

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: P401937

Luminaire Tested: **ENT-SA1F-830-U-SL3-HSS**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401937  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/20/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: ENT-SA1F-830-U-SL3-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE III SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5184 lumens  
Efficiency: N/A  
Efficacy: 78.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B1 - 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

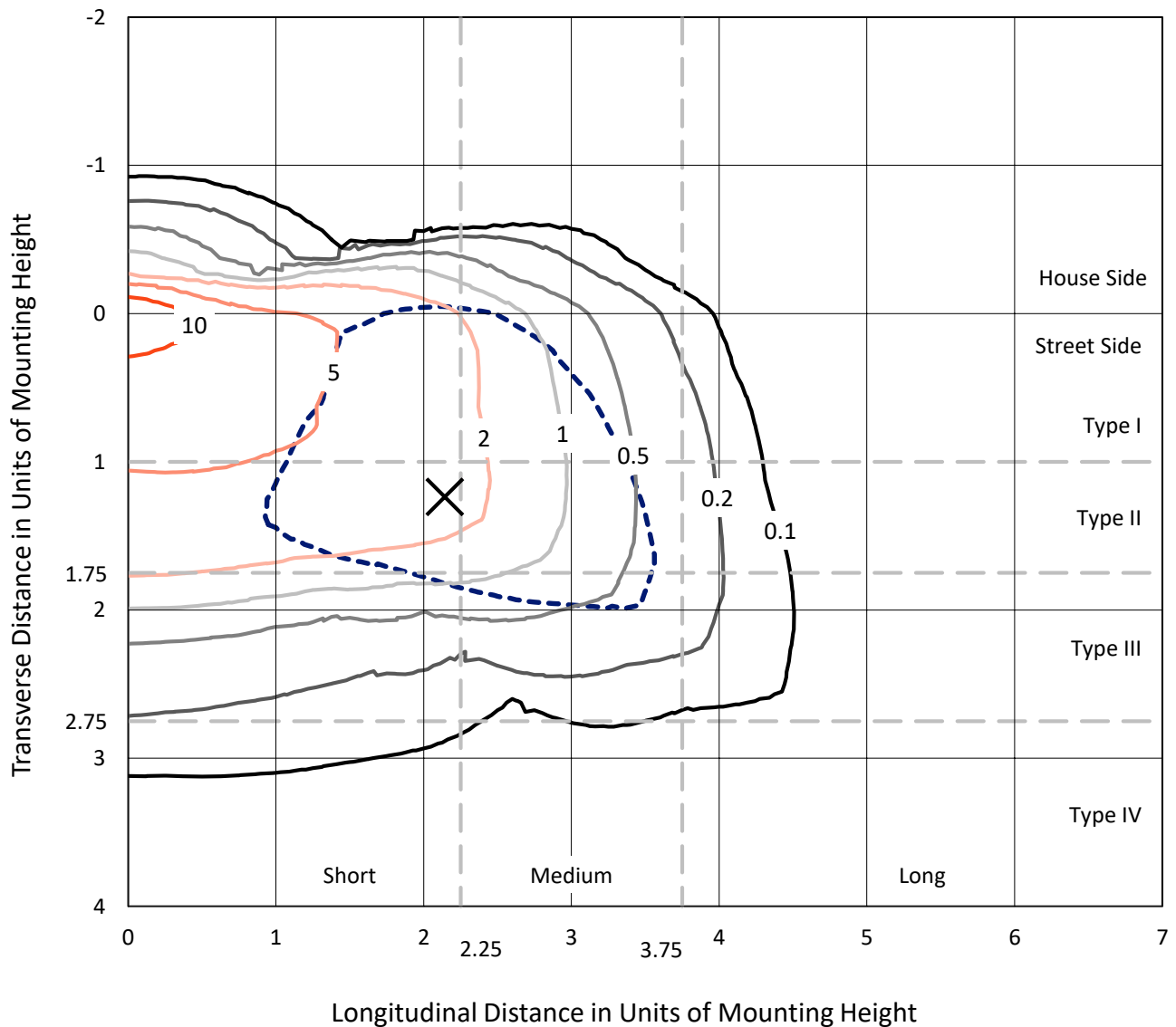


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

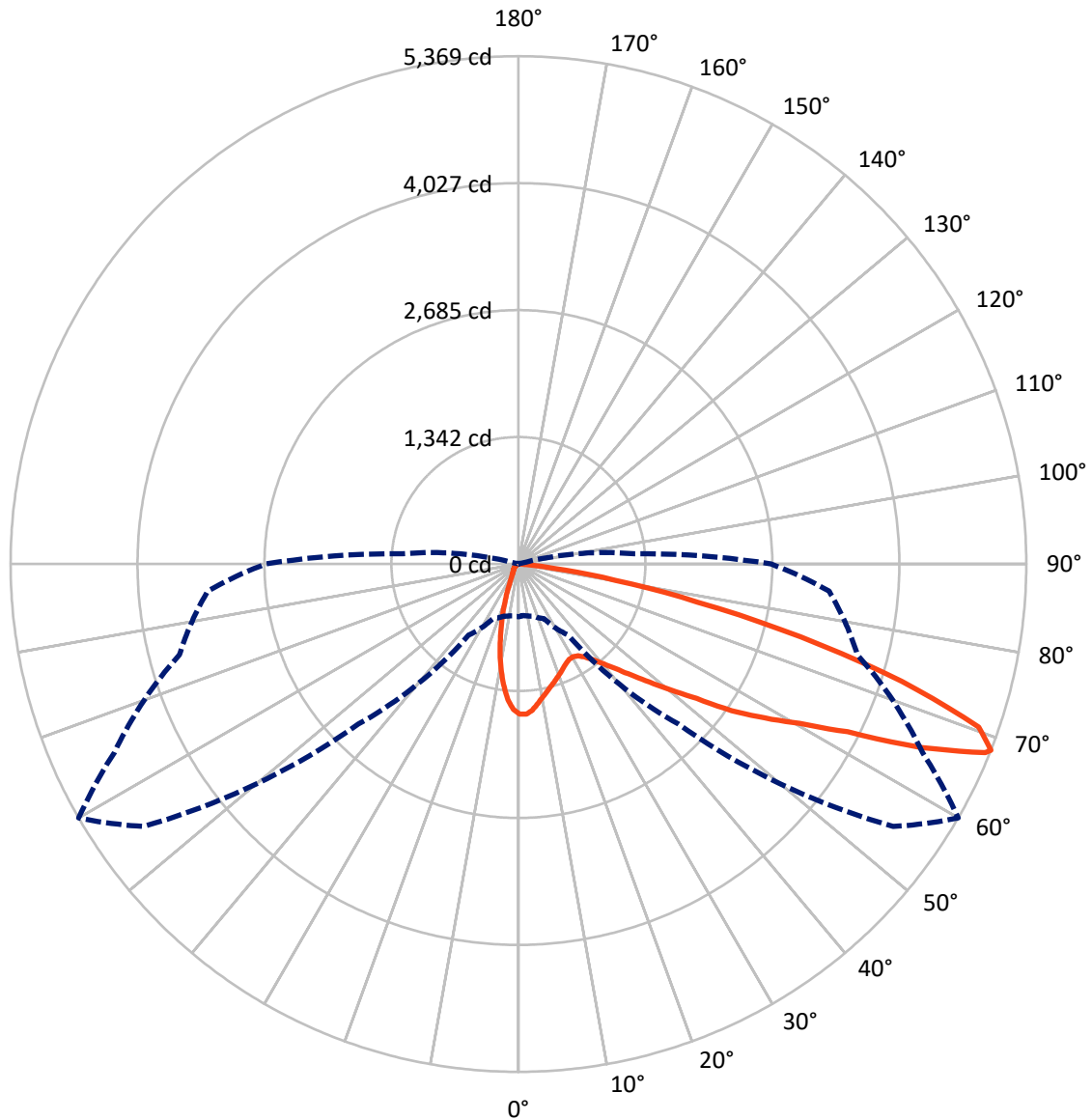


Based on 10 foot mounting height. Maximum calculated value = 15.9 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral      - - - Horizontal Cone Through 68-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 579.6    | 0.0    | 579.6  |
|                    | % Fixture | 11.2     | 0.0    | 11.2   |
| <b>Street Side</b> | Lumens    | 4604.4   | 0.0    | 4604.4 |
|                    | % Fixture | 88.8     | 0.0    | 88.8   |
| <b>Total</b>       | Lumens    | 5184.0   | 0.0    | 5184.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 128.8  | 2.5       |
| 10°-20°   | 262.6  | 5.1       |
| 20°-30°   | 345.8  | 6.7       |
| 30°-40°   | 477.2  | 9.2       |
| 40°-50°   | 723.3  | 14.0      |
| 50°-60°   | 1167.2 | 22.5      |
| 60°-70°   | 1386.5 | 26.7      |
| 70°-80°   | 653.6  | 12.6      |
| 80°-90°   | 39.0   | 0.8       |
| 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°    | 5184.0 | 100.0     |
| 0°-180°   | 5184.0 | 100.0     |



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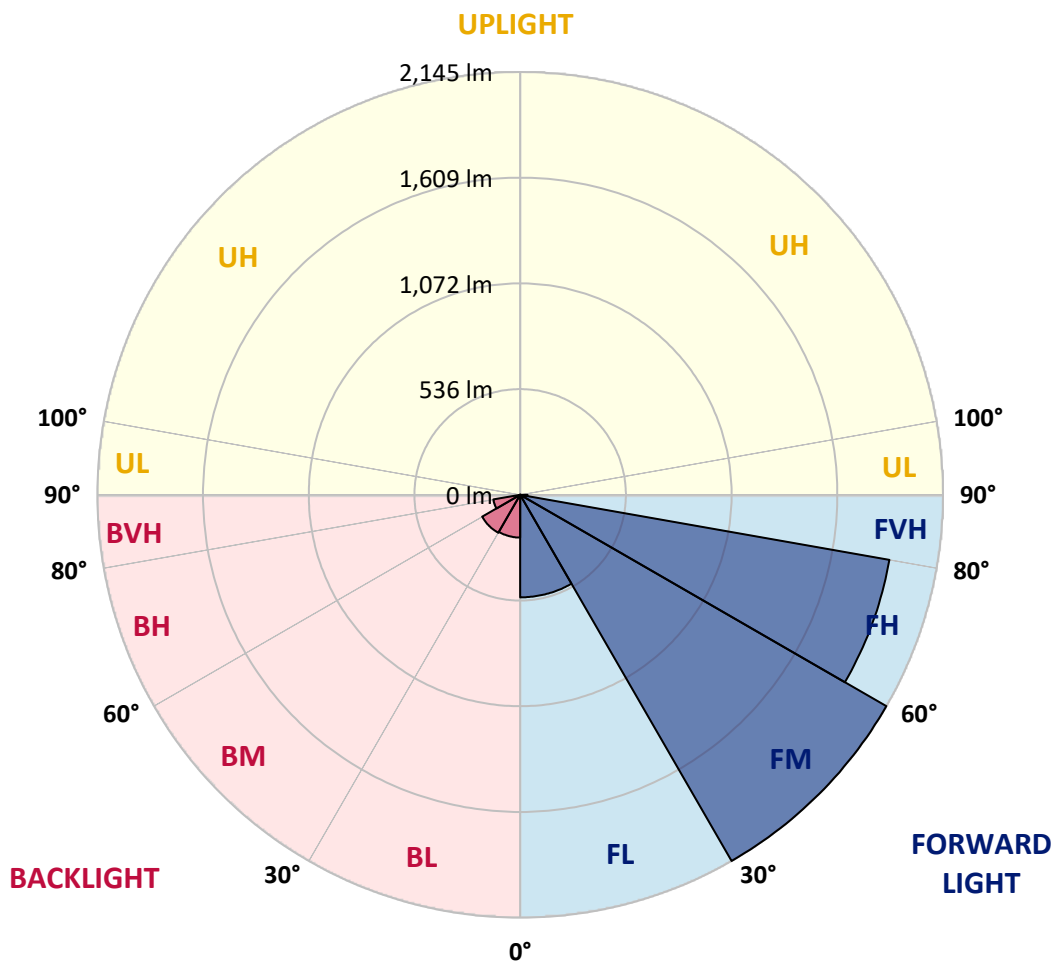
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 520.3  | 10.0      |                         |      |         |
| FM   | (30°-60°)   | 2144.9 | 41.4      |                         |      |         |
| FH   | (60°-80°)   | 1901.8 | 36.7      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 37.4   | 0.7       |                         |      | G1/100  |
| BL   | (0°-30°)    | 216.9  | 4.2       | B1/500                  |      |         |
| BM   | (30°-60°)   | 222.8  | 4.3       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 138.3  | 2.7       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 1.7    | 0.0       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 60°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 |
| 2.5°  | 1572.7 | 1569.2 | 1578.8 | 1581.5 | 1584.1 | 1589.4 | 1588.5 | 1589.4 | 1590.3 | 1588.5 | 1578.0 |
| 5°    | 1465.4 | 1471.5 | 1480.3 | 1491.8 | 1503.2 | 1529.6 | 1540.1 | 1550.7 | 1557.7 | 1563.0 | 1553.3 |
| 7.5°  | 1359.8 | 1372.1 | 1379.2 | 1400.3 | 1417.9 | 1445.2 | 1468.0 | 1486.5 | 1504.1 | 1523.4 | 1513.8 |
| 10°   | 1275.4 | 1279.8 | 1285.9 | 1305.3 | 1331.7 | 1373.0 | 1402.9 | 1425.8 | 1446.9 | 1479.5 | 1471.5 |
| 12.5° | 1192.7 | 1195.4 | 1207.7 | 1228.8 | 1256.0 | 1307.1 | 1346.6 | 1373.0 | 1396.8 | 1437.2 | 1438.1 |
| 15°   | 1132.0 | 1132.9 | 1140.8 | 1160.2 | 1191.8 | 1246.4 | 1297.4 | 1326.4 | 1359.8 | 1409.1 | 1411.7 |
| 17.5° | 1092.4 | 1091.6 | 1093.3 | 1105.6 | 1135.5 | 1187.4 | 1249.0 | 1283.3 | 1322.9 | 1386.2 | 1388.9 |
| 20°   | 1080.1 | 1078.4 | 1074.8 | 1072.2 | 1090.7 | 1135.5 | 1205.0 | 1242.8 | 1289.5 | 1369.5 | 1370.4 |
| 22.5° | 1090.7 | 1087.2 | 1079.2 | 1064.3 | 1069.6 | 1098.6 | 1156.6 | 1202.4 | 1259.6 | 1360.7 | 1354.6 |
| 25°   | 1116.2 | 1116.2 | 1105.6 | 1081.9 | 1069.6 | 1075.7 | 1122.3 | 1166.3 | 1229.7 | 1356.3 | 1343.1 |
| 27.5° | 1158.4 | 1156.6 | 1142.6 | 1117.9 | 1095.1 | 1078.4 | 1101.2 | 1142.6 | 1207.7 | 1361.6 | 1337.8 |
| 30°   | 1209.4 | 1204.1 | 1189.2 | 1171.6 | 1143.5 | 1107.4 | 1105.6 | 1136.4 | 1197.1 | 1378.3 | 1341.4 |
| 32.5° | 1257.8 | 1257.8 | 1251.6 | 1234.9 | 1207.7 | 1160.2 | 1132.9 | 1157.5 | 1210.3 | 1405.6 | 1352.8 |
| 35°   | 1317.6 | 1316.7 | 1318.5 | 1312.3 | 1288.6 | 1238.5 | 1194.5 | 1206.8 | 1250.8 | 1451.3 | 1380.1 |
| 37.5° | 1365.1 | 1366.0 | 1380.9 | 1391.5 | 1380.9 | 1328.2 | 1282.4 | 1282.4 | 1319.4 | 1519.9 | 1426.7 |
| 40°   | 1411.7 | 1413.5 | 1441.6 | 1472.4 | 1475.1 | 1432.8 | 1388.9 | 1388.0 | 1409.1 | 1604.4 | 1498.8 |
| 42.5° | 1453.9 | 1461.0 | 1501.4 | 1554.2 | 1585.0 | 1556.9 | 1524.3 | 1513.8 | 1524.3 | 1731.9 | 1615.8 |
| 45°   | 1498.8 | 1512.9 | 1569.2 | 1645.7 | 1695.8 | 1696.7 | 1684.4 | 1672.1 | 1677.4 | 1875.3 | 1772.4 |
| 47.5° | 1556.9 | 1572.7 | 1643.1 | 1737.2 | 1832.2 | 1856.8 | 1868.2 | 1863.8 | 1849.8 | 2056.5 | 1974.7 |
| 50°   | 1651.0 | 1665.9 | 1731.9 | 1837.4 | 1967.6 | 2056.5 | 2087.2 | 2092.5 | 2074.1 | 2257.0 | 2204.2 |
| 52.5° | 1811.1 | 1819.9 | 1881.4 | 1965.0 | 2111.0 | 2277.2 | 2358.2 | 2359.0 | 2317.7 | 2491.9 | 2452.3 |
| 55°   | 1982.6 | 2005.4 | 2077.6 | 2174.3 | 2324.7 | 2511.2 | 2713.5 | 2735.5 | 2608.0 | 2697.7 | 2633.5 |
| 57.5° | 1985.2 | 2007.2 | 2126.8 | 2312.4 | 2627.3 | 2874.5 | 3054.8 | 3070.6 | 2929.0 | 2863.0 | 2804.1 |
| 60°   | 1775.9 | 1787.3 | 1953.5 | 2225.3 | 2735.5 | 3364.4 | 3443.6 | 3419.8 | 3154.2 | 3033.7 | 3017.8 |
| 62.5° | 1253.4 | 1258.7 | 1455.7 | 1813.7 | 2496.3 | 3598.4 | 4035.5 | 3908.0 | 3474.3 | 3285.2 | 3338.0 |
| 65°   | 789.0  | 786.3  | 868.1  | 1154.0 | 1856.8 | 3367.9 | 4767.3 | 4674.1 | 4062.8 | 3600.1 | 3587.8 |
| 67.5° | 582.3  | 568.2  | 590.2  | 679.0  | 1060.8 | 2644.0 | 4901.9 | 5322.3 | 4623.1 | 3731.2 | 3371.4 |
| 68°   | 558.5  | 546.2  | 569.1  | 637.7  | 917.4  | 2393.3 | 4836.8 | 5369.0 | 4711.9 | 3710.1 | 3297.5 |
| 70°   | 474.1  | 462.7  | 482.0  | 533.9  | 638.6  | 1553.3 | 4267.7 | 5162.3 | 4792.8 | 3530.6 | 2906.1 |
| 72.5° | 336.9  | 343.0  | 394.1  | 458.3  | 540.9  | 796.9  | 3142.7 | 4239.6 | 4122.6 | 3140.1 | 2211.3 |
| 75°   | 199.7  | 211.1  | 277.9  | 369.4  | 497.0  | 526.0  | 2027.4 | 3082.1 | 3024.9 | 2174.3 | 1198.0 |
| 77.5° | 70.4   | 74.8   | 138.1  | 246.3  | 409.9  | 416.9  | 1129.4 | 1937.7 | 1802.3 | 888.4  | 353.6  |
| 80°   | 25.5   | 25.5   | 51.0   | 137.2  | 264.8  | 318.4  | 599.9  | 1034.4 | 711.6  | 230.5  | 97.6   |
| 82.5° | 4.4    | 4.4    | 11.4   | 46.6   | 117.0  | 169.8  | 278.8  | 367.7  | 211.1  | 51.0   | 48.4   |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 1.8    | 1.8    | 81.8   | 82.7   | 38.7   | 7.0    | 21.1   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.9    | 1.8    | 1.8    | 1.8    | 1.8    | 2.6    |
| 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°    | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 | 1586.8 |
| 2.5°  | 1573.6 | 1571.8 | 1562.1 | 1544.5 | 1529.6 | 1505.0 | 1500.6 | 1476.8 | 1468.0 | 1461.0 | 1468.0 |
| 5°    | 1546.3 | 1536.6 | 1504.1 | 1464.5 | 1410.8 | 1347.5 | 1310.6 | 1259.6 | 1249.0 | 1220.9 | 1237.6 |
| 7.5°  | 1501.4 | 1479.5 | 1418.8 | 1333.4 | 1234.9 | 1138.2 | 1064.3 | 993.0  | 932.4  | 911.2  | 905.1  |
| 10°   | 1453.9 | 1423.2 | 1321.1 | 1189.2 | 1046.7 | 898.1  | 788.1  | 685.2  | 628.0  | 574.4  | 572.6  |
| 12.5° | 1409.1 | 1362.5 | 1214.7 | 1030.9 | 832.1  | 655.3  | 512.8  | 404.6  | 336.9  | 299.9  | 309.6  |
| 15°   | 1373.0 | 1310.6 | 1107.4 | 872.5  | 621.0  | 422.2  | 290.3  | 220.8  | 197.0  | 185.6  | 187.4  |
| 17.5° | 1337.8 | 1255.2 | 1003.6 | 707.2  | 442.4  | 260.4  | 188.2  | 164.5  | 157.4  | 154.8  | 153.0  |
| 20°   | 1306.2 | 1201.5 | 894.5  | 557.7  | 292.0  | 180.3  | 154.8  | 146.9  | 144.3  | 142.5  | 142.5  |
| 22.5° | 1274.5 | 1145.2 | 785.5  | 413.4  | 199.7  | 147.8  | 139.0  | 135.5  | 133.7  | 131.1  | 131.1  |
| 25°   | 1245.5 | 1090.7 | 676.4  | 289.4  | 153.0  | 131.9  | 125.8  | 122.3  | 118.7  | 116.1  | 116.1  |
| 27.5° | 1223.5 | 1049.3 | 575.2  | 204.9  | 128.4  | 118.7  | 112.6  | 106.4  | 102.0  | 98.5   | 98.5   |
| 30°   | 1209.4 | 1008.9 | 477.6  | 154.8  | 114.3  | 105.5  | 97.6   | 89.7   | 82.7   | 78.3   | 77.4   |
| 32.5° | 1201.5 | 975.5  | 387.0  | 126.7  | 102.0  | 92.4   | 82.7   | 73.9   | 66.0   | 60.7   | 60.7   |
| 35°   | 1205.0 | 949.1  | 296.4  | 107.3  | 92.4   | 80.9   | 70.4   | 59.8   | 52.8   | 48.4   | 47.5   |
| 37.5° | 1227.9 | 934.1  | 220.8  | 95.0   | 82.7   | 70.4   | 59.8   | 49.3   | 42.2   | 38.7   | 37.8   |
| 40°   | 1271.0 | 937.6  | 168.0  | 86.2   | 75.6   | 61.6   | 49.3   | 40.5   | 34.3   | 30.8   | 30.8   |
| 42.5° | 1358.1 | 963.1  | 132.8  | 79.2   | 67.7   | 52.8   | 41.3   | 33.4   | 28.1   | 25.5   | 24.6   |
| 45°   | 1473.3 | 1011.5 | 109.1  | 73.0   | 59.8   | 44.9   | 35.2   | 28.1   | 22.9   | 20.2   | 20.2   |
| 47.5° | 1647.5 | 1088.9 | 94.1   | 66.8   | 51.9   | 37.8   | 29.0   | 22.9   | 17.6   | 15.8   | 15.0   |
| 50°   | 1848.9 | 1197.1 | 82.7   | 59.8   | 45.7   | 31.7   | 24.6   | 17.6   | 14.1   | 11.4   | 11.4   |
| 52.5° | 2054.7 | 1317.6 | 74.8   | 53.7   | 39.6   | 27.3   | 19.4   | 13.2   | 9.7    | 7.9    | 7.9    |
| 55°   | 2243.8 | 1418.8 | 66.8   | 48.4   | 33.4   | 22.9   | 15.8   | 10.6   | 7.0    | 5.3    | 5.3    |
| 57.5° | 2426.8 | 1511.1 | 58.1   | 42.2   | 27.3   | 18.5   | 12.3   | 7.9    | 5.3    | 3.5    | 3.5    |
| 60°   | 2656.3 | 1630.7 | 50.1   | 36.1   | 22.0   | 15.0   | 9.7    | 6.2    | 3.5    | 2.6    | 1.8    |
| 62.5° | 2933.4 | 1717.8 | 42.2   | 29.0   | 17.6   | 11.4   | 7.0    | 4.4    | 2.6    | 0.9    | 0.9    |
| 65°   | 3035.4 | 1602.6 | 35.2   | 23.7   | 14.1   | 8.8    | 5.3    | 3.5    | 1.8    | 0.9    | 0.9    |
| 67.5° | 2750.5 | 1291.2 | 28.1   | 18.5   | 10.6   | 6.2    | 4.4    | 2.6    | 1.8    | 0.9    | 0.9    |
| 68°   | 2671.3 | 1227.9 | 27.3   | 17.6   | 9.7    | 6.2    | 3.5    | 2.6    | 0.9    | 0.9    | 0.0    |
| 70°   | 2255.2 | 986.0  | 22.0   | 13.2   | 7.9    | 5.3    | 3.5    | 1.8    | 0.9    | 0.9    | 0.0    |
| 72.5° | 1672.1 | 679.9  | 15.8   | 8.8    | 5.3    | 3.5    | 2.6    | 1.8    | 0.9    | 0.9    | 0.0    |
| 75°   | 882.2  | 264.8  | 12.3   | 7.0    | 4.4    | 3.5    | 2.6    | 2.6    | 1.8    | 0.9    | 0.9    |
| 77.5° | 253.3  | 83.6   | 9.7    | 5.3    | 4.4    | 4.4    | 4.4    | 3.5    | 3.5    | 2.6    | 1.8    |
| 80°   | 73.9   | 27.3   | 6.2    | 3.5    | 4.4    | 4.4    | 5.3    | 4.4    | 4.4    | 3.5    | 3.5    |
| 82.5° | 39.6   | 10.6   | 3.5    | 2.6    | 2.6    | 3.5    | 4.4    | 3.5    | 2.6    | 1.8    | 0.9    |
| 85°   | 16.7   | 3.5    | 2.6    | 1.8    | 1.8    | 1.8    | 1.8    | 1.8    | 1.8    | 0.9    | 0.9    |
| 87.5° | 0.9    | 1.8    | 1.8    | 0.9    | 0.9    | 0.9    | 0.9    | 0.9    | 0.9    | 0.9    | 0.9    |
| 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)