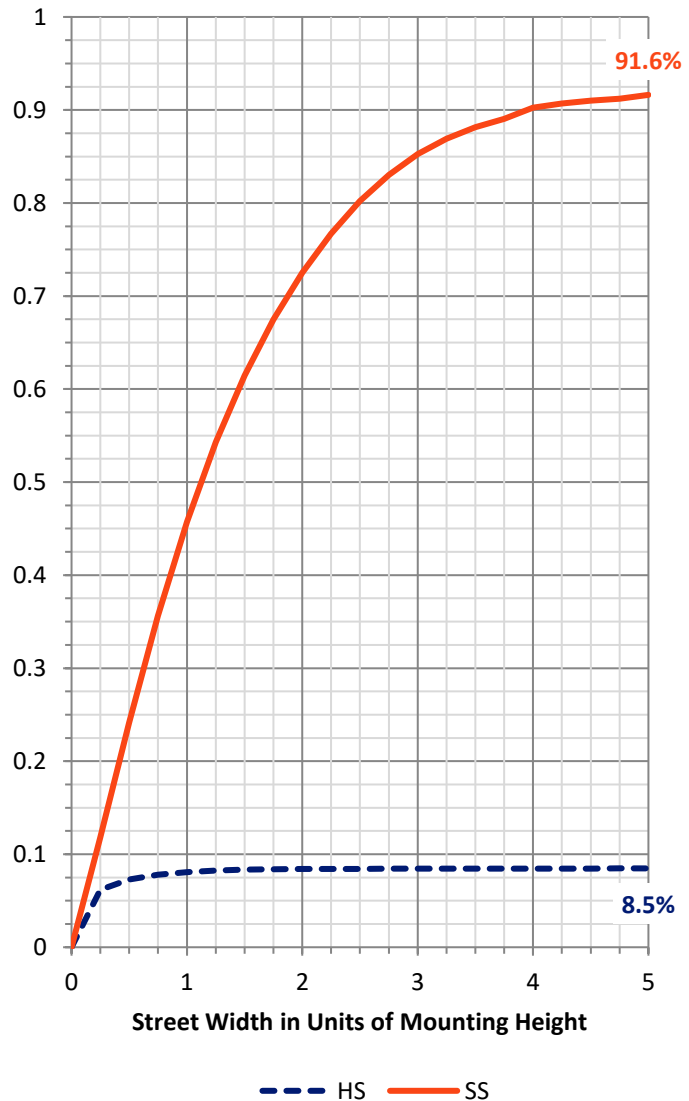
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 401.1    | 0.0    | 401.1  |
|                    | % Fixture | 8.5      | 0.0    | 8.5    |
| <b>Street Side</b> | Lumens    | 4294.9   | 0.0    | 4294.9 |
|                    | % Fixture | 91.5     | 0.0    | 91.5   |
| <b>Total</b>       | Lumens    | 4696.0   | 0.0    | 4696.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 73.1   | 1.6       |
| 10°-20°   | 177.0  | 3.8       |
| 20°-30°   | 283.9  | 6.0       |
| 30°-40°   | 431.9  | 9.2       |
| 40°-50°   | 673.1  | 14.3      |
| 50°-60°   | 984.2  | 21.0      |
| 60°-70°   | 1262.4 | 26.9      |
| 70°-80°   | 771.6  | 16.4      |
| 80°-90°   | 38.7   | 0.8       |
| 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°    | 4696.0 | 100.0     |
| 0°-180°   | 4696.0 | 100.0     |

**Coefficient of Utilization**



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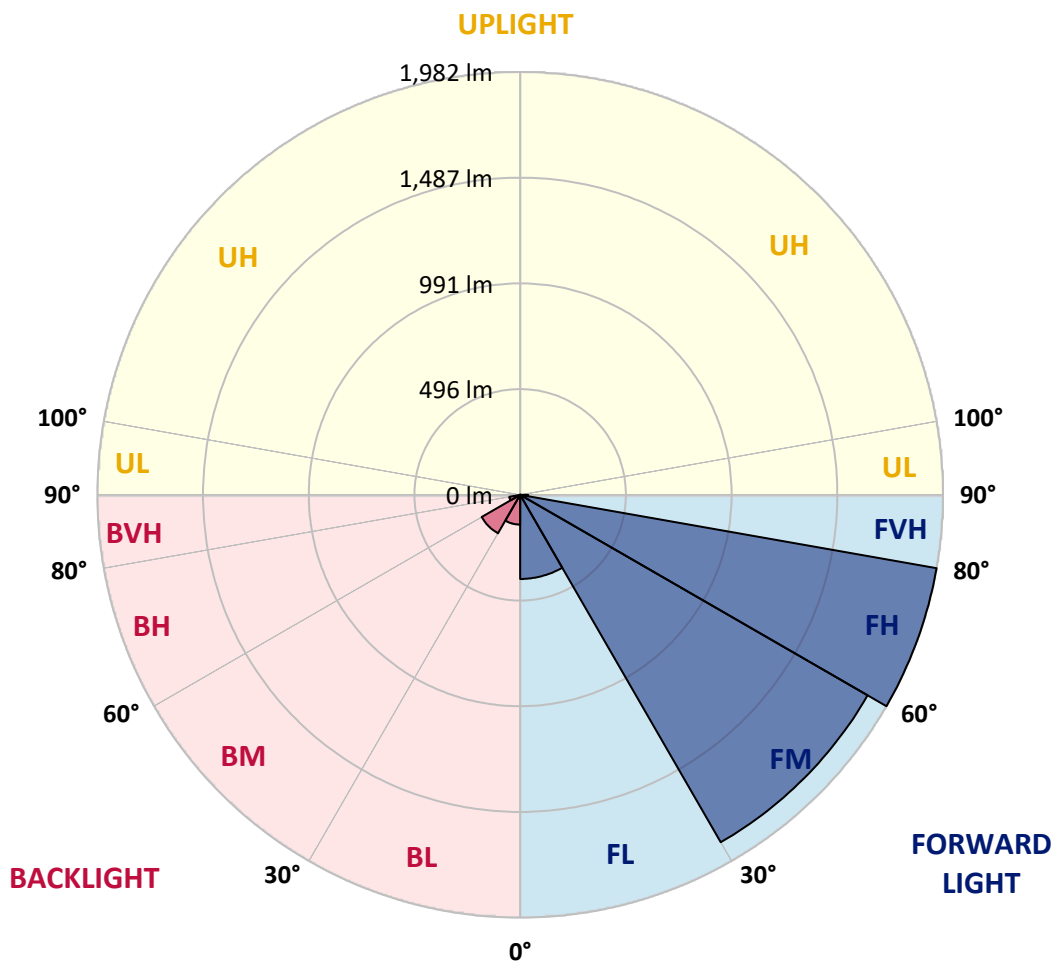
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 394.6  | 8.4       |                         |      |         |
| FM (30°-60°)   | 1880.8 | 40.1      |                         |      |         |
| FH (60°-80°)   | 1982.5 | 42.2      |                         |      | G2/5000 |
| FVH (80°-90°)  | 37.0   | 0.8       |                         |      | G1/100  |
| BL (0°-30°)    | 139.5  | 3.0       | B1/500                  |      |         |
| BM (30°-60°)   | 208.3  | 4.4       | B0/220                  |      |         |
| BH (60°-80°)   | 51.6   | 1.1       | B0/110                  |      | G0/110  |
| BVH (80°-90°)  | 1.7    | 0.0       |                         |      | G0/10   |
| 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°    | 38°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 865.7  | 865.7  | 865.7  | 865.7  | 865.7  | 865.7  | 865.7  | 865.7  | 865.7  | 865.7  | 865.7  |
| 2.5°  | 917.0  | 914.5  | 917.0  | 914.5  | 909.7  | 907.2  | 904.0  | 895.0  | 886.9  | 877.1  | 862.5  |
| 5°    | 918.6  | 917.0  | 917.0  | 913.7  | 908.0  | 905.6  | 902.3  | 893.4  | 882.8  | 868.2  | 846.2  |
| 7.5°  | 909.7  | 908.8  | 907.2  | 904.0  | 897.4  | 895.8  | 893.4  | 882.8  | 872.2  | 856.8  | 829.9  |
| 10°   | 895.0  | 896.6  | 895.8  | 895.8  | 893.4  | 891.8  | 890.1  | 877.9  | 866.5  | 848.6  | 820.2  |
| 12.5° | 881.2  | 882.8  | 886.9  | 893.4  | 895.8  | 896.6  | 896.6  | 884.4  | 870.6  | 851.1  | 821.8  |
| 15°   | 872.2  | 875.5  | 886.9  | 899.9  | 907.2  | 909.7  | 912.1  | 899.1  | 882.8  | 861.6  | 830.7  |
| 17.5° | 869.8  | 874.7  | 896.6  | 917.0  | 930.8  | 932.4  | 932.4  | 916.2  | 899.1  | 874.7  | 841.3  |
| 20°   | 877.9  | 884.4  | 912.9  | 941.4  | 958.5  | 960.1  | 956.8  | 935.7  | 915.3  | 888.5  | 850.3  |
| 22.5° | 902.3  | 908.0  | 940.6  | 973.9  | 990.2  | 991.8  | 984.5  | 955.2  | 933.2  | 911.3  | 862.5  |
| 25°   | 944.6  | 947.9  | 982.9  | 1014.6 | 1023.6 | 1026.0 | 1013.8 | 978.8  | 953.6  | 933.2  | 879.5  |
| 27.5° | 1000.8 | 1002.4 | 1034.1 | 1057.7 | 1059.4 | 1058.6 | 1045.5 | 1008.9 | 983.7  | 966.6  | 905.6  |
| 30°   | 1059.4 | 1061.8 | 1087.8 | 1103.3 | 1096.8 | 1093.5 | 1082.1 | 1043.1 | 1020.3 | 1007.3 | 943.0  |
| 32.5° | 1113.9 | 1116.3 | 1144.8 | 1152.9 | 1138.3 | 1135.8 | 1127.7 | 1086.2 | 1066.7 | 1073.2 | 996.7  |
| 35°   | 1167.6 | 1167.6 | 1200.1 | 1204.2 | 1191.2 | 1191.2 | 1191.2 | 1141.5 | 1138.3 | 1160.3 | 1071.6 |
| 37.5° | 1215.6 | 1223.7 | 1257.9 | 1256.3 | 1253.8 | 1255.5 | 1260.3 | 1222.9 | 1234.3 | 1271.7 | 1170.0 |
| 40°   | 1256.3 | 1266.8 | 1312.4 | 1316.5 | 1327.1 | 1336.0 | 1343.3 | 1323.8 | 1350.6 | 1411.7 | 1296.1 |
| 42.5° | 1292.9 | 1305.1 | 1363.7 | 1382.4 | 1411.7 | 1423.9 | 1437.7 | 1432.8 | 1492.2 | 1603.7 | 1457.2 |
| 45°   | 1340.1 | 1353.1 | 1413.3 | 1458.0 | 1498.7 | 1515.0 | 1545.9 | 1567.1 | 1665.5 | 1792.5 | 1631.4 |
| 47.5° | 1402.7 | 1411.7 | 1467.0 | 1537.8 | 1593.1 | 1622.4 | 1670.4 | 1724.9 | 1844.5 | 1992.6 | 1786.8 |
| 50°   | 1488.2 | 1489.0 | 1530.5 | 1622.4 | 1704.6 | 1736.3 | 1819.3 | 1890.1 | 2039.8 | 2169.2 | 1899.0 |
| 52.5° | 1582.5 | 1577.7 | 1610.2 | 1726.6 | 1830.7 | 1873.8 | 1971.5 | 2069.9 | 2220.4 | 2296.9 | 1949.5 |
| 55°   | 1672.0 | 1674.5 | 1694.8 | 1837.2 | 1989.4 | 2030.9 | 2154.5 | 2254.6 | 2385.6 | 2375.0 | 1977.2 |
| 57.5° | 1775.4 | 1774.6 | 1800.6 | 1958.4 | 2174.9 | 2222.9 | 2352.2 | 2434.4 | 2485.7 | 2431.2 | 1982.0 |
| 60°   | 1873.0 | 1870.6 | 1910.4 | 2103.3 | 2372.6 | 2443.4 | 2559.7 | 2556.5 | 2585.8 | 2467.0 | 1978.0 |
| 62.5° | 1960.1 | 1965.8 | 2035.7 | 2271.7 | 2593.9 | 2670.4 | 2729.0 | 2688.3 | 2696.4 | 2508.5 | 1927.5 |
| 65°   | 2065.8 | 2076.4 | 2189.5 | 2475.9 | 2867.3 | 2903.9 | 2926.7 | 2860.8 | 2779.4 | 2475.1 | 1774.6 |
| 67.5° | 2199.3 | 2231.0 | 2390.5 | 2777.0 | 3152.1 | 3177.3 | 3178.1 | 2964.9 | 2776.2 | 2306.7 | 1492.2 |
| 70°   | 2252.2 | 2285.5 | 2539.4 | 3015.4 | 3392.1 | 3423.8 | 3324.5 | 2948.6 | 2557.3 | 1806.3 | 1007.3 |
| 71°   | 2215.6 | 2245.7 | 2535.3 | 3038.1 | 3441.7 | 3466.9 | 3311.5 | 2842.1 | 2318.9 | 1488.2 | 780.3  |
| 72.5° | 1951.1 | 2029.2 | 2379.1 | 2894.9 | 3353.0 | 3353.8 | 3100.8 | 2590.6 | 1844.5 | 929.2  | 392.2  |
| 75°   | 1053.7 | 1148.1 | 1743.6 | 2203.3 | 2586.6 | 2606.9 | 2385.6 | 1799.0 | 892.6  | 240.8  | 95.2   |
| 77.5° | 347.4  | 391.4  | 781.9  | 1144.0 | 1622.4 | 1654.1 | 1458.9 | 799.0  | 281.5  | 81.4   | 49.6   |
| 80°   | 218.1  | 222.9  | 264.4  | 480.9  | 721.7  | 748.6  | 600.5  | 323.8  | 126.9  | 44.8   | 34.2   |
| 82.5° | 36.6   | 43.9   | 124.5  | 141.6  | 254.7  | 201.8  | 136.7  | 165.2  | 59.4   | 20.3   | 29.3   |
| 85°   | 0.0    | 0.0    | 0.8    | 0.8    | 4.1    | 0.8    | 0.8    | 33.4   | 3.3    | 3.3    | 15.5   |
| 87.5° | 0.0    | 0.0    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.0    | 0.0    | 0.0    |
| 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°    | 865.7  | 865.7  | 865.7 | 865.7 | 865.7 | 865.7 | 865.7 | 865.7 | 865.7 | 865.7 | 865.7 |
| 2.5°  | 856.0  | 849.4  | 836.4 | 822.6 | 805.5 | 790.9 | 786.0 | 775.4 | 770.5 | 766.5 | 766.5 |
| 5°    | 832.4  | 821.0  | 793.3 | 764.8 | 737.2 | 707.9 | 681.0 | 655.8 | 643.6 | 626.5 | 634.6 |
| 7.5°  | 812.8  | 793.3  | 754.2 | 709.5 | 652.5 | 594.8 | 550.0 | 511.0 | 478.4 | 467.8 | 460.5 |
| 10°   | 799.0  | 774.6  | 717.6 | 649.3 | 566.3 | 484.1 | 415.0 | 350.7 | 313.3 | 290.5 | 290.5 |
| 12.5° | 797.4  | 766.5  | 692.4 | 587.5 | 467.8 | 356.4 | 270.9 | 209.9 | 179.8 | 166.0 | 165.2 |
| 15°   | 803.1  | 765.6  | 669.6 | 531.3 | 377.5 | 247.3 | 169.2 | 142.4 | 135.1 | 133.4 | 133.4 |
| 17.5° | 807.9  | 764.8  | 642.8 | 467.8 | 278.3 | 162.7 | 134.3 | 129.4 | 127.7 | 126.9 | 126.9 |
| 20°   | 812.8  | 760.8  | 611.9 | 396.2 | 196.9 | 132.6 | 125.3 | 122.9 | 122.0 | 121.2 | 121.2 |
| 22.5° | 819.3  | 756.7  | 580.1 | 314.9 | 145.6 | 123.7 | 119.6 | 117.2 | 116.4 | 116.4 | 116.4 |
| 25°   | 828.3  | 754.2  | 541.1 | 238.4 | 125.3 | 117.2 | 113.1 | 111.5 | 111.5 | 110.7 | 110.7 |
| 27.5° | 845.4  | 756.7  | 498.8 | 170.9 | 117.2 | 110.7 | 108.2 | 106.6 | 106.6 | 105.8 | 105.8 |
| 30°   | 869.0  | 764.0  | 445.9 | 133.4 | 110.7 | 104.1 | 101.7 | 100.9 | 100.1 | 100.1 | 100.1 |
| 32.5° | 902.3  | 775.4  | 388.1 | 113.9 | 102.5 | 97.6  | 95.2  | 94.4  | 94.4  | 94.4  | 93.6  |
| 35°   | 953.6  | 799.0  | 317.3 | 104.1 | 95.2  | 90.3  | 87.9  | 87.9  | 87.9  | 87.1  | 87.9  |
| 37.5° | 1031.7 | 837.2  | 245.7 | 96.0  | 87.1  | 83.0  | 81.4  | 80.6  | 80.6  | 80.6  | 80.6  |
| 40°   | 1130.2 | 899.1  | 179.0 | 88.7  | 79.7  | 75.7  | 74.0  | 73.2  | 72.4  | 72.4  | 72.4  |
| 42.5° | 1257.1 | 967.4  | 130.2 | 80.6  | 73.2  | 69.2  | 67.5  | 65.9  | 64.3  | 63.5  | 63.5  |
| 45°   | 1388.9 | 1048.8 | 101.7 | 74.0  | 66.7  | 63.5  | 61.8  | 59.4  | 57.0  | 54.5  | 54.5  |
| 47.5° | 1516.6 | 1111.4 | 87.1  | 66.7  | 61.0  | 57.8  | 56.1  | 52.9  | 48.8  | 46.4  | 46.4  |
| 50°   | 1597.2 | 1131.0 | 78.1  | 60.2  | 55.3  | 52.9  | 50.4  | 46.4  | 40.7  | 38.2  | 38.2  |
| 52.5° | 1622.4 | 1095.2 | 70.0  | 54.5  | 50.4  | 48.0  | 44.8  | 39.1  | 33.4  | 30.1  | 30.1  |
| 55°   | 1632.2 | 1026.0 | 61.8  | 50.4  | 45.6  | 42.3  | 38.2  | 32.5  | 26.9  | 23.6  | 23.6  |
| 57.5° | 1620.0 | 928.4  | 55.3  | 45.6  | 40.7  | 37.4  | 32.5  | 26.0  | 20.3  | 17.9  | 17.9  |
| 60°   | 1578.5 | 786.8  | 49.6  | 40.7  | 35.8  | 31.7  | 26.9  | 20.3  | 15.5  | 12.2  | 13.0  |
| 62.5° | 1466.2 | 608.6  | 43.1  | 34.2  | 30.9  | 26.9  | 21.2  | 15.5  | 9.8   | 8.1   | 8.1   |
| 65°   | 1287.2 | 421.5  | 36.6  | 28.5  | 26.0  | 22.0  | 16.3  | 10.6  | 5.7   | 4.9   | 4.9   |
| 67.5° | 1045.5 | 272.6  | 28.5  | 23.6  | 22.0  | 17.9  | 12.2  | 6.5   | 3.3   | 3.3   | 2.4   |
| 70°   | 656.6  | 135.1  | 22.8  | 17.9  | 17.9  | 13.8  | 9.0   | 4.1   | 2.4   | 2.4   | 2.4   |
| 71°   | 464.6  | 91.9   | 20.3  | 16.3  | 16.3  | 13.0  | 8.1   | 3.3   | 2.4   | 2.4   | 2.4   |
| 72.5° | 209.9  | 57.8   | 17.1  | 14.6  | 13.8  | 10.6  | 7.3   | 3.3   | 3.3   | 3.3   | 3.3   |
| 75°   | 65.9   | 31.7   | 12.2  | 11.4  | 11.4  | 9.0   | 6.5   | 4.1   | 4.1   | 4.1   | 4.1   |
| 77.5° | 43.9   | 24.4   | 8.1   | 7.3   | 9.0   | 9.0   | 6.5   | 4.9   | 4.9   | 4.9   | 4.9   |
| 80°   | 35.8   | 13.0   | 4.9   | 4.9   | 6.5   | 8.1   | 6.5   | 4.9   | 5.7   | 4.9   | 4.9   |
| 82.5° | 35.0   | 6.5    | 1.6   | 2.4   | 4.1   | 4.9   | 4.9   | 4.1   | 4.9   | 4.9   | 4.9   |
| 85°   | 14.6   | 1.6    | 0.8   | 1.6   | 1.6   | 2.4   | 2.4   | 3.3   | 4.1   | 4.1   | 4.1   |
| 87.5° | 0.0    | 0.0    | 0.0   | 0.0   | 0.8   | 0.8   | 1.6   | 1.6   | 2.4   | 3.3   | 3.3   |
| 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)