

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: P472181

Luminaire Tested: **CCW-VA-5-827-U-T4W**

Issue Date: 01/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P472181  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: CCW-VA-5-827-U-T4W  
Description: INVUE WALL PACK Wave Stream LUMINAIRE WITH T4W DISTRIBUTION LENS  
Light Source: 2700K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6985.5 lumens  
Efficiency: N/A  
Efficacy: 94.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.54' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G2

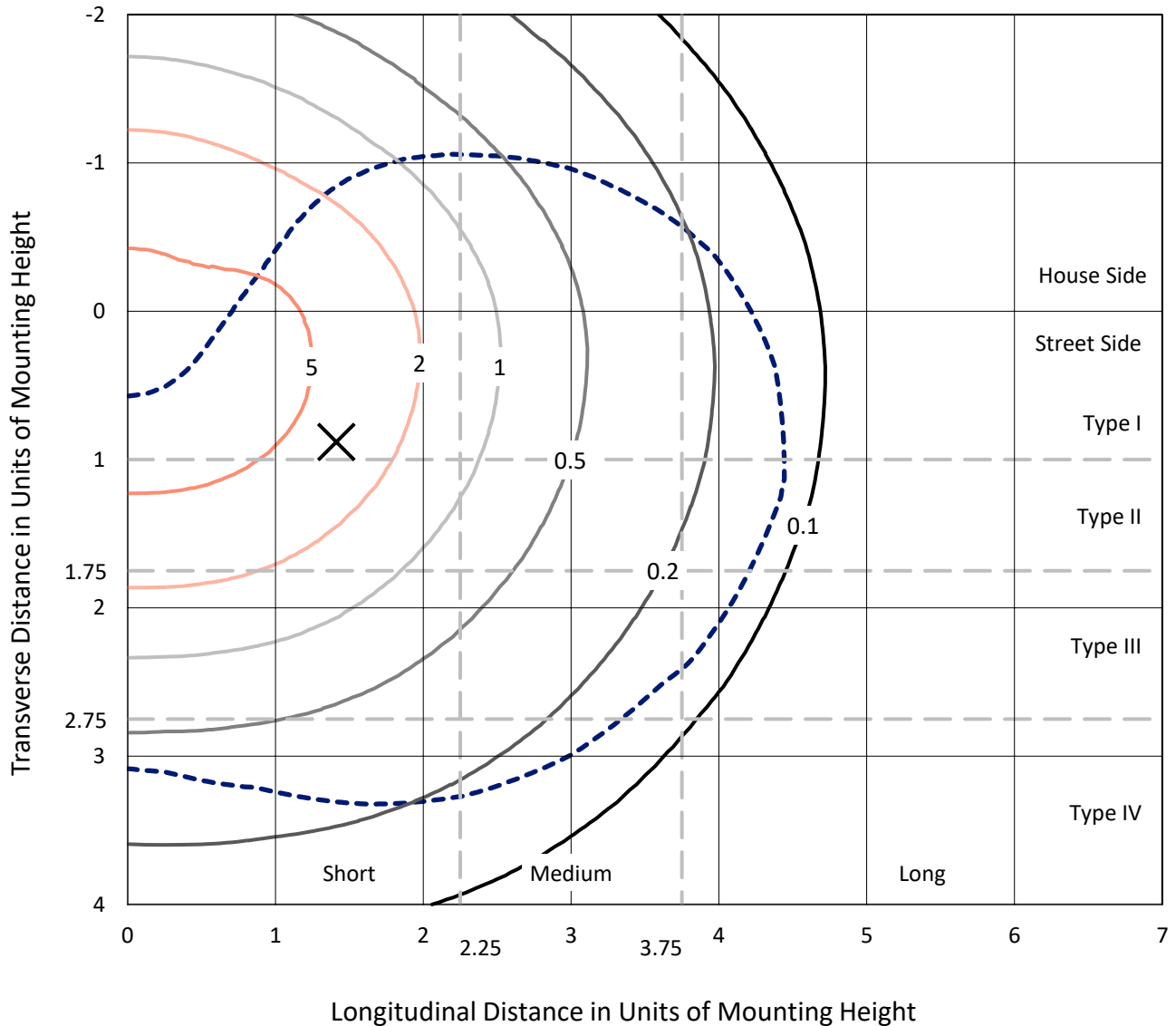
Input Watts (W): 74.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

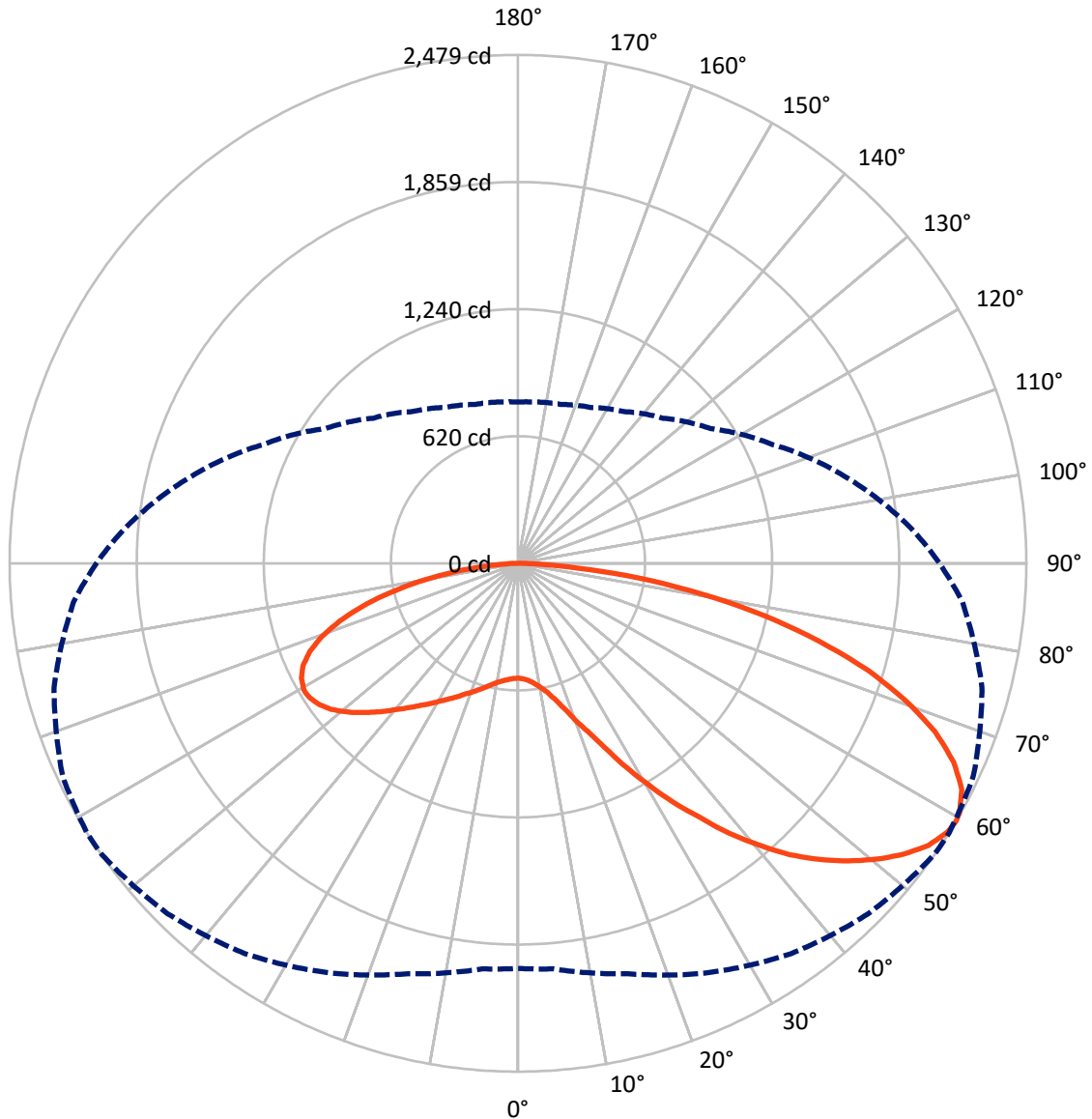
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.5 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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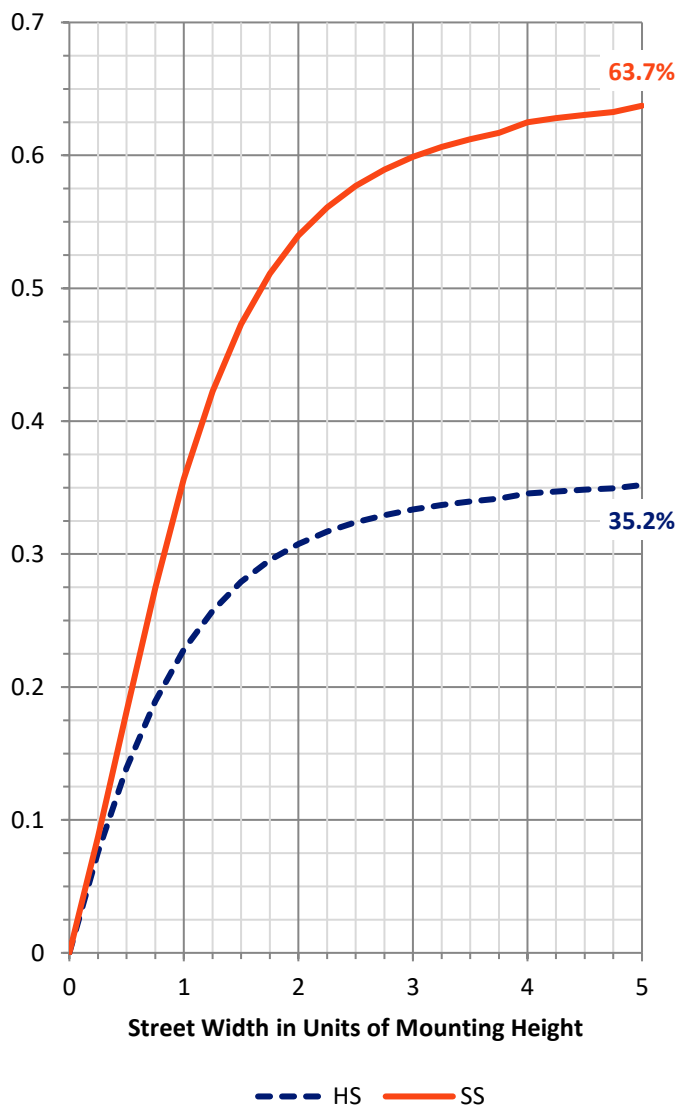
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2491.3   | 0.0    | 2491.3 |
|                    | % Fixture | 35.7     | 0.0    | 35.7   |
| <b>Street Side</b> | Lumens    | 4494.2   | 0.0    | 4494.2 |
|                    | % Fixture | 64.3     | 0.0    | 64.3   |
| <b>Total</b>       | Lumens    | 6985.5   | 0.0    | 6985.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 55.6   | 0.8       |
| 10°-20°   | 189.5  | 2.7       |
| 20°-30°   | 399.9  | 5.7       |
| 30°-40°   | 736.0  | 10.5      |
| 40°-50°   | 1147.2 | 16.4      |
| 50°-60°   | 1507.5 | 21.6      |
| 60°-70°   | 1579.6 | 22.6      |
| 70°-80°   | 1095.2 | 15.7      |
| 80°-90°   | 275.0  | 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°    | 6985.5 | 100.0     |
| 0°-180°   | 6985.5 | 100.0     |

**Coefficient of Utilization**



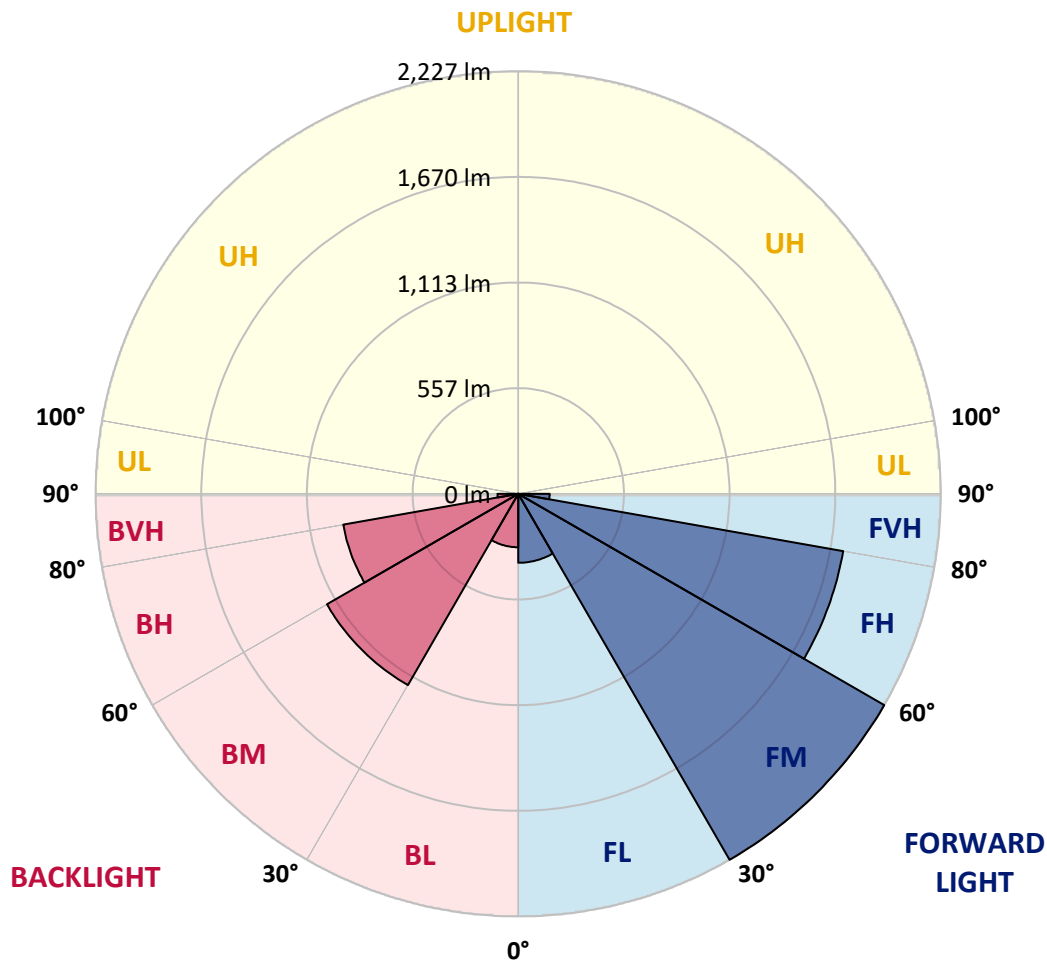
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 363.4  | 5.2       |                         |      |         |
| FM (30°-60°)   | 2226.8 | 31.9      |                         |      |         |
| FH (60°-80°)   | 1738.7 | 24.9      |                         |      | G1/1800 |
| FVH (80°-90°)  | 165.3  | 2.4       |                         |      | G2/225  |
| BL (0°-30°)    | 281.6  | 4.0       | B1/500                  |      |         |
| BM (30°-60°)   | 1163.9 | 16.7      | B2/2500                 |      |         |
| BH (60°-80°)   | 936.1  | 13.4      | B2/1000                 |      | G2/1000 |
| BVH (80°-90°)  | 109.8  | 1.6       |                         |      | G2/225  |
| 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°    | 560.0  | 560.0  | 560.0  | 560.0  | 560.0  | 560.0  | 560.0  | 560.0  | 560.0  | 560.0  | 560.0  |
| 2.5°  | 567.9  | 567.9  | 567.9  | 566.3  | 566.3  | 566.3  | 564.7  | 564.7  | 564.7  | 563.1  | 561.6  |
| 5°    | 580.4  | 580.4  | 578.9  | 580.4  | 578.9  | 577.3  | 575.7  | 575.7  | 575.7  | 574.2  | 572.6  |
| 7.5°  | 597.7  | 599.3  | 597.7  | 599.3  | 597.7  | 596.2  | 593.0  | 593.0  | 591.5  | 588.3  | 585.2  |
| 10°   | 624.5  | 624.5  | 624.5  | 622.9  | 621.3  | 619.8  | 618.2  | 616.6  | 615.1  | 610.3  | 605.6  |
| 12.5° | 657.5  | 657.5  | 657.5  | 654.4  | 654.4  | 651.2  | 649.7  | 648.1  | 644.9  | 638.6  | 632.4  |
| 15°   | 698.4  | 696.8  | 701.6  | 701.6  | 700.0  | 700.0  | 695.3  | 692.1  | 689.0  | 679.5  | 665.4  |
| 17.5° | 753.5  | 751.9  | 756.6  | 759.8  | 759.8  | 761.3  | 753.5  | 750.3  | 739.3  | 726.7  | 707.9  |
| 20°   | 827.4  | 824.3  | 829.0  | 832.1  | 829.0  | 832.1  | 824.3  | 825.8  | 810.1  | 788.1  | 758.2  |
| 22.5° | 907.6  | 907.6  | 912.4  | 912.4  | 913.9  | 917.1  | 907.6  | 902.9  | 890.3  | 858.9  | 821.1  |
| 25°   | 1006.7 | 1014.6 | 1014.6 | 1014.6 | 1020.9 | 1022.5 | 1013.0 | 1005.2 | 987.9  | 945.4  | 893.5  |
| 27.5° | 1127.9 | 1126.3 | 1124.7 | 1134.1 | 1134.1 | 1137.3 | 1131.0 | 1127.9 | 1107.4 | 1055.5 | 976.8  |
| 30°   | 1256.8 | 1247.4 | 1253.7 | 1256.8 | 1263.1 | 1267.9 | 1261.6 | 1252.1 | 1227.0 | 1170.3 | 1072.8 |
| 32.5° | 1374.8 | 1381.1 | 1390.5 | 1393.7 | 1403.1 | 1404.7 | 1389.0 | 1389.0 | 1363.8 | 1291.4 | 1190.8 |
| 35°   | 1508.5 | 1508.5 | 1533.7 | 1544.7 | 1544.7 | 1554.1 | 1530.5 | 1518.0 | 1500.7 | 1425.2 | 1297.7 |
| 37.5° | 1624.9 | 1628.1 | 1648.5 | 1673.7 | 1676.8 | 1691.0 | 1673.7 | 1669.0 | 1637.5 | 1560.4 | 1418.9 |
| 40°   | 1733.5 | 1736.6 | 1761.8 | 1791.7 | 1809.0 | 1831.0 | 1813.7 | 1805.8 | 1772.8 | 1684.7 | 1540.0 |
| 42.5° | 1818.4 | 1824.7 | 1856.2 | 1900.2 | 1928.5 | 1955.3 | 1947.4 | 1942.7 | 1897.1 | 1804.3 | 1651.7 |
| 45°   | 1882.9 | 1893.9 | 1938.0 | 1989.9 | 2029.2 | 2068.5 | 2070.1 | 2060.7 | 2018.2 | 1914.4 | 1760.2 |
| 47.5° | 1934.8 | 1947.4 | 1996.2 | 2062.2 | 2122.0 | 2170.8 | 2180.2 | 2169.2 | 2129.9 | 2021.3 | 1857.7 |
| 50°   | 1977.3 | 1983.6 | 2038.6 | 2123.6 | 2197.5 | 2258.9 | 2277.7 | 2268.3 | 2233.7 | 2111.0 | 1942.7 |
| 52.5° | 1999.3 | 2008.7 | 2071.7 | 2169.2 | 2258.9 | 2332.8 | 2361.1 | 2356.4 | 2315.5 | 2192.8 | 2018.2 |
| 55°   | 2010.3 | 2019.8 | 2093.7 | 2205.4 | 2306.0 | 2392.6 | 2427.2 | 2428.7 | 2389.4 | 2266.7 | 2089.0 |
| 57.5° | 1997.7 | 2010.3 | 2090.5 | 2214.8 | 2326.5 | 2419.3 | 2472.8 | 2471.2 | 2439.8 | 2323.3 | 2148.7 |
| 59°   | 1975.7 | 1985.2 | 2071.7 | 2202.2 | 2323.3 | 2416.2 | 2477.5 | 2479.1 | 2450.8 | 2342.2 | 2175.5 |
| 60°   | 1950.5 | 1961.6 | 2049.6 | 2186.5 | 2310.8 | 2405.1 | 2469.6 | 2472.8 | 2449.2 | 2346.9 | 2186.5 |
| 62.5° | 1864.0 | 1878.2 | 1975.7 | 2122.0 | 2257.3 | 2346.9 | 2424.0 | 2428.7 | 2416.2 | 2334.4 | 2194.4 |
| 65°   | 1742.9 | 1755.5 | 1860.9 | 2016.6 | 2158.2 | 2251.0 | 2323.3 | 2334.4 | 2332.8 | 2277.7 | 2162.9 |
| 67.5° | 1595.0 | 1596.6 | 1695.7 | 1865.6 | 2013.5 | 2104.7 | 2173.9 | 2192.8 | 2206.9 | 2170.8 | 2070.1 |
| 70°   | 1417.3 | 1415.7 | 1511.7 | 1680.0 | 1827.8 | 1923.8 | 1993.0 | 2005.6 | 2041.8 | 2013.5 | 1931.7 |
| 72.5° | 1197.1 | 1215.9 | 1305.6 | 1447.2 | 1593.5 | 1700.4 | 1761.8 | 1785.4 | 1805.8 | 1812.1 | 1744.5 |
| 75°   | 989.4  | 1009.9 | 1080.7 | 1212.8 | 1338.6 | 1437.7 | 1503.8 | 1514.8 | 1552.6 | 1562.0 | 1499.1 |
| 77.5° | 791.2  | 792.8  | 844.7  | 950.1  | 1064.9 | 1146.7 | 1200.2 | 1228.5 | 1249.0 | 1267.9 | 1201.8 |
| 80°   | 555.3  | 563.1  | 599.3  | 674.8  | 764.5  | 851.0  | 895.0  | 913.9  | 928.1  | 940.7  | 918.6  |
| 82.5° | 347.6  | 350.8  | 374.4  | 420.0  | 481.3  | 530.1  | 575.7  | 591.5  | 594.6  | 622.9  | 619.8  |
| 85°   | 165.2  | 166.7  | 182.5  | 204.5  | 231.2  | 270.6  | 287.9  | 287.9  | 309.9  | 330.3  | 330.3  |
| 87.5° | 22.0   | 22.0   | 26.7   | 29.9   | 37.8   | 48.8   | 67.6   | 69.2   | 81.8   | 91.2   | 99.1   |
| 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°    | 560.0  | 560.0  | 560.0  | 560.0  | 560.0  | 560.0  | 560.0 | 560.0 | 560.0 | 560.0 | 560.0 |
| 2.5°  | 561.6  | 561.6  | 561.6  | 561.6  | 561.6  | 560.0  | 561.6 | 561.6 | 561.6 | 561.6 | 561.6 |
| 5°    | 572.6  | 571.0  | 569.4  | 567.9  | 567.9  | 566.3  | 566.3 | 566.3 | 566.3 | 566.3 | 566.3 |
| 7.5°  | 583.6  | 582.0  | 580.4  | 577.3  | 575.7  | 574.2  | 574.2 | 572.6 | 572.6 | 572.6 | 572.6 |
| 10°   | 602.5  | 600.9  | 594.6  | 589.9  | 586.7  | 585.2  | 583.6 | 582.0 | 580.4 | 580.4 | 580.4 |
| 12.5° | 627.6  | 624.5  | 613.5  | 607.2  | 602.5  | 599.3  | 596.2 | 594.6 | 593.0 | 591.5 | 591.5 |
| 15°   | 659.1  | 651.2  | 637.1  | 627.6  | 621.3  | 616.6  | 611.9 | 608.8 | 607.2 | 605.6 | 605.6 |
| 17.5° | 696.8  | 687.4  | 668.5  | 651.2  | 640.2  | 632.4  | 626.1 | 621.3 | 619.8 | 619.8 | 619.8 |
| 20°   | 744.0  | 728.3  | 701.6  | 678.0  | 660.7  | 649.7  | 640.2 | 635.5 | 633.9 | 632.4 | 630.8 |
| 22.5° | 799.1  | 778.6  | 739.3  | 703.1  | 681.1  | 665.4  | 654.4 | 648.1 | 643.4 | 641.8 | 641.8 |
| 25°   | 862.0  | 832.1  | 780.2  | 736.2  | 706.3  | 684.3  | 670.1 | 662.2 | 654.4 | 651.2 | 651.2 |
| 27.5° | 937.5  | 898.2  | 829.0  | 770.8  | 729.9  | 703.1  | 687.4 | 676.4 | 668.5 | 662.2 | 659.1 |
| 30°   | 1019.3 | 975.3  | 882.5  | 808.5  | 756.6  | 726.7  | 707.9 | 695.3 | 684.3 | 673.3 | 671.7 |
| 32.5° | 1123.1 | 1060.2 | 947.0  | 851.0  | 788.1  | 750.3  | 728.3 | 712.6 | 698.4 | 687.4 | 684.3 |
| 35°   | 1228.5 | 1153.0 | 1014.6 | 895.0  | 818.0  | 772.4  | 745.6 | 728.3 | 714.2 | 701.6 | 700.0 |
| 37.5° | 1337.1 | 1256.8 | 1088.5 | 947.0  | 852.6  | 797.5  | 764.5 | 745.6 | 728.3 | 715.7 | 714.2 |
| 40°   | 1450.3 | 1355.9 | 1164.0 | 1000.4 | 888.8  | 822.7  | 784.9 | 761.3 | 742.5 | 731.5 | 729.9 |
| 42.5° | 1557.3 | 1455.0 | 1245.8 | 1063.4 | 931.2  | 849.4  | 805.4 | 780.2 | 756.6 | 745.6 | 744.0 |
| 45°   | 1659.5 | 1549.4 | 1327.6 | 1121.6 | 973.7  | 877.7  | 825.8 | 795.9 | 770.8 | 759.8 | 758.2 |
| 47.5° | 1752.3 | 1642.2 | 1403.1 | 1184.5 | 1017.7 | 909.2  | 847.9 | 811.7 | 783.4 | 772.4 | 772.4 |
| 50°   | 1835.7 | 1720.9 | 1477.1 | 1242.7 | 1058.6 | 940.7  | 866.7 | 825.8 | 797.5 | 786.5 | 784.9 |
| 52.5° | 1914.4 | 1790.1 | 1541.6 | 1293.0 | 1098.0 | 969.0  | 885.6 | 836.8 | 807.0 | 794.4 | 792.8 |
| 55°   | 1977.3 | 1853.0 | 1595.0 | 1333.9 | 1124.7 | 987.9  | 898.2 | 843.1 | 810.1 | 799.1 | 797.5 |
| 57.5° | 2032.3 | 1904.9 | 1632.8 | 1362.2 | 1142.0 | 998.9  | 904.5 | 843.1 | 808.5 | 795.9 | 794.4 |
| 59°   | 2055.9 | 1926.9 | 1645.4 | 1370.1 | 1145.2 | 1000.4 | 902.9 | 838.4 | 802.2 | 789.7 | 786.5 |
| 60°   | 2068.5 | 1936.4 | 1650.1 | 1371.7 | 1143.6 | 997.3  | 901.3 | 833.7 | 795.9 | 781.8 | 781.8 |
| 62.5° | 2081.1 | 1944.3 | 1643.8 | 1359.1 | 1126.3 | 980.0  | 885.6 | 814.8 | 772.4 | 756.6 | 756.6 |
| 65°   | 2054.4 | 1915.9 | 1607.6 | 1324.5 | 1091.7 | 950.1  | 855.7 | 783.4 | 736.2 | 720.4 | 720.4 |
| 67.5° | 1975.7 | 1846.7 | 1541.6 | 1260.0 | 1035.0 | 898.2  | 807.0 | 733.0 | 689.0 | 671.7 | 667.0 |
| 70°   | 1842.0 | 1733.5 | 1437.7 | 1167.2 | 958.0  | 832.1  | 745.6 | 674.8 | 629.2 | 611.9 | 605.6 |
| 72.5° | 1662.7 | 1555.7 | 1299.3 | 1053.9 | 855.7  | 745.6  | 670.1 | 602.5 | 552.1 | 534.8 | 536.4 |
| 75°   | 1415.7 | 1340.2 | 1120.0 | 910.8  | 737.7  | 635.5  | 572.6 | 516.0 | 473.5 | 459.3 | 460.9 |
| 77.5° | 1148.3 | 1085.4 | 907.6  | 742.5  | 602.5  | 523.8  | 470.3 | 424.7 | 396.4 | 388.5 | 383.8 |
| 80°   | 879.3  | 818.0  | 681.1  | 553.7  | 457.7  | 402.7  | 366.5 | 335.1 | 313.0 | 302.0 | 305.2 |
| 82.5° | 589.9  | 552.1  | 451.5  | 366.5  | 311.5  | 272.1  | 259.5 | 239.1 | 231.2 | 224.9 | 229.7 |
| 85°   | 317.7  | 284.7  | 236.0  | 196.6  | 171.5  | 160.4  | 163.6 | 162.0 | 155.7 | 154.2 | 158.9 |
| 87.5° | 103.8  | 89.7   | 69.2   | 58.2   | 59.8   | 53.5   | 53.5  | 50.3  | 45.6  | 44.0  | 47.2  |
| 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)