

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: P401810

Luminaire Tested: **ENV-SA1F-730-U-SL2**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401810  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/20/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENV-SA1F-730-U-SL2  
Description: ENTRI LED LUMINAIRE  
(1) 70 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL  
LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7004 lumens  
Efficiency: N/A  
Efficacy: 106.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B2 - U0 - G2

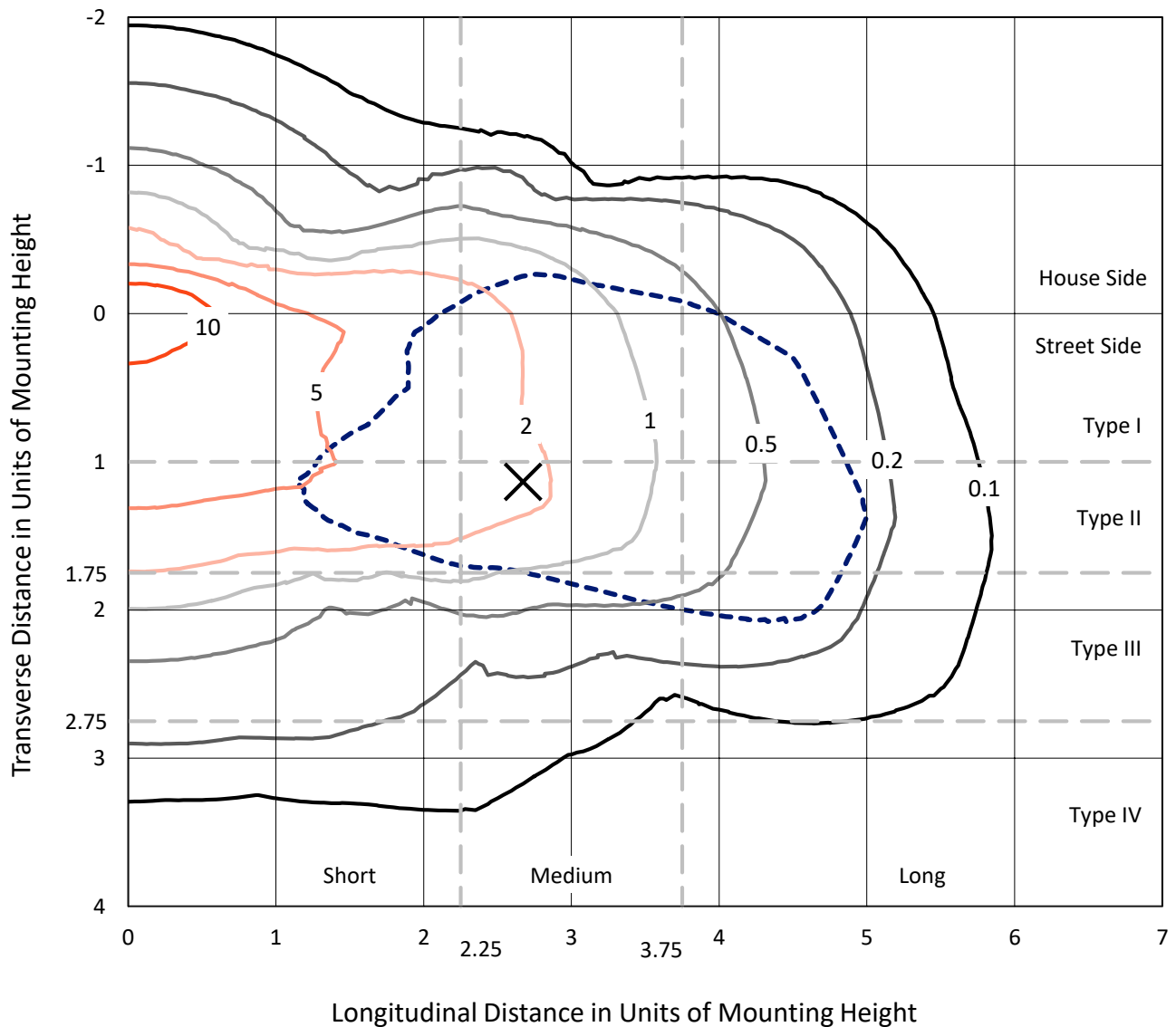
Input Watts (W): 66.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

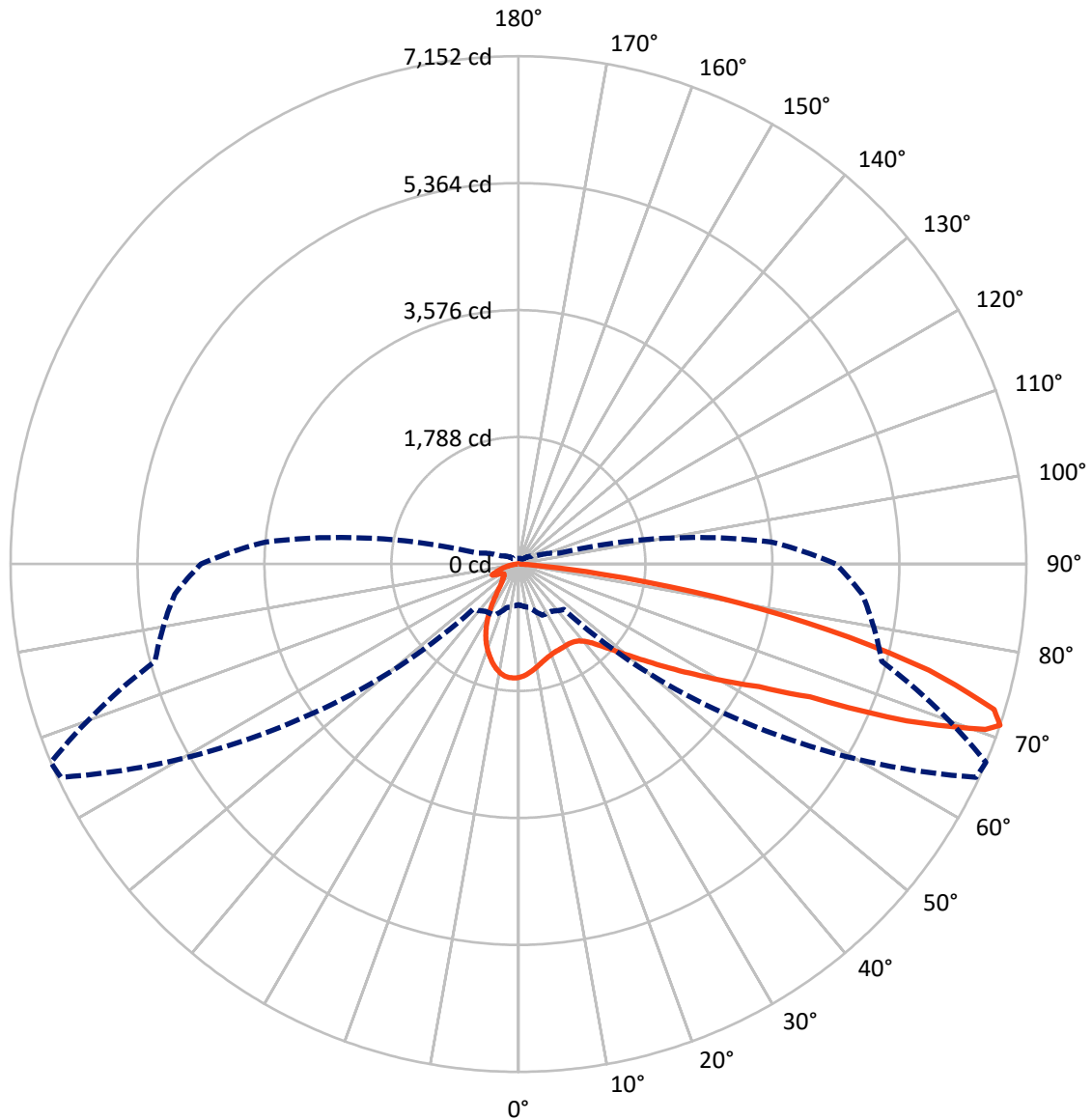
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral      - - - Horizontal Cone Through 71-Deg Vertical

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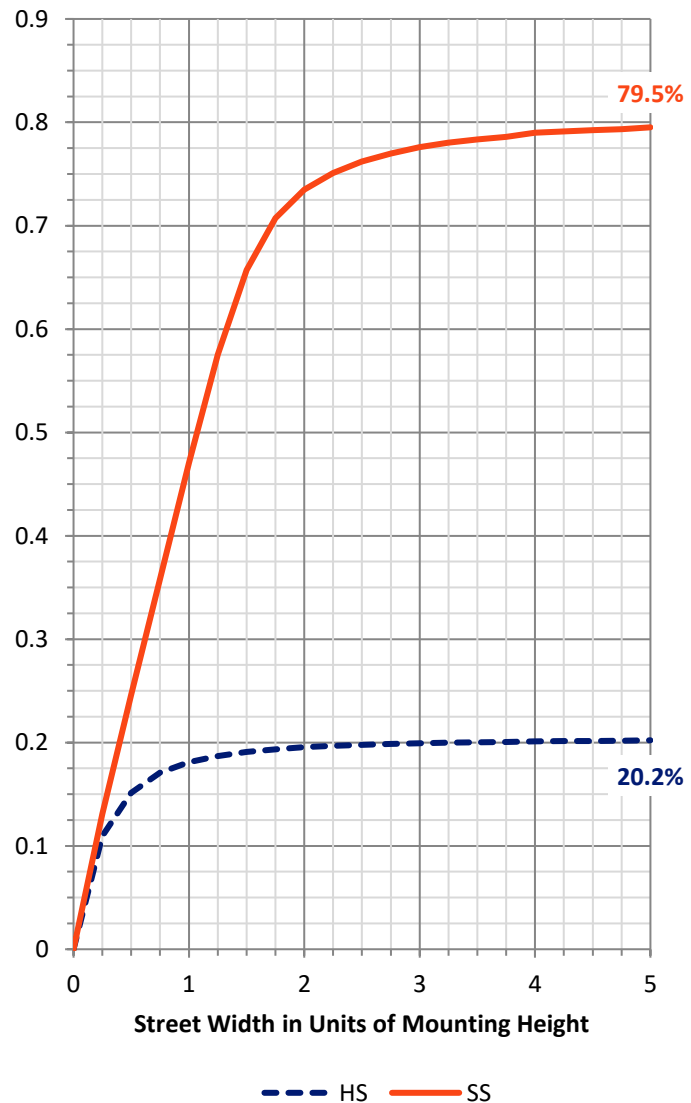
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1434.9   | 0.0    | 1434.9 |
|                    | % Fixture | 20.5     | 0.0    | 20.5   |
| <b>Street Side</b> | Lumens    | 5569.1   | 0.0    | 5569.1 |
|                    | % Fixture | 79.5     | 0.0    | 79.5   |
| <b>Total</b>       | Lumens    | 7004.0   | 0.0    | 7004.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 141.5  | 2.0       |
| 10°-20°   | 347.8  | 5.0       |
| 20°-30°   | 469.6  | 6.7       |
| 30°-40°   | 618.4  | 8.8       |
| 40°-50°   | 880.9  | 12.6      |
| 50°-60°   | 1345.7 | 19.2      |
| 60°-70°   | 1680.3 | 24.0      |
| 70°-80°   | 1356.3 | 19.4      |
| 80°-90°   | 163.5  | 2.3       |
| 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°    | 7004.0 | 100.0     |
| 0°-180°   | 7004.0 | 100.0     |



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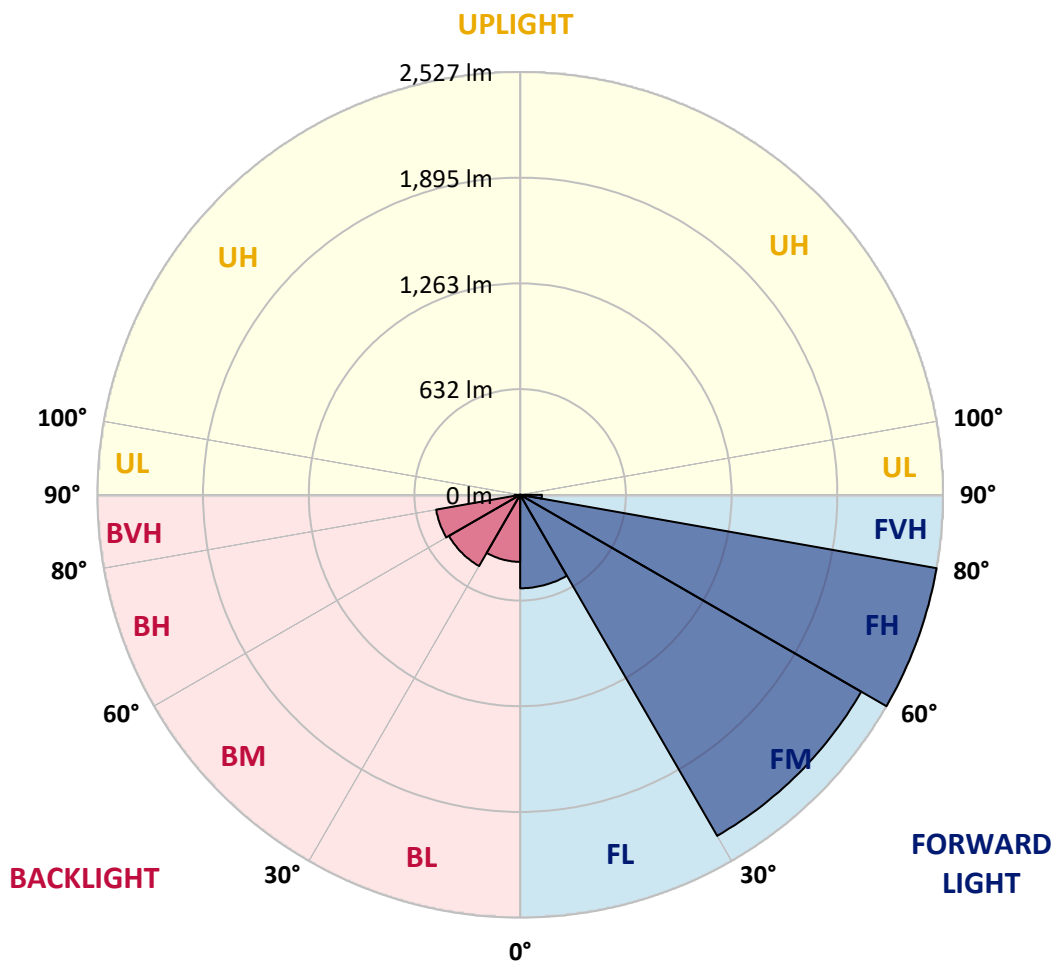
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 558.5  | 8.0       |                         |      |         |
| FM   | (30°-60°)   | 2353.5 | 33.6      |                         |      |         |
| FH   | (60°-80°)   | 2526.7 | 36.1      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 130.4  | 1.9       |                         |      | G2/225  |
| BL   | (0°-30°)    | 400.3  | 5.7       | B1/500                  |      |         |
| BM   | (30°-60°)   | 491.6  | 7.0       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 509.9  | 7.3       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 33.1   | 0.5       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G2**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 67°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 |
| 2.5°  | 1506.4 | 1513.4 | 1514.4 | 1528.5 | 1533.6 | 1549.7 | 1558.8 | 1573.9 | 1575.9 | 1585.0 | 1591.0 |
| 5°    | 1408.6 | 1409.6 | 1415.6 | 1427.7 | 1446.9 | 1476.1 | 1498.3 | 1535.6 | 1542.7 | 1568.9 | 1592.1 |
| 7.5°  | 1320.8 | 1325.9 | 1336.0 | 1354.1 | 1376.3 | 1410.6 | 1444.8 | 1496.3 | 1506.4 | 1548.7 | 1593.1 |
| 10°   | 1261.3 | 1266.4 | 1274.5 | 1294.6 | 1316.8 | 1355.1 | 1396.5 | 1455.9 | 1467.0 | 1525.5 | 1590.0 |
| 12.5° | 1214.0 | 1219.0 | 1225.0 | 1247.2 | 1271.4 | 1309.7 | 1352.1 | 1418.6 | 1429.7 | 1497.3 | 1583.0 |
| 15°   | 1182.7 | 1183.7 | 1191.8 | 1209.9 | 1237.1 | 1274.5 | 1316.8 | 1385.4 | 1398.5 | 1475.1 | 1581.0 |
| 17.5° | 1163.5 | 1165.6 | 1172.6 | 1186.7 | 1210.9 | 1247.2 | 1288.6 | 1358.1 | 1373.3 | 1456.9 | 1582.0 |
| 20°   | 1164.6 | 1166.6 | 1170.6 | 1175.6 | 1192.8 | 1224.0 | 1267.4 | 1338.0 | 1353.1 | 1445.9 | 1589.0 |
| 22.5° | 1185.7 | 1186.7 | 1187.7 | 1180.7 | 1186.7 | 1208.9 | 1251.3 | 1323.9 | 1340.0 | 1440.8 | 1597.1 |
| 25°   | 1226.1 | 1226.1 | 1224.0 | 1207.9 | 1194.8 | 1203.9 | 1242.2 | 1318.8 | 1334.9 | 1436.8 | 1605.2 |
| 27.5° | 1281.5 | 1285.5 | 1275.5 | 1256.3 | 1226.1 | 1210.9 | 1240.2 | 1314.8 | 1330.9 | 1436.8 | 1609.2 |
| 30°   | 1357.1 | 1359.1 | 1355.1 | 1329.9 | 1280.5 | 1239.2 | 1246.2 | 1311.8 | 1327.9 | 1434.8 | 1610.2 |
| 32.5° | 1433.8 | 1439.8 | 1444.8 | 1422.7 | 1363.2 | 1289.6 | 1270.4 | 1315.8 | 1329.9 | 1433.8 | 1607.2 |
| 35°   | 1511.4 | 1515.4 | 1539.6 | 1535.6 | 1471.1 | 1365.2 | 1309.7 | 1331.9 | 1344.0 | 1438.8 | 1609.2 |
| 37.5° | 1577.9 | 1587.0 | 1622.3 | 1649.5 | 1599.1 | 1468.0 | 1377.3 | 1367.2 | 1374.3 | 1464.0 | 1620.3 |
| 40°   | 1649.5 | 1662.6 | 1715.1 | 1766.5 | 1744.3 | 1597.1 | 1473.1 | 1430.7 | 1428.7 | 1510.4 | 1647.5 |
| 42.5° | 1730.2 | 1745.3 | 1812.9 | 1887.5 | 1894.5 | 1761.4 | 1601.1 | 1520.5 | 1518.5 | 1590.0 | 1707.0 |
| 45°   | 1825.0 | 1839.1 | 1930.8 | 2019.6 | 2062.9 | 1945.0 | 1758.4 | 1647.5 | 1648.5 | 1700.9 | 1801.8 |
| 47.5° | 1941.9 | 1964.1 | 2052.8 | 2165.8 | 2243.4 | 2151.6 | 1949.0 | 1825.0 | 1816.9 | 1868.3 | 1957.0 |
| 50°   | 2106.3 | 2124.4 | 2198.0 | 2307.9 | 2444.0 | 2401.7 | 2189.0 | 2038.7 | 2032.7 | 2056.9 | 2164.8 |
| 52.5° | 2278.7 | 2284.7 | 2320.0 | 2434.0 | 2662.8 | 2705.2 | 2484.4 | 2303.9 | 2280.7 | 2293.8 | 2422.9 |
| 55°   | 2288.8 | 2301.9 | 2325.1 | 2469.3 | 2859.5 | 3069.2 | 2810.0 | 2616.5 | 2586.2 | 2577.1 | 2716.3 |
| 57.5° | 2079.1 | 2100.2 | 2130.5 | 2317.0 | 2867.5 | 3489.6 | 3272.8 | 2981.5 | 2927.0 | 2881.6 | 3029.8 |
| 60°   | 1634.4 | 1661.6 | 1717.1 | 1946.0 | 2662.8 | 3729.6 | 4045.2 | 3390.8 | 3342.4 | 3188.1 | 3336.4 |
| 62.5° | 1181.7 | 1192.8 | 1246.2 | 1349.1 | 2113.3 | 3743.7 | 4849.8 | 3925.2 | 3805.2 | 3486.6 | 3600.5 |
| 65°   | 951.8  | 970.0  | 986.1  | 985.1  | 1251.3 | 3320.2 | 5384.2 | 4876.0 | 4514.0 | 3820.3 | 3890.9 |
| 67.5° | 784.4  | 790.5  | 829.8  | 898.4  | 851.0  | 2050.8 | 5437.6 | 6265.4 | 5898.4 | 4270.0 | 4235.7 |
| 70°   | 655.4  | 657.4  | 696.7  | 819.7  | 814.7  | 1058.7 | 4559.4 | 7064.9 | 6976.2 | 5008.1 | 4775.2 |
| 71°   | 573.7  | 590.8  | 634.2  | 793.5  | 810.6  | 904.4  | 3873.8 | 7107.3 | 7151.7 | 5297.4 | 4858.8 |
| 72.5° | 451.7  | 451.7  | 513.2  | 728.0  | 817.7  | 834.8  | 2854.4 | 6876.4 | 7004.4 | 5626.1 | 4713.7 |
| 75°   | 265.2  | 263.2  | 296.4  | 507.2  | 835.9  | 831.8  | 1558.8 | 5714.9 | 5974.0 | 5685.6 | 4362.8 |
| 77.5° | 149.2  | 152.2  | 170.4  | 282.3  | 663.4  | 798.5  | 895.3  | 4161.1 | 4466.6 | 4756.0 | 3689.3 |
| 80°   | 68.6   | 72.6   | 85.7   | 137.1  | 391.2  | 689.7  | 639.2  | 2702.2 | 2818.1 | 2858.4 | 1743.3 |
| 82.5° | 18.1   | 20.2   | 26.2   | 52.4   | 151.2  | 469.9  | 472.9  | 1131.3 | 1168.6 | 675.5  | 374.1  |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 2.0    | 57.5   | 134.1  | 203.7  | 169.4  | 89.7   | 76.6   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 2.0    | 3.0    | 4.0    | 4.0    | 4.0    | 5.0    |
| 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°    | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 | 1597.1 |
| 2.5°  | 1596.1 | 1600.1 | 1607.2 | 1606.2 | 1604.2 | 1592.1 | 1599.1 | 1592.1 | 1591.0 | 1588.0 | 1589.0 |
| 5°    | 1600.1 | 1606.2 | 1610.2 | 1601.1 | 1586.0 | 1559.8 | 1550.7 | 1527.5 | 1512.4 | 1504.3 | 1500.3 |
| 7.5°  | 1606.2 | 1610.2 | 1608.2 | 1583.0 | 1543.7 | 1494.3 | 1451.9 | 1418.6 | 1383.3 | 1377.3 | 1375.3 |
| 10°   | 1606.2 | 1610.2 | 1594.1 | 1545.7 | 1478.1 | 1400.5 | 1336.0 | 1281.5 | 1227.1 | 1206.9 | 1209.9 |
| 12.5° | 1602.1 | 1604.2 | 1566.8 | 1489.2 | 1391.4 | 1285.5 | 1194.8 | 1105.1 | 1035.5 | 993.1  | 985.1  |
| 15°   | 1599.1 | 1596.1 | 1530.6 | 1418.6 | 1288.6 | 1157.5 | 1020.4 | 899.4  | 816.7  | 761.2  | 754.2  |
| 17.5° | 1599.1 | 1588.0 | 1487.2 | 1338.0 | 1176.6 | 996.2  | 814.7  | 683.6  | 591.9  | 559.6  | 558.6  |
| 20°   | 1601.1 | 1576.9 | 1440.8 | 1254.3 | 1037.5 | 804.6  | 608.0  | 496.1  | 461.8  | 456.7  | 457.8  |
| 22.5° | 1603.1 | 1561.8 | 1390.4 | 1159.5 | 882.2  | 599.9  | 434.6  | 394.2  | 397.3  | 409.4  | 408.3  |
| 25°   | 1601.1 | 1541.6 | 1330.9 | 1053.6 | 712.8  | 432.5  | 350.9  | 340.8  | 358.9  | 373.1  | 377.1  |
| 27.5° | 1596.1 | 1515.4 | 1267.4 | 927.6  | 543.5  | 340.8  | 306.5  | 305.5  | 323.7  | 336.8  | 335.8  |
| 30°   | 1581.0 | 1484.2 | 1193.8 | 794.5  | 392.2  | 290.4  | 276.3  | 279.3  | 291.4  | 303.5  | 303.5  |
| 32.5° | 1564.8 | 1448.9 | 1116.2 | 649.3  | 301.5  | 263.2  | 258.1  | 259.1  | 267.2  | 276.3  | 275.3  |
| 35°   | 1547.7 | 1414.6 | 1036.5 | 498.1  | 264.2  | 247.0  | 245.0  | 244.0  | 247.0  | 249.0  | 249.0  |
| 37.5° | 1537.6 | 1384.4 | 948.8  | 375.1  | 244.0  | 236.9  | 232.9  | 228.9  | 227.9  | 225.9  | 223.8  |
| 40°   | 1541.6 | 1364.2 | 864.1  | 290.4  | 231.9  | 225.9  | 219.8  | 213.8  | 209.7  | 207.7  | 206.7  |
| 42.5° | 1569.9 | 1358.1 | 770.3  | 250.1  | 220.8  | 215.8  | 207.7  | 197.6  | 193.6  | 193.6  | 192.6  |
| 45°   | 1635.4 | 1376.3 | 682.6  | 229.9  | 210.7  | 204.7  | 191.6  | 184.5  | 181.5  | 182.5  | 182.5  |
| 47.5° | 1738.3 | 1427.7 | 604.0  | 219.8  | 203.7  | 194.6  | 179.5  | 172.4  | 170.4  | 171.4  | 171.4  |
| 50°   | 1892.5 | 1524.5 | 523.3  | 210.7  | 195.6  | 183.5  | 170.4  | 162.3  | 159.3  | 159.3  | 159.3  |
| 52.5° | 2118.4 | 1683.8 | 464.8  | 204.7  | 188.5  | 174.4  | 161.3  | 152.2  | 148.2  | 148.2  | 147.2  |
| 55°   | 2393.6 | 1891.5 | 442.6  | 200.6  | 179.5  | 166.4  | 152.2  | 143.2  | 137.1  | 135.1  | 136.1  |
| 57.5° | 2695.1 | 2160.7 | 474.9  | 199.6  | 169.4  | 157.3  | 143.2  | 132.1  | 126.0  | 125.0  | 124.0  |
| 60°   | 3005.6 | 2427.9 | 567.7  | 194.6  | 161.3  | 146.2  | 133.1  | 123.0  | 117.0  | 114.9  | 113.9  |
| 62.5° | 3273.8 | 2694.1 | 720.9  | 190.6  | 155.3  | 136.1  | 122.0  | 112.9  | 107.9  | 104.9  | 104.9  |
| 65°   | 3597.5 | 2999.6 | 954.8  | 195.6  | 152.2  | 126.0  | 111.9  | 103.9  | 99.8   | 96.8   | 96.8   |
| 67.5° | 4039.1 | 3452.3 | 1132.3 | 219.8  | 159.3  | 118.0  | 100.8  | 94.8   | 91.8   | 89.7   | 89.7   |
| 70°   | 4473.7 | 3706.4 | 787.5  | 258.1  | 177.5  | 110.9  | 90.7   | 86.7   | 84.7   | 82.7   | 82.7   |
| 71°   | 4467.6 | 3570.3 | 591.9  | 267.2  | 183.5  | 108.9  | 86.7   | 83.7   | 81.7   | 80.7   | 79.7   |
| 72.5° | 4243.8 | 3245.6 | 424.5  | 259.1  | 180.5  | 102.8  | 81.7   | 78.6   | 76.6   | 76.6   | 75.6   |
| 75°   | 3806.2 | 2860.5 | 331.7  | 216.8  | 151.2  | 91.8   | 72.6   | 70.6   | 68.6   | 67.6   | 68.6   |
| 77.5° | 3118.6 | 2288.8 | 261.1  | 171.4  | 114.9  | 75.6   | 64.5   | 61.5   | 60.5   | 59.5   | 60.5   |
| 80°   | 1432.7 | 997.2  | 190.6  | 133.1  | 85.7   | 60.5   | 54.4   | 53.4   | 52.4   | 51.4   | 51.4   |
| 82.5° | 344.8  | 279.3  | 101.8  | 88.7   | 58.5   | 46.4   | 43.4   | 43.4   | 43.4   | 42.3   | 42.3   |
| 85°   | 75.6   | 75.6   | 41.3   | 41.3   | 35.3   | 32.3   | 34.3   | 34.3   | 34.3   | 32.3   | 32.3   |
| 87.5° | 4.0    | 12.1   | 13.1   | 19.2   | 20.2   | 19.2   | 23.2   | 24.2   | 23.2   | 22.2   | 21.2   |
| 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)