

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: P367945

Luminaire Tested: **MSA-SA3C-730-U-SL2-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367945
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-SA3C-730-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: 13589 lumens
Efficiency: N/A
Efficacy: 81.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G3

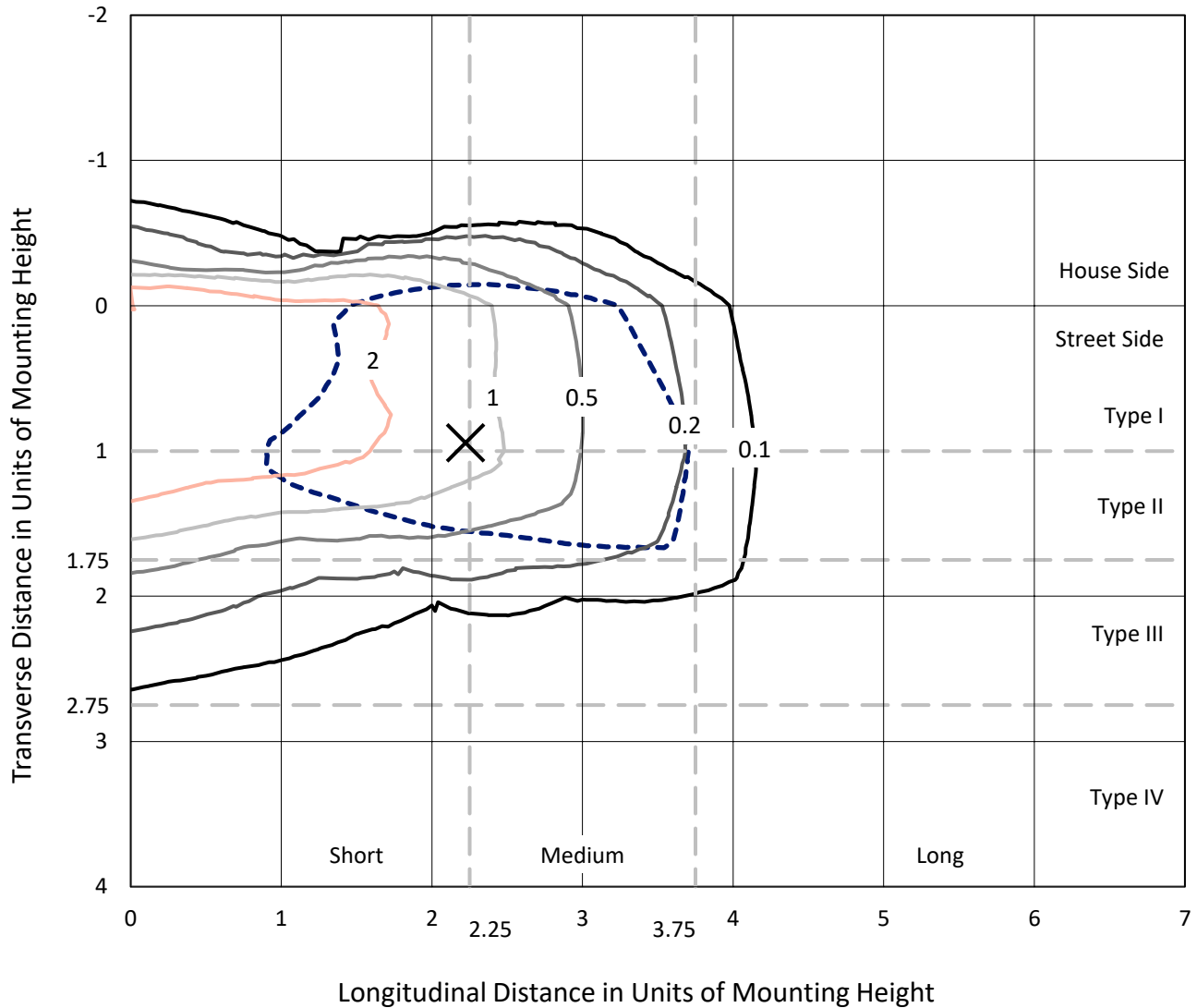
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

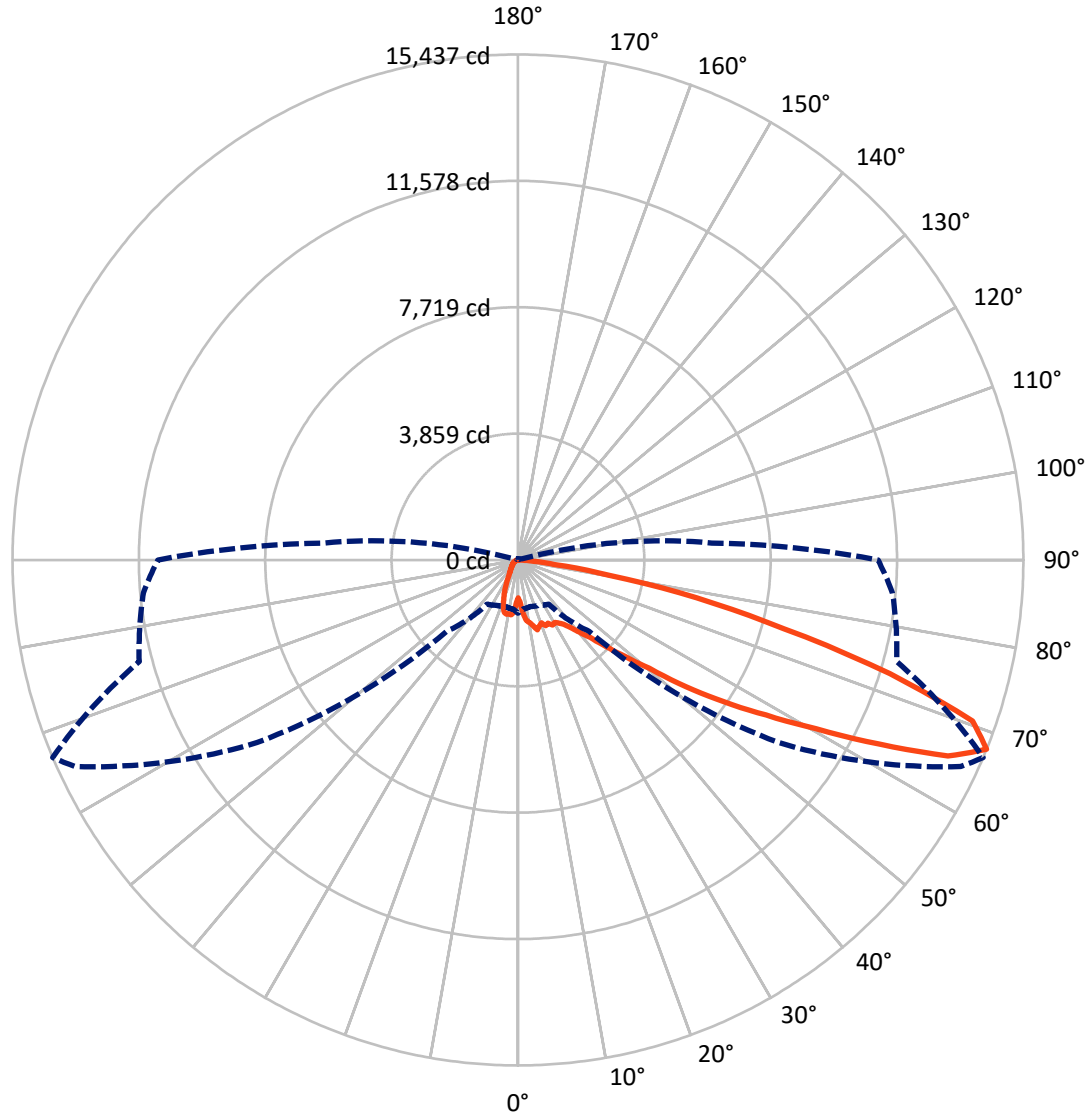
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 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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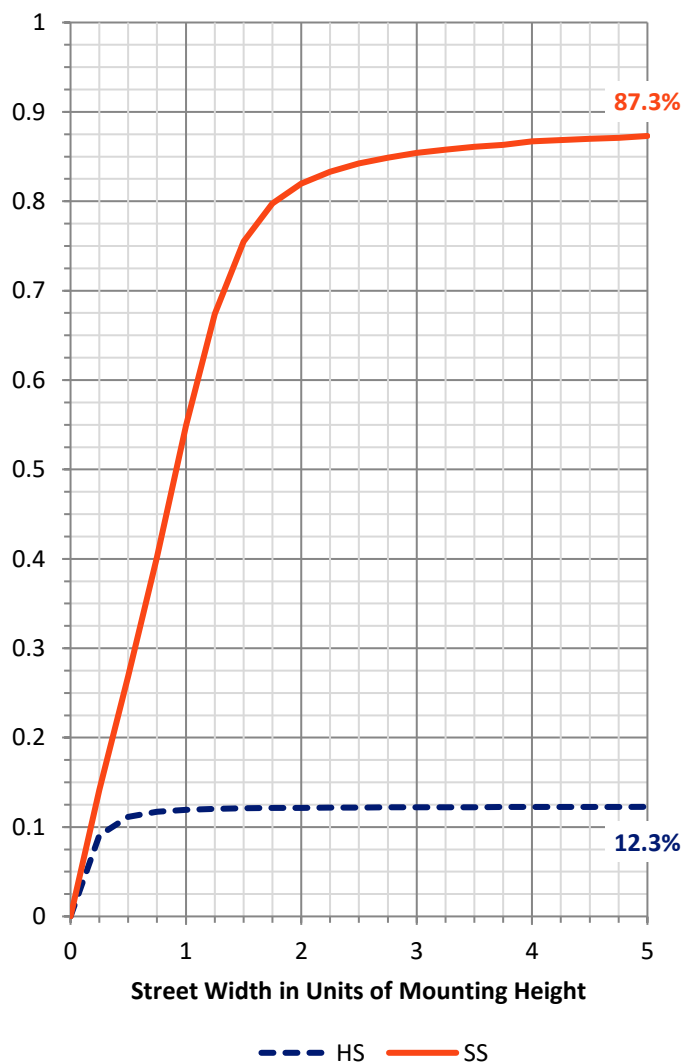
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1680.6 | 0.0 | 1680.6 |
| | % Fixture | 12.4 | 0.0 | 12.4 |
| Street Side | Lumens | 11908.4 | 0.0 | 11908.4 |
| | % Fixture | 87.6 | 0.0 | 87.6 |
| Total | Lumens | 13589.0 | 0.0 | 13589.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 145.3 | 1.1 |
| 10°-20° | 429.9 | 3.2 |
| 20°-30° | 673.7 | 5.0 |
| 30°-40° | 1086.2 | 8.0 |
| 40°-50° | 1996.0 | 14.7 |
| 50°-60° | 3371.0 | 24.8 |
| 60°-70° | 3726.8 | 27.4 |
| 70°-80° | 1950.6 | 14.4 |
| 80°-90° | 209.5 | 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° | 13589.0 | 100.0 |
| 0°-180° | 13589.0 | 100.0 |

Coefficient of Utilization

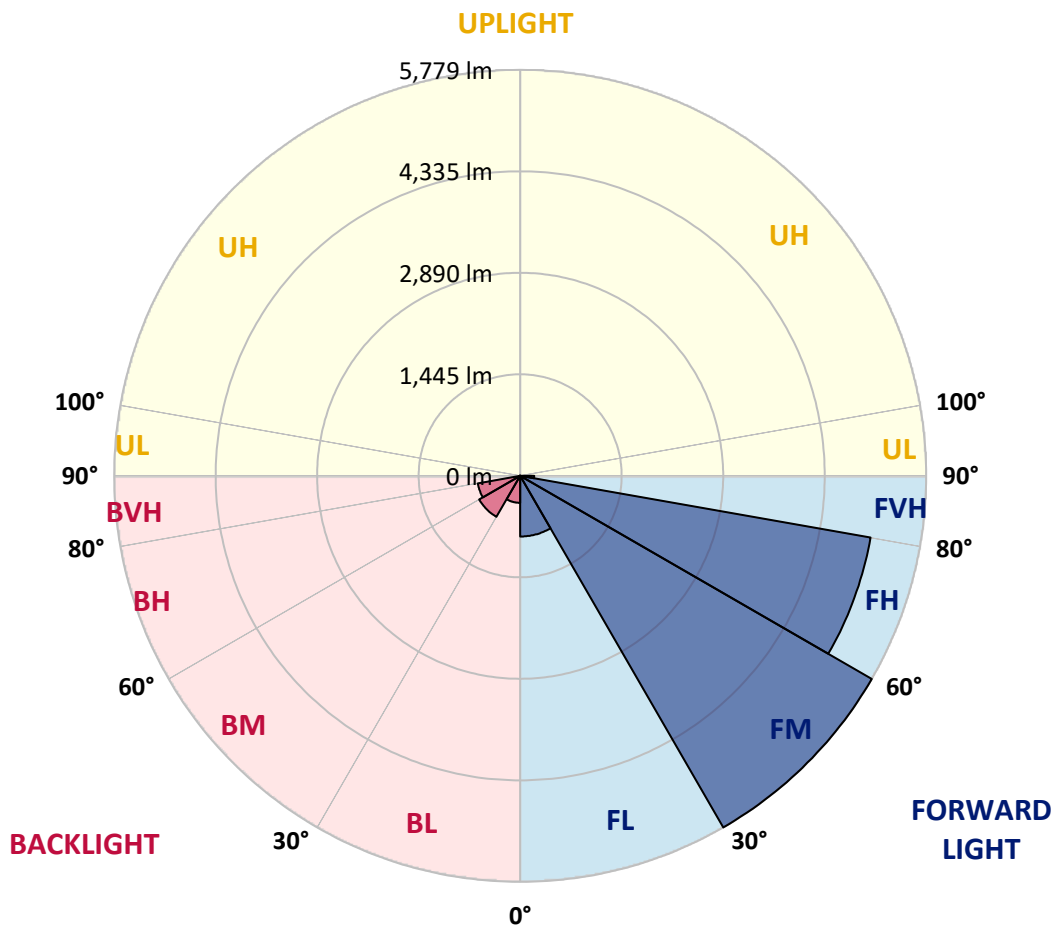


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 864.0 | 6.4 | | | |
| FM (30°-60°) | 5779.5 | 42.5 | | | |
| FH (60°-80°) | 5064.4 | 37.3 | | | G3/7500 |
| FVH (80°-90°) | 200.5 | 1.5 | | | G2/225 |
| BL (0°-30°) | 384.8 | 2.8 | B1/500 | | |
| BM (30°-60°) | 673.8 | 5.0 | B1/1000 | | |
| BH (60°-80°) | 613.0 | 4.5 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 8.9 | 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-G3
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 67° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0° | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 |
| 2.5° | 1366.3 | 1320.1 | 1241.5 | 1264.2 | 1309.7 | 1347.7 | 1329.7 | 1294.6 | 1295.3 | 1259.4 | 1388.3 |
| 5° | 1589.6 | 1527.6 | 1482.1 | 1497.9 | 1495.9 | 1494.5 | 1579.3 | 1611.7 | 1625.5 | 1684.7 | 1772.3 |
| 7.5° | 1653.7 | 1631.7 | 1584.1 | 1598.6 | 1551.0 | 1554.5 | 1703.4 | 1844.0 | 1866.0 | 1902.6 | 2058.4 |
| 10° | 1628.9 | 1586.2 | 1603.4 | 1603.4 | 1604.1 | 1681.3 | 1781.3 | 1915.7 | 1942.6 | 2083.2 | 2099.7 |
| 12.5° | 1602.0 | 1604.1 | 1672.3 | 1659.9 | 1753.7 | 1892.2 | 1926.0 | 2077.0 | 2063.9 | 2185.9 | 2367.2 |
| 15° | 1702.0 | 1754.4 | 1710.3 | 1727.5 | 1736.4 | 1899.1 | 1953.6 | 2154.2 | 2212.1 | 2366.5 | 2484.4 |
| 17.5° | 1873.6 | 1880.5 | 1788.8 | 1764.0 | 1828.8 | 1875.0 | 1984.6 | 2081.1 | 2119.7 | 2525.1 | 2691.9 |
| 20° | 1904.6 | 1948.8 | 1855.7 | 1712.3 | 1849.5 | 1912.9 | 1989.4 | 2035.6 | 2052.2 | 2574.0 | 2809.1 |
| 22.5° | 2091.5 | 2042.5 | 1893.6 | 1784.7 | 1824.0 | 1892.9 | 1940.5 | 2079.7 | 2179.0 | 2481.6 | 2921.4 |
| 25° | 2187.3 | 2174.2 | 2032.2 | 1939.1 | 1899.1 | 1893.6 | 2002.5 | 2108.0 | 2139.7 | 2577.4 | 2949.0 |
| 27.5° | 2416.8 | 2387.2 | 2112.1 | 2100.4 | 1968.8 | 1852.9 | 2004.6 | 2194.2 | 2253.5 | 2487.1 | 3052.4 |
| 30° | 2729.1 | 2718.1 | 2352.0 | 2344.4 | 2134.9 | 1926.7 | 2116.3 | 2247.2 | 2211.4 | 2533.3 | 3121.3 |
| 32.5° | 3043.4 | 3133.0 | 2758.7 | 2545.0 | 2387.9 | 2197.6 | 2084.6 | 2230.7 | 2294.8 | 2645.7 | 3248.2 |
| 35° | 3423.3 | 3488.1 | 3106.9 | 2951.8 | 2602.3 | 2324.5 | 2294.8 | 2388.6 | 2416.1 | 2779.4 | 3392.2 |
| 37.5° | 4087.8 | 3989.9 | 3665.2 | 3401.2 | 3217.8 | 2777.4 | 2631.2 | 2556.8 | 2620.9 | 2960.7 | 3686.6 |
| 40° | 4578.6 | 4516.6 | 4116.7 | 3958.9 | 3537.0 | 3279.2 | 2897.3 | 2827.7 | 2899.4 | 3146.8 | 3891.3 |
| 42.5° | 5170.7 | 5041.8 | 4665.5 | 4558.6 | 4124.3 | 3627.3 | 3239.9 | 3264.0 | 3219.2 | 3514.3 | 4250.5 |
| 45° | 5706.4 | 5415.5 | 5205.9 | 5230.0 | 4998.4 | 4327.0 | 3811.4 | 3799.6 | 3762.4 | 4046.4 | 4628.2 |
| 47.5° | 6066.9 | 5812.5 | 5608.5 | 5541.6 | 5514.0 | 5557.5 | 4637.2 | 4429.0 | 4401.4 | 4605.5 | 5223.1 |
| 50° | 6260.6 | 5982.1 | 5729.8 | 5743.6 | 6303.3 | 6724.5 | 5489.2 | 5193.5 | 5203.8 | 5416.8 | 6036.5 |
| 52.5° | 6130.3 | 5815.3 | 5549.2 | 5807.7 | 6915.5 | 7502.8 | 6899.6 | 6192.3 | 6432.2 | 6377.8 | 7127.8 |
| 55° | 5528.5 | 5254.8 | 5066.0 | 5528.5 | 6982.3 | 8340.3 | 8636.0 | 7695.8 | 7642.0 | 7517.9 | 8240.4 |
| 57.5° | 4515.9 | 4280.1 | 4163.6 | 4651.7 | 6250.9 | 9015.2 | 10380.1 | 9395.0 | 8936.6 | 8416.8 | 9164.1 |
| 60° | 3364.7 | 3191.0 | 3069.6 | 3327.4 | 4925.3 | 8359.6 | 11522.3 | 10996.3 | 10465.6 | 9283.3 | 9994.0 |
| 62.5° | 2492.0 | 2350.6 | 2221.7 | 2245.2 | 3391.6 | 7189.8 | 11960.7 | 12692.8 | 12388.1 | 10198.1 | 10777.1 |
| 65° | 1988.7 | 1859.8 | 1769.5 | 1717.8 | 2100.4 | 5409.2 | 11350.7 | 14083.2 | 14434.8 | 11059.8 | 11342.4 |
| 67.5° | 1624.1 | 1515.2 | 1470.4 | 1529.6 | 1647.5 | 3083.4 | 9721.1 | 14927.0 | 15437.1 | 11973.8 | 11481.6 |
| 70° | 1321.5 | 1231.9 | 1227.0 | 1387.0 | 1517.2 | 1879.8 | 7150.5 | 14344.5 | 14728.4 | 12129.6 | 10646.9 |
| 72.5° | 921.0 | 881.7 | 944.4 | 1171.2 | 1503.5 | 1565.5 | 4106.4 | 11870.4 | 11884.2 | 10713.0 | 8757.4 |
| 75° | 521.1 | 514.9 | 614.2 | 934.1 | 1464.2 | 1549.6 | 2289.3 | 8388.6 | 8394.8 | 8102.5 | 6066.9 |
| 77.5° | 286.8 | 268.2 | 357.8 | 631.4 | 1257.4 | 1513.8 | 1476.6 | 5727.7 | 5580.9 | 4509.0 | 2771.1 |
| 80° | 132.4 | 124.8 | 193.7 | 404.6 | 919.6 | 1431.8 | 1183.6 | 3148.2 | 2838.7 | 1469.0 | 676.2 |
| 82.5° | 54.5 | 51.7 | 88.9 | 259.9 | 581.1 | 1153.3 | 997.5 | 1396.6 | 1120.9 | 279.2 | 208.9 |
| 85° | 9.7 | 10.3 | 36.5 | 157.2 | 325.4 | 531.5 | 808.6 | 663.1 | 487.4 | 77.2 | 114.4 |
| 87.5° | 0.0 | 0.0 | 7.6 | 37.9 | 78.6 | 145.5 | 328.1 | 185.4 | 127.5 | 22.7 | 33.8 |
| 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° | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 | 1157.4 |
| 2.5° | 1413.8 | 1402.1 | 1283.6 | 1289.1 | 1297.3 | 1289.8 | 1288.4 | 1255.3 | 1225.0 | 1324.9 | 1323.5 |
| 5° | 1788.1 | 1704.7 | 1622.7 | 1591.0 | 1522.8 | 1433.1 | 1433.8 | 1405.6 | 1376.6 | 1417.3 | 1417.3 |
| 7.5° | 2054.9 | 1939.8 | 1835.7 | 1650.3 | 1469.7 | 1306.3 | 1291.8 | 1253.2 | 1209.1 | 1262.2 | 1272.5 |
| 10° | 2117.0 | 2017.0 | 1882.6 | 1610.3 | 1439.3 | 1280.1 | 1105.0 | 960.9 | 894.1 | 863.1 | 857.5 |
| 12.5° | 2307.9 | 2233.5 | 1932.9 | 1631.7 | 1385.6 | 1116.0 | 829.3 | 658.3 | 541.8 | 532.9 | 520.5 |
| 15° | 2435.4 | 2383.0 | 1982.5 | 1578.6 | 1158.1 | 802.4 | 521.1 | 399.8 | 352.9 | 348.8 | 342.6 |
| 17.5° | 2633.3 | 2542.3 | 1935.0 | 1409.7 | 905.8 | 529.4 | 350.2 | 315.7 | 321.2 | 333.6 | 324.0 |
| 20° | 2713.9 | 2536.1 | 1831.6 | 1165.0 | 636.3 | 355.0 | 304.0 | 285.4 | 299.9 | 311.6 | 306.1 |
| 22.5° | 2796.7 | 2554.0 | 1739.9 | 960.3 | 415.7 | 293.7 | 270.9 | 261.3 | 262.6 | 274.4 | 275.0 |
| 25° | 2796.0 | 2603.6 | 1633.7 | 747.9 | 309.5 | 261.3 | 244.7 | 232.3 | 227.5 | 235.8 | 233.7 |
| 27.5° | 2931.8 | 2546.4 | 1440.0 | 554.9 | 272.3 | 233.7 | 217.8 | 202.7 | 185.4 | 193.7 | 193.7 |
| 30° | 2932.5 | 2639.5 | 1304.9 | 398.4 | 249.5 | 208.2 | 194.4 | 171.0 | 151.0 | 157.9 | 158.5 |
| 32.5° | 3010.3 | 2558.8 | 1180.1 | 304.7 | 231.6 | 193.0 | 162.7 | 141.3 | 129.6 | 133.7 | 133.7 |
| 35° | 3099.3 | 2627.8 | 988.5 | 268.8 | 213.7 | 171.6 | 139.2 | 122.0 | 113.1 | 116.5 | 116.5 |
| 37.5° | 3392.9 | 2613.3 | 855.5 | 250.2 | 202.0 | 155.1 | 126.8 | 107.5 | 103.4 | 105.5 | 108.2 |
| 40° | 3499.1 | 2716.0 | 674.9 | 239.2 | 182.7 | 139.9 | 111.7 | 97.2 | 91.7 | 93.1 | 93.8 |
| 42.5° | 3769.3 | 2738.7 | 539.1 | 230.2 | 165.4 | 121.3 | 99.3 | 88.9 | 82.0 | 82.0 | 84.1 |
| 45° | 4067.8 | 2796.0 | 428.8 | 222.7 | 151.0 | 108.9 | 89.6 | 81.3 | 71.0 | 69.6 | 72.4 |
| 47.5° | 4500.0 | 3015.2 | 349.5 | 207.5 | 133.7 | 101.3 | 82.7 | 70.3 | 62.0 | 59.3 | 62.0 |
| 50° | 5223.1 | 3387.4 | 308.8 | 188.9 | 121.3 | 95.1 | 73.1 | 60.0 | 53.8 | 50.3 | 52.4 |
| 52.5° | 6243.4 | 4030.6 | 287.5 | 171.6 | 110.3 | 85.5 | 65.5 | 52.4 | 46.2 | 43.4 | 44.8 |
| 55° | 7376.6 | 4768.2 | 277.1 | 154.4 | 100.6 | 75.1 | 57.2 | 46.2 | 40.7 | 37.2 | 37.9 |
| 57.5° | 8424.4 | 5461.6 | 266.8 | 137.9 | 91.0 | 66.9 | 50.3 | 40.7 | 35.2 | 31.7 | 32.4 |
| 60° | 9457.1 | 6015.2 | 242.0 | 118.6 | 82.0 | 60.0 | 44.1 | 35.2 | 31.7 | 27.6 | 27.6 |
| 62.5° | 10370.4 | 6346.1 | 206.1 | 102.7 | 73.8 | 53.1 | 39.3 | 31.7 | 29.0 | 24.8 | 24.8 |
| 65° | 10992.2 | 6361.2 | 166.1 | 88.2 | 64.8 | 45.5 | 34.5 | 29.6 | 26.9 | 22.1 | 21.4 |
| 67.5° | 11001.2 | 5947.6 | 133.0 | 78.6 | 57.2 | 40.0 | 31.0 | 28.3 | 24.8 | 20.7 | 19.3 |
| 70° | 9846.5 | 4913.6 | 111.0 | 68.9 | 49.6 | 35.2 | 26.9 | 26.9 | 24.1 | 20.0 | 17.9 |
| 72.5° | 7876.4 | 3754.8 | 93.1 | 60.0 | 44.1 | 30.3 | 24.8 | 25.5 | 23.4 | 20.0 | 17.9 |
| 75° | 5294.1 | 2153.5 | 77.2 | 51.0 | 38.6 | 25.5 | 24.1 | 24.8 | 24.1 | 20.0 | 17.2 |
| 77.5° | 2438.2 | 685.9 | 60.0 | 42.0 | 33.1 | 21.4 | 23.4 | 23.4 | 22.1 | 17.9 | 15.2 |
| 80° | 549.4 | 168.9 | 43.4 | 31.0 | 26.9 | 15.9 | 21.4 | 19.3 | 17.2 | 12.4 | 9.0 |
| 82.5° | 199.9 | 51.7 | 26.2 | 19.3 | 16.5 | 6.2 | 13.8 | 13.8 | 12.4 | 9.0 | 5.5 |
| 85° | 114.4 | 26.9 | 14.5 | 12.4 | 9.0 | 2.8 | 7.6 | 8.3 | 6.9 | 6.2 | 2.8 |
| 87.5° | 37.2 | 6.2 | 6.9 | 7.6 | 6.9 | 1.4 | 2.8 | 2.8 | 2.1 | 1.4 | 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)