

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: P596474

Luminaire Tested: **MSA-SA4D-722-U-T4W**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596474
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-722-U-T4W
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19609 lumens
Efficiency: N/A
Efficacy: 75.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G4

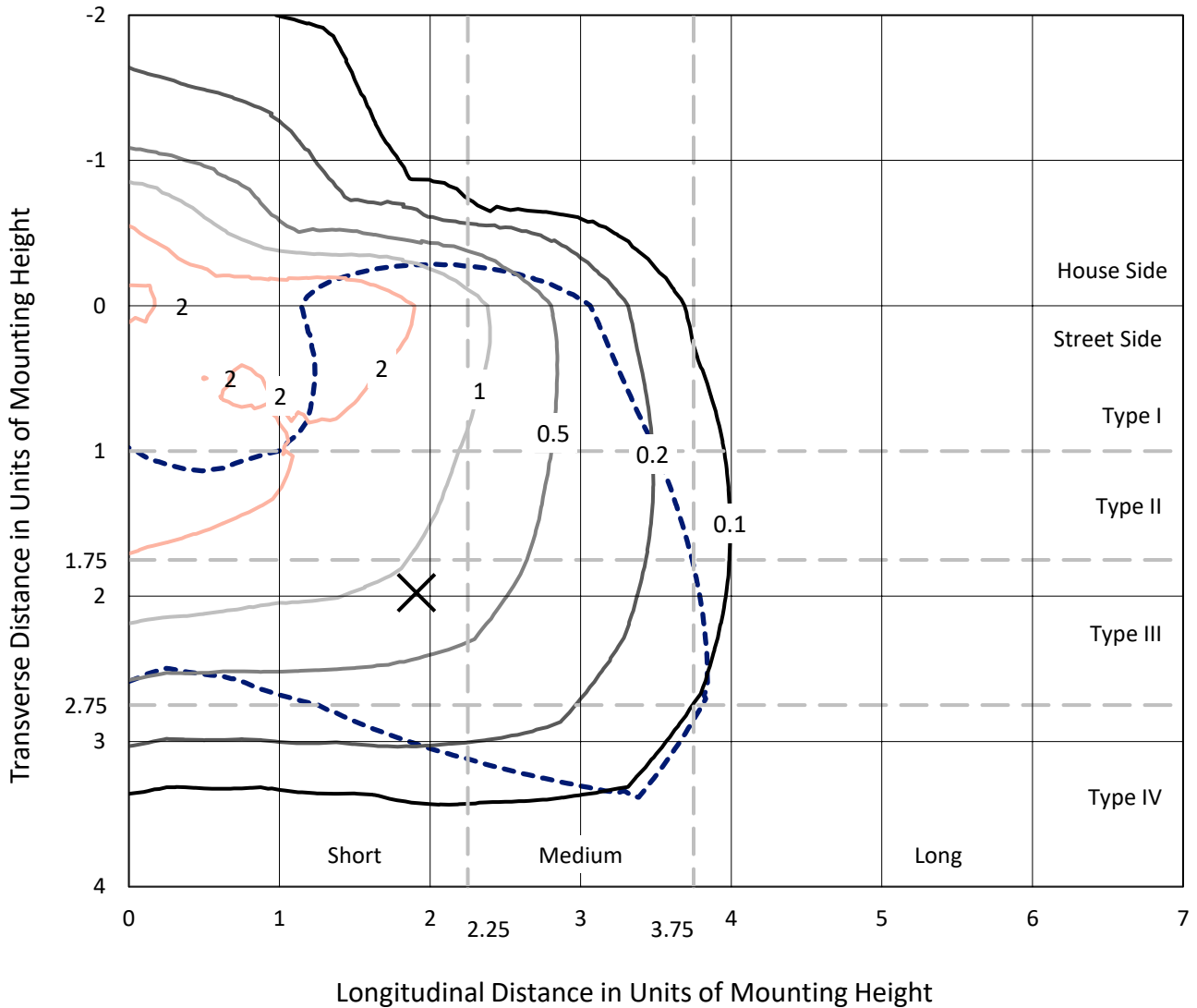
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

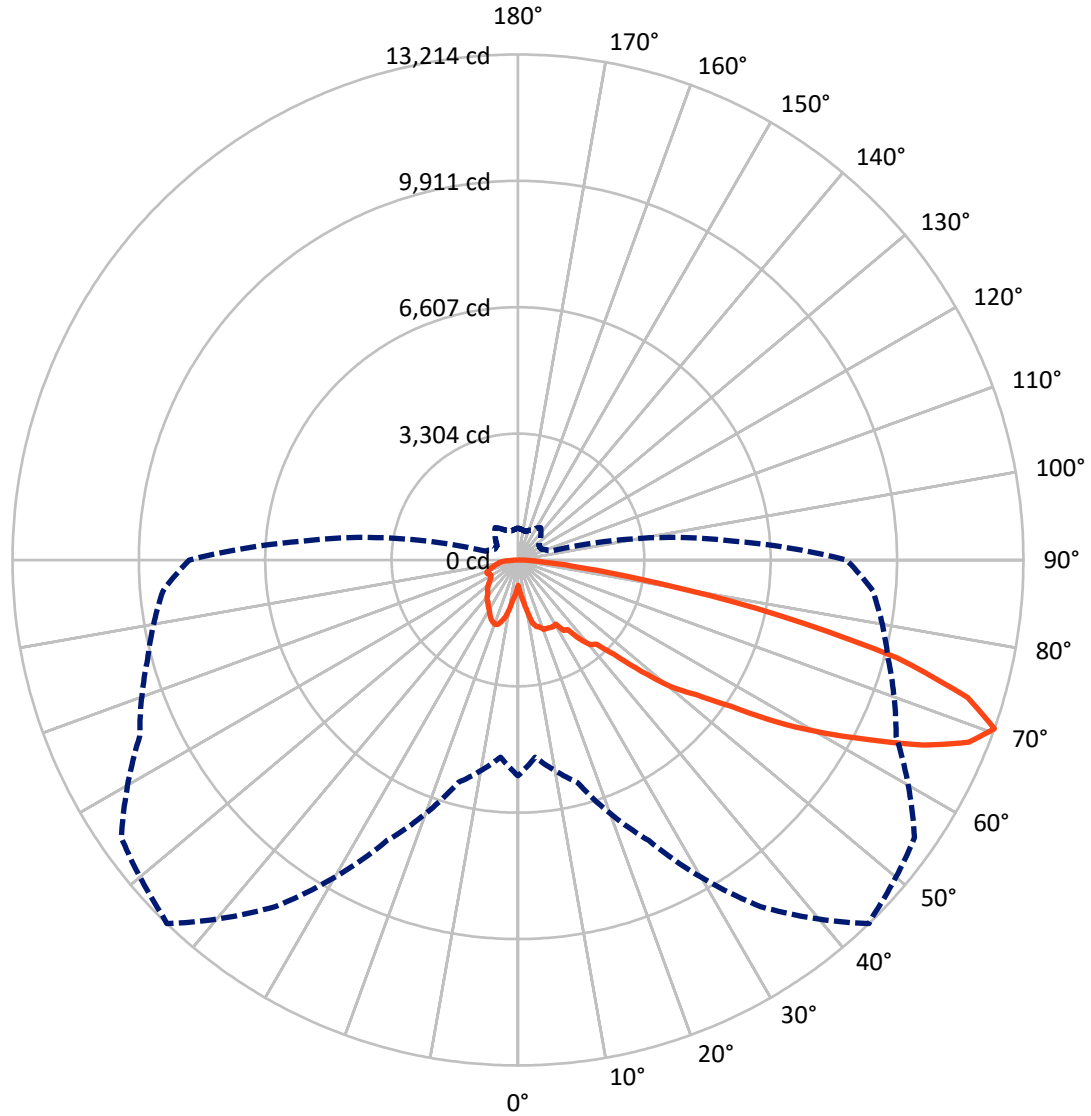
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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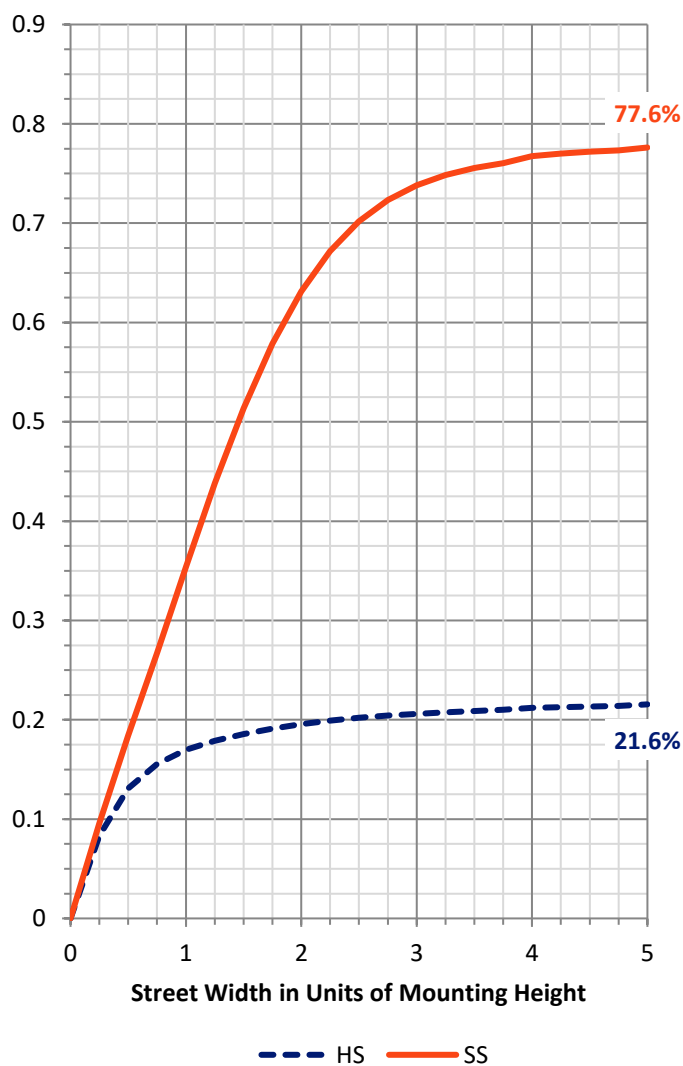
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 4326.5 | 0.0 | 4326.5 |
| | % Fixture | 22.1 | 0.0 | 22.1 |
| Street Side | Lumens | 15282.5 | 0.0 | 15282.5 |
| | % Fixture | 77.9 | 0.0 | 77.9 |
| Total | Lumens | 19609.0 | 0.0 | 19609.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 104.5 | 0.5 |
| 10°-20° | 481.3 | 2.5 |
| 20°-30° | 899.3 | 4.6 |
| 30°-40° | 1443.5 | 7.4 |
| 40°-50° | 2436.6 | 12.4 |
| 50°-60° | 4341.9 | 22.1 |
| 60°-70° | 5939.2 | 30.3 |
| 70°-80° | 3492.5 | 17.8 |
| 80°-90° | 470.2 | 2.4 |
| 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° | 19609.0 | 100.0 |
| 0°-180° | 19609.0 | 100.0 |

Coefficient of Utilization

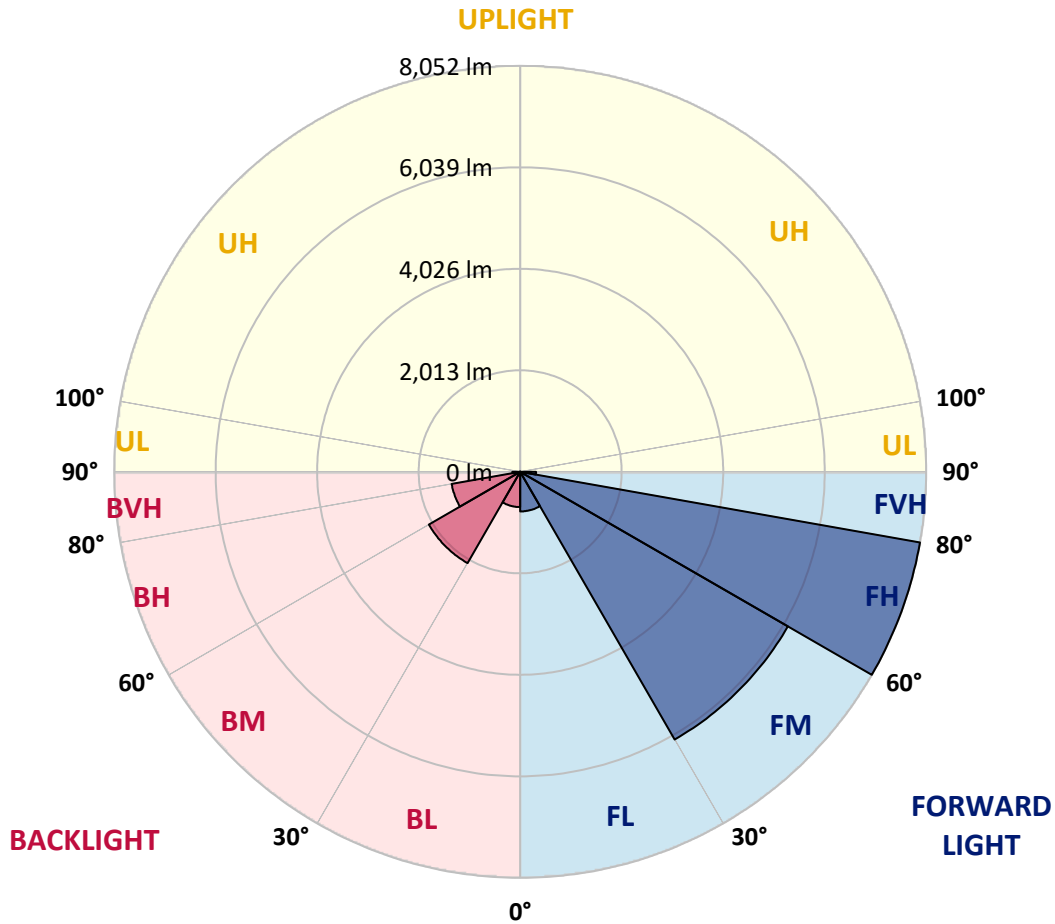


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 785.8 | 4.0 | | | |
| FM (30°-60°) | 6131.2 | 31.3 | | | |
| FH (60°-80°) | 8052.1 | 41.1 | | | G4/12000 |
| FVH (80°-90°) | 313.4 | 1.6 | | | G3/500 |
| BL (0°-30°) | 699.3 | 3.6 | B2/1000 | | |
| BM (30°-60°) | 2090.8 | 10.7 | B2/2500 | | |
| BH (60°-80°) | 1379.6 | 7.0 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 156.8 | 0.8 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G4
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 44° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 |
| 2.5° | 808.8 | 792.8 | 754.2 | 767.0 | 783.1 | 789.6 | 787.9 | 786.3 | 761.4 | 752.6 | 796.8 |
| 5° | 1099.1 | 1063.7 | 1035.6 | 1024.3 | 987.3 | 958.4 | 940.7 | 987.3 | 980.1 | 992.2 | 1022.7 |
| 7.5° | 1372.5 | 1350.0 | 1286.4 | 1263.9 | 1188.3 | 1138.5 | 1132.9 | 1169.9 | 1179.5 | 1160.2 | 1212.5 |
| 10° | 1548.5 | 1510.0 | 1497.1 | 1443.2 | 1391.0 | 1382.9 | 1378.1 | 1361.2 | 1337.9 | 1336.3 | 1289.7 |
| 12.5° | 1685.2 | 1705.3 | 1715.8 | 1653.9 | 1655.5 | 1684.4 | 1669.2 | 1600.8 | 1561.4 | 1492.3 | 1497.9 |
| 15° | 1930.5 | 1959.4 | 1876.6 | 1837.2 | 1761.6 | 1805.0 | 1799.4 | 1742.3 | 1736.7 | 1691.7 | 1639.4 |
| 17.5° | 2144.3 | 2157.2 | 2018.9 | 1928.9 | 1903.1 | 1840.4 | 1857.3 | 1858.9 | 1784.9 | 1865.3 | 1818.7 |
| 20° | 2162.0 | 2207.8 | 2048.7 | 1869.4 | 1946.5 | 1938.5 | 1940.9 | 1924.8 | 1827.5 | 1960.2 | 1942.5 |
| 22.5° | 2248.9 | 2178.9 | 2035.8 | 1904.7 | 1924.8 | 1936.9 | 1948.1 | 1928.9 | 1923.2 | 1997.2 | 2051.1 |
| 25° | 2232.8 | 2210.3 | 2065.5 | 1954.6 | 1957.0 | 1959.4 | 1965.0 | 2022.9 | 2016.5 | 2117.0 | 2145.1 |
| 27.5° | 2383.1 | 2348.6 | 2074.4 | 2047.0 | 1984.3 | 1970.7 | 1932.1 | 2052.7 | 2146.7 | 2144.3 | 2299.5 |
| 30° | 2669.4 | 2634.0 | 2280.2 | 2200.6 | 2087.2 | 1947.3 | 2021.3 | 2182.1 | 2256.1 | 2281.0 | 2478.0 |
| 32.5° | 3116.4 | 3174.3 | 2685.4 | 2364.6 | 2223.9 | 2193.4 | 2185.3 | 2169.3 | 2352.6 | 2475.6 | 2654.9 |
| 35° | 3758.0 | 3712.2 | 3163.0 | 2716.0 | 2367.9 | 2236.8 | 2254.5 | 2352.6 | 2570.5 | 2650.1 | 2815.7 |
| 37.5° | 4492.9 | 4398.0 | 3774.9 | 3114.0 | 2782.7 | 2618.7 | 2560.0 | 2654.9 | 2703.1 | 2765.8 | 3104.3 |
| 40° | 5239.8 | 5008.3 | 4375.5 | 3637.4 | 3032.0 | 2908.2 | 2856.7 | 2740.1 | 2853.5 | 2980.5 | 3410.7 |
| 42.5° | 5961.0 | 5781.7 | 5029.2 | 4262.1 | 3451.7 | 3010.3 | 2982.1 | 2868.0 | 3219.3 | 3353.6 | 3852.9 |
| 45° | 6716.8 | 6301.1 | 5698.9 | 4967.3 | 4065.1 | 3511.2 | 3469.4 | 3264.3 | 3714.6 | 3994.4 | 4476.8 |
| 47.5° | 7225.0 | 6839.8 | 6312.4 | 5539.7 | 4578.9 | 4349.0 | 4269.4 | 3918.8 | 4327.3 | 4690.7 | 5440.8 |
| 50° | 7705.8 | 7309.4 | 6755.4 | 6166.1 | 5509.2 | 5244.6 | 5075.0 | 4491.3 | 5090.3 | 5682.0 | 6676.6 |
| 52.5° | 8394.0 | 8039.4 | 7270.0 | 6797.2 | 6508.6 | 5858.1 | 5731.9 | 5411.1 | 5982.7 | 6781.1 | 8027.4 |
| 55° | 9129.7 | 8646.5 | 7949.4 | 7687.3 | 7570.7 | 6737.7 | 6634.8 | 6430.6 | 7171.1 | 7906.0 | 9340.3 |
| 57.5° | 9454.5 | 8950.4 | 8566.1 | 8409.3 | 8399.6 | 8016.1 | 7897.9 | 7755.6 | 8386.0 | 8870.8 | 10576.1 |
| 60° | 9712.6 | 9171.5 | 9017.9 | 9105.6 | 9424.0 | 9171.5 | 9017.9 | 8892.5 | 9374.9 | 9824.4 | 11584.4 |
| 62.5° | 9665.2 | 9122.5 | 9201.2 | 9468.2 | 10281.1 | 10355.0 | 10236.8 | 9932.9 | 10355.0 | 10605.9 | 12162.5 |
| 65° | 8899.7 | 8398.0 | 8857.1 | 9490.7 | 11077.8 | 11668.8 | 11662.4 | 10867.2 | 11013.5 | 11013.5 | 12101.4 |
| 67.5° | 7558.6 | 7039.2 | 7791.0 | 9292.1 | 11628.6 | 12710.0 | 12711.6 | 11857.7 | 11073.8 | 10972.5 | 11155.8 |
| 70° | 5644.2 | 5173.9 | 6018.9 | 8092.5 | 11060.2 | 13214.1 | 13141.0 | 12656.9 | 10908.2 | 10023.0 | 9318.6 |
| 72.5° | 3371.3 | 3067.4 | 3844.8 | 5891.1 | 9434.4 | 12287.1 | 12481.7 | 11736.3 | 9986.0 | 8335.3 | 6661.3 |
| 75° | 1530.9 | 1399.0 | 1806.6 | 3384.1 | 6735.3 | 10248.9 | 10460.4 | 9904.8 | 7931.7 | 5994.8 | 3849.7 |
| 77.5° | 655.3 | 619.9 | 788.7 | 1501.1 | 3713.8 | 7008.7 | 7442.0 | 7078.6 | 5374.1 | 3483.8 | 1702.9 |
| 80° | 421.3 | 398.8 | 484.8 | 722.0 | 1724.6 | 3787.0 | 4160.0 | 4024.1 | 2737.7 | 1354.8 | 599.8 |
| 82.5° | 251.7 | 244.4 | 324.0 | 453.5 | 940.7 | 1666.7 | 1878.2 | 1928.0 | 1136.9 | 607.8 | 343.3 |
| 85° | 137.5 | 139.1 | 177.7 | 275.0 | 564.4 | 648.8 | 694.7 | 755.8 | 535.5 | 352.2 | 166.4 |
| 87.5° | 45.8 | 53.1 | 71.6 | 111.8 | 201.0 | 183.3 | 184.1 | 213.9 | 225.9 | 146.3 | 53.1 |
| 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° | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 | 666.5 |
| 2.5° | 804.0 | 789.6 | 752.6 | 755.0 | 768.6 | 771.9 | 775.9 | 752.6 | 747.7 | 792.0 | 796.0 |
| 5° | 1027.5 | 980.1 | 958.4 | 951.2 | 930.3 | 923.0 | 961.6 | 979.3 | 997.0 | 1031.6 | 1048.4 |
| 7.5° | 1206.8 | 1153.8 | 1114.4 | 1078.2 | 1047.6 | 1030.0 | 1095.1 | 1144.9 | 1175.5 | 1246.2 | 1278.4 |
| 10° | 1288.9 | 1243.0 | 1228.5 | 1199.6 | 1222.9 | 1276.0 | 1288.0 | 1289.7 | 1357.2 | 1355.6 | 1369.3 |
| 12.5° | 1452.1 | 1422.3 | 1374.9 | 1385.3 | 1446.4 | 1501.1 | 1485.8 | 1509.2 | 1533.3 | 1591.2 | 1564.6 |
| 15° | 1600.8 | 1592.8 | 1548.5 | 1555.8 | 1567.8 | 1636.2 | 1645.0 | 1668.3 | 1705.3 | 1751.2 | 1719.8 |
| 17.5° | 1784.1 | 1780.9 | 1673.2 | 1663.5 | 1691.7 | 1758.4 | 1737.5 | 1696.5 | 1818.7 | 1867.7 | 1854.9 |
| 20° | 1908.8 | 1884.6 | 1746.3 | 1705.3 | 1776.9 | 1785.7 | 1761.6 | 1696.5 | 1802.6 | 1909.6 | 1938.5 |
| 22.5° | 2012.5 | 1984.3 | 1842.0 | 1761.6 | 1747.1 | 1751.2 | 1751.2 | 1739.1 | 1791.4 | 1879.0 | 1878.2 |
| 25° | 2096.1 | 2122.6 | 1941.7 | 1864.5 | 1787.3 | 1690.9 | 1678.8 | 1689.3 | 1719.0 | 1887.8 | 1882.2 |
| 27.5° | 2305.9 | 2232.8 | 1975.5 | 1917.6 | 1759.2 | 1607.2 | 1640.2 | 1656.3 | 1665.9 | 1850.9 | 1881.4 |
| 30° | 2442.6 | 2465.1 | 2096.1 | 1949.0 | 1718.2 | 1514.0 | 1525.2 | 1571.9 | 1628.1 | 1846.8 | 1855.7 |
| 32.5° | 2626.7 | 2578.5 | 2284.2 | 1896.7 | 1608.9 | 1457.7 | 1436.8 | 1499.5 | 1583.1 | 1781.7 | 1805.8 |
| 35° | 2798.0 | 2855.1 | 2363.8 | 1887.0 | 1532.5 | 1373.3 | 1395.8 | 1417.5 | 1504.3 | 1709.4 | 1737.5 |
| 37.5° | 3200.0 | 3069.8 | 2587.3 | 1840.4 | 1469.0 | 1330.7 | 1306.5 | 1339.5 | 1413.5 | 1571.9 | 1637.0 |
| 40° | 3505.5 | 3513.6 | 2635.6 | 1781.7 | 1347.5 | 1269.6 | 1218.1 | 1251.1 | 1282.4 | 1408.6 | 1436.8 |
| 42.5° | 4078.8 | 3903.5 | 2753.8 | 1653.1 | 1271.2 | 1177.9 | 1149.0 | 1163.4 | 1168.2 | 1221.3 | 1267.9 |
| 45° | 4808.1 | 4397.2 | 2800.4 | 1480.2 | 1170.7 | 1140.1 | 1081.4 | 1074.2 | 1047.6 | 1054.9 | 1095.9 |
| 47.5° | 5817.1 | 5167.5 | 2766.6 | 1296.1 | 1081.4 | 1091.1 | 1006.6 | 973.7 | 936.7 | 945.5 | 984.1 |
| 50° | 7122.0 | 6151.6 | 2764.2 | 1140.1 | 1020.3 | 1026.7 | 957.6 | 898.1 | 861.1 | 879.6 | 913.4 |
| 52.5° | 8586.2 | 7138.9 | 2775.5 | 1033.2 | 953.6 | 950.4 | 925.4 | 853.1 | 823.3 | 842.6 | 881.2 |
| 55° | 9986.8 | 7988.0 | 2859.1 | 965.6 | 884.4 | 890.1 | 899.7 | 838.6 | 805.6 | 823.3 | 863.5 |
| 57.5° | 11205.7 | 8658.5 | 2827.8 | 894.1 | 820.1 | 845.8 | 871.6 | 818.5 | 793.6 | 819.3 | 859.5 |
| 60° | 12057.9 | 8969.7 | 2580.1 | 825.7 | 772.7 | 808.0 | 857.9 | 816.1 | 812.9 | 868.3 | 916.6 |
| 62.5° | 12369.1 | 8854.7 | 2097.7 | 771.9 | 744.5 | 803.2 | 889.3 | 869.1 | 872.4 | 940.7 | 1007.4 |
| 65° | 11914.8 | 8250.1 | 1564.6 | 737.3 | 722.8 | 826.5 | 961.6 | 900.5 | 856.3 | 912.6 | 973.7 |
| 67.5° | 10622.8 | 7175.1 | 1143.3 | 707.5 | 697.9 | 863.5 | 1028.3 | 897.3 | 815.3 | 872.4 | 922.2 |
| 70° | 8594.2 | 5663.5 | 885.2 | 669.8 | 664.9 | 838.6 | 1034.8 | 873.2 | 771.1 | 808.0 | 836.2 |
| 72.5° | 5888.7 | 3877.8 | 733.3 | 633.6 | 607.8 | 742.9 | 982.5 | 819.3 | 718.0 | 739.7 | 763.0 |
| 75° | 3290.9 | 2176.5 | 616.7 | 588.5 | 532.3 | 661.7 | 921.4 | 787.1 | 678.6 | 685.0 | 717.2 |
| 77.5° | 1477.0 | 941.5 | 523.4 | 529.0 | 463.9 | 585.3 | 841.8 | 735.7 | 618.3 | 603.8 | 636.0 |
| 80° | 558.8 | 459.1 | 424.5 | 447.0 | 390.0 | 507.3 | 759.0 | 689.0 | 554.8 | 536.3 | 554.8 |
| 82.5° | 324.0 | 278.2 | 315.2 | 344.1 | 309.5 | 466.3 | 724.4 | 646.4 | 488.8 | 442.2 | 458.3 |
| 85° | 150.4 | 143.9 | 188.9 | 223.5 | 216.3 | 363.4 | 619.9 | 486.4 | 348.1 | 294.3 | 325.6 |
| 87.5° | 39.4 | 44.2 | 66.7 | 78.8 | 80.4 | 124.6 | 238.8 | 180.9 | 135.9 | 102.9 | 98.9 |
| 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)