

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: STREETWORKS

Report Number: P157321

Luminaire Tested: **VST-E02-LED-E-U-5MQ-7050**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P157321  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33708)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: VST-E02-LED-E-U-5MQ-7050  
Description: VENTUS LED SITE/ROADWAY LUMINAIRE  
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE MEDIUM  
Light Source: (42) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 6564.7 lumens  
Efficiency: N/A  
Efficacy: 126.0 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')  
IES Classification: Type V - Short - Full Cutoff  
BUG Rating: B3 - U0 - G1

Input Watts (W): 52.1  
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: 28.75 FT

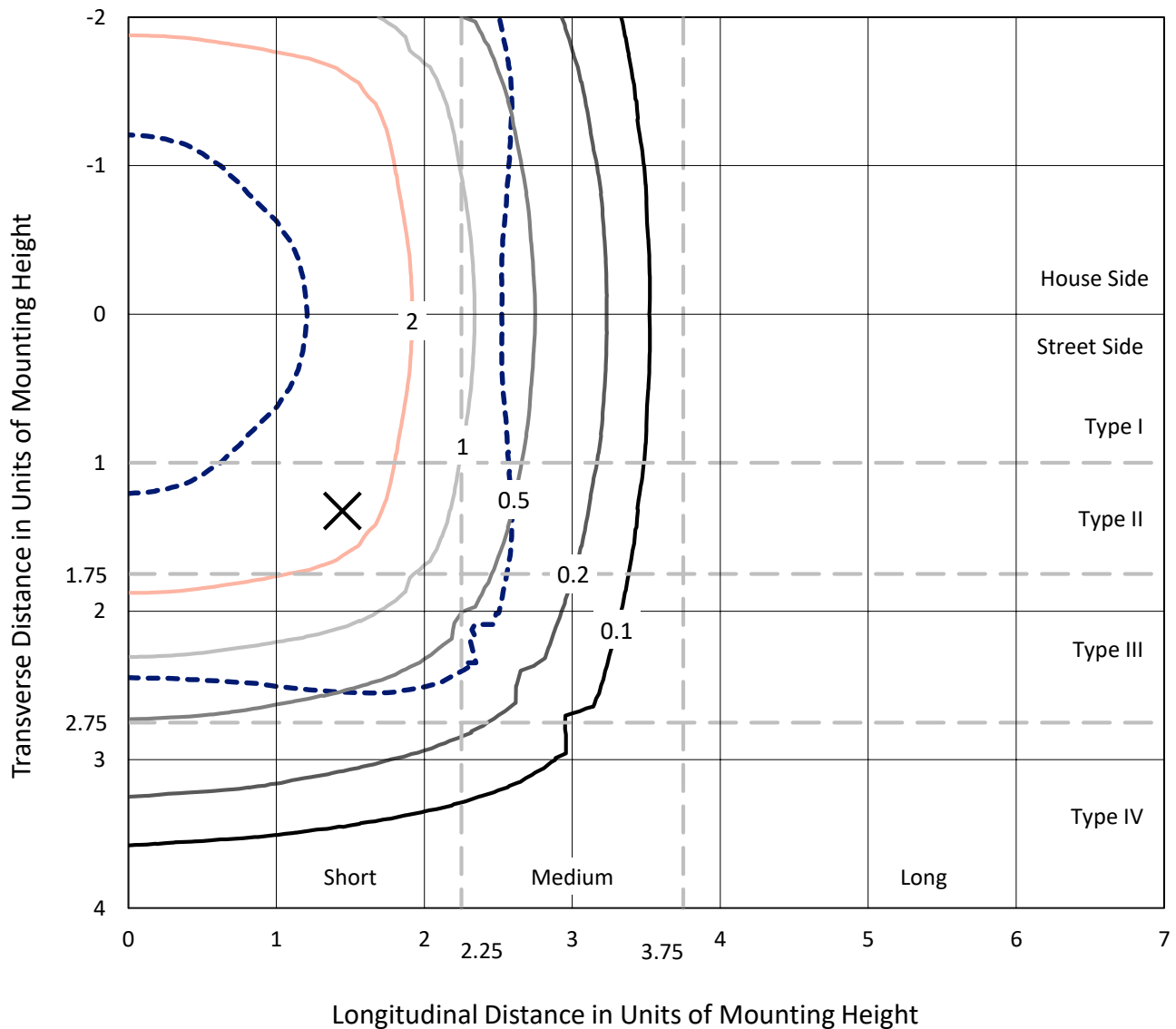


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
- - - 1/2 Max cd

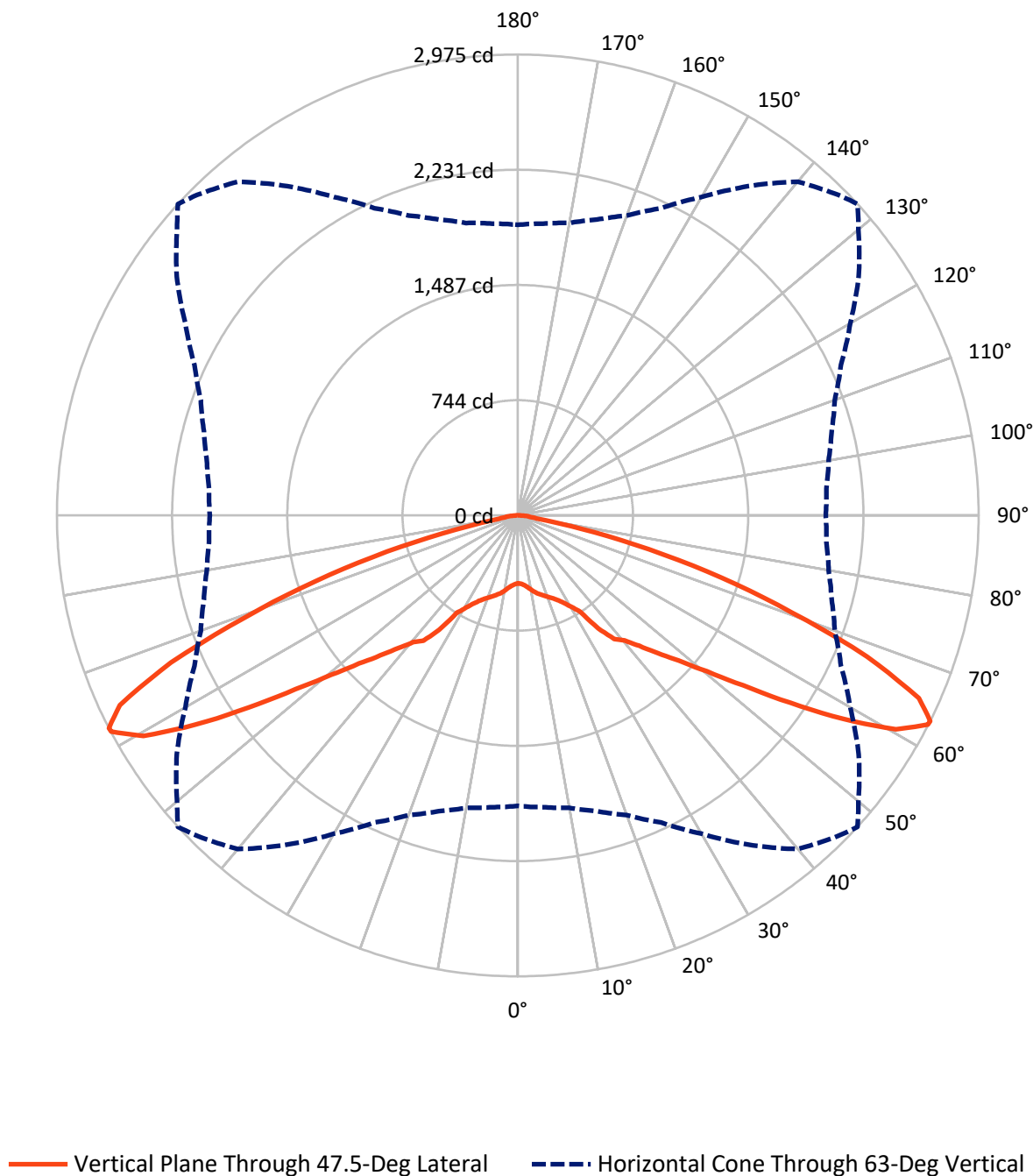


Based on 10 foot mounting height. Maximum calculated value = 4.8 fc  
Type V - Short - Full Cutoff

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 3282.4   | 0.0    | 3282.4 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Street Side</b> | Lumens    | 3282.4   | 0.0    | 3282.4 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Total</b>       | Lumens    | 6564.7   | 0.0    | 6564.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 44.0   | 0.7       |
| 10°-20°   | 149.6  | 2.3       |
| 20°-30°   | 286.1  | 4.4       |
| 30°-40°   | 547.4  | 8.3       |
| 40°-50°   | 947.1  | 14.4      |
| 50°-60°   | 1701.0 | 25.9      |
| 60°-70°   | 2068.5 | 31.5      |
| 70°-80°   | 747.0  | 11.4      |
| 80°-90°   | 74.0   | 1.1       |
| 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°    | 6564.7 | 100.0     |
| 0°-180°   | 6564.7 | 100.0     |

**Coefficient of Utilization**



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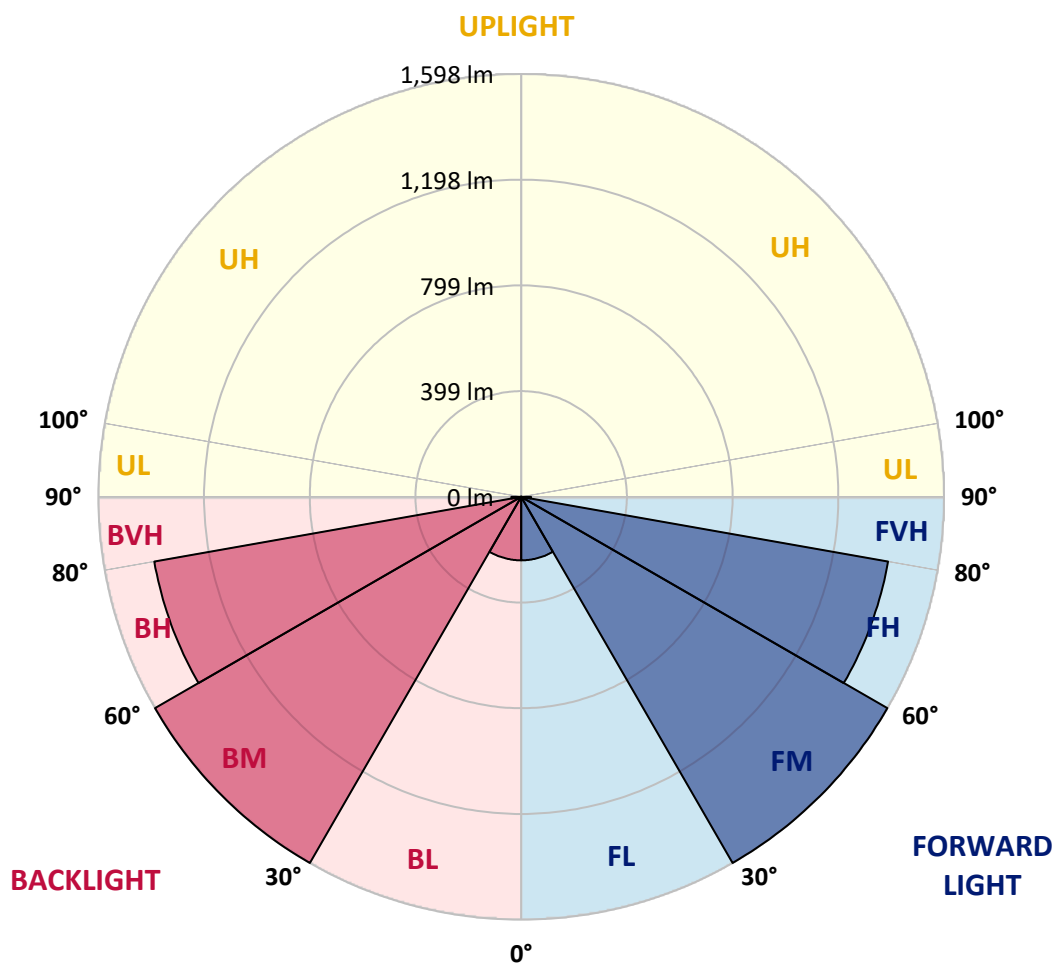
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 239.9  | 3.7       |                         |      |         |
| FM   | (30°-60°)   | 1597.8 | 24.3      |                         |      |         |
| FH   | (60°-80°)   | 1407.7 | 21.4      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 37.0   | 0.6       |                         |      | G1/100  |
| BL   | (0°-30°)    | 239.9  | 3.7       | B1/500                  |      |         |
| BM   | (30°-60°)   | 1597.8 | 24.3      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 1407.7 | 21.4      | B3/2500                 |      | G1/1800 |
| BVH  | (80°-90°)   | 37.0   | 0.6       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G1**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 47.5°  |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  |
| 2.5°  | 441.2  | 440.4  | 440.8  | 441.2  | 440.8  | 440.4  | 440.4  | 440.4  | 441.2  | 440.4  | 442.4  |
| 5°    | 449.8  | 449.0  | 449.5  | 449.5  | 449.5  | 448.6  | 448.6  | 448.6  | 448.2  | 448.6  | 453.1  |
| 7.5°  | 466.3  | 465.1  | 464.6  | 465.4  | 464.6  | 464.2  | 463.8  | 463.8  | 463.0  | 463.0  | 468.7  |
| 10°   | 485.9  | 484.3  | 485.2  | 485.6  | 484.3  | 483.5  | 483.5  | 483.5  | 482.3  | 481.9  | 489.2  |
| 12.5° | 507.7  | 506.9  | 506.9  | 506.1  | 505.7  | 504.8  | 504.4  | 504.8  | 503.2  | 503.2  | 510.6  |
| 15°   | 528.7  | 527.0  | 527.4  | 526.2  | 525.4  | 524.5  | 524.2  | 523.7  | 522.9  | 522.9  | 527.4  |
| 17.5° | 547.9  | 546.7  | 546.3  | 545.0  | 543.8  | 542.6  | 541.8  | 541.4  | 540.1  | 540.1  | 544.3  |
| 20°   | 568.1  | 566.8  | 566.0  | 563.9  | 561.9  | 560.6  | 559.0  | 558.2  | 556.6  | 557.0  | 561.5  |
| 22.5° | 591.1  | 589.0  | 587.3  | 585.7  | 582.0  | 579.5  | 577.5  | 575.9  | 575.0  | 575.0  | 581.2  |
| 25°   | 621.8  | 620.6  | 618.1  | 612.8  | 608.3  | 604.6  | 601.3  | 599.6  | 598.0  | 597.2  | 606.7  |
| 27.5° | 659.6  | 658.3  | 655.1  | 649.7  | 643.6  | 637.4  | 633.7  | 630.8  | 628.8  | 627.5  | 641.1  |
| 30°   | 709.7  | 707.6  | 704.7  | 696.1  | 690.8  | 681.4  | 677.2  | 673.1  | 668.6  | 669.8  | 685.9  |
| 32.5° | 807.8  | 804.9  | 795.8  | 786.4  | 770.0  | 757.3  | 744.1  | 734.3  | 724.9  | 723.6  | 740.8  |
| 35°   | 896.8  | 895.6  | 893.9  | 887.4  | 881.2  | 873.4  | 867.2  | 857.0  | 848.4  | 846.4  | 894.8  |
| 37.5° | 944.8  | 947.7  | 945.2  | 944.4  | 944.4  | 948.1  | 959.6  | 971.1  | 979.3  | 984.2  | 1011.3 |
| 40°   | 1018.3 | 1018.3 | 1015.4 | 1013.8 | 1010.5 | 1015.4 | 1020.4 | 1029.0 | 1032.7 | 1033.1 | 1060.6 |
| 42.5° | 1101.6 | 1102.0 | 1099.1 | 1094.2 | 1092.6 | 1097.1 | 1103.7 | 1111.9 | 1116.8 | 1118.0 | 1150.1 |
| 45°   | 1194.4 | 1193.2 | 1190.7 | 1189.1 | 1190.3 | 1194.4 | 1202.2 | 1218.2 | 1225.6 | 1231.3 | 1266.2 |
| 47.5° | 1294.9 | 1303.1 | 1296.2 | 1297.4 | 1297.4 | 1310.2 | 1327.8 | 1340.9 | 1352.8 | 1363.9 | 1400.8 |
| 50°   | 1426.7 | 1427.9 | 1429.1 | 1432.9 | 1435.3 | 1452.1 | 1474.3 | 1489.9 | 1507.1 | 1521.5 | 1581.8 |
| 52.5° | 1602.8 | 1600.3 | 1606.5 | 1610.6 | 1624.6 | 1633.6 | 1670.5 | 1690.2 | 1714.0 | 1732.5 | 1820.7 |
| 55°   | 1813.3 | 1812.1 | 1821.1 | 1824.4 | 1842.9 | 1865.0 | 1906.1 | 1949.2 | 1989.8 | 2012.4 | 2133.1 |
| 57.5° | 1964.4 | 1967.6 | 1983.2 | 2005.0 | 2041.1 | 2088.3 | 2149.5 | 2244.7 | 2321.9 | 2346.5 | 2479.5 |
| 60°   | 1997.6 | 2008.3 | 2031.7 | 2075.2 | 2137.2 | 2225.0 | 2345.3 | 2491.0 | 2632.1 | 2679.4 | 2804.2 |
| 62.5° | 1904.5 | 1916.8 | 1951.3 | 2003.3 | 2084.2 | 2214.4 | 2387.9 | 2593.6 | 2803.3 | 2908.4 | 2971.2 |
| 63°   | 1874.9 | 1890.1 | 1915.9 | 1976.3 | 2058.4 | 2186.8 | 2371.6 | 2593.2 | 2810.7 | 2925.2 | 2974.5 |
| 65°   | 1736.2 | 1739.0 | 1777.6 | 1838.0 | 1930.3 | 2063.7 | 2250.1 | 2506.1 | 2747.5 | 2879.6 | 2845.6 |
| 67.5° | 1494.0 | 1505.9 | 1538.3 | 1599.1 | 1688.9 | 1827.7 | 2030.0 | 2266.9 | 2479.1 | 2584.6 | 2432.3 |
| 70°   | 1207.1 | 1206.3 | 1246.5 | 1295.3 | 1374.6 | 1496.5 | 1673.8 | 1887.6 | 2055.9 | 2132.6 | 1877.8 |
| 72.5° | 862.3  | 841.0  | 870.5  | 924.7  | 989.6  | 1086.8 | 1227.2 | 1393.4 | 1544.1 | 1610.6 | 1372.9 |
| 75°   | 392.8  | 387.1  | 413.3  | 467.1  | 532.7  | 619.4  | 734.7  | 878.3  | 1022.8 | 1100.8 | 874.7  |
| 77.5° | 132.2  | 133.8  | 144.1  | 163.4  | 198.7  | 242.2  | 314.0  | 405.9  | 522.9  | 600.1  | 410.5  |
| 80°   | 88.7   | 91.1   | 94.4   | 97.3   | 101.4  | 107.9  | 123.5  | 147.4  | 183.5  | 222.1  | 129.7  |
| 82.5° | 72.7   | 75.5   | 82.9   | 86.2   | 88.7   | 90.7   | 91.9   | 93.6   | 93.6   | 94.4   | 82.1   |
| 85°   | 52.1   | 57.1   | 66.9   | 73.1   | 75.5   | 77.2   | 79.2   | 81.7   | 78.0   | 74.7   | 63.6   |
| 87.5° | 18.1   | 24.6   | 36.1   | 39.8   | 42.7   | 43.1   | 46.0   | 50.9   | 48.4   | 39.4   | 19.3   |
| 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):**

|       | 50°    | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  | 438.4  |
| 2.5°  | 440.4  | 440.0  | 440.4  | 440.8  | 440.8  | 440.8  | 441.2  | 441.7  | 441.7  |
| 5°    | 448.6  | 449.0  | 448.6  | 449.0  | 449.0  | 449.5  | 449.5  | 450.2  | 450.2  |
| 7.5°  | 462.5  | 463.4  | 463.0  | 463.8  | 463.8  | 464.6  | 464.2  | 465.4  | 465.4  |
| 10°   | 481.4  | 482.3  | 483.1  | 483.5  | 483.1  | 483.9  | 484.7  | 485.2  | 484.7  |
| 12.5° | 502.8  | 503.2  | 502.8  | 503.6  | 503.6  | 504.4  | 504.4  | 505.7  | 505.7  |
| 15°   | 522.5  | 522.1  | 521.7  | 522.9  | 523.7  | 524.2  | 524.9  | 526.2  | 524.9  |
| 17.5° | 540.1  | 540.5  | 539.8  | 541.0  | 542.6  | 543.8  | 544.7  | 546.3  | 545.9  |
| 20°   | 557.8  | 557.0  | 557.8  | 559.9  | 561.5  | 563.1  | 564.8  | 567.2  | 566.8  |
| 22.5° | 575.0  | 575.9  | 577.9  | 579.5  | 582.4  | 584.9  | 586.9  | 590.2  | 591.4  |
| 25°   | 599.2  | 599.2  | 602.5  | 604.6  | 608.7  | 611.9  | 616.5  | 620.2  | 622.3  |
| 27.5° | 630.0  | 630.0  | 633.7  | 638.2  | 644.4  | 650.2  | 655.1  | 660.0  | 659.2  |
| 30°   | 671.9  | 673.9  | 677.2  | 683.0  | 691.2  | 698.2  | 704.7  | 709.7  | 710.0  |
| 32.5° | 726.9  | 729.4  | 739.2  | 754.0  | 771.2  | 784.4  | 794.2  | 806.1  | 807.8  |
| 35°   | 851.6  | 857.8  | 870.5  | 882.5  | 889.4  | 897.2  | 902.2  | 902.6  | 903.4  |
| 37.5° | 983.0  | 972.4  | 962.5  | 953.5  | 949.4  | 948.5  | 948.5  | 950.2  | 951.0  |
| 40°   | 1031.0 | 1025.7 | 1021.2 | 1015.4 | 1017.1 | 1016.6 | 1019.5 | 1022.0 | 1023.7 |
| 42.5° | 1113.1 | 1109.0 | 1104.9 | 1097.5 | 1101.6 | 1100.4 | 1104.5 | 1108.2 | 1110.2 |
| 45°   | 1227.7 | 1214.9 | 1205.9 | 1194.0 | 1198.1 | 1195.6 | 1195.6 | 1200.1 | 1201.0 |
| 47.5° | 1354.0 | 1339.3 | 1320.8 | 1306.0 | 1301.1 | 1296.6 | 1300.7 | 1300.7 | 1296.2 |
| 50°   | 1505.5 | 1487.9 | 1466.1 | 1442.3 | 1434.1 | 1429.6 | 1431.2 | 1433.3 | 1420.6 |
| 52.5° | 1711.1 | 1691.5 | 1660.6 | 1624.6 | 1616.8 | 1613.0 | 1612.2 | 1609.3 | 1606.1 |
| 55°   | 1989.8 | 1952.9 | 1915.1 | 1867.5 | 1853.2 | 1849.0 | 1849.4 | 1846.1 | 1853.9 |
| 57.5° | 2318.6 | 2264.4 | 2177.4 | 2119.5 | 2085.1 | 2071.9 | 2060.0 | 2055.1 | 2055.5 |
| 60°   | 2644.1 | 2533.7 | 2403.5 | 2302.6 | 2230.3 | 2184.4 | 2148.2 | 2128.1 | 2122.4 |
| 62.5° | 2853.8 | 2680.2 | 2484.8 | 2321.0 | 2202.4 | 2126.5 | 2069.5 | 2033.3 | 2021.8 |
| 63°   | 2870.2 | 2686.3 | 2477.4 | 2301.8 | 2177.0 | 2097.4 | 2037.4 | 2000.1 | 1987.8 |
| 65°   | 2834.5 | 2624.3 | 2381.0 | 2171.6 | 2035.0 | 1946.7 | 1881.9 | 1846.6 | 1837.1 |
| 67.5° | 2557.1 | 2382.2 | 2134.3 | 1918.0 | 1780.1 | 1690.6 | 1616.3 | 1582.7 | 1572.0 |
| 70°   | 2080.1 | 1960.3 | 1757.1 | 1572.4 | 1444.0 | 1357.7 | 1282.6 | 1254.7 | 1254.3 |
| 72.5° | 1542.1 | 1386.5 | 1265.4 | 1129.9 | 1017.9 | 949.4  | 884.1  | 852.9  | 837.3  |
| 75°   | 1019.9 | 853.3  | 717.8  | 603.8  | 492.1  | 430.6  | 357.1  | 325.5  | 307.0  |
| 77.5° | 513.9  | 380.9  | 272.9  | 189.2  | 146.9  | 120.7  | 110.4  | 105.1  | 104.6  |
| 80°   | 171.2  | 128.5  | 110.4  | 103.4  | 101.4  | 101.8  | 100.6  | 98.5   | 96.1   |
| 82.5° | 94.8   | 99.7   | 100.6  | 97.7   | 97.7   | 96.1   | 94.4   | 86.6   | 82.5   |
| 85°   | 81.2   | 89.5   | 90.3   | 88.7   | 88.3   | 85.8   | 82.9   | 72.2   | 66.1   |
| 87.5° | 50.9   | 58.7   | 57.5   | 51.3   | 56.6   | 52.9   | 50.1   | 32.4   | 23.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)