

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: P367155

Luminaire Tested: **MSA-SA2A-730-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367155
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2A-730-U-SL3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5944 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

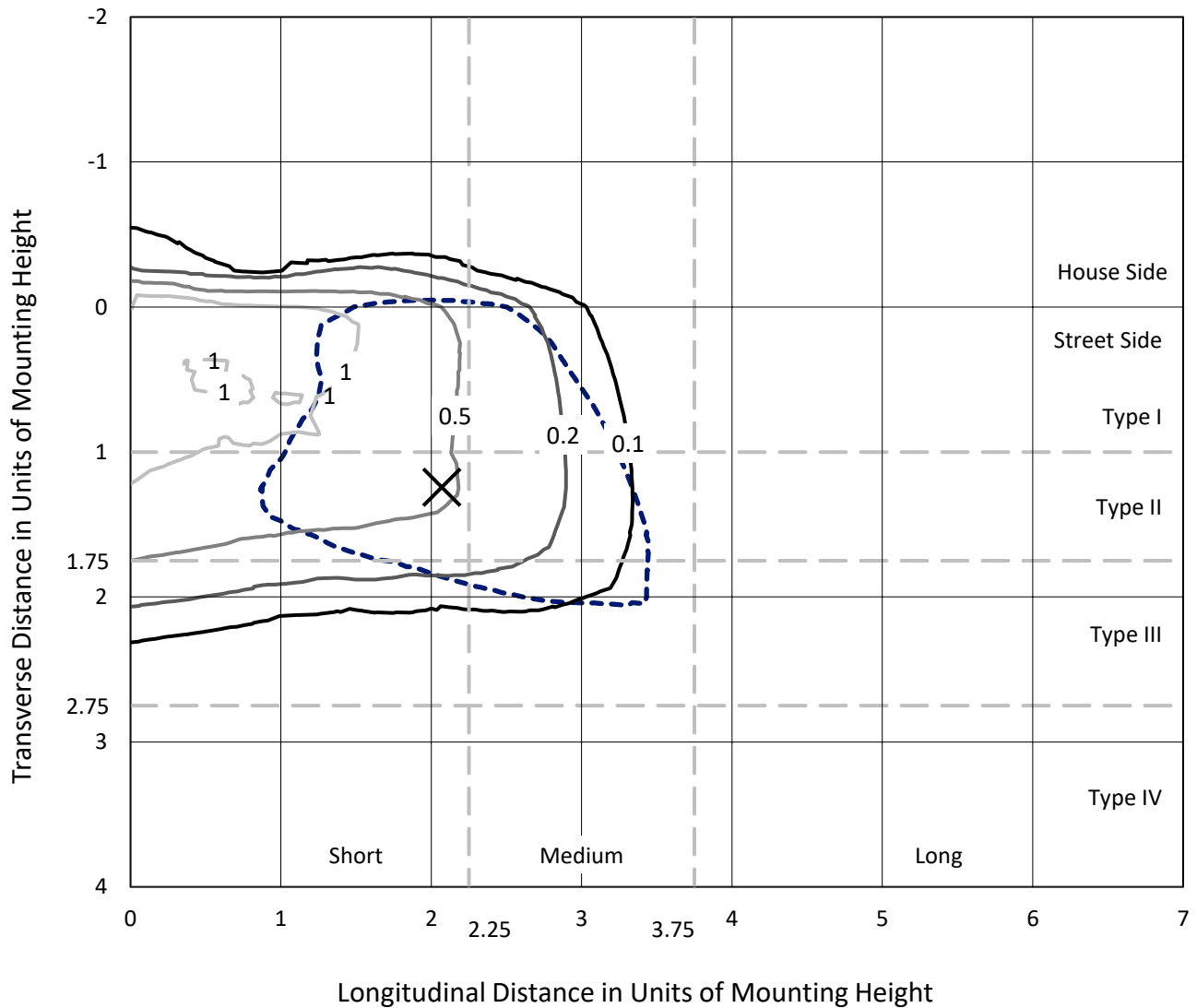
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

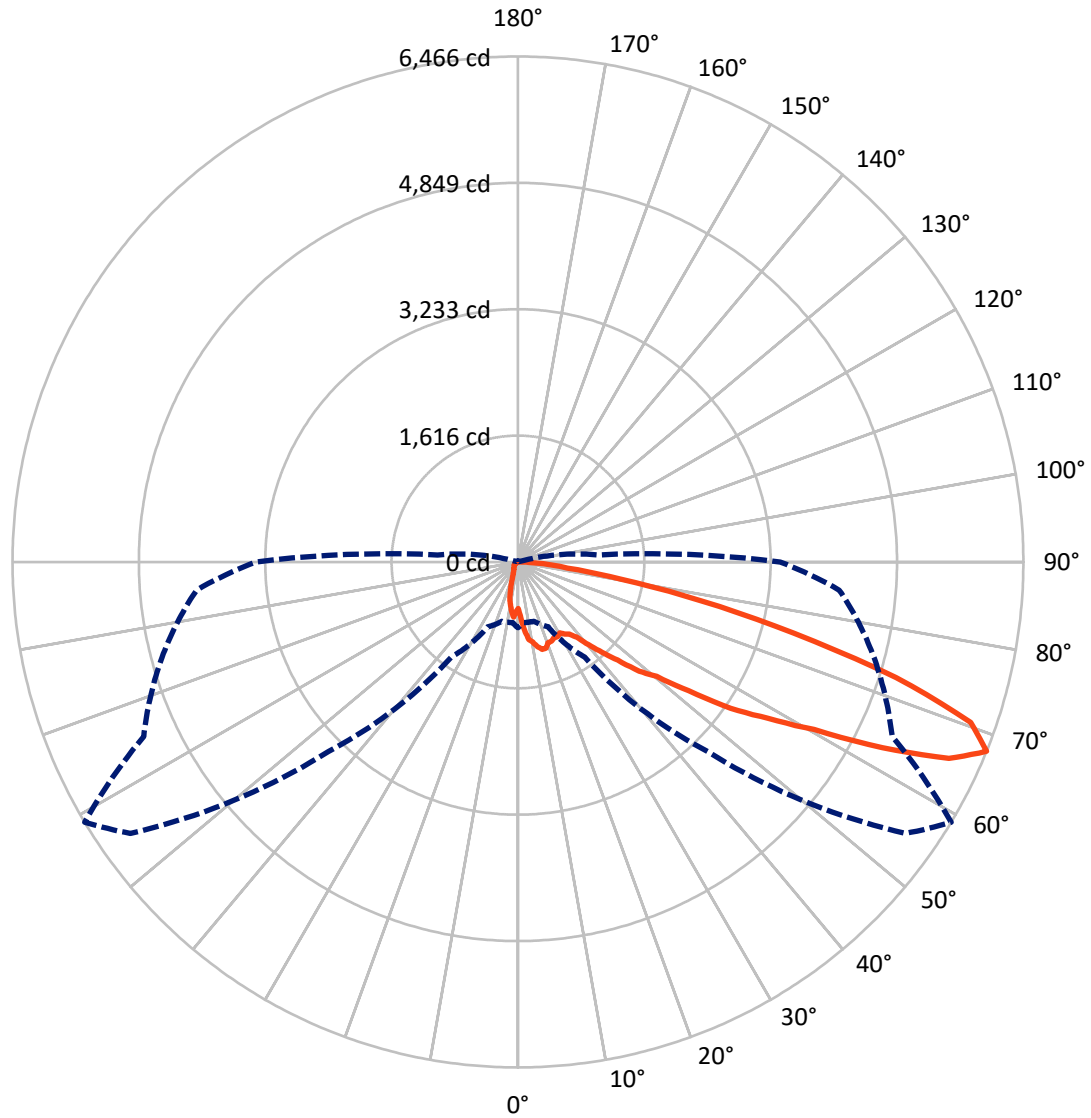
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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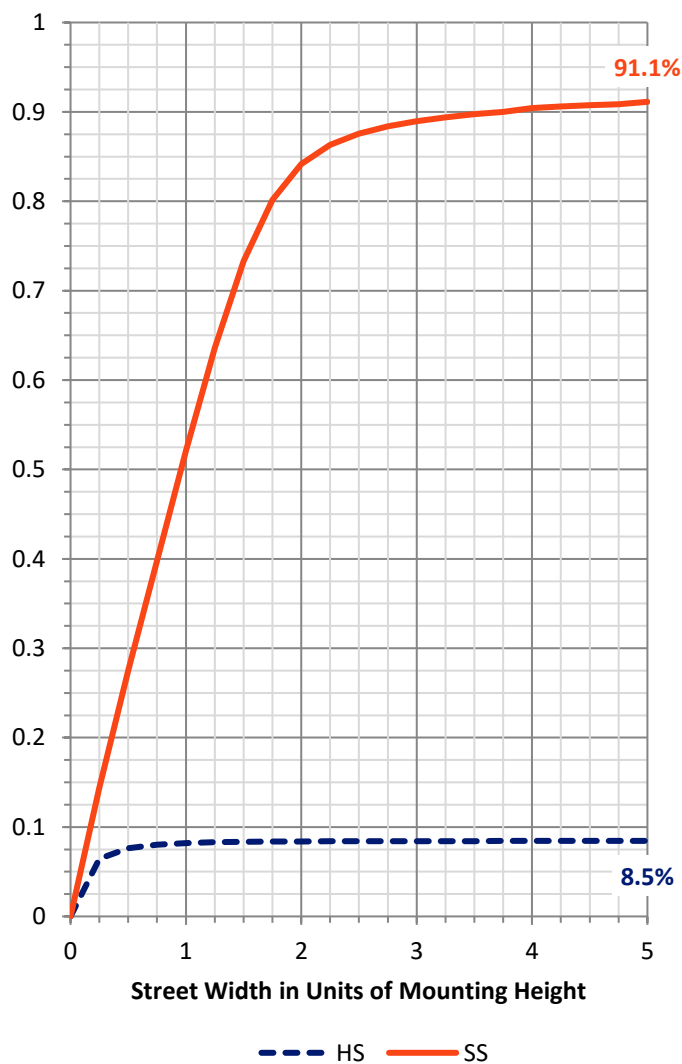
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 505.5 | 0.0 | 505.5 |
| | % Fixture | 8.5 | 0.0 | 8.5 |
| Street Side | Lumens | 5438.5 | 0.0 | 5438.5 |
| | % Fixture | 91.5 | 0.0 | 91.5 |
| Total | Lumens | 5944.0 | 0.0 | 5944.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 72.3 | 1.2 |
| 10°-20° | 203.6 | 3.4 |
| 20°-30° | 302.9 | 5.1 |
| 30°-40° | 467.2 | 7.9 |
| 40°-50° | 833.9 | 14.0 |
| 50°-60° | 1483.9 | 25.0 |
| 60°-70° | 1728.2 | 29.1 |
| 70°-80° | 768.6 | 12.9 |
| 80°-90° | 83.5 | 1.4 |
| 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° | 5944.0 | 100.0 |
| 0°-180° | 5944.0 | 100.0 |

Coefficient of Utilization

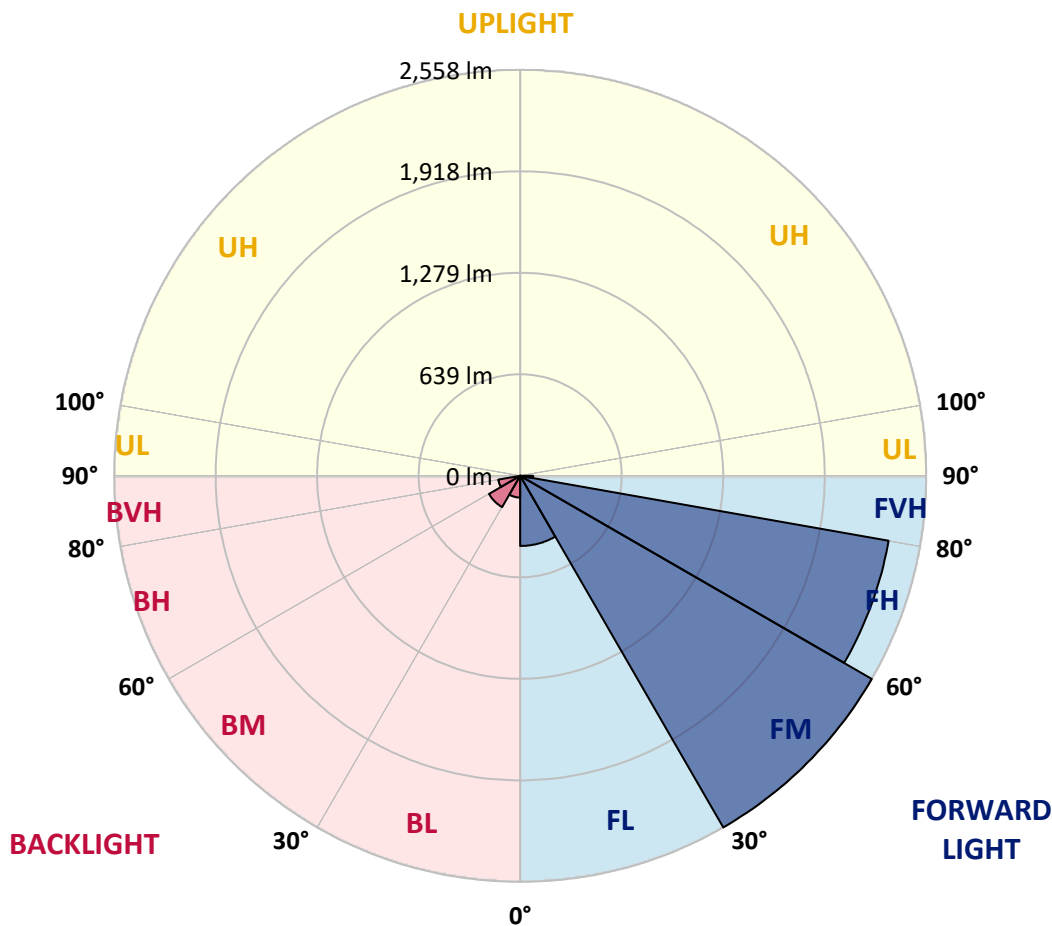


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 442.1 | 7.4 | | | |
| FM (30°-60°) | 2557.7 | 43.0 | | | |
| FH (60°-80°) | 2356.7 | 39.6 | | | G2/5000 |
| FVH (80°-90°) | 82.0 | 1.4 | | | G1/100 |
| BL (0°-30°) | 136.7 | 2.3 | B1/500 | | |
| BM (30°-60°) | 227.3 | 3.8 | B1/1000 | | |
| BH (60°-80°) | 140.0 | 2.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 1.5 | 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 III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 59° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 |
| 2.5° | 775.3 | 746.1 | 704.6 | 716.9 | 728.0 | 738.6 | 721.1 | 711.2 | 706.4 | 663.6 | 717.2 |
| 5° | 952.0 | 915.6 | 896.6 | 891.8 | 879.7 | 852.9 | 897.5 | 877.6 | 884.2 | 892.7 | 910.1 |
| 7.5° | 1005.8 | 989.3 | 961.9 | 972.1 | 926.4 | 922.5 | 984.2 | 1001.3 | 1023.9 | 1008.5 | 1029.6 |
| 10° | 978.2 | 949.6 | 962.5 | 958.9 | 957.1 | 997.4 | 1040.8 | 1041.7 | 1075.4 | 1091.6 | 1020.3 |
| 12.5° | 923.4 | 926.7 | 973.0 | 969.4 | 1029.6 | 1110.3 | 1120.2 | 1109.7 | 1164.8 | 1136.5 | 1125.6 |
| 15° | 959.8 | 986.9 | 961.3 | 970.0 | 991.4 | 1092.2 | 1127.4 | 1159.9 | 1212.0 | 1228.9 | 1155.7 |
| 17.5° | 1003.7 | 1006.4 | 959.8 | 949.0 | 1002.8 | 1049.8 | 1132.9 | 1159.6 | 1164.8 | 1312.5 | 1223.4 |
| 20° | 980.0 | 1003.1 | 947.5 | 879.1 | 962.8 | 1026.6 | 1110.9 | 1102.5 | 1136.8 | 1337.2 | 1238.8 |
| 22.5° | 1043.2 | 1010.1 | 938.7 | 887.3 | 915.6 | 973.6 | 1045.0 | 1100.0 | 1151.5 | 1278.2 | 1258.7 |
| 25° | 1049.2 | 1037.1 | 973.6 | 927.9 | 923.1 | 937.8 | 1037.1 | 1072.7 | 1153.3 | 1331.2 | 1241.8 |
| 27.5° | 1116.9 | 1103.1 | 973.0 | 977.5 | 932.4 | 887.0 | 999.2 | 1082.6 | 1186.1 | 1299.0 | 1277.6 |
| 30° | 1204.2 | 1205.4 | 1037.7 | 1051.9 | 987.5 | 914.3 | 1030.2 | 1053.1 | 1208.4 | 1350.5 | 1304.1 |
| 32.5° | 1292.7 | 1329.1 | 1165.7 | 1090.7 | 1070.5 | 1018.2 | 991.7 | 1097.3 | 1184.0 | 1438.3 | 1370.3 |
| 35° | 1427.2 | 1451.9 | 1271.0 | 1203.9 | 1124.7 | 1065.1 | 1096.4 | 1134.4 | 1271.6 | 1554.8 | 1457.3 |
| 37.5° | 1655.0 | 1610.5 | 1460.0 | 1343.2 | 1324.3 | 1236.4 | 1252.0 | 1218.0 | 1361.0 | 1692.1 | 1629.5 |
| 40° | 1783.2 | 1742.9 | 1586.4 | 1529.5 | 1408.5 | 1422.1 | 1372.7 | 1392.6 | 1490.7 | 1835.0 | 1786.3 |
| 42.5° | 1916.9 | 1878.4 | 1741.1 | 1700.8 | 1585.5 | 1529.5 | 1507.3 | 1578.6 | 1689.6 | 2073.1 | 2011.1 |
| 45° | 2051.1 | 1953.3 | 1895.2 | 1915.4 | 1863.6 | 1752.8 | 1727.0 | 1790.5 | 1906.9 | 2365.6 | 2248.2 |
| 47.5° | 2164.3 | 2081.8 | 2038.2 | 2028.8 | 2008.7 | 2162.5 | 2057.1 | 2085.1 | 2136.6 | 2624.5 | 2543.8 |
| 50° | 2368.3 | 2287.1 | 2218.7 | 2199.8 | 2297.9 | 2516.1 | 2353.6 | 2299.4 | 2402.3 | 2937.2 | 2886.3 |
| 52.5° | 2663.0 | 2559.4 | 2450.8 | 2451.1 | 2636.2 | 2756.0 | 2833.0 | 2737.9 | 2757.2 | 3281.2 | 3258.6 |
| 55° | 2899.8 | 2768.3 | 2678.3 | 2749.4 | 3025.3 | 3092.5 | 3386.5 | 3303.1 | 3278.2 | 3600.2 | 3572.5 |
| 57.5° | 2932.3 | 2774.6 | 2731.9 | 2856.5 | 3234.2 | 3662.8 | 3979.1 | 3770.9 | 3732.6 | 3867.2 | 3922.2 |
| 60° | 2629.0 | 2461.6 | 2493.8 | 2694.3 | 3302.2 | 4010.4 | 4523.3 | 4353.2 | 4110.3 | 4179.9 | 4217.8 |
| 62.5° | 1960.8 | 1827.2 | 1917.5 | 2182.9 | 3040.1 | 4243.4 | 5153.2 | 5232.1 | 4548.6 | 4414.6 | 4406.5 |
| 65° | 1272.2 | 1188.5 | 1247.8 | 1465.4 | 2300.6 | 4216.9 | 5716.0 | 6057.9 | 4893.8 | 4606.0 | 4465.8 |
| 67.5° | 841.5 | 778.0 | 786.4 | 915.2 | 1487.7 | 3429.6 | 6052.5 | 6465.7 | 5282.0 | 4714.7 | 4126.0 |
| 70° | 627.2 | 577.3 | 580.3 | 650.1 | 883.0 | 2261.8 | 5583.3 | 6144.0 | 5423.8 | 4338.2 | 3330.2 |
| 72.5° | 452.4 | 418.9 | 446.9 | 524.6 | 703.7 | 1196.1 | 4161.5 | 5059.9 | 4729.4 | 3421.7 | 2243.7 |
| 75° | 313.3 | 291.3 | 337.1 | 438.8 | 642.3 | 742.5 | 2750.0 | 3642.3 | 3314.9 | 2146.8 | 1014.3 |
| 77.5° | 173.7 | 167.0 | 233.0 | 357.6 | 583.0 | 608.6 | 1684.5 | 2393.3 | 1838.6 | 769.6 | 241.4 |
| 80° | 75.8 | 73.4 | 112.9 | 268.5 | 490.0 | 549.9 | 948.4 | 1327.0 | 723.2 | 137.2 | 78.0 |
| 82.5° | 32.5 | 31.3 | 48.2 | 161.6 | 356.0 | 459.9 | 584.8 | 638.7 | 248.9 | 42.4 | 44.2 |
| 85° | 5.7 | 6.3 | 19.3 | 85.2 | 216.7 | 233.6 | 423.5 | 378.0 | 125.2 | 20.2 | 31.6 |
| 87.5° | 0.0 | 0.0 | 3.0 | 16.6 | 40.6 | 66.8 | 183.6 | 132.4 | 23.8 | 6.6 | 5.4 |
| 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° | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 | 594.7 |
| 2.5° | 724.7 | 707.9 | 643.8 | 635.6 | 626.9 | 614.0 | 609.2 | 581.5 | 577.9 | 613.4 | 613.4 |
| 5° | 902.0 | 841.8 | 780.7 | 732.6 | 689.5 | 629.9 | 613.1 | 595.6 | 581.5 | 577.9 | 589.0 |
| 7.5° | 995.6 | 922.2 | 826.2 | 703.7 | 604.3 | 518.0 | 481.9 | 456.6 | 428.3 | 436.7 | 441.2 |
| 10° | 990.5 | 912.5 | 790.0 | 632.6 | 522.5 | 427.1 | 335.3 | 281.7 | 251.9 | 237.2 | 235.4 |
| 12.5° | 1040.8 | 967.3 | 765.7 | 576.1 | 435.5 | 303.7 | 211.0 | 172.8 | 150.8 | 151.1 | 149.3 |
| 15° | 1069.9 | 989.9 | 737.4 | 504.4 | 306.7 | 195.3 | 146.3 | 137.8 | 134.8 | 138.1 | 136.3 |
| 17.5° | 1121.4 | 1013.7 | 673.3 | 397.6 | 211.0 | 147.5 | 134.5 | 131.2 | 135.1 | 142.1 | 140.3 |
| 20° | 1117.5 | 972.4 | 582.1 | 280.2 | 155.9 | 132.7 | 127.3 | 122.2 | 130.3 | 137.5 | 136.3 |
| 22.5° | 1113.9 | 932.1 | 496.3 | 206.8 | 130.3 | 121.0 | 116.5 | 114.4 | 118.6 | 127.0 | 128.8 |
| 25° | 1082.0 | 912.2 | 409.3 | 155.3 | 118.0 | 109.9 | 107.7 | 105.9 | 107.4 | 114.4 | 114.1 |
| 27.5° | 1121.1 | 862.0 | 316.0 | 130.3 | 109.3 | 99.6 | 97.8 | 94.8 | 91.8 | 97.8 | 98.7 |
| 30° | 1113.0 | 868.9 | 247.7 | 114.7 | 100.5 | 87.6 | 88.2 | 81.9 | 76.4 | 81.9 | 81.9 |
| 32.5° | 1142.5 | 818.3 | 198.3 | 104.1 | 91.8 | 82.5 | 74.9 | 68.3 | 64.4 | 67.7 | 68.3 |
| 35° | 1185.5 | 820.4 | 155.3 | 97.5 | 84.3 | 73.4 | 64.4 | 57.8 | 54.2 | 55.7 | 56.6 |
| 37.5° | 1329.7 | 806.0 | 129.7 | 92.4 | 81.6 | 68.0 | 58.7 | 50.0 | 47.6 | 49.4 | 50.3 |
| 40° | 1423.6 | 844.5 | 114.4 | 89.7 | 74.6 | 62.6 | 50.3 | 43.9 | 41.8 | 42.7 | 44.2 |
| 42.5° | 1600.6 | 865.9 | 106.8 | 86.7 | 68.3 | 53.6 | 43.0 | 39.4 | 36.4 | 37.6 | 38.8 |
| 45° | 1789.9 | 902.3 | 101.1 | 83.4 | 63.5 | 47.0 | 37.9 | 34.9 | 31.0 | 31.3 | 32.5 |
| 47.5° | 2022.5 | 989.0 | 94.5 | 77.7 | 56.9 | 42.7 | 33.7 | 29.2 | 25.6 | 25.3 | 26.8 |
| 50° | 2334.9 | 1104.9 | 88.5 | 70.4 | 52.7 | 39.1 | 29.5 | 23.8 | 20.8 | 19.9 | 21.1 |
| 52.5° | 2668.4 | 1254.7 | 82.2 | 65.3 | 47.6 | 34.3 | 25.3 | 19.3 | 16.6 | 16.0 | 16.9 |
| 55° | 2998.9 | 1398.6 | 76.1 | 62.0 | 42.1 | 29.5 | 21.4 | 16.0 | 13.5 | 12.9 | 13.5 |
| 57.5° | 3375.4 | 1554.2 | 68.3 | 55.4 | 37.0 | 25.6 | 17.8 | 13.2 | 11.1 | 10.5 | 10.8 |
| 60° | 3658.9 | 1609.0 | 61.7 | 48.2 | 32.2 | 22.6 | 15.0 | 10.5 | 9.0 | 8.4 | 8.7 |
| 62.5° | 3793.4 | 1519.6 | 55.4 | 41.8 | 28.3 | 19.6 | 12.6 | 8.7 | 7.5 | 6.9 | 6.9 |
| 65° | 3758.5 | 1321.6 | 49.1 | 35.8 | 24.4 | 16.3 | 9.9 | 7.5 | 6.6 | 5.7 | 5.4 |
| 67.5° | 3355.2 | 1034.1 | 41.8 | 30.1 | 20.5 | 13.2 | 8.4 | 7.2 | 6.0 | 5.4 | 4.5 |
| 70° | 2660.9 | 748.8 | 34.0 | 25.0 | 17.2 | 10.8 | 6.6 | 6.6 | 5.7 | 5.4 | 4.2 |
| 72.5° | 1744.1 | 471.3 | 27.7 | 20.2 | 14.1 | 8.4 | 5.1 | 6.0 | 5.4 | 5.4 | 3.9 |
| 75° | 755.7 | 168.5 | 22.3 | 16.3 | 11.7 | 5.7 | 4.5 | 5.4 | 5.7 | 5.4 | 4.5 |
| 77.5° | 177.0 | 52.4 | 17.5 | 12.9 | 9.6 | 3.9 | 4.5 | 5.4 | 5.7 | 5.1 | 3.9 |
| 80° | 66.5 | 22.3 | 11.4 | 8.4 | 7.5 | 2.4 | 3.9 | 3.3 | 3.0 | 2.1 | 0.6 |
| 82.5° | 40.3 | 9.3 | 6.0 | 4.2 | 3.6 | 0.6 | 1.8 | 1.2 | 0.6 | 0.6 | 0.0 |
| 85° | 28.6 | 4.5 | 3.3 | 3.0 | 1.8 | 0.0 | 0.3 | 0.0 | 0.0 | 0.3 | 0.0 |
| 87.5° | 3.9 | 1.2 | 1.5 | 1.5 | 1.2 | 0.0 | 0.0 | 0.0 | 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 |

(END OF REPORT)