

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P252628

Luminaire Tested: **LD6B60D010TE EU6B60709027 6LBDW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P252628  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-8)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD6B60D010TE EU6B60709027 6LBDW1LI  
Description: PORTFOLIO 6 INCH DOUBLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4890.0 lumens  
Efficiency: N/A  
Efficacy: 78.3 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.22 / 1.15  
Luminous Opening: Circular (Dia: 0.46' x H: 0')  
CIE Type: Direct

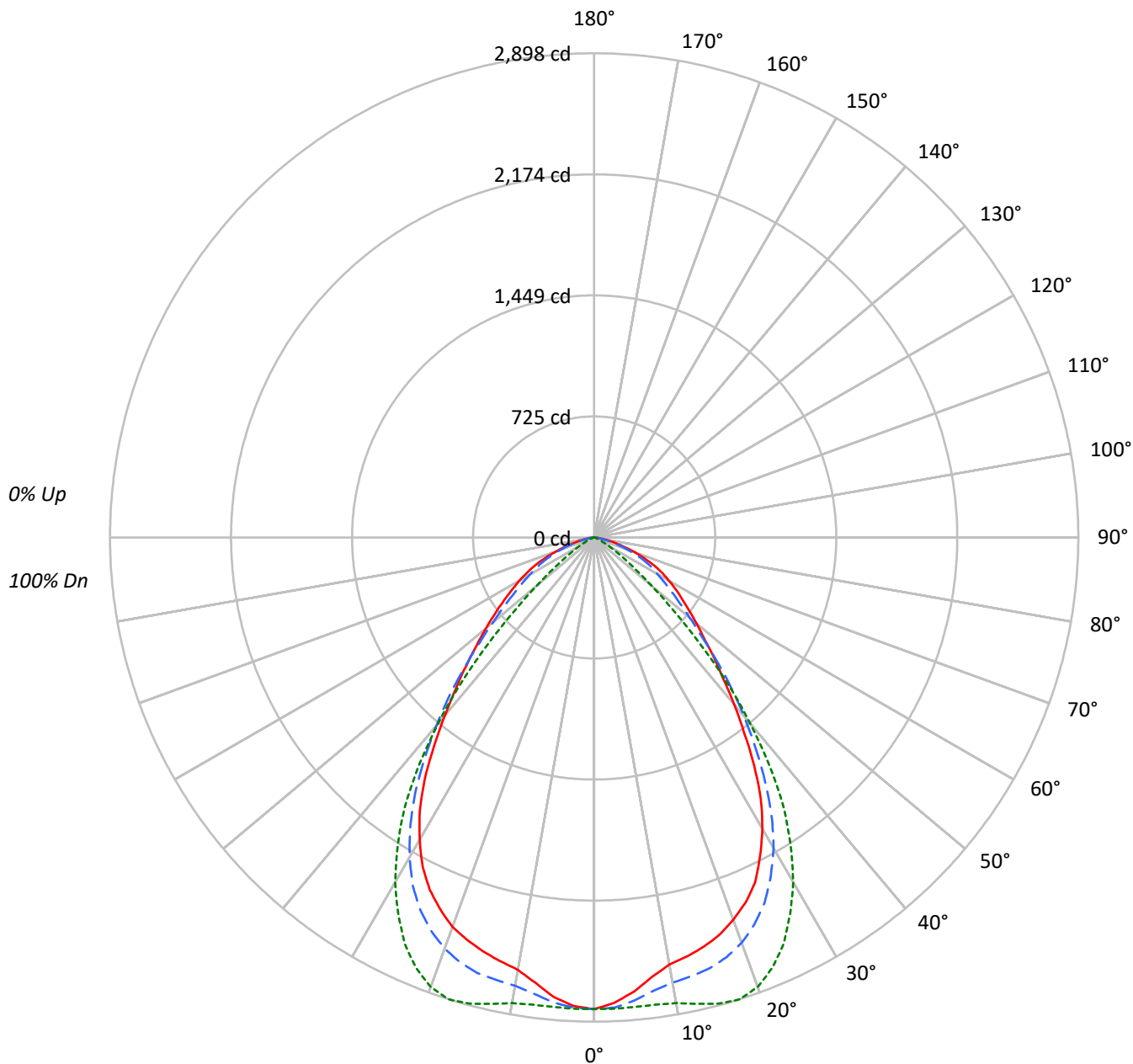
Input Watts (W): 62.48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |  |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |     |
|-----|-----|-----|-----|-----|--|-----|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|-----|
| RF  | 20  |     |     |     |  | 20  |     |     |     |  | 20  |     |     |  |     | 20  |     |  |     |     | 20  |     |
| RC  | 80  |     |     |     |  | 70  |     |     |     |  | 50  |     |     |  |     | 30  |     |  |     |     | 0   |     |
| RW  | 70  | 50  | 30  | 10  |  | 70  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  | 0   |
| RCR |     |     |     |     |  |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 |  | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 | 100 |
| 1   | 111 | 108 | 105 | 102 |  | 109 | 106 | 103 | 100 |  | 102 | 99  | 97  |  | 98  | 96  | 94  |  | 94  | 93  | 91  | 89  |
| 2   | 104 | 97  | 92  | 87  |  | 101 | 95  | 91  | 86  |  | 92  | 88  | 84  |  | 89  | 86  | 83  |  | 86  | 83  | 81  | 79  |
| 3   | 96  | 88  | 81  | 76  |  | 94  | 86  | 80  | 76  |  | 84  | 79  | 74  |  | 81  | 77  | 73  |  | 79  | 75  | 72  | 70  |
| 4   | 90  | 80  | 73  | 67  |  | 88  | 79  | 72  | 67  |  | 76  | 70  | 66  |  | 74  | 69  | 65  |  | 72  | 68  | 64  | 62  |
| 5   | 84  | 73  | 65  | 60  |  | 82  | 72  | 65  | 59  |  | 70  | 64  | 59  |  | 68  | 63  | 58  |  | 66  | 62  | 58  | 56  |
| 6   | 78  | 67  | 59  | 54  |  | 76  | 66  | 59  | 53  |  | 64  | 58  | 53  |  | 63  | 57  | 53  |  | 61  | 56  | 52  | 50  |
| 7   | 73  | 61  | 54  | 49  |  | 72  | 61  | 53  | 48  |  | 59  | 53  | 48  |  | 58  | 52  | 48  |  | 57  | 51  | 48  | 46  |
| 8   | 69  | 57  | 49  | 44  |  | 67  | 56  | 49  | 44  |  | 55  | 48  | 44  |  | 54  | 48  | 44  |  | 53  | 47  | 43  | 42  |
| 9   | 64  | 53  | 45  | 40  |  | 63  | 52  | 45  | 40  |  | 51  | 45  | 40  |  | 50  | 44  | 40  |  | 49  | 44  | 40  | 38  |
| 10  | 61  | 49  | 42  | 37  |  | 60  | 48  | 42  | 37  |  | 48  | 41  | 37  |  | 47  | 41  | 37  |  | 46  | 41  | 37  | 35  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°     | 90°    | 180°   |
|-----|--------|--------|--------|
| 0°  | 184187 | 184187 | 184187 |
| 5°  | 178696 | 184681 | 180831 |
| 10° | 171898 | 187466 | 174058 |
| 15° | 171287 | 195095 | 173272 |
| 20° | 169042 | 198730 | 172215 |
| 25° | 163996 | 193129 | 167516 |
| 30° | 151706 | 179489 | 157364 |
| 35° | 133093 | 157791 | 140890 |
| 40° | 110911 | 123695 | 118133 |
| 45° | 93353  | 81608  | 99673  |
| 50° | 80832  | 44719  | 85795  |
| 55° | 73137  | 23761  | 74991  |
| 60° | 67289  | 12357  | 67289  |
| 65° | 60962  | 6545   | 59449  |
| 70° | 49176  | 3739   | 45456  |
| 75° | 33727  | 2470   | 31257  |
| 80° | 22054  | 1240   | 19612  |
| 85° | 14672  | 2470   | 12201  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 263.3  | 5.4       |
| 10°-20°   | 761.3  | 15.6      |
| 20°-30°   | 1124.8 | 23.0      |
| 30°-40°   | 1136.1 | 23.2      |
| 40°-50°   | 783.0  | 16.0      |
| 50°-60°   | 449.7  | 9.2       |
| 60°-70°   | 261.8  | 5.4       |
| 70°-80°   | 95.5   | 2.0       |
| 80°-90°   | 14.6   | 0.3       |
| 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°-30°    | 2149.3 | 44.0      |
| 0°-40°    | 3285.4 | 67.2      |
| 0°-60°    | 4518.2 | 92.4      |
| 0°-90°    | 4890.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4890.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 2823 | 2823 | 2823 | 2823 | 2823 |      |
| 5°  | 2729 | 2781 | 2820 | 2794 | 2761 | 256  |
| 15° | 2536 | 2670 | 2888 | 2699 | 2565 | 714  |
| 25° | 2278 | 2412 | 2683 | 2461 | 2327 | 1038 |
| 35° | 1671 | 1785 | 1981 | 1867 | 1769 | 1037 |
| 45° | 1012 | 1025 | 884  | 1090 | 1080 | 787  |
| 55° | 643  | 565  | 209  | 588  | 659  | 579  |
| 65° | 395  | 333  | 42   | 330  | 385  | 387  |
| 75° | 134  | 108  | 10   | 104  | 124  | 151  |
| 85° | 20   | 10   | 3    | 13   | 16   | 25   |
| 90° | 0    | 0    | 0    | 0    | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 22.5°  | 25°    | 30°    | 35°    | 40°    | 45°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 |
| 2.5°  | 2787.3 | 2790.6 | 2793.9 | 2790.6 | 2793.9 | 2806.9 | 2797.1 | 2803.7 | 2803.7 | 2806.9 | 2816.7 |
| 5°    | 2728.6 | 2728.6 | 2735.1 | 2731.9 | 2741.6 | 2754.7 | 2744.9 | 2754.7 | 2758.0 | 2764.5 | 2780.8 |
| 7.5°  | 2653.5 | 2653.5 | 2656.8 | 2656.8 | 2669.8 | 2682.9 | 2676.4 | 2689.4 | 2702.5 | 2715.5 | 2735.1 |
| 10°   | 2594.8 | 2601.3 | 2601.3 | 2604.6 | 2617.6 | 2633.9 | 2630.7 | 2647.0 | 2660.0 | 2679.6 | 2705.7 |
| 12.5° | 2568.7 | 2571.9 | 2571.9 | 2578.5 | 2591.5 | 2607.8 | 2604.6 | 2620.9 | 2640.5 | 2663.3 | 2689.4 |
| 15°   | 2536.0 | 2542.5 | 2539.3 | 2545.8 | 2558.9 | 2575.2 | 2571.9 | 2588.2 | 2611.1 | 2633.9 | 2669.8 |
| 17.5° | 2493.6 | 2496.9 | 2500.1 | 2500.1 | 2513.2 | 2526.2 | 2526.2 | 2542.5 | 2568.7 | 2594.8 | 2633.9 |
| 20°   | 2434.8 | 2441.4 | 2441.4 | 2444.6 | 2454.4 | 2474.0 | 2470.7 | 2487.1 | 2513.2 | 2539.3 | 2581.7 |
| 22.5° | 2366.3 | 2369.6 | 2369.6 | 2372.8 | 2389.1 | 2398.9 | 2402.2 | 2415.3 | 2438.1 | 2467.5 | 2506.6 |
| 25°   | 2278.2 | 2281.4 | 2278.2 | 2288.0 | 2294.5 | 2314.1 | 2307.6 | 2323.9 | 2350.0 | 2372.8 | 2412.0 |
| 27.5° | 2150.9 | 2157.4 | 2157.4 | 2160.7 | 2177.0 | 2193.3 | 2193.3 | 2209.6 | 2232.5 | 2248.8 | 2288.0 |
| 30°   | 2013.8 | 2023.6 | 2013.8 | 2030.1 | 2036.6 | 2049.7 | 2059.5 | 2069.3 | 2088.9 | 2111.7 | 2147.6 |
| 32.5° | 1857.1 | 1853.9 | 1857.1 | 1863.7 | 1883.2 | 1893.0 | 1899.6 | 1909.4 | 1928.9 | 1948.5 | 1977.9 |
| 35°   | 1671.1 | 1677.6 | 1680.9 | 1693.9 | 1693.9 | 1710.3 | 1713.5 | 1720.1 | 1749.4 | 1762.5 | 1785.3 |
| 37.5° | 1475.3 | 1481.8 | 1485.1 | 1491.6 | 1504.6 | 1511.2 | 1521.0 | 1530.8 | 1550.3 | 1573.2 | 1586.2 |
| 40°   | 1302.3 | 1302.3 | 1305.5 | 1312.1 | 1321.9 | 1325.1 | 1334.9 | 1348.0 | 1361.0 | 1380.6 | 1393.7 |
| 42.5° | 1139.1 | 1142.4 | 1139.1 | 1145.6 | 1155.4 | 1168.5 | 1165.2 | 1181.5 | 1184.8 | 1197.8 | 1207.6 |
| 45°   | 1011.8 | 1011.8 | 1005.3 | 1011.8 | 1011.8 | 1024.9 | 1021.6 | 1028.1 | 1024.9 | 1031.4 | 1024.9 |
| 47.5° | 891.0  | 894.3  | 891.0  | 894.3  | 894.3  | 894.3  | 897.6  | 891.0  | 894.3  | 884.5  | 864.9  |
| 50°   | 796.4  | 799.6  | 793.1  | 796.4  | 793.1  | 789.9  | 793.1  | 783.3  | 780.1  | 767.0  | 747.4  |
| 52.5° | 714.8  | 711.5  | 708.3  | 708.3  | 708.3  | 705.0  | 701.7  | 691.9  | 682.1  | 669.1  | 646.2  |
| 55°   | 643.0  | 639.7  | 636.5  | 636.5  | 629.9  | 626.7  | 626.7  | 616.9  | 607.1  | 590.8  | 564.6  |
| 57.5° |        |        |        |        |        |        |        |        |        |        |        |



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**CANDELA DISTRIBUTION (continued):**

|       | 50°    | 55°    | 60°    | 65°    | 67.5°  | 70°    | 75°    | 80°    | 85°    | 90°    | 95°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 |
| 2.5°  | 2810.2 | 2813.4 | 2813.4 | 2813.4 | 2823.2 | 2826.5 | 2816.7 | 2806.9 | 2826.5 | 2823.2 | 2829.8 |
| 5°    | 2777.5 | 2787.3 | 2793.9 | 2797.1 | 2806.9 | 2813.4 | 2803.7 | 2800.4 | 2816.7 | 2820.0 | 2823.2 |
| 7.5°  | 2738.4 | 2754.7 | 2771.0 | 2777.5 | 2790.6 | 2797.1 | 2793.9 | 2793.9 | 2813.4 | 2820.0 | 2820.0 |
| 10°   | 2712.3 | 2735.1 | 2754.7 | 2771.0 | 2787.3 | 2797.1 | 2797.1 | 2800.4 | 2823.2 | 2829.8 | 2836.3 |
| 12.5° | 2705.7 | 2735.1 | 2761.2 | 2784.1 | 2797.1 | 2813.4 | 2816.7 | 2826.5 | 2849.4 | 2859.1 | 2859.1 |
| 15°   | 2689.4 | 2728.6 | 2761.2 | 2790.6 | 2810.2 | 2829.8 | 2836.3 | 2855.9 | 2882.0 | 2888.5 | 2895.0 |
| 17.5° | 2660.0 | 2699.2 | 2738.4 | 2774.3 | 2800.4 | 2816.7 | 2836.3 | 2855.9 | 2888.5 | 2898.3 | 2901.6 |
| 20°   | 2607.8 | 2653.5 | 2692.7 | 2728.6 | 2754.7 | 2777.5 | 2797.1 | 2820.0 | 2849.4 | 2862.4 | 2865.7 |
| 22.5° | 2529.5 | 2575.2 | 2614.4 | 2653.5 | 2679.6 | 2699.2 | 2718.8 | 2744.9 | 2774.3 | 2787.3 | 2787.3 |
| 25°   | 2434.8 | 2477.3 | 2519.7 | 2549.1 | 2575.2 | 2598.0 | 2607.8 | 2637.2 | 2666.6 | 2682.9 | 2682.9 |
| 27.5° | 2314.1 | 2353.2 | 2392.4 | 2425.0 | 2441.4 | 2461.0 | 2477.3 | 2503.4 | 2526.2 | 2539.3 | 2552.3 |
| 30°   | 2160.7 | 2199.8 | 2235.7 | 2268.4 | 2288.0 | 2307.6 | 2323.9 | 2343.5 | 2366.3 | 2382.6 | 2385.9 |
| 32.5° | 1994.2 | 2026.9 | 2062.8 | 2095.4 | 2115.0 | 2121.5 | 2137.8 | 2157.4 | 2177.0 | 2190.1 | 2193.3 |
| 35°   | 1811.4 | 1834.3 | 1857.1 | 1886.5 | 1906.1 | 1906.1 | 1922.4 | 1935.5 | 1951.8 | 1981.2 | 1974.6 |
| 37.5° | 1596.0 | 1628.7 | 1645.0 | 1654.8 | 1667.8 | 1680.9 | 1684.2 | 1700.5 | 1720.1 | 1726.6 | 1736.4 |
| 40°   | 1393.7 | 1403.5 | 1413.3 | 1413.3 | 1426.3 | 1426.3 | 1426.3 | 1429.6 | 1449.2 | 1452.4 | 1465.5 |
| 42.5° | 1191.3 | 1191.3 | 1181.5 | 1171.7 | 1175.0 | 1171.7 | 1155.4 | 1155.4 | 1165.2 | 1178.3 | 1178.3 |
| 45°   | 1002.0 | 979.2  | 949.8  | 926.9  | 910.6  | 904.1  | 884.5  | 884.5  | 881.2  | 884.5  | 897.6  |
| 47.5° | 842.1  | 802.9  | 754.0  | 708.3  | 691.9  | 678.9  | 649.5  | 636.5  | 629.9  | 633.2  | 639.7  |
| 50°   | 708.3  | 665.8  | 610.3  | 554.9  | 525.5  | 509.2  | 473.3  | 450.4  | 447.1  | 440.6  | 453.7  |
| 52.5° | 610.3  | 558.1  | 499.4  | 434.1  | 404.7  | 378.6  | 339.4  | 319.9  | 306.8  | 306.8  | 310.1  |
| 55°   | 525.5  | 470.0  | 404.7  | 339.4  | 310.1  | 290.5  | 251.3  | 225.2  | 212.2  | 208.9  | 218.7  |
| 57.5° | 453.7  | 401.5  | 336.2  | 270.   |        |        |        |        |        |        |        |



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**CANDELA DISTRIBUTION (continued):**

|       | 100°   | 105°   | 110°   | 112.5° | 115°   | 120°   | 125°   | 130°   | 135°   | 140°   | 145°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 |
| 2.5°  | 2816.7 | 2820.0 | 2810.2 | 2823.2 | 2813.4 | 2826.5 | 2826.5 | 2813.4 | 2816.7 | 2810.2 | 2823.2 |
| 5°    | 2810.2 | 2810.2 | 2803.7 | 2813.4 | 2800.4 | 2813.4 | 2810.2 | 2787.3 | 2793.9 | 2780.8 | 2793.9 |
| 7.5°  | 2810.2 | 2803.7 | 2793.9 | 2803.7 | 2787.3 | 2797.1 | 2784.1 | 2761.2 | 2754.7 | 2738.4 | 2738.4 |
| 10°   | 2820.0 | 2810.2 | 2797.1 | 2800.4 | 2784.1 | 2787.3 | 2767.8 | 2735.1 | 2725.3 | 2705.7 | 2699.2 |
| 12.5° | 2842.8 | 2833.0 | 2813.4 | 2820.0 | 2797.1 | 2797.1 | 2771.0 | 2731.9 | 2712.3 | 2686.2 | 2679.6 |
| 15°   | 2875.5 | 2859.1 | 2836.3 | 2839.6 | 2816.7 | 2803.7 | 2771.0 | 2725.3 | 2699.2 | 2663.3 | 2653.5 |
| 17.5° | 2882.0 | 2865.7 | 2836.3 | 2836.3 | 2806.9 | 2790.6 | 2751.4 | 2699.2 | 2666.6 | 2630.7 | 2611.1 |
| 20°   | 2846.1 | 2829.8 | 2797.1 | 2793.9 | 2767.8 | 2744.9 | 2702.5 | 2650.3 | 2617.6 | 2578.5 | 2562.1 |
| 22.5° | 2771.0 | 2751.4 | 2722.1 | 2718.8 | 2692.7 | 2679.6 | 2633.9 | 2581.7 | 2549.1 | 2509.9 | 2496.9 |
| 25°   | 2660.0 | 2650.3 | 2620.9 | 2617.6 | 2594.8 | 2578.5 | 2539.3 | 2490.3 | 2461.0 | 2421.8 | 2408.7 |
| 27.5° | 2529.5 | 2519.7 | 2490.3 | 2490.3 | 2464.2 | 2454.4 | 2418.5 | 2372.8 | 2350.0 | 2314.1 | 2297.8 |
| 30°   | 2372.8 | 2359.8 | 2343.5 | 2340.2 | 2317.3 | 2307.6 | 2274.9 | 2232.5 | 2209.6 | 2180.3 | 2173.7 |
| 32.5° | 2186.8 | 2177.0 | 2167.2 | 2163.9 | 2141.1 | 2131.3 | 2108.5 | 2066.0 | 2046.4 | 2020.3 | 2010.5 |
| 35°   | 1971.4 | 1964.8 | 1955.1 | 1951.8 | 1942.0 | 1932.2 | 1909.4 | 1876.7 | 1866.9 | 1847.3 | 1837.6 |
| 37.5° | 1723.3 | 1729.8 | 1723.3 | 1723.3 | 1713.5 | 1716.8 | 1697.2 | 1677.6 | 1667.8 | 1654.8 | 1648.3 |
| 40°   | 1455.7 | 1468.7 | 1478.5 | 1478.5 | 1475.3 | 1488.3 | 1485.1 | 1468.7 | 1465.5 | 1458.9 | 1455.7 |
| 42.5° | 1184.8 | 1191.3 | 1210.9 | 1223.9 | 1220.7 | 1253.3 | 1256.6 | 1269.6 | 1279.4 | 1272.9 | 1276.2 |
| 45°   | 900.8  | 920.4  | 946.5  | 959.6  | 975.9  | 1018.3 | 1041.2 | 1067.3 | 1090.1 | 1103.2 | 1099.9 |
| 47.5° | 649.5  | 672.4  | 701.7  | 721.3  | 750.7  | 802.9  | 861.7  | 894.3  | 926.9  | 943.3  | 959.6  |
| 50°   | 470.0  | 492.8  | 528.7  | 558.1  | 577.7  | 649.5  | 711.5  | 754.0  | 789.9  | 812.7  | 829.0  |
| 52.5° | 329.7  | 355.8  | 394.9  | 421.0  | 450.4  | 519.0  | 590.8  | 639.7  | 678.9  | 708.3  | 724.6  |
| 55°   | 228.5  | 257.8  | 293.7  | 319.9  | 352.5  | 424.3  | 492.8  | 545.1  | 587.5  | 613.6  | 633.2  |
| 57.5° |        |        |        |        |        |        |        |        |        |        |        |



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**CANDELA DISTRIBUTION (continued):**

|       | 150°   | 155°   | 157.5° | 160°   | 165°   | 170°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 | 2823.2 |
| 2.5°  | 2813.4 | 2820.0 | 2816.7 | 2823.2 | 2813.4 | 2810.2 | 2816.7 | 2806.9 |
| 5°    | 2777.5 | 2780.8 | 2777.5 | 2777.5 | 2771.0 | 2764.5 | 2771.0 | 2761.2 |
| 7.5°  | 2722.1 | 2722.1 | 2712.3 | 2712.3 | 2699.2 | 2692.7 | 2692.7 | 2689.4 |
| 10°   | 2676.4 | 2666.6 | 2656.8 | 2660.0 | 2640.5 | 2633.9 | 2630.7 | 2627.4 |
| 12.5° | 2653.5 | 2647.0 | 2630.7 | 2630.7 | 2611.1 | 2604.6 | 2601.3 | 2598.0 |
| 15°   | 2627.4 | 2614.4 | 2601.3 | 2598.0 | 2581.7 | 2575.2 | 2571.9 | 2565.4 |
| 17.5° | 2581.7 | 2571.9 | 2555.6 | 2555.6 | 2539.3 | 2536.0 | 2529.5 | 2526.2 |
| 20°   | 2532.8 | 2519.7 | 2506.6 | 2506.6 | 2487.1 | 2487.1 | 2477.3 | 2480.5 |
| 22.5° | 2464.2 | 2454.4 | 2441.4 | 2441.4 | 2425.0 | 2421.8 | 2412.0 | 2408.7 |
| 25°   | 2382.6 | 2369.6 | 2359.8 | 2356.5 | 2343.5 | 2336.9 | 2333.7 | 2327.1 |
| 27.5° | 2274.9 | 2265.1 | 2255.3 | 2248.8 | 2232.5 | 2229.2 | 2219.4 | 2222.7 |
| 30°   | 2141.1 | 2134.6 | 2131.3 | 2124.8 | 2105.2 | 2098.7 | 2098.7 | 2088.9 |
| 32.5° | 1994.2 | 1984.4 | 1977.9 | 1968.1 | 1951.8 | 1948.5 | 1938.7 | 1942.0 |
| 35°   | 1814.7 | 1801.7 | 1791.9 | 1795.1 | 1775.5 | 1772.3 | 1765.7 | 1769.0 |
| 37.5° | 1628.7 | 1615.6 | 1602.6 | 1599.3 | 1583.0 | 1583.0 | 1573.2 | 1573.2 |
| 40°   | 1436.1 | 1423.0 | 1416.5 | 1416.5 | 1396.9 | 1400.2 | 1390.4 | 1387.1 |
| 42.5° | 1263.1 | 1250.1 | 1246.8 | 1243.5 | 1233.7 | 1230.5 | 1220.7 | 1223.9 |
| 45°   | 1099.9 | 1096.7 | 1096.7 | 1090.1 | 1080.3 | 1077.1 | 1080.3 | 1080.3 |
| 47.5° | 956.3  | 959.6  | 956.3  | 956.3  | 949.8  | 956.3  | 949.8  | 953.0  |
| 50°   | 835.5  | 842.1  | 842.1  | 842.1  | 838.8  | 842.1  | 842.1  | 845.3  |
| 52.5° | 734.4  | 744.2  | 740.9  | 744.2  | 740.9  | 747.4  | 744.2  | 747.4  |
| 55°   | 646.2  | 652.8  | 656.0  | 659.3  | 659.3  | 659.3  | 659.3  | 659.3  |
| 57.5° | 564.6  | 574.4  | 577.7  | 581.0  | 581.0  | 587.5  | 581.0  | 581.0  |
| 60°   | 499.4  | 509.2  | 512.4  | 515.7  | 515.7  | 519.0  | 512.4  | 515.7  |
| 62.5° | 440.6  | 450.4  | 450.4  | 453.7  | 453.7  | 453.7  | 447.1  | 450.4  |
| 65°   | 381.9  | 385.1  | 388.4  | 388.4  | 385.1  | 385.1  | 381.9  | 385.1  |
| 67.5° | 316.6  | 319.9  | 316.6  | 316.6  | 313.3  | 313.3  | 306.8  | 310.1  |
| 70°   | 244.8  | 244.8  | 248.1  | 244.8  | 241.5  | 244.8  | 241.5  | 238.3  |
| 72.5° | 182.8  | 182.8  | 182.8  | 179.5  | 179.5  | 176.2  | 179.5  | 179.5  |
| 75°   | 124.0  | 124.0  | 127.3  | 127.3  | 127.3  | 127.3  | 124.0  | 124.0  |
| 77.5° | 81.6   | 81.6   | 81.6   |        |        |        |        |        |



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— 0°-180°    - - 45°-225°    - - - 90°-270°













(END OF REPORT)