

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: P472168

Luminaire Tested: **CCW-VA-4-750-U-T4W**

Issue Date: 01/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P472168  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: CCW-VA-4-750-U-T4W  
Description: INVUE WALL PACK Wave Stream LUMINAIRE WITH T4W DISTRIBUTION LENS  
Light Source: 5000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6331.7 lumens  
Efficiency: N/A  
Efficacy: 109.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.54' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G2

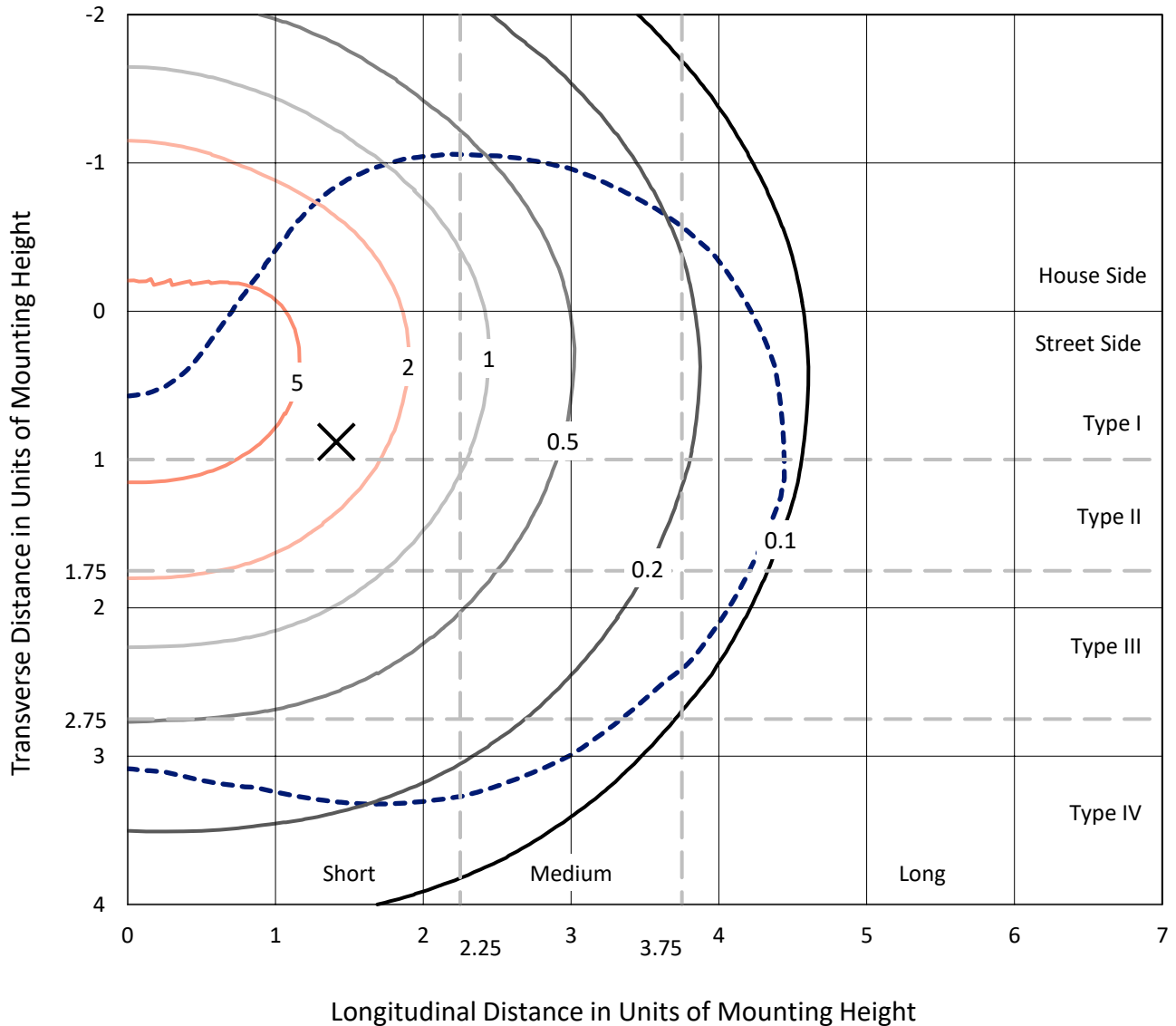
Input Watts (W): 57.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

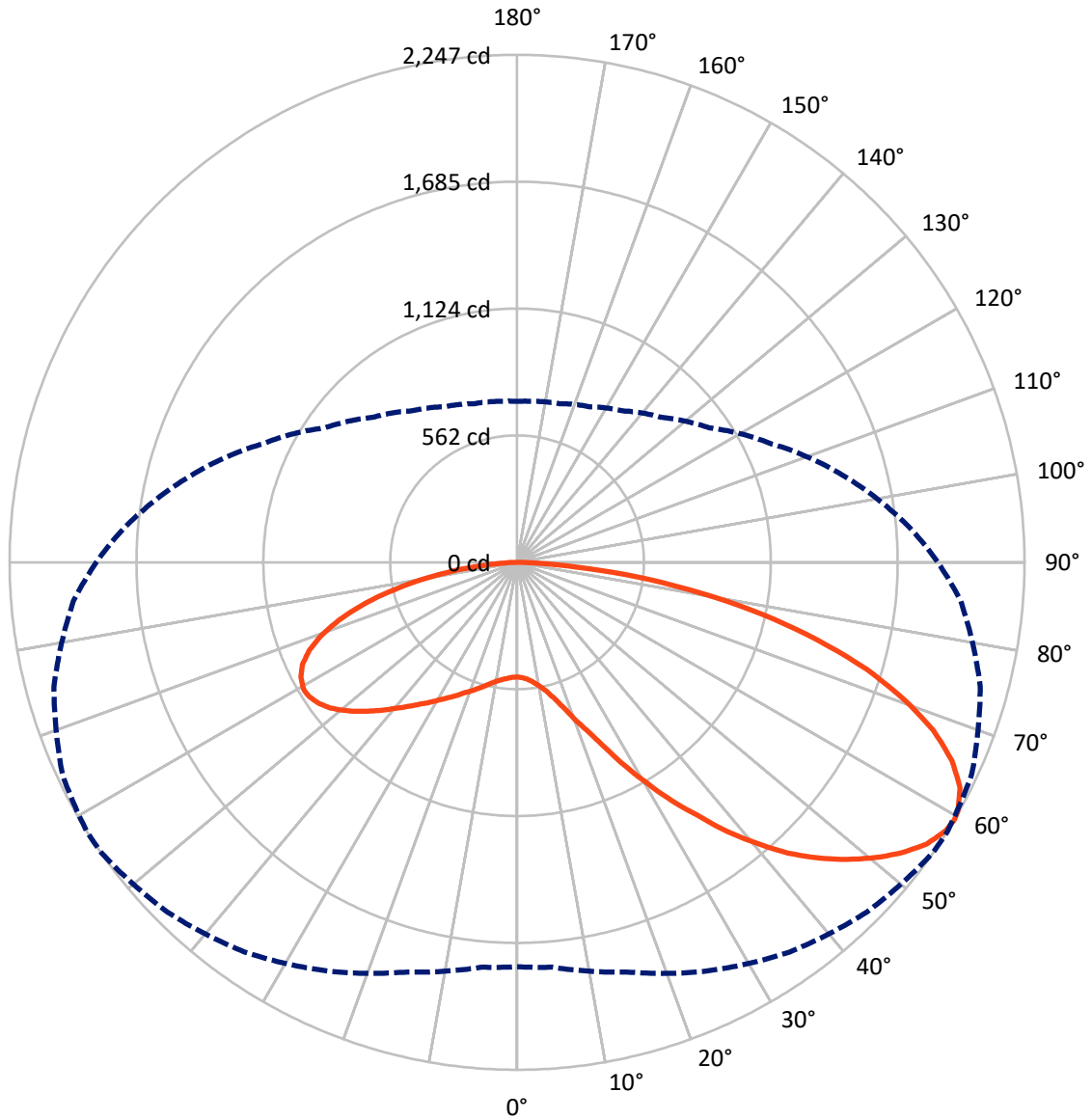
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.7 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral      - - - Horizontal Cone Through 59-Deg Vertical

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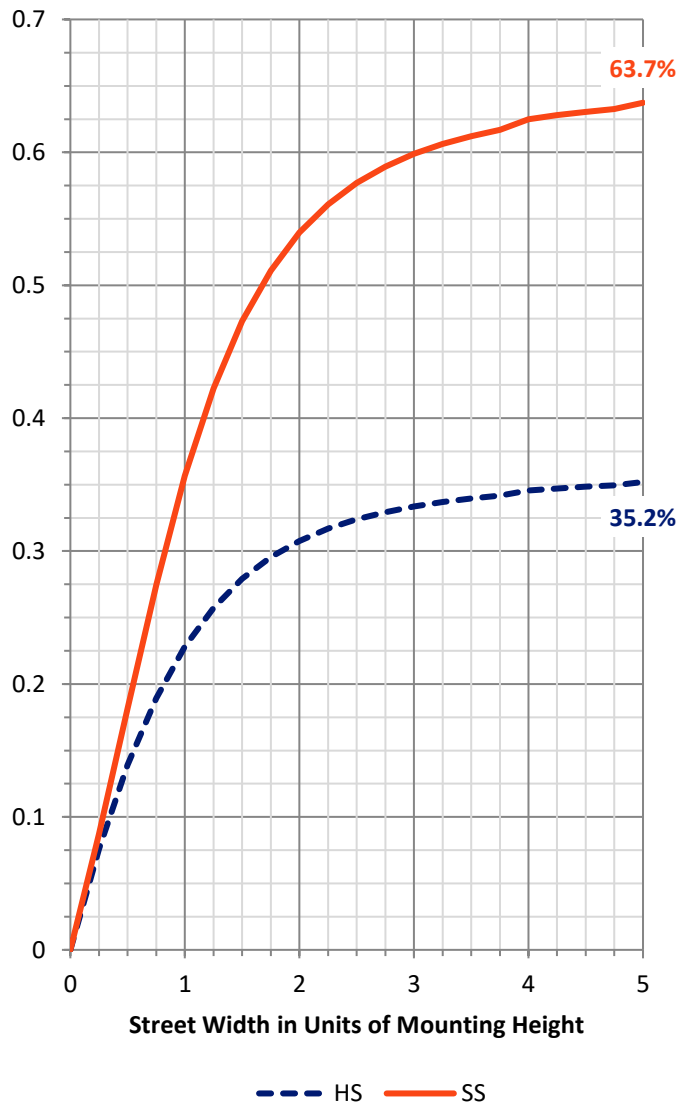
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2258.1   | 0.0    | 2258.1 |
|                    | % Fixture | 35.7     | 0.0    | 35.7   |
| <b>Street Side</b> | Lumens    | 4073.6   | 0.0    | 4073.6 |
|                    | % Fixture | 64.3     | 0.0    | 64.3   |
| <b>Total</b>       | Lumens    | 6331.7   | 0.0    | 6331.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 50.4   | 0.8       |
| 10°-20°   | 171.8  | 2.7       |
| 20°-30°   | 362.5  | 5.7       |
| 30°-40°   | 667.1  | 10.5      |
| 40°-50°   | 1039.9 | 16.4      |
| 50°-60°   | 1366.4 | 21.6      |
| 60°-70°   | 1431.8 | 22.6      |
| 70°-80°   | 992.7  | 15.7      |
| 80°-90°   | 249.3  | 3.9       |
| 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°    | 6331.7 | 100.0     |
| 0°-180°   | 6331.7 | 100.0     |

**Coefficient of Utilization**



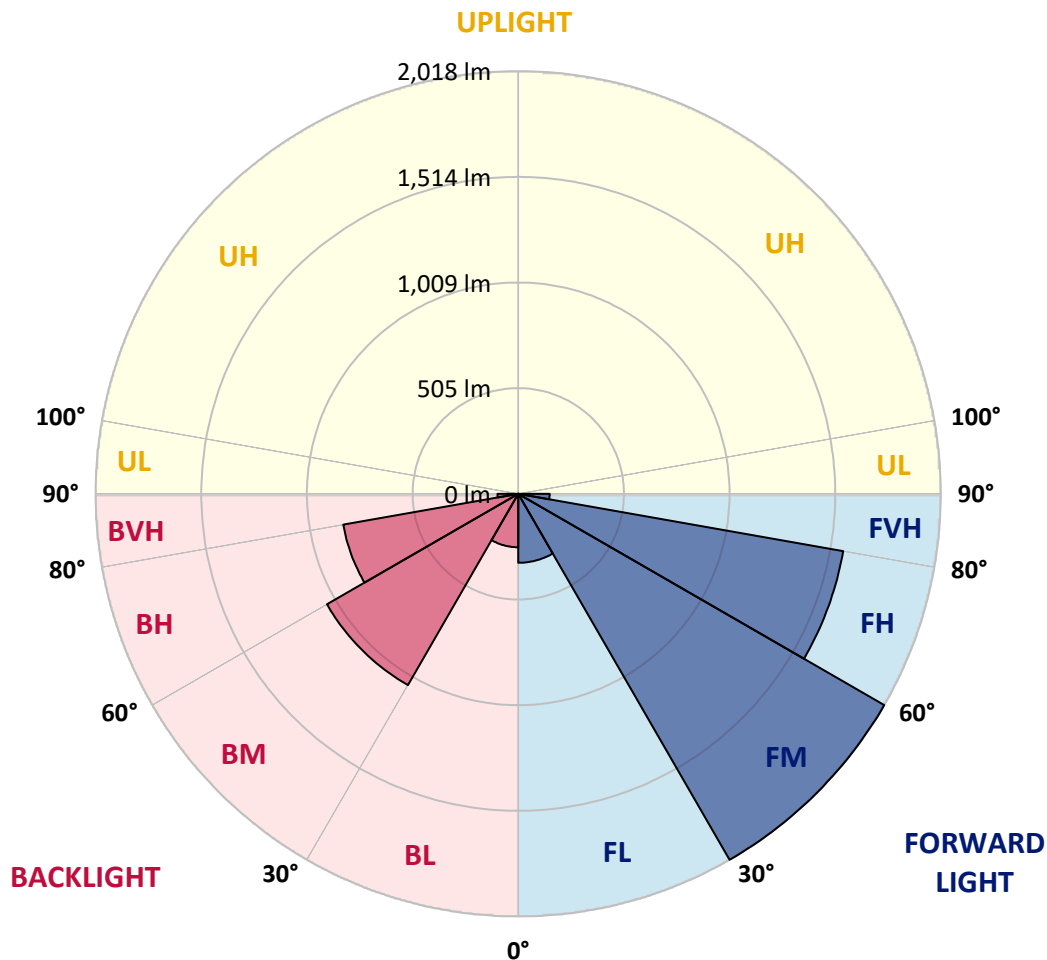
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 329.4  | 5.2       |                         |      |         |
| FM (30°-60°)   | 2018.4 | 31.9      |                         |      |         |
| FH (60°-80°)   | 1576.0 | 24.9      |                         |      | G1/1800 |
| FVH (80°-90°)  | 149.8  | 2.4       |                         |      | G2/225  |
| BL (0°-30°)    | 255.2  | 4.0       | B1/500                  |      |         |
| BM (30°-60°)   | 1055.0 | 16.7      | B2/2500                 |      |         |
| BH (60°-80°)   | 848.5  | 13.4      | B2/1000                 |      | G2/1000 |
| BVH (80°-90°)  | 99.5   | 1.6       |                         |      | 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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 58°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 507.6  | 507.6  | 507.6  | 507.6  | 507.6  | 507.6  | 507.6  | 507.6  | 507.6  | 507.6  | 507.6  |
| 2.5°  | 514.7  | 514.7  | 514.7  | 513.3  | 513.3  | 513.3  | 511.9  | 511.9  | 511.9  | 510.4  | 509.0  |
| 5°    | 526.1  | 526.1  | 524.7  | 526.1  | 524.7  | 523.3  | 521.8  | 521.8  | 521.8  | 520.4  | 519.0  |
| 7.5°  | 541.8  | 543.2  | 541.8  | 543.2  | 541.8  | 540.4  | 537.5  | 537.5  | 536.1  | 533.3  | 530.4  |
| 10°   | 566.0  | 566.0  | 566.0  | 564.6  | 563.2  | 561.8  | 560.3  | 558.9  | 557.5  | 553.2  | 548.9  |
| 12.5° | 596.0  | 596.0  | 596.0  | 593.1  | 593.1  | 590.3  | 588.9  | 587.4  | 584.6  | 578.9  | 573.2  |
| 15°   | 633.1  | 631.6  | 635.9  | 635.9  | 634.5  | 634.5  | 630.2  | 627.4  | 624.5  | 615.9  | 603.1  |
| 17.5° | 683.0  | 681.5  | 685.8  | 688.7  | 688.7  | 690.1  | 683.0  | 680.1  | 670.1  | 658.7  | 641.6  |
| 20°   | 750.0  | 747.1  | 751.4  | 754.3  | 751.4  | 754.3  | 747.1  | 748.5  | 734.3  | 714.3  | 687.2  |
| 22.5° | 822.7  | 822.7  | 827.0  | 827.0  | 828.4  | 831.2  | 822.7  | 818.4  | 807.0  | 778.5  | 744.3  |
| 25°   | 912.5  | 919.6  | 919.6  | 919.6  | 925.3  | 926.8  | 918.2  | 911.1  | 895.4  | 856.9  | 809.9  |
| 27.5° | 1022.3 | 1020.9 | 1019.5 | 1028.0 | 1028.0 | 1030.9 | 1025.2 | 1022.3 | 1003.8 | 956.7  | 885.4  |
| 30°   | 1139.2 | 1130.7 | 1136.4 | 1139.2 | 1144.9 | 1149.2 | 1143.5 | 1134.9 | 1112.1 | 1060.8 | 972.4  |
| 32.5° | 1246.2 | 1251.9 | 1260.4 | 1263.3 | 1271.8 | 1273.2 | 1259.0 | 1259.0 | 1236.2 | 1170.6 | 1079.3 |
| 35°   | 1367.3 | 1367.3 | 1390.2 | 1400.1 | 1400.1 | 1408.7 | 1387.3 | 1375.9 | 1360.2 | 1291.8 | 1176.3 |
| 37.5° | 1472.9 | 1475.7 | 1494.2 | 1517.1 | 1519.9 | 1532.7 | 1517.1 | 1512.8 | 1484.3 | 1414.4 | 1286.1 |
| 40°   | 1571.2 | 1574.1 | 1596.9 | 1624.0 | 1639.7 | 1659.6 | 1644.0 | 1636.8 | 1606.9 | 1527.0 | 1395.9 |
| 42.5° | 1648.2 | 1653.9 | 1682.4 | 1722.4 | 1748.0 | 1772.3 | 1765.1 | 1760.9 | 1719.5 | 1635.4 | 1497.1 |
| 45°   | 1706.7 | 1716.7 | 1756.6 | 1803.6 | 1839.3 | 1874.9 | 1876.4 | 1867.8 | 1829.3 | 1735.2 | 1595.5 |
| 47.5° | 1753.7 | 1765.1 | 1809.3 | 1869.2 | 1923.4 | 1967.6 | 1976.2 | 1966.2 | 1930.5 | 1832.2 | 1683.9 |
| 50°   | 1792.2 | 1797.9 | 1847.8 | 1924.8 | 1991.8 | 2047.5 | 2064.6 | 2056.0 | 2024.6 | 1913.4 | 1760.9 |
| 52.5° | 1812.2 | 1820.8 | 1877.8 | 1966.2 | 2047.5 | 2114.5 | 2140.1 | 2135.9 | 2098.8 | 1987.6 | 1829.3 |
| 55°   | 1822.2 | 1830.7 | 1897.7 | 1999.0 | 2090.2 | 2168.6 | 2200.0 | 2201.4 | 2165.8 | 2054.6 | 1893.5 |
| 57.5° | 1810.8 | 1822.2 | 1894.9 | 2007.5 | 2108.8 | 2192.9 | 2241.4 | 2239.9 | 2211.4 | 2105.9 | 1947.6 |
| 59°   | 1790.8 | 1799.4 | 1877.8 | 1996.1 | 2105.9 | 2190.0 | 2245.6 | 2247.1 | 2221.4 | 2123.0 | 1971.9 |
| 60°   | 1768.0 | 1778.0 | 1857.8 | 1981.9 | 2094.5 | 2180.1 | 2238.5 | 2241.4 | 2220.0 | 2127.3 | 1981.9 |
| 62.5° | 1689.6 | 1702.4 | 1790.8 | 1923.4 | 2046.0 | 2127.3 | 2197.2 | 2201.4 | 2190.0 | 2115.9 | 1989.0 |
| 65°   | 1579.8 | 1591.2 | 1686.7 | 1827.9 | 1956.2 | 2040.3 | 2105.9 | 2115.9 | 2114.5 | 2064.6 | 1960.5 |
| 67.5° | 1445.8 | 1447.2 | 1537.0 | 1691.0 | 1825.0 | 1907.7 | 1970.5 | 1987.6 | 2000.4 | 1967.6 | 1876.4 |
| 70°   | 1284.7 | 1283.2 | 1370.2 | 1522.8 | 1656.8 | 1743.8 | 1806.5 | 1817.9 | 1850.7 | 1825.0 | 1750.9 |
| 72.5° | 1085.0 | 1102.1 | 1183.4 | 1311.7 | 1444.3 | 1541.3 | 1596.9 | 1618.3 | 1636.8 | 1642.5 | 1581.2 |
| 75°   | 896.8  | 915.4  | 979.5  | 1099.3 | 1213.4 | 1303.2 | 1363.1 | 1373.1 | 1407.3 | 1415.8 | 1358.8 |
| 77.5° | 717.2  | 718.6  | 765.7  | 861.2  | 965.3  | 1039.4 | 1087.9 | 1113.6 | 1132.1 | 1149.2 | 1089.3 |
| 80°   | 503.3  | 510.4  | 543.2  | 611.7  | 692.9  | 771.4  | 811.3  | 828.4  | 841.2  | 852.6  | 832.7  |
| 82.5° | 315.1  | 318.0  | 339.3  | 380.7  | 436.3  | 480.5  | 521.8  | 536.1  | 539.0  | 564.6  | 561.8  |
| 85°   | 149.7  | 151.1  | 165.4  | 185.4  | 209.6  | 245.2  | 260.9  | 260.9  | 280.9  | 299.4  | 299.4  |
| 87.5° | 20.0   | 20.0   | 24.2   | 27.1   | 34.2   | 44.2   | 61.3   | 62.7   | 74.1   | 82.7   | 89.8   |
| 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°    | 507.6  | 507.6  | 507.6  | 507.6  | 507.6  | 507.6 | 507.6 | 507.6 | 507.6 | 507.6 | 507.6 |
| 2.5°  | 509.0  | 509.0  | 509.0  | 509.0  | 509.0  | 507.6 | 509.0 | 509.0 | 509.0 | 509.0 | 509.0 |
| 5°    | 519.0  | 517.6  | 516.1  | 514.7  | 514.7  | 513.3 | 513.3 | 513.3 | 513.3 | 513.3 | 513.3 |
| 7.5°  | 529.0  | 527.5  | 526.1  | 523.3  | 521.8  | 520.4 | 520.4 | 519.0 | 519.0 | 519.0 | 519.0 |
| 10°   | 546.1  | 544.7  | 539.0  | 534.7  | 531.8  | 530.4 | 529.0 | 527.5 | 526.1 | 526.1 | 526.1 |
| 12.5° | 568.9  | 566.0  | 556.1  | 550.4  | 546.1  | 543.2 | 540.4 | 539.0 | 537.5 | 536.1 | 536.1 |
| 15°   | 597.4  | 590.3  | 577.5  | 568.9  | 563.2  | 558.9 | 554.6 | 551.8 | 550.4 | 548.9 | 548.9 |
| 17.5° | 631.6  | 623.1  | 606.0  | 590.3  | 580.3  | 573.2 | 567.5 | 563.2 | 561.8 | 561.8 | 561.8 |
| 20°   | 674.4  | 660.1  | 635.9  | 614.5  | 598.8  | 588.9 | 580.3 | 576.0 | 574.6 | 573.2 | 571.7 |
| 22.5° | 724.3  | 705.8  | 670.1  | 637.3  | 617.4  | 603.1 | 593.1 | 587.4 | 583.2 | 581.7 | 581.7 |
| 25°   | 781.3  | 754.3  | 707.2  | 667.3  | 640.2  | 620.2 | 607.4 | 600.3 | 593.1 | 590.3 | 590.3 |
| 27.5° | 849.8  | 814.1  | 751.4  | 698.6  | 661.6  | 637.3 | 623.1 | 613.1 | 606.0 | 600.3 | 597.4 |
| 30°   | 923.9  | 884.0  | 799.9  | 732.9  | 685.8  | 658.7 | 641.6 | 630.2 | 620.2 | 610.2 | 608.8 |
| 32.5° | 1018.0 | 961.0  | 858.3  | 771.4  | 714.3  | 680.1 | 660.1 | 645.9 | 633.1 | 623.1 | 620.2 |
| 35°   | 1113.6 | 1045.1 | 919.6  | 811.3  | 741.4  | 700.1 | 675.8 | 660.1 | 647.3 | 635.9 | 634.5 |
| 37.5° | 1211.9 | 1139.2 | 986.7  | 858.3  | 772.8  | 722.9 | 692.9 | 675.8 | 660.1 | 648.7 | 647.3 |
| 40°   | 1314.6 | 1229.0 | 1055.1 | 906.8  | 805.6  | 745.7 | 711.5 | 690.1 | 673.0 | 663.0 | 661.6 |
| 42.5° | 1411.5 | 1318.9 | 1129.2 | 963.8  | 844.1  | 769.9 | 730.0 | 707.2 | 685.8 | 675.8 | 674.4 |
| 45°   | 1504.2 | 1404.4 | 1203.4 | 1016.6 | 882.6  | 795.6 | 748.5 | 721.5 | 698.6 | 688.7 | 687.2 |
| 47.5° | 1588.3 | 1488.5 | 1271.8 | 1073.6 | 922.5  | 824.1 | 768.5 | 735.7 | 710.1 | 700.1 | 700.1 |
| 50°   | 1663.9 | 1559.8 | 1338.8 | 1126.4 | 959.6  | 852.6 | 785.6 | 748.5 | 722.9 | 712.9 | 711.5 |
| 52.5° | 1735.2 | 1622.6 | 1397.3 | 1172.0 | 995.2  | 878.3 | 802.7 | 758.5 | 731.4 | 720.0 | 718.6 |
| 55°   | 1792.2 | 1679.6 | 1445.8 | 1209.1 | 1019.5 | 895.4 | 814.1 | 764.2 | 734.3 | 724.3 | 722.9 |
| 57.5° | 1842.1 | 1726.6 | 1480.0 | 1234.7 | 1035.1 | 905.4 | 819.8 | 764.2 | 732.9 | 721.5 | 720.0 |
| 59°   | 1863.5 | 1746.6 | 1491.4 | 1241.9 | 1038.0 | 906.8 | 818.4 | 760.0 | 727.2 | 715.8 | 712.9 |
| 60°   | 1874.9 | 1755.2 | 1495.7 | 1243.3 | 1036.6 | 904.0 | 817.0 | 755.7 | 721.5 | 708.6 | 708.6 |
| 62.5° | 1886.3 | 1762.3 | 1490.0 | 1231.9 | 1020.9 | 888.3 | 802.7 | 738.6 | 700.1 | 685.8 | 685.8 |
| 65°   | 1862.1 | 1736.6 | 1457.2 | 1200.5 | 989.5  | 861.2 | 775.6 | 710.1 | 667.3 | 653.0 | 653.0 |
| 67.5° | 1790.8 | 1673.9 | 1397.3 | 1142.1 | 938.2  | 814.1 | 731.4 | 664.4 | 624.5 | 608.8 | 604.5 |
| 70°   | 1669.6 | 1571.2 | 1303.2 | 1057.9 | 868.3  | 754.3 | 675.8 | 611.7 | 570.3 | 554.6 | 548.9 |
| 72.5° | 1507.1 | 1410.1 | 1177.7 | 955.3  | 775.6  | 675.8 | 607.4 | 546.1 | 500.5 | 484.8 | 486.2 |
| 75°   | 1283.2 | 1214.8 | 1015.2 | 825.5  | 668.7  | 576.0 | 519.0 | 467.7 | 429.2 | 416.3 | 417.8 |
| 77.5° | 1040.8 | 983.8  | 822.7  | 673.0  | 546.1  | 474.8 | 426.3 | 385.0 | 359.3 | 352.2 | 347.9 |
| 80°   | 797.0  | 741.4  | 617.4  | 501.9  | 414.9  | 365.0 | 332.2 | 303.7 | 283.7 | 273.8 | 276.6 |
| 82.5° | 534.7  | 500.5  | 409.2  | 332.2  | 282.3  | 246.7 | 235.3 | 216.7 | 209.6 | 203.9 | 208.2 |
| 85°   | 288.0  | 258.1  | 213.9  | 178.2  | 155.4  | 145.4 | 148.3 | 146.9 | 141.2 | 139.7 | 144.0 |
| 87.5° | 94.1   | 81.3   | 62.7   | 52.8   | 54.2   | 48.5  | 48.5  | 45.6  | 41.3  | 39.9  | 42.8  |
| 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)