

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: P367835

Luminaire Tested: **MSA-SA3B-740-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367835
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-SA3B-740-U-SL2-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 12048 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G2

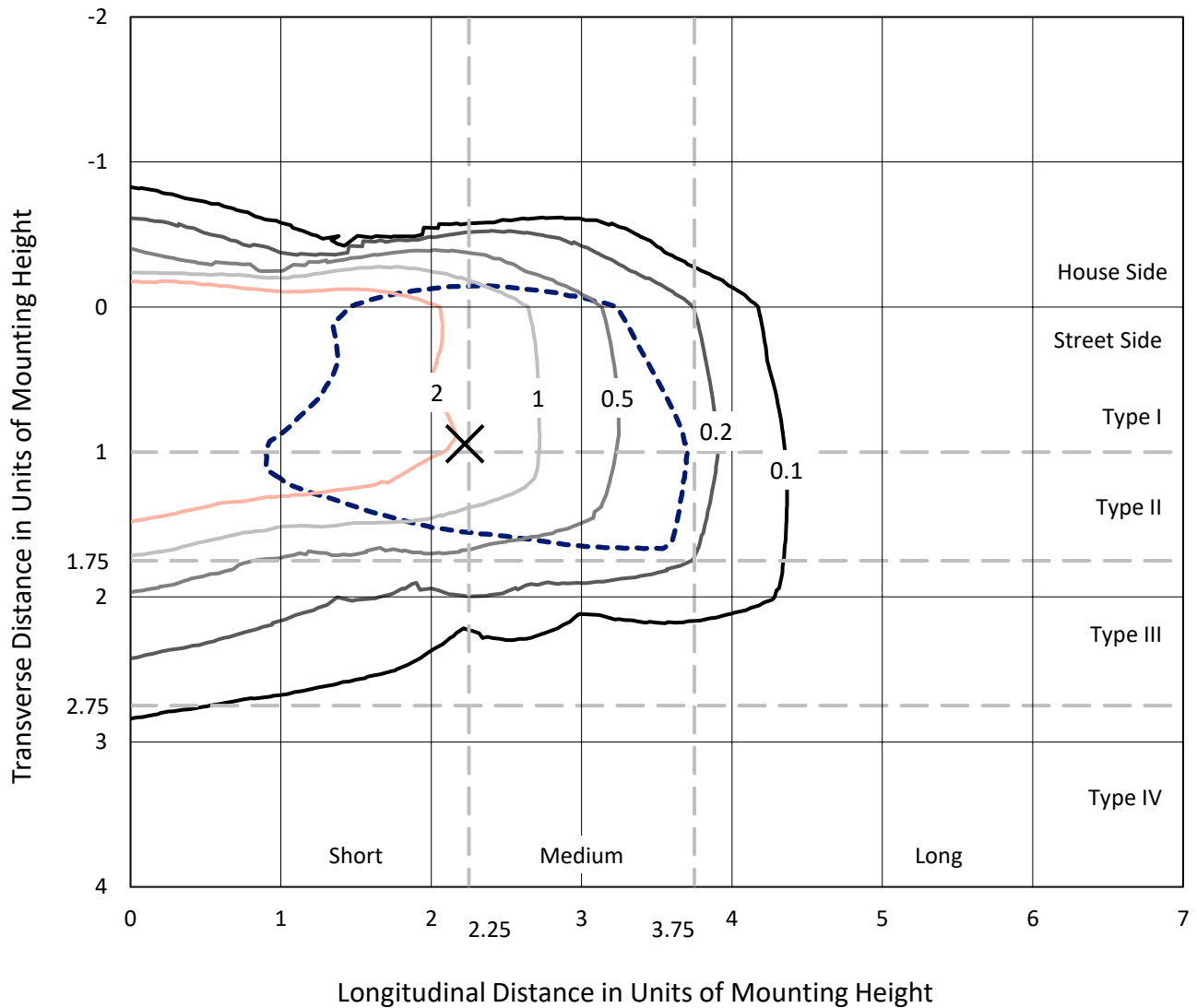
Input Watts (W): 126
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

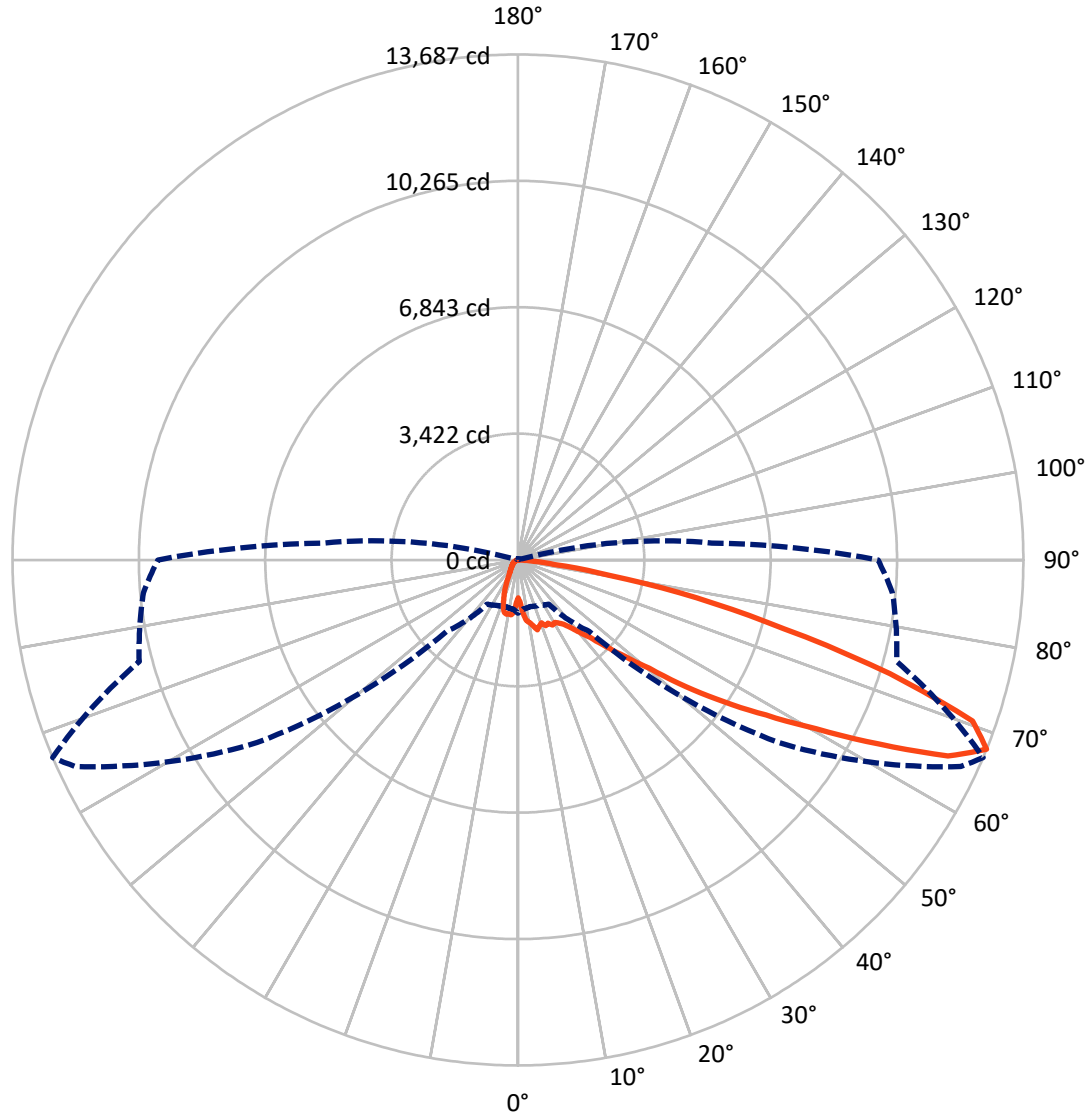
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5 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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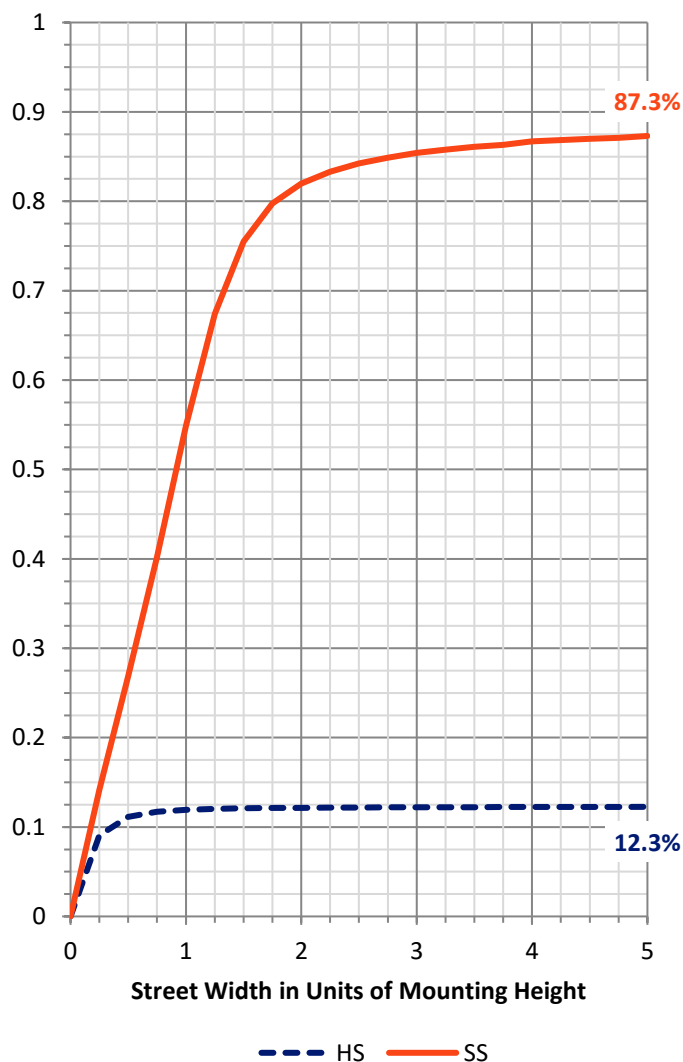
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1490.0 | 0.0 | 1490.0 |
| | % Fixture | 12.4 | 0.0 | 12.4 |
| Street Side | Lumens | 10558.0 | 0.0 | 10558.0 |
| | % Fixture | 87.6 | 0.0 | 87.6 |
| Total | Lumens | 12048.0 | 0.0 | 12048.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 128.8 | 1.1 |
| 10°-20° | 381.1 | 3.2 |
| 20°-30° | 597.3 | 5.0 |
| 30°-40° | 963.1 | 8.0 |
| 40°-50° | 1769.7 | 14.7 |
| 50°-60° | 2988.8 | 24.8 |
| 60°-70° | 3304.2 | 27.4 |
| 70°-80° | 1729.4 | 14.4 |
| 80°-90° | 185.7 | 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° | 12048.0 | 100.0 |
| 0°-180° | 12048.0 | 100.0 |

Coefficient of Utilization

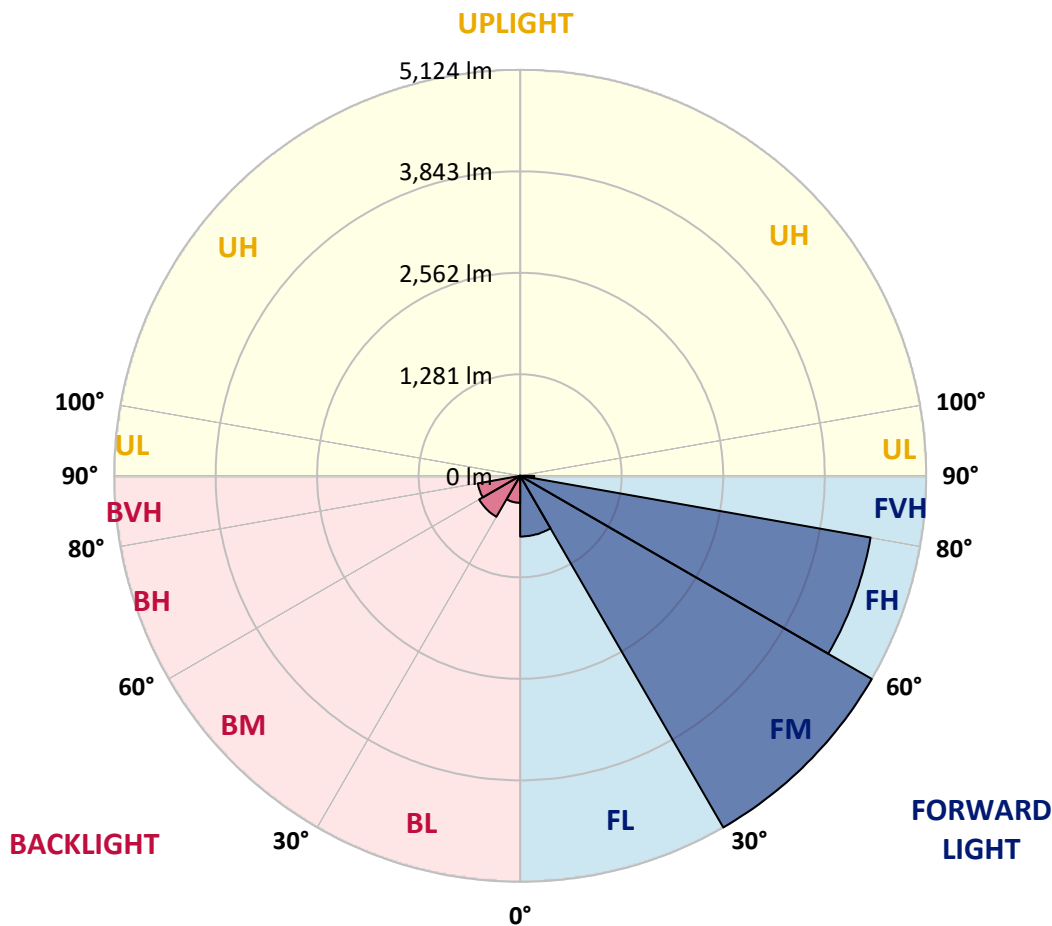


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 766.1 | 6.4 | | | |
| FM (30°-60°) | 5124.1 | 42.5 | | | |
| FH (60°-80°) | 4490.1 | 37.3 | | | G2/5000 |
| FVH (80°-90°) | 177.8 | 1.5 | | | G2/225 |
| BL (0°-30°) | 341.2 | 2.8 | B1/500 | | |
| BM (30°-60°) | 597.4 | 5.0 | B1/1000 | | |
| BH (60°-80°) | 543.5 | 4.5 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 7.9 | 0.1 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G2
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 67° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0° | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 |
| 2.5° | 1211.3 | 1170.4 | 1100.7 | 1120.9 | 1161.2 | 1194.8 | 1178.9 | 1147.8 | 1148.4 | 1116.6 | 1230.9 |
| 5° | 1409.4 | 1354.3 | 1314.0 | 1328.1 | 1326.2 | 1325.0 | 1400.2 | 1428.9 | 1441.1 | 1493.7 | 1571.3 |
| 7.5° | 1466.2 | 1446.6 | 1404.5 | 1417.3 | 1375.1 | 1378.2 | 1510.2 | 1634.9 | 1654.4 | 1686.8 | 1824.9 |
| 10° | 1444.2 | 1406.3 | 1421.6 | 1421.6 | 1422.2 | 1490.6 | 1579.3 | 1698.4 | 1722.3 | 1847.0 | 1861.6 |
| 12.5° | 1420.4 | 1422.2 | 1482.7 | 1471.7 | 1554.8 | 1677.7 | 1707.6 | 1841.5 | 1829.8 | 1938.0 | 2098.8 |
| 15° | 1509.0 | 1555.4 | 1516.3 | 1531.6 | 1539.5 | 1683.8 | 1732.1 | 1909.9 | 1961.2 | 2098.1 | 2202.7 |
| 17.5° | 1661.2 | 1667.3 | 1586.0 | 1564.0 | 1621.4 | 1662.4 | 1759.6 | 1845.1 | 1879.3 | 2238.7 | 2386.6 |
| 20° | 1688.7 | 1727.8 | 1645.3 | 1518.1 | 1639.8 | 1696.0 | 1763.8 | 1804.8 | 1819.4 | 2282.1 | 2490.5 |
| 22.5° | 1854.3 | 1810.9 | 1678.9 | 1582.3 | 1617.2 | 1678.3 | 1720.4 | 1843.9 | 1931.9 | 2200.2 | 2590.1 |
| 25° | 1939.2 | 1927.6 | 1801.7 | 1719.2 | 1683.8 | 1678.9 | 1775.4 | 1869.0 | 1897.1 | 2285.2 | 2614.6 |
| 27.5° | 2142.8 | 2116.5 | 1872.6 | 1862.2 | 1745.5 | 1642.8 | 1777.3 | 1945.3 | 1997.9 | 2205.1 | 2706.3 |
| 30° | 2419.6 | 2409.8 | 2085.3 | 2078.6 | 1892.8 | 1708.2 | 1876.3 | 1992.4 | 1960.6 | 2246.0 | 2767.4 |
| 32.5° | 2698.3 | 2777.8 | 2445.9 | 2256.4 | 2117.1 | 1948.4 | 1848.2 | 1977.7 | 2034.6 | 2345.7 | 2879.8 |
| 35° | 3035.1 | 3092.5 | 2754.5 | 2617.0 | 2307.2 | 2060.9 | 2034.6 | 2117.7 | 2142.1 | 2464.2 | 3007.6 |
| 37.5° | 3624.2 | 3537.4 | 3249.6 | 3015.5 | 2852.9 | 2462.4 | 2332.8 | 2266.8 | 2323.7 | 2625.0 | 3268.5 |
| 40° | 4059.4 | 4004.4 | 3649.9 | 3509.9 | 3135.9 | 2907.3 | 2568.7 | 2507.0 | 2570.6 | 2790.0 | 3450.0 |
| 42.5° | 4584.4 | 4470.1 | 4136.4 | 4041.7 | 3656.6 | 3216.0 | 2872.5 | 2893.9 | 2854.2 | 3115.7 | 3768.5 |
| 45° | 5059.3 | 4801.3 | 4615.5 | 4636.9 | 4431.6 | 3836.3 | 3379.1 | 3368.8 | 3335.8 | 3587.6 | 4103.4 |
| 47.5° | 5378.9 | 5153.4 | 4972.5 | 4913.2 | 4888.7 | 4927.2 | 4111.3 | 3926.8 | 3902.3 | 4083.2 | 4630.8 |
| 50° | 5550.6 | 5303.7 | 5080.0 | 5092.3 | 5588.5 | 5961.9 | 4866.7 | 4604.5 | 4613.7 | 4802.6 | 5352.0 |
| 52.5° | 5435.1 | 5155.8 | 4919.9 | 5149.1 | 6131.2 | 6652.0 | 6117.2 | 5490.1 | 5702.8 | 5654.5 | 6319.5 |
| 55° | 4901.6 | 4658.9 | 4491.5 | 4901.6 | 6190.5 | 7394.5 | 7656.7 | 6823.1 | 6775.4 | 6665.4 | 7305.9 |
| 57.5° | 4003.8 | 3794.7 | 3691.5 | 4124.2 | 5542.1 | 7992.9 | 9203.0 | 8329.6 | 7923.2 | 7462.4 | 8124.9 |
| 60° | 2983.1 | 2829.1 | 2721.5 | 2950.1 | 4366.8 | 7411.6 | 10215.7 | 9749.4 | 9278.8 | 8230.6 | 8860.7 |
| 62.5° | 2209.4 | 2084.1 | 1969.8 | 1990.6 | 3006.9 | 6374.5 | 10604.4 | 11253.4 | 10983.3 | 9041.6 | 9555.0 |
| 65° | 1763.2 | 1648.9 | 1568.9 | 1523.0 | 1862.2 | 4795.8 | 10063.5 | 12486.2 | 12797.9 | 9805.6 | 10056.2 |
| 67.5° | 1439.9 | 1343.3 | 1303.6 | 1356.2 | 1460.7 | 2733.8 | 8618.7 | 13234.2 | 13686.5 | 10616.0 | 10179.6 |
| 70° | 1171.6 | 1092.2 | 1087.9 | 1229.7 | 1345.2 | 1666.7 | 6339.6 | 12717.8 | 13058.2 | 10754.1 | 9439.5 |
| 72.5° | 816.5 | 781.7 | 837.3 | 1038.4 | 1333.0 | 1388.0 | 3640.7 | 10524.3 | 10536.5 | 9498.2 | 7764.3 |
| 75° | 462.0 | 456.5 | 544.6 | 828.1 | 1298.1 | 1373.9 | 2029.7 | 7437.3 | 7442.8 | 7183.7 | 5378.9 |
| 77.5° | 254.2 | 237.7 | 317.2 | 559.8 | 1114.8 | 1342.1 | 1309.1 | 5078.2 | 4948.0 | 3997.7 | 2456.9 |
| 80° | 117.3 | 110.6 | 171.7 | 358.8 | 815.3 | 1269.4 | 1049.4 | 2791.2 | 2516.8 | 1302.4 | 599.6 |
| 82.5° | 48.3 | 45.8 | 78.8 | 230.4 | 515.2 | 1022.5 | 884.4 | 1238.2 | 993.8 | 247.5 | 185.2 |
| 85° | 8.6 | 9.2 | 32.4 | 139.3 | 288.5 | 471.2 | 716.9 | 587.9 | 432.1 | 68.5 | 101.5 |
| 87.5° | 0.0 | 0.0 | 6.7 | 33.6 | 69.7 | 129.0 | 290.9 | 164.4 | 113.1 | 20.2 | 29.9 |
| 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° | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 | 1026.2 |
| 2.5° | 1253.5 | 1243.1 | 1138.0 | 1142.9 | 1150.2 | 1143.5 | 1142.3 | 1112.9 | 1086.0 | 1174.7 | 1173.4 |
| 5° | 1585.4 | 1511.4 | 1438.7 | 1410.6 | 1350.1 | 1270.6 | 1271.2 | 1246.2 | 1220.5 | 1256.6 | 1256.6 |
| 7.5° | 1821.9 | 1719.8 | 1627.5 | 1463.1 | 1303.0 | 1158.2 | 1145.3 | 1111.1 | 1072.0 | 1119.0 | 1128.2 |
| 10° | 1876.9 | 1788.3 | 1669.1 | 1427.7 | 1276.1 | 1134.9 | 979.7 | 852.0 | 792.7 | 765.2 | 760.3 |
| 12.5° | 2046.2 | 1980.2 | 1713.7 | 1446.6 | 1228.4 | 989.5 | 735.2 | 583.7 | 480.4 | 472.4 | 461.4 |
| 15° | 2159.3 | 2112.8 | 1757.7 | 1399.6 | 1026.8 | 711.4 | 462.0 | 354.5 | 312.9 | 309.3 | 303.8 |
| 17.5° | 2334.7 | 2254.0 | 1715.5 | 1249.8 | 803.1 | 469.4 | 310.5 | 279.9 | 284.8 | 295.8 | 287.2 |
| 20° | 2406.2 | 2248.5 | 1623.9 | 1032.9 | 564.1 | 314.8 | 269.5 | 253.0 | 265.9 | 276.2 | 271.4 |
| 22.5° | 2479.5 | 2264.4 | 1542.6 | 851.4 | 368.5 | 260.4 | 240.2 | 231.6 | 232.9 | 243.2 | 243.9 |
| 25° | 2478.9 | 2308.4 | 1448.5 | 663.1 | 274.4 | 231.6 | 217.0 | 206.0 | 201.7 | 209.0 | 207.2 |
| 27.5° | 2599.3 | 2257.7 | 1276.7 | 492.0 | 241.4 | 207.2 | 193.1 | 179.7 | 164.4 | 171.7 | 171.7 |
| 30° | 2599.9 | 2340.2 | 1156.9 | 353.3 | 221.2 | 184.6 | 172.3 | 151.6 | 133.8 | 140.0 | 140.6 |
| 32.5° | 2669.0 | 2268.7 | 1046.3 | 270.1 | 205.4 | 171.1 | 144.2 | 125.3 | 114.9 | 118.6 | 118.6 |
| 35° | 2747.8 | 2329.8 | 876.4 | 238.4 | 189.5 | 152.2 | 123.5 | 108.2 | 100.2 | 103.3 | 103.3 |
| 37.5° | 3008.2 | 2316.9 | 758.5 | 221.9 | 179.1 | 137.5 | 112.5 | 95.3 | 91.7 | 93.5 | 96.0 |
| 40° | 3102.3 | 2408.0 | 598.3 | 212.1 | 162.0 | 124.1 | 99.0 | 86.2 | 81.3 | 82.5 | 83.1 |
| 42.5° | 3341.9 | 2428.2 | 477.9 | 204.1 | 146.7 | 107.6 | 88.0 | 78.8 | 72.7 | 72.7 | 74.6 |
| 45° | 3606.5 | 2478.9 | 380.1 | 197.4 | 133.8 | 96.6 | 79.5 | 72.1 | 63.0 | 61.7 | 64.2 |
| 47.5° | 3989.7 | 2673.3 | 309.9 | 184.0 | 118.6 | 89.8 | 73.3 | 62.3 | 55.0 | 52.6 | 55.0 |
| 50° | 4630.8 | 3003.3 | 273.8 | 167.5 | 107.6 | 84.3 | 64.8 | 53.2 | 47.7 | 44.6 | 46.4 |
| 52.5° | 5535.4 | 3573.5 | 254.9 | 152.2 | 97.8 | 75.8 | 58.1 | 46.4 | 40.9 | 38.5 | 39.7 |
| 55° | 6540.1 | 4227.5 | 245.7 | 136.9 | 89.2 | 66.6 | 50.7 | 40.9 | 36.1 | 33.0 | 33.6 |
| 57.5° | 7469.1 | 4842.3 | 236.5 | 122.2 | 80.7 | 59.3 | 44.6 | 36.1 | 31.2 | 28.1 | 28.7 |
| 60° | 8384.6 | 5333.1 | 214.5 | 105.1 | 72.7 | 53.2 | 39.1 | 31.2 | 28.1 | 24.4 | 24.4 |
| 62.5° | 9194.4 | 5626.4 | 182.7 | 91.1 | 65.4 | 47.1 | 34.8 | 28.1 | 25.7 | 22.0 | 22.0 |
| 65° | 9745.7 | 5639.9 | 147.3 | 78.2 | 57.4 | 40.3 | 30.6 | 26.3 | 23.8 | 19.6 | 18.9 |
| 67.5° | 9753.6 | 5273.2 | 118.0 | 69.7 | 50.7 | 35.4 | 27.5 | 25.1 | 22.0 | 18.3 | 17.1 |
| 70° | 8729.9 | 4356.4 | 98.4 | 61.1 | 44.0 | 31.2 | 23.8 | 23.8 | 21.4 | 17.7 | 15.9 |
| 72.5° | 6983.2 | 3329.0 | 82.5 | 53.2 | 39.1 | 26.9 | 22.0 | 22.6 | 20.8 | 17.7 | 15.9 |
| 75° | 4693.8 | 1909.3 | 68.5 | 45.2 | 34.2 | 22.6 | 21.4 | 22.0 | 21.4 | 17.7 | 15.3 |
| 77.5° | 2161.7 | 608.1 | 53.2 | 37.3 | 29.3 | 18.9 | 20.8 | 20.8 | 19.6 | 15.9 | 13.4 |
| 80° | 487.1 | 149.7 | 38.5 | 27.5 | 23.8 | 14.1 | 18.9 | 17.1 | 15.3 | 11.0 | 7.9 |
| 82.5° | 177.2 | 45.8 | 23.2 | 17.1 | 14.7 | 5.5 | 12.2 | 12.2 | 11.0 | 7.9 | 4.9 |
| 85° | 101.5 | 23.8 | 12.8 | 11.0 | 7.9 | 2.4 | 6.7 | 7.3 | 6.1 | 5.5 | 2.4 |
| 87.5° | 33.0 | 5.5 | 6.1 | 6.7 | 6.1 | 1.2 | 2.4 | 2.4 | 1.8 | 1.2 | 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)