

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: P368508

Luminaire Tested: **MSA-SA4C-740-U-T3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368508  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4C-740-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS  
EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24027 lumens  
Efficiency: N/A  
Efficacy: 106.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G4

Input Watts (W): 225  
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



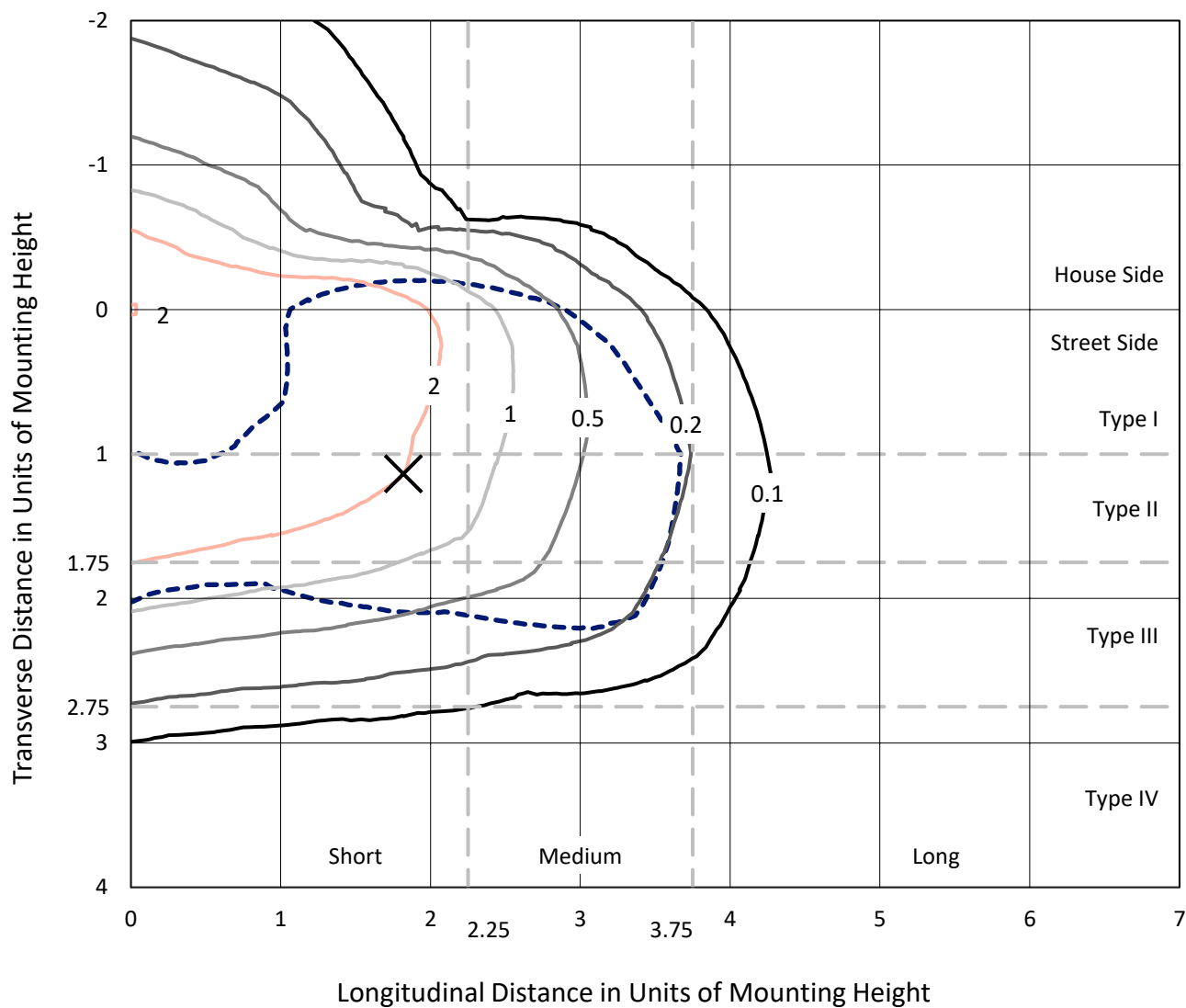
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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

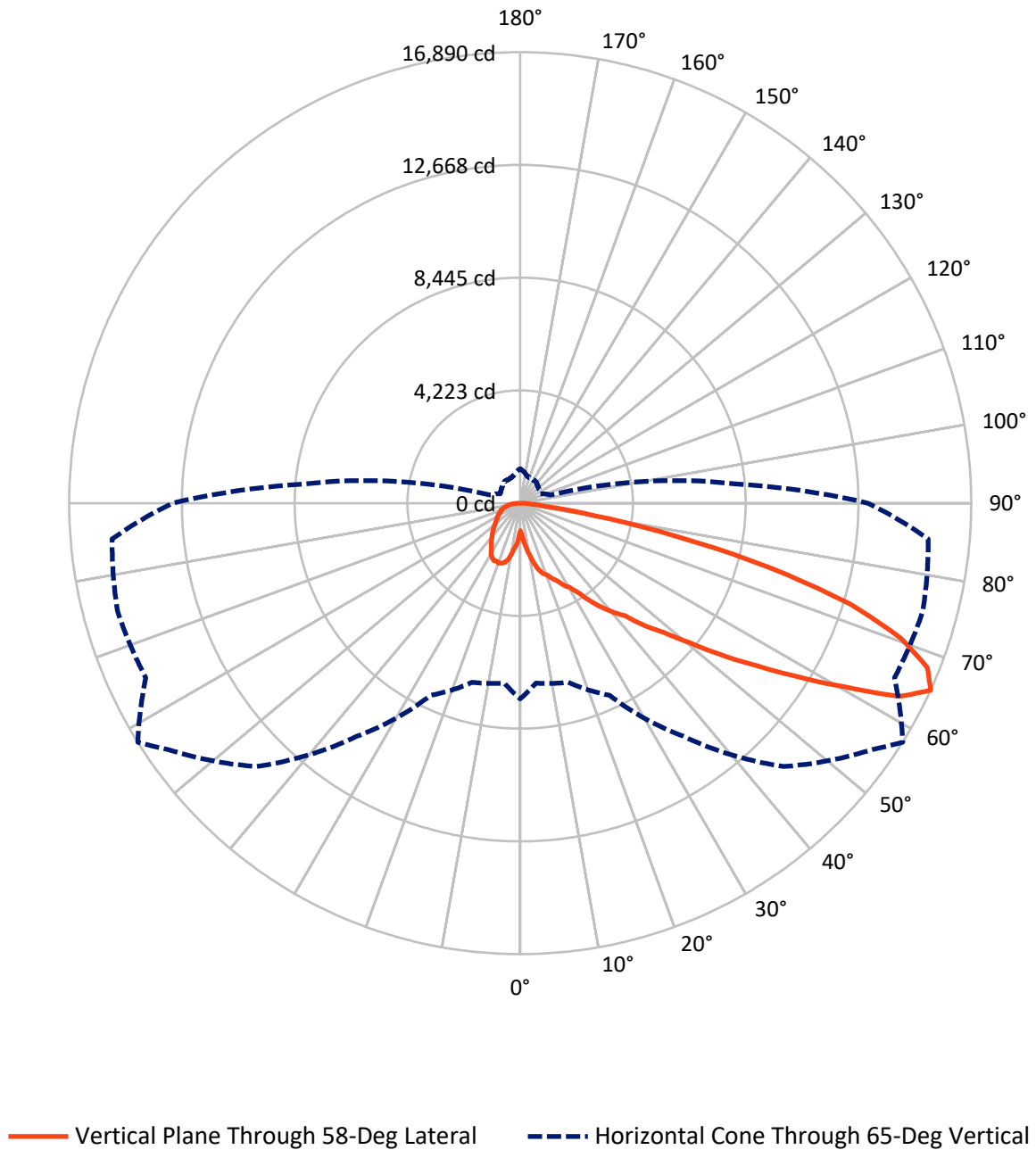
--- 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



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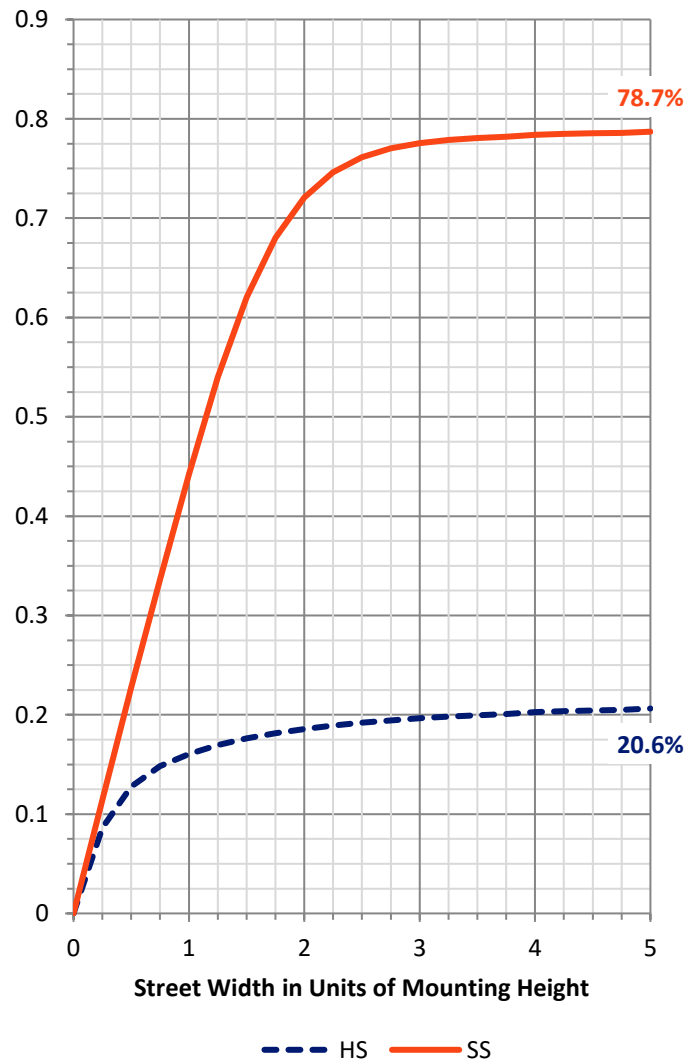
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 5060.8   | 0.0    | 5060.8  |
|                    | % Fixture | 21.1     | 0.0    | 21.1    |
| <b>Street Side</b> | Lumens    | 18966.2  | 0.0    | 18966.2 |
|                    | % Fixture | 78.9     | 0.0    | 78.9    |
| <b>Total</b>       | Lumens    | 24027.0  | 0.0    | 24027.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 157.2   | 0.7       |
| 10°-20°   | 685.7   | 2.9       |
| 20°-30°   | 1315.8  | 5.5       |
| 30°-40°   | 2172.2  | 9.0       |
| 40°-50°   | 3610.6  | 15.0      |
| 50°-60°   | 5962.8  | 24.8      |
| 60°-70°   | 6689.1  | 27.8      |
| 70°-80°   | 3041.4  | 12.7      |
| 80°-90°   | 392.3   | 1.6       |
| 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°    | 24027.0 | 100.0     |
| 0°-180°   | 24027.0 | 100.0     |

**Coefficient of Utilization**



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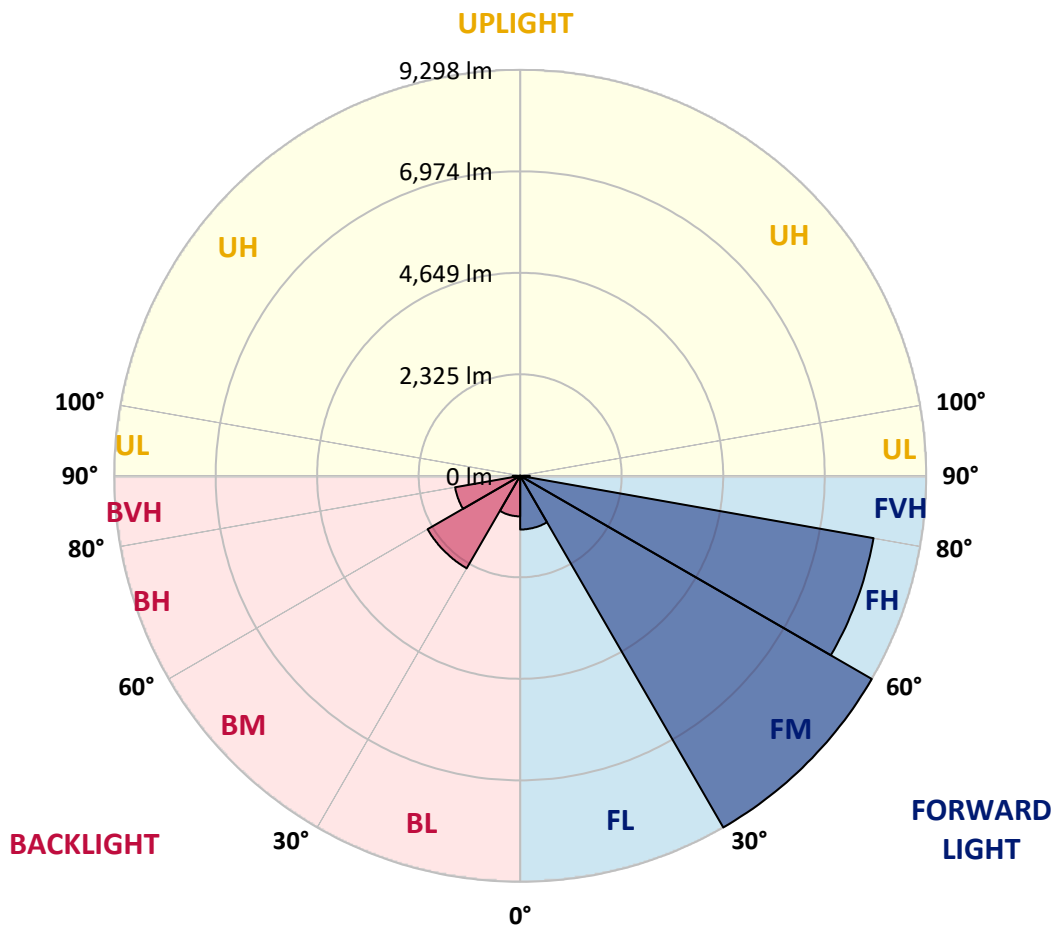
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1229.5 | 5.1       |                         |      |          |
| FM   | (30°-60°)   | 9298.1 | 38.7      |                         |      |          |
| FH   | (60°-80°)   | 8217.7 | 34.2      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 220.9  | 0.9       |                         |      | G2/225   |
| BL   | (0°-30°)    | 929.1  | 3.9       | B2/1000                 |      |          |
| BM   | (30°-60°)   | 2447.5 | 10.2      | B2/2500                 |      |          |
| BH   | (60°-80°)   | 1512.8 | 6.3       | B3/2500                 |      | G3/2500  |
| BVH  | (80°-90°)   | 171.4  | 0.7       |                         |      | 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 III Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 58°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 1031.6  | 1031.6  | 1031.6  | 1031.6  | 1031.6  | 1031.6  | 1031.6  | 1031.6  | 1031.6  | 1031.6  | 1031.6  |
| 2.5°  | 1231.7  | 1194.7  | 1132.7  | 1147.7  | 1183.7  | 1203.7  | 1191.7  | 1175.7  | 1154.7  | 1150.7  | 1242.7  |
| 5°    | 1594.9  | 1523.9  | 1494.9  | 1482.9  | 1438.9  | 1412.8  | 1457.9  | 1451.9  | 1475.9  | 1519.9  | 1610.0  |
| 7.5°  | 1860.1  | 1810.1  | 1762.0  | 1757.0  | 1672.0  | 1642.0  | 1702.0  | 1734.0  | 1777.1  | 1778.1  | 1900.1  |
| 10°   | 2002.2  | 1959.2  | 1958.2  | 1913.1  | 1906.1  | 1963.2  | 1964.2  | 1988.2  | 1993.2  | 2044.2  | 2020.2  |
| 12.5° | 2156.3  | 2153.3  | 2208.3  | 2207.3  | 2271.3  | 2365.4  | 2318.4  | 2318.4  | 2332.4  | 2270.3  | 2346.4  |
| 15°   | 2523.5  | 2555.5  | 2452.4  | 2469.5  | 2469.5  | 2561.5  | 2558.5  | 2576.5  | 2619.5  | 2603.5  | 2569.5  |
| 17.5° | 2905.7  | 2925.7  | 2811.7  | 2705.6  | 2713.6  | 2693.6  | 2765.6  | 2772.6  | 2731.6  | 2917.7  | 2876.7  |
| 20°   | 3151.9  | 3229.9  | 2989.8  | 2856.7  | 2882.7  | 2905.7  | 2908.7  | 2865.7  | 2844.7  | 3130.9  | 3074.8  |
| 22.5° | 3456.0  | 3390.0  | 3169.9  | 3022.8  | 3061.8  | 3030.8  | 3024.8  | 3057.8  | 3086.8  | 3194.9  | 3285.9  |
| 25°   | 3659.2  | 3654.2  | 3390.0  | 3228.9  | 3185.9  | 3176.9  | 3237.9  | 3224.9  | 3293.9  | 3490.1  | 3433.0  |
| 27.5° | 3954.3  | 4046.4  | 3578.1  | 3618.1  | 3429.0  | 3229.9  | 3426.0  | 3485.1  | 3609.1  | 3577.1  | 3704.2  |
| 30°   | 4526.7  | 4457.6  | 3968.3  | 3957.3  | 3743.2  | 3576.1  | 3712.2  | 3662.2  | 3885.3  | 3878.3  | 3972.3  |
| 32.5° | 4994.0  | 5042.0  | 4426.6  | 4311.5  | 4152.5  | 3951.3  | 3861.3  | 4000.4  | 4120.4  | 4317.6  | 4370.6  |
| 35°   | 5488.2  | 5477.2  | 4895.9  | 4663.8  | 4400.6  | 4317.6  | 4428.6  | 4486.7  | 4741.8  | 4922.9  | 4796.8  |
| 37.5° | 6256.7  | 6169.6  | 5504.3  | 5065.0  | 4867.9  | 4837.9  | 5028.0  | 4943.9  | 5220.1  | 5263.1  | 5334.2  |
| 40°   | 6971.1  | 6709.0  | 6060.6  | 5557.3  | 5244.1  | 5356.2  | 5362.2  | 5373.2  | 5521.3  | 5638.3  | 5989.5  |
| 42.5° | 7650.5  | 7466.4  | 6625.9  | 6247.7  | 5786.4  | 5677.4  | 5745.4  | 5768.4  | 6142.6  | 6381.8  | 6868.1  |
| 45°   | 8579.1  | 8085.8  | 7438.4  | 7050.2  | 6533.9  | 6394.8  | 6346.8  | 6544.9  | 6906.1  | 7450.4  | 7867.7  |
| 47.5° | 9364.5  | 8919.3  | 8301.9  | 7790.6  | 7213.3  | 7610.5  | 7338.3  | 7227.3  | 7712.6  | 8387.0  | 9051.4  |
| 50°   | 10015.9 | 9525.6  | 8920.3  | 8625.1  | 8533.0  | 8887.3  | 8180.8  | 8193.8  | 8638.1  | 9589.7  | 10351.1 |
| 52.5° | 10520.2 | 9996.9  | 9460.6  | 9310.5  | 9824.8  | 10028.9 | 9518.6  | 9441.6  | 9765.8  | 10890.4 | 11805.0 |
| 55°   | 10991.5 | 10436.2 | 10021.9 | 10328.1 | 11194.6 | 11217.6 | 11181.6 | 10754.4 | 11144.6 | 12284.3 | 13309.9 |
| 57.5° | 11112.6 | 10514.2 | 10239.1 | 10678.3 | 11850.0 | 12761.5 | 13119.8 | 12281.3 | 12678.5 | 13552.0 | 14598.6 |
| 60°   | 10489.2 | 9976.9  | 9866.8  | 10463.2 | 12204.2 | 13537.0 | 14472.6 | 13971.3 | 13822.2 | 14569.6 | 15501.2 |
| 62.5° | 9212.4  | 8618.1  | 8707.1  | 9535.6  | 11831.0 | 13844.2 | 15541.2 | 15932.4 | 15029.9 | 15379.1 | 15895.4 |
| 65°   | 7332.3  | 6765.0  | 6945.1  | 7941.7  | 10659.3 | 13946.2 | 16087.5 | 16890.0 | 15466.1 | 15608.2 | 15337.1 |
| 67.5° | 5171.1  | 4655.8  | 4882.9  | 6171.6  | 8867.2  | 12639.5 | 16181.6 | 16443.7 | 15001.9 | 14954.8 | 13812.2 |
| 70°   | 2929.7  | 2606.5  | 2852.7  | 3927.3  | 6258.7  | 10069.0 | 15444.1 | 15098.9 | 14169.4 | 13503.0 | 11556.8 |
| 72.5° | 1343.8  | 1232.7  | 1350.8  | 1999.2  | 3603.1  | 6700.0  | 12608.5 | 12921.6 | 12209.2 | 11375.7 | 8792.2  |
| 75°   | 714.4   | 675.4   | 725.4   | 998.6   | 1686.0  | 3645.2  | 8958.3  | 9662.7  | 9283.5  | 8628.1  | 5735.4  |
| 77.5° | 531.3   | 501.3   | 525.3   | 647.4   | 900.5   | 1425.8  | 5090.0  | 5978.5  | 6122.6  | 5519.3  | 3184.9  |
| 80°   | 407.2   | 383.2   | 407.2   | 489.3   | 623.4   | 677.4   | 2176.3  | 2786.6  | 3173.9  | 2564.5  | 1265.7  |
| 82.5° | 302.2   | 286.2   | 323.2   | 367.2   | 438.3   | 423.3   | 772.5   | 961.6   | 1239.7  | 847.5   | 493.3   |
| 85°   | 240.1   | 220.1   | 234.1   | 249.1   | 280.2   | 232.1   | 353.2   | 395.2   | 418.2   | 350.2   | 182.1   |
| 87.5° | 94.1    | 87.1    | 170.1   | 134.1   | 114.1   | 70.0    | 106.1   | 120.1   | 123.1   | 118.1   | 53.0    |
| 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°    | 1031.6  | 1031.6 | 1031.6 | 1031.6 | 1031.6 | 1031.6 | 1031.6 | 1031.6 | 1031.6 | 1031.6 | 1031.6 |
| 2.5°  | 1252.7  | 1242.7 | 1183.7 | 1202.7 | 1233.7 | 1239.7 | 1252.7 | 1216.7 | 1198.7 | 1264.7 | 1267.7 |
| 5°    | 1618.0  | 1563.9 | 1535.9 | 1538.9 | 1518.9 | 1487.9 | 1534.9 | 1565.9 | 1577.9 | 1627.0 | 1645.0 |
| 7.5°  | 1901.1  | 1836.1 | 1789.1 | 1735.0 | 1659.0 | 1610.0 | 1692.0 | 1752.0 | 1784.1 | 1886.1 | 1926.1 |
| 10°   | 2027.2  | 1975.2 | 1965.2 | 1897.1 | 1895.1 | 1894.1 | 1890.1 | 1869.1 | 1938.1 | 1928.1 | 1956.2 |
| 12.5° | 2287.4  | 2276.3 | 2181.3 | 2154.3 | 2157.3 | 2154.3 | 2070.2 | 2066.2 | 2067.2 | 2159.3 | 2126.3 |
| 15°   | 2529.5  | 2531.5 | 2444.4 | 2346.4 | 2258.3 | 2231.3 | 2198.3 | 2183.3 | 2205.3 | 2257.3 | 2225.3 |
| 17.5° | 2828.7  | 2838.7 | 2589.5 | 2434.4 | 2318.4 | 2315.4 | 2236.3 | 2143.3 | 2277.3 | 2309.4 | 2274.3 |
| 20°   | 3021.8  | 2979.8 | 2673.6 | 2413.4 | 2380.4 | 2290.4 | 2192.3 | 2064.2 | 2180.3 | 2258.3 | 2280.3 |
| 22.5° | 3204.9  | 3131.9 | 2751.6 | 2450.4 | 2292.4 | 2185.3 | 2090.2 | 2007.2 | 2044.2 | 2131.3 | 2117.3 |
| 25°   | 3329.0  | 3309.0 | 2859.7 | 2539.5 | 2289.4 | 2051.2 | 1923.1 | 1870.1 | 1889.1 | 2024.2 | 2011.2 |
| 27.5° | 3625.1  | 3409.0 | 2840.7 | 2562.5 | 2193.3 | 1868.1 | 1804.1 | 1747.0 | 1728.0 | 1874.1 | 1914.1 |
| 30°   | 3823.3  | 3734.2 | 2967.8 | 2526.5 | 2072.2 | 1718.0 | 1624.0 | 1612.0 | 1618.0 | 1784.1 | 1795.1 |
| 32.5° | 4159.5  | 3928.3 | 3175.9 | 2388.4 | 1896.1 | 1606.9 | 1498.9 | 1503.9 | 1530.9 | 1652.0 | 1677.0 |
| 35°   | 4509.7  | 4371.6 | 3203.9 | 2289.4 | 1753.0 | 1488.9 | 1444.9 | 1409.8 | 1424.8 | 1530.9 | 1535.9 |
| 37.5° | 5160.1  | 4682.8 | 3376.0 | 2136.3 | 1648.0 | 1443.9 | 1359.8 | 1328.8 | 1336.8 | 1396.8 | 1439.9 |
| 40°   | 5732.4  | 5308.1 | 3295.9 | 1988.2 | 1517.9 | 1383.8 | 1278.8 | 1255.7 | 1231.7 | 1290.8 | 1317.8 |
| 42.5° | 6649.9  | 5754.4 | 3268.9 | 1825.1 | 1456.9 | 1302.8 | 1230.7 | 1169.7 | 1146.7 | 1196.7 | 1245.7 |
| 45°   | 7567.5  | 6227.7 | 3121.8 | 1660.0 | 1370.8 | 1296.8 | 1160.7 | 1102.7 | 1108.7 | 1153.7 | 1203.7 |
| 47.5° | 8590.1  | 6863.1 | 2872.7 | 1499.9 | 1276.8 | 1267.7 | 1090.6 | 1065.6 | 1083.6 | 1133.7 | 1183.7 |
| 50°   | 9798.8  | 7537.5 | 2666.6 | 1355.8 | 1209.7 | 1180.7 | 1081.6 | 1051.6 | 1068.6 | 1127.7 | 1176.7 |
| 52.5° | 11120.6 | 8276.9 | 2516.5 | 1222.7 | 1133.7 | 1111.7 | 1093.6 | 1064.6 | 1084.6 | 1135.7 | 1186.7 |
| 55°   | 12434.4 | 8952.3 | 2414.4 | 1131.7 | 1068.6 | 1082.6 | 1118.7 | 1097.6 | 1107.7 | 1145.7 | 1196.7 |
| 57.5° | 13408.9 | 9308.5 | 2209.3 | 1034.6 | 1015.6 | 1065.6 | 1121.7 | 1086.6 | 1092.6 | 1145.7 | 1200.7 |
| 60°   | 13975.3 | 9376.5 | 1872.1 | 955.6  | 973.6  | 1031.6 | 1090.6 | 1045.6 | 1041.6 | 1128.7 | 1197.7 |
| 62.5° | 13913.2 | 8981.3 | 1484.9 | 883.5  | 925.5  | 980.6  | 1043.6 | 1000.6 | 1011.6 | 1130.7 | 1203.7 |
| 65°   | 13024.7 | 8173.8 | 1180.7 | 822.5  | 867.5  | 924.5  | 1004.6 | 987.6  | 1040.6 | 1210.7 | 1289.8 |
| 67.5° | 11463.8 | 6994.1 | 948.6  | 765.5  | 813.5  | 886.5  | 1031.6 | 1076.6 | 1099.7 | 1292.8 | 1373.8 |
| 70°   | 9290.5  | 5434.2 | 790.5  | 715.4  | 770.5  | 904.5  | 1109.7 | 1100.7 | 1081.6 | 1253.7 | 1317.8 |
| 72.5° | 6712.0  | 3725.2 | 695.4  | 666.4  | 717.4  | 850.5  | 1111.7 | 1063.6 | 1039.6 | 1144.7 | 1190.7 |
| 75°   | 4199.5  | 2222.3 | 607.4  | 604.4  | 636.4  | 762.5  | 1061.6 | 1018.6 | 953.6  | 1005.6 | 1065.6 |
| 77.5° | 2398.4  | 1137.7 | 511.3  | 538.3  | 557.3  | 661.4  | 950.6  | 911.5  | 853.5  | 875.5  | 934.6  |
| 80°   | 915.5   | 550.3  | 431.3  | 478.3  | 473.3  | 560.3  | 805.5  | 796.5  | 730.4  | 737.4  | 773.5  |
| 82.5° | 431.3   | 308.2  | 358.2  | 411.2  | 384.2  | 446.3  | 654.4  | 651.4  | 593.4  | 537.3  | 566.3  |
| 85°   | 160.1   | 164.1  | 262.2  | 313.2  | 267.2  | 288.2  | 473.3  | 460.3  | 404.2  | 341.2  | 377.2  |
| 87.5° | 36.0    | 59.0   | 129.1  | 163.1  | 93.1   | 89.1   | 191.1  | 166.1  | 160.1  | 95.1   | 100.1  |
| 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)