

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: P367395

Luminaire Tested: **MSA-SA2C-727-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367395
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2C-727-U-SL2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8456 lumens
Efficiency: N/A
Efficacy: 74.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G2

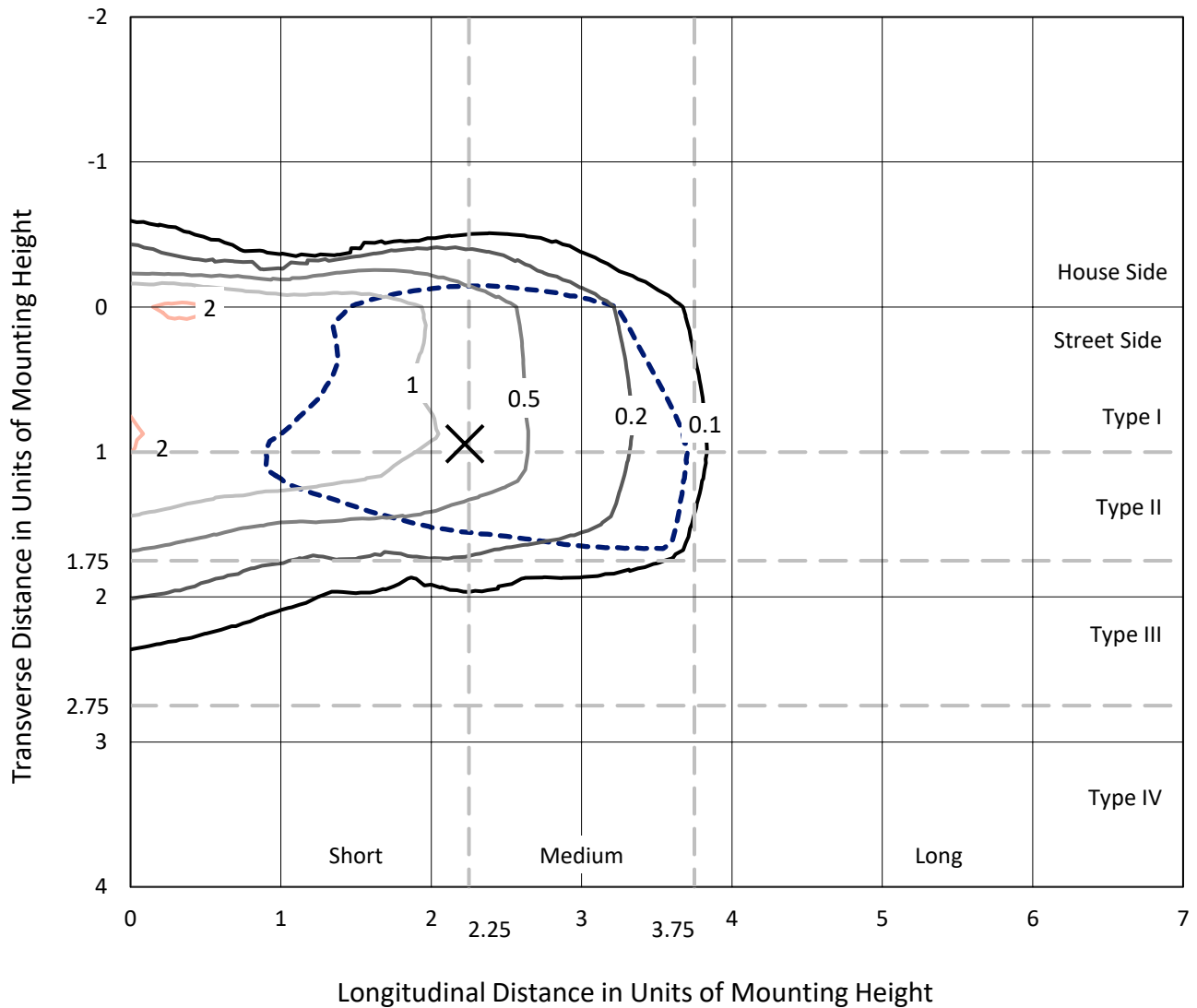
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

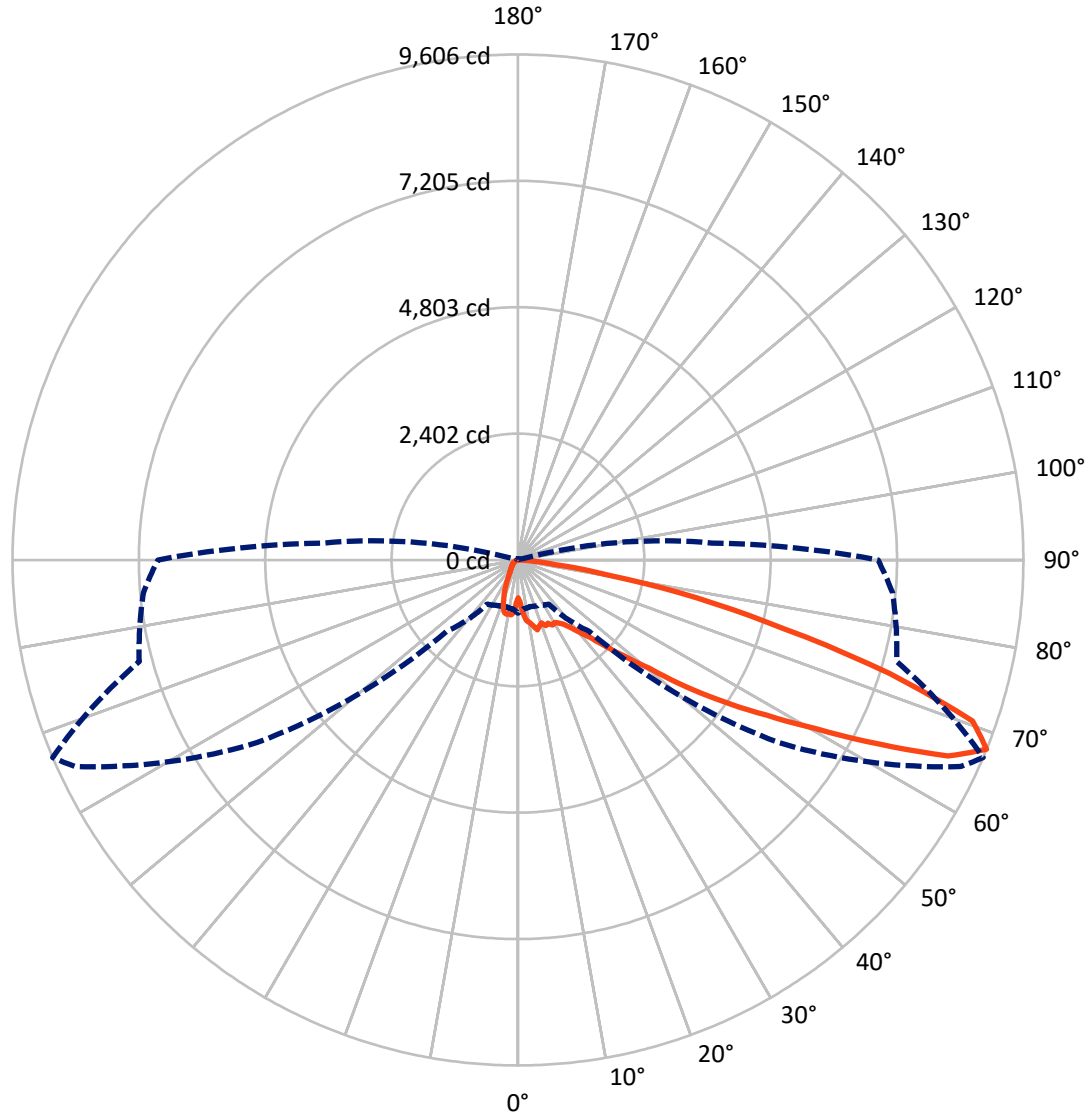
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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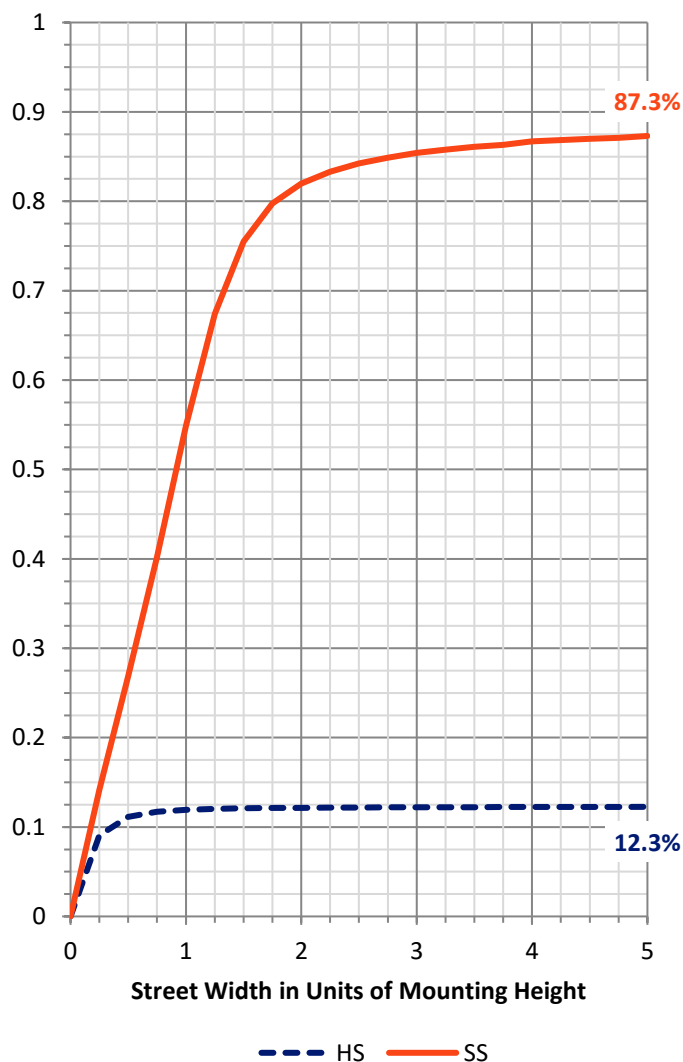
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1045.8 | 0.0 | 1045.8 |
| | % Fixture | 12.4 | 0.0 | 12.4 |
| Street Side | Lumens | 7410.2 | 0.0 | 7410.2 |
| | % Fixture | 87.6 | 0.0 | 87.6 |
| Total | Lumens | 8456.0 | 0.0 | 8456.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 90.4 | 1.1 |
| 10°-20° | 267.5 | 3.2 |
| 20°-30° | 419.2 | 5.0 |
| 30°-40° | 675.9 | 8.0 |
| 40°-50° | 1242.1 | 14.7 |
| 50°-60° | 2097.7 | 24.8 |
| 60°-70° | 2319.1 | 27.4 |
| 70°-80° | 1213.8 | 14.4 |
| 80°-90° | 130.3 | 1.5 |
| 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° | 8456.0 | 100.0 |
| 0°-180° | 8456.0 | 100.0 |

Coefficient of Utilization

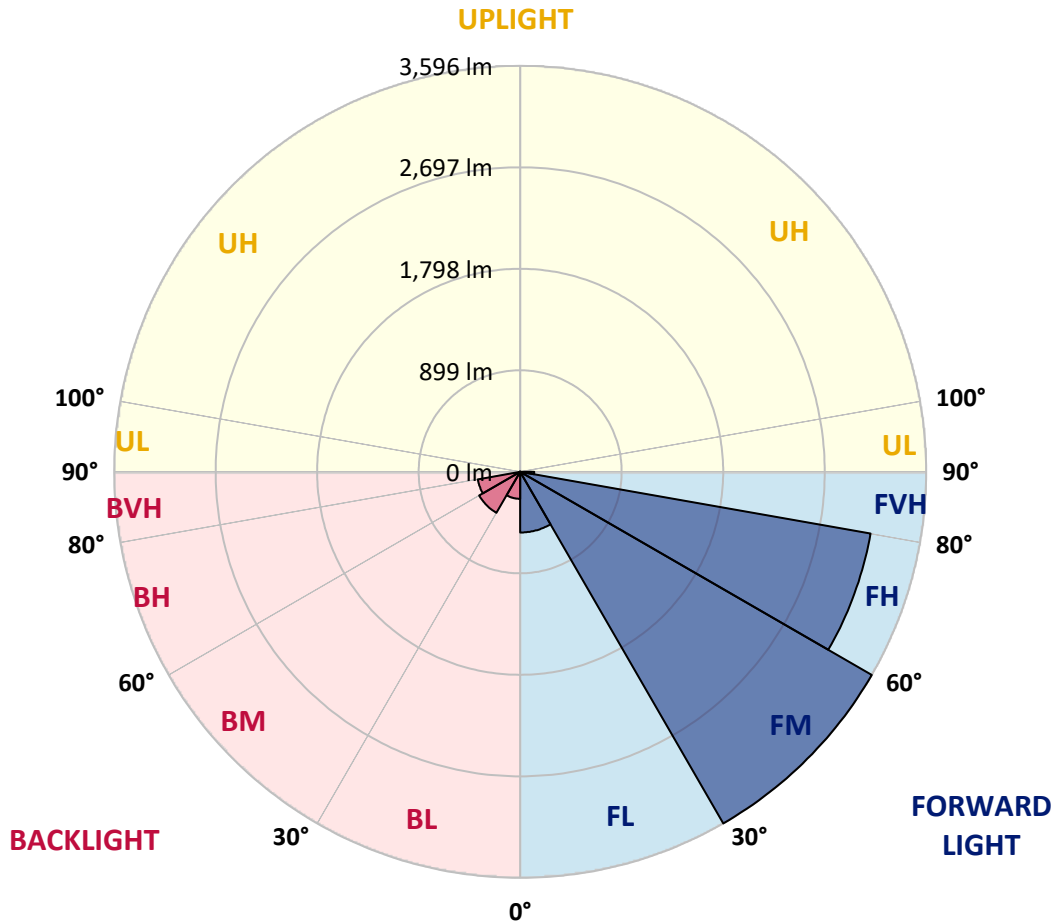


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 537.7 | 6.4 | | | |
| FM (30°-60°) | 3596.4 | 42.5 | | | |
| FH (60°-80°) | 3151.4 | 37.3 | | | G2/5000 |
| FVH (80°-90°) | 124.8 | 1.5 | | | G2/225 |
| BL (0°-30°) | 239.4 | 2.8 | B1/500 | | |
| BM (30°-60°) | 419.3 | 5.0 | B1/1000 | | |
| BH (60°-80°) | 381.5 | 4.5 | B1/500 | | G1/500 |
| BVH (80°-90°) | 5.6 | 0.1 | | | 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 II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 67° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 |
| 2.5° | 850.2 | 821.4 | 772.5 | 786.7 | 815.0 | 838.6 | 827.5 | 805.6 | 806.0 | 783.7 | 863.9 |
| 5° | 989.2 | 950.6 | 922.3 | 932.1 | 930.8 | 930.0 | 982.7 | 1002.9 | 1011.5 | 1048.4 | 1102.8 |
| 7.5° | 1029.1 | 1015.3 | 985.7 | 994.7 | 965.1 | 967.3 | 1059.9 | 1147.5 | 1161.2 | 1183.9 | 1280.9 |
| 10° | 1013.6 | 987.0 | 997.7 | 997.7 | 998.2 | 1046.2 | 1108.4 | 1192.1 | 1208.8 | 1296.3 | 1306.6 |
| 12.5° | 996.9 | 998.2 | 1040.6 | 1032.9 | 1091.3 | 1177.5 | 1198.5 | 1292.4 | 1284.3 | 1360.2 | 1473.0 |
| 15° | 1059.1 | 1091.7 | 1064.2 | 1075.0 | 1080.5 | 1181.8 | 1215.7 | 1340.5 | 1376.5 | 1472.6 | 1546.0 |
| 17.5° | 1165.9 | 1170.2 | 1113.1 | 1097.7 | 1138.0 | 1166.8 | 1235.0 | 1295.0 | 1319.0 | 1571.3 | 1675.1 |
| 20° | 1185.2 | 1212.7 | 1154.7 | 1065.5 | 1150.9 | 1190.3 | 1238.0 | 1266.7 | 1277.0 | 1601.7 | 1748.0 |
| 22.5° | 1301.4 | 1271.0 | 1178.3 | 1110.6 | 1135.0 | 1177.9 | 1207.5 | 1294.2 | 1355.9 | 1544.2 | 1817.9 |
| 25° | 1361.1 | 1352.9 | 1264.6 | 1206.6 | 1181.8 | 1178.3 | 1246.1 | 1311.7 | 1331.5 | 1603.9 | 1835.1 |
| 27.5° | 1503.9 | 1485.5 | 1314.3 | 1307.0 | 1225.1 | 1153.0 | 1247.4 | 1365.4 | 1402.3 | 1547.7 | 1899.4 |
| 30° | 1698.2 | 1691.4 | 1463.6 | 1458.9 | 1328.5 | 1198.9 | 1316.9 | 1398.4 | 1376.1 | 1576.4 | 1942.3 |
| 32.5° | 1893.8 | 1949.6 | 1716.7 | 1583.7 | 1485.9 | 1367.5 | 1297.2 | 1388.1 | 1428.0 | 1646.3 | 2021.2 |
| 35° | 2130.2 | 2170.5 | 1933.3 | 1836.8 | 1619.3 | 1446.4 | 1428.0 | 1486.3 | 1503.5 | 1729.5 | 2110.9 |
| 37.5° | 2543.7 | 2482.8 | 2280.7 | 2116.5 | 2002.4 | 1728.3 | 1637.3 | 1591.0 | 1630.9 | 1842.4 | 2294.0 |
| 40° | 2849.1 | 2810.5 | 2561.7 | 2463.5 | 2201.0 | 2040.5 | 1802.9 | 1759.6 | 1804.2 | 1958.2 | 2421.4 |
| 42.5° | 3217.6 | 3137.4 | 2903.2 | 2836.7 | 2566.4 | 2257.2 | 2016.1 | 2031.1 | 2003.2 | 2186.8 | 2644.9 |
| 45° | 3550.9 | 3369.9 | 3239.5 | 3254.5 | 3110.3 | 2692.5 | 2371.7 | 2364.4 | 2341.2 | 2518.0 | 2880.0 |
| 47.5° | 3775.2 | 3616.9 | 3490.0 | 3448.4 | 3431.2 | 3458.2 | 2885.6 | 2756.0 | 2738.9 | 2865.8 | 3250.2 |
| 50° | 3895.8 | 3722.5 | 3565.5 | 3574.0 | 3922.4 | 4184.4 | 3415.8 | 3231.7 | 3238.2 | 3370.7 | 3756.4 |
| 52.5° | 3814.7 | 3618.7 | 3453.1 | 3613.9 | 4303.3 | 4668.7 | 4293.4 | 3853.3 | 4002.6 | 3968.7 | 4435.4 |
| 55° | 3440.2 | 3269.9 | 3152.4 | 3440.2 | 4344.9 | 5189.9 | 5373.9 | 4788.8 | 4755.4 | 4678.2 | 5127.7 |
| 57.5° | 2810.1 | 2663.4 | 2590.9 | 2894.6 | 3889.8 | 5609.9 | 6459.2 | 5846.2 | 5561.0 | 5237.5 | 5702.5 |
| 60° | 2093.7 | 1985.6 | 1910.1 | 2070.6 | 3064.9 | 5201.9 | 7170.0 | 6842.7 | 6512.4 | 5776.7 | 6219.0 |
| 62.5° | 1550.7 | 1462.7 | 1382.5 | 1397.1 | 2110.5 | 4474.0 | 7442.8 | 7898.3 | 7708.7 | 6345.9 | 6706.3 |
| 65° | 1237.5 | 1157.3 | 1101.1 | 1069.0 | 1307.0 | 3366.0 | 7063.2 | 8763.5 | 8982.3 | 6882.1 | 7058.0 |
| 67.5° | 1010.6 | 942.8 | 915.0 | 951.8 | 1025.2 | 1918.7 | 6049.1 | 9288.6 | 9606.0 | 7450.9 | 7144.7 |
| 70° | 822.3 | 766.5 | 763.5 | 863.1 | 944.1 | 1169.8 | 4449.5 | 8926.1 | 9165.0 | 7547.9 | 6625.2 |
| 72.5° | 573.1 | 548.6 | 587.7 | 728.8 | 935.5 | 974.2 | 2555.3 | 7386.6 | 7395.2 | 6666.4 | 5449.4 |
| 75° | 324.3 | 320.4 | 382.2 | 581.2 | 911.1 | 964.3 | 1424.6 | 5219.9 | 5223.8 | 5041.9 | 3775.2 |
| 77.5° | 178.4 | 166.9 | 222.6 | 392.9 | 782.4 | 942.0 | 918.8 | 3564.2 | 3472.8 | 2805.8 | 1724.4 |
| 80° | 82.4 | 77.6 | 120.5 | 251.8 | 572.2 | 890.9 | 736.5 | 1959.0 | 1766.4 | 914.1 | 420.8 |
| 82.5° | 33.9 | 32.2 | 55.3 | 161.7 | 361.6 | 717.6 | 620.7 | 869.1 | 697.5 | 173.7 | 130.0 |
| 85° | 6.0 | 6.4 | 22.7 | 97.8 | 202.5 | 330.7 | 503.2 | 412.7 | 303.3 | 48.0 | 71.2 |
| 87.5° | 0.0 | 0.0 | 4.7 | 23.6 | 48.9 | 90.5 | 204.2 | 115.4 | 79.4 | 14.2 | 21.0 |
| 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° | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 | 720.2 |
| 2.5° | 879.8 | 872.5 | 798.7 | 802.1 | 807.3 | 802.6 | 801.7 | 781.1 | 762.3 | 824.4 | 823.6 |
| 5° | 1112.7 | 1060.8 | 1009.8 | 990.0 | 947.6 | 891.8 | 892.2 | 874.6 | 856.6 | 881.9 | 881.9 |
| 7.5° | 1278.7 | 1207.1 | 1142.3 | 1026.9 | 914.5 | 812.9 | 803.9 | 779.8 | 752.4 | 785.4 | 791.8 |
| 10° | 1317.3 | 1255.1 | 1171.5 | 1002.0 | 895.7 | 796.6 | 687.6 | 598.0 | 556.4 | 537.1 | 533.6 |
| 12.5° | 1436.1 | 1389.8 | 1202.8 | 1015.3 | 862.2 | 694.5 | 516.0 | 409.7 | 337.2 | 331.6 | 323.9 |
| 15° | 1515.5 | 1482.9 | 1233.7 | 982.3 | 720.6 | 499.3 | 324.3 | 248.8 | 219.6 | 217.1 | 213.2 |
| 17.5° | 1638.6 | 1582.0 | 1204.1 | 877.2 | 563.6 | 329.4 | 217.9 | 196.5 | 199.9 | 207.6 | 201.6 |
| 20° | 1688.8 | 1578.1 | 1139.7 | 724.9 | 395.9 | 220.9 | 189.2 | 177.6 | 186.6 | 193.9 | 190.5 |
| 22.5° | 1740.3 | 1589.3 | 1082.7 | 597.5 | 258.7 | 182.7 | 168.6 | 162.6 | 163.4 | 170.7 | 171.2 |
| 25° | 1739.8 | 1620.2 | 1016.6 | 465.4 | 192.6 | 162.6 | 152.3 | 144.6 | 141.6 | 146.7 | 145.4 |
| 27.5° | 1824.3 | 1584.6 | 896.1 | 345.3 | 169.4 | 145.4 | 135.5 | 126.1 | 115.4 | 120.5 | 120.5 |
| 30° | 1824.8 | 1642.5 | 812.0 | 247.9 | 155.3 | 129.5 | 121.0 | 106.4 | 93.9 | 98.2 | 98.7 |
| 32.5° | 1873.2 | 1592.3 | 734.4 | 189.6 | 144.1 | 120.1 | 101.2 | 87.9 | 80.6 | 83.2 | 83.2 |
| 35° | 1928.6 | 1635.2 | 615.1 | 167.3 | 133.0 | 106.8 | 86.6 | 75.9 | 70.3 | 72.5 | 72.5 |
| 37.5° | 2111.3 | 1626.2 | 532.3 | 155.7 | 125.7 | 96.5 | 78.9 | 66.9 | 64.3 | 65.6 | 67.3 |
| 40° | 2177.4 | 1690.1 | 419.9 | 148.8 | 113.7 | 87.1 | 69.5 | 60.5 | 57.1 | 57.9 | 58.3 |
| 42.5° | 2345.5 | 1704.2 | 335.4 | 143.3 | 102.9 | 75.5 | 61.8 | 55.3 | 51.0 | 51.0 | 52.3 |
| 45° | 2531.3 | 1739.8 | 266.8 | 138.6 | 93.9 | 67.8 | 55.8 | 50.6 | 44.2 | 43.3 | 45.0 |
| 47.5° | 2800.2 | 1876.2 | 217.5 | 129.1 | 83.2 | 63.1 | 51.5 | 43.8 | 38.6 | 36.9 | 38.6 |
| 50° | 3250.2 | 2107.9 | 192.2 | 117.5 | 75.5 | 59.2 | 45.5 | 37.3 | 33.5 | 31.3 | 32.6 |
| 52.5° | 3885.0 | 2508.1 | 178.9 | 106.8 | 68.6 | 53.2 | 40.8 | 32.6 | 28.7 | 27.0 | 27.9 |
| 55° | 4590.2 | 2967.1 | 172.4 | 96.1 | 62.6 | 46.8 | 35.6 | 28.7 | 25.3 | 23.2 | 23.6 |
| 57.5° | 5242.2 | 3398.6 | 166.0 | 85.8 | 56.6 | 41.6 | 31.3 | 25.3 | 21.9 | 19.7 | 20.2 |
| 60° | 5884.8 | 3743.1 | 150.6 | 73.8 | 51.0 | 37.3 | 27.5 | 21.9 | 19.7 | 17.2 | 17.2 |
| 62.5° | 6453.2 | 3949.0 | 128.3 | 63.9 | 45.9 | 33.0 | 24.5 | 19.7 | 18.0 | 15.4 | 15.4 |
| 65° | 6840.1 | 3958.4 | 103.4 | 54.9 | 40.3 | 28.3 | 21.4 | 18.4 | 16.7 | 13.7 | 13.3 |
| 67.5° | 6845.7 | 3701.0 | 82.8 | 48.9 | 35.6 | 24.9 | 19.3 | 17.6 | 15.4 | 12.9 | 12.0 |
| 70° | 6127.2 | 3057.6 | 69.1 | 42.9 | 30.9 | 21.9 | 16.7 | 16.7 | 15.0 | 12.4 | 11.2 |
| 72.5° | 4901.2 | 2336.5 | 57.9 | 37.3 | 27.5 | 18.9 | 15.4 | 15.9 | 14.6 | 12.4 | 11.2 |
| 75° | 3294.4 | 1340.1 | 48.0 | 31.7 | 24.0 | 15.9 | 15.0 | 15.4 | 15.0 | 12.4 | 10.7 |
| 77.5° | 1517.2 | 426.8 | 37.3 | 26.2 | 20.6 | 13.3 | 14.6 | 14.6 | 13.7 | 11.2 | 9.4 |
| 80° | 341.9 | 105.1 | 27.0 | 19.3 | 16.7 | 9.9 | 13.3 | 12.0 | 10.7 | 7.7 | 5.6 |
| 82.5° | 124.4 | 32.2 | 16.3 | 12.0 | 10.3 | 3.9 | 8.6 | 8.6 | 7.7 | 5.6 | 3.4 |
| 85° | 71.2 | 16.7 | 9.0 | 7.7 | 5.6 | 1.7 | 4.7 | 5.1 | 4.3 | 3.9 | 1.7 |
| 87.5° | 23.2 | 3.9 | 4.3 | 4.7 | 4.3 | 0.9 | 1.7 | 1.7 | 1.3 | 0.9 | 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 |

(END OF REPORT)