

Scaled data based on original data using  
LM-66-11 Electrical and Photometric Measurements of Single-Ended Compact  
Fluorescent Lamps

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: SHAPER

Report Number: 19171

Luminaire Tested: **648-4-CF1/26**

Issue Date: 3/3/2020

**Test Information**

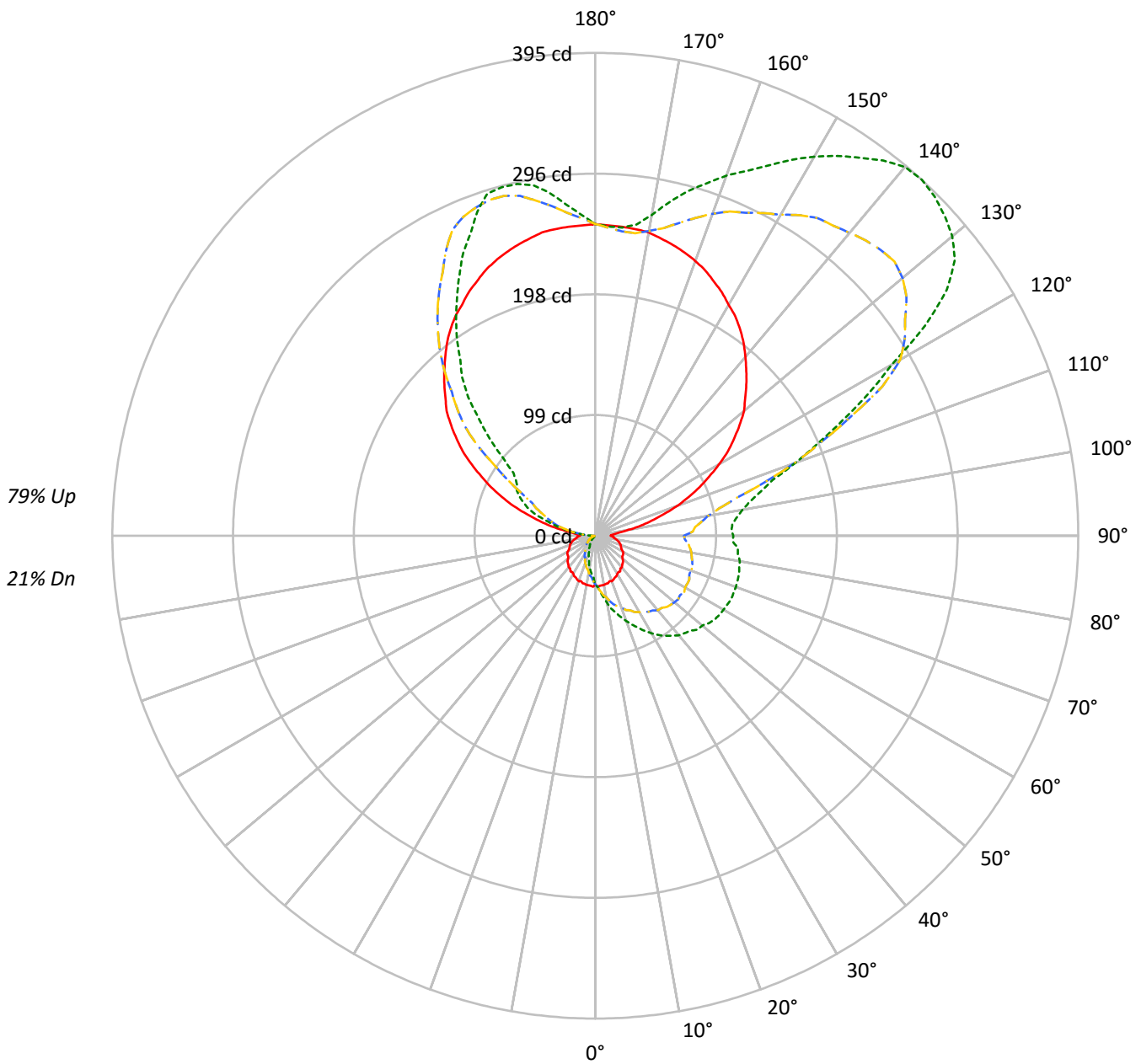
Test Method: LM-66-11  
Report Number: 19171  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: SHAPER  
Catalog Number: 648-4-CF1/26  
Description: INTERIOR WALL MOUNT LUMINAIRE WITH WHITE INTERIOR AND WHITE PLASTIC LENS  
Light Source: ONE SYLVANIA 26 WATT CPFL LAMP  
  
CF26DD/E/841. LUMEN RATING = 1800 LMS.  
  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 1800 (1 lamp)  
Luminaire Lumens: 1270.0 lumens  
Efficiency: 70.6%  
Efficacy: 50.8 lumens/watt  
Spacing Criteria (0/90/45): 1.38 / 1.98 / 1.88  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 25  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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



— 0°-180°    - - 45°-225°    - - - 90°-270°    - - - 135°-315°



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

|     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| RF  | 20 |    |    |    | 20 |    |    |    | 20 |    |    |    | 20 |    |    |    | 20 |    |
| RC  | 80 |    |    |    | 70 |    |    |    | 50 |    |    |    | 30 |    |    |    | 10 | 0  |
| RW  | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |
| RCR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 71 | 71 | 71 | 71 | 63 | 63 | 63 | 63 | 47 | 47 | 47 | 33 | 33 | 33 | 21 | 21 | 21 | 15 |
| 1   | 63 | 60 | 57 | 54 | 56 | 53 | 50 | 48 | 40 | 38 | 36 | 28 | 26 | 25 | 16 | 16 | 15 | 10 |
| 2   | 57 | 52 | 47 | 43 | 50 | 46 | 42 | 38 | 34 | 31 | 29 | 24 | 22 | 20 | 14 | 13 | 12 | 8  |
| 3   | 52 | 45 | 40 | 35 | 45 | 40 | 35 | 32 | 30 | 27 | 24 | 20 | 18 | 17 | 12 | 11 | 10 | 6  |
| 4   | 47 | 39 | 34 | 29 | 41 | 35 | 30 | 26 | 26 | 23 | 20 | 18 | 16 | 14 | 10 | 9  | 8  | 5  |
| 5   | 43 | 35 | 29 | 25 | 38 | 31 | 26 | 22 | 23 | 20 | 17 | 16 | 14 | 12 | 9  | 8  | 7  | 4  |
| 6   | 39 | 31 | 25 | 21 | 35 | 27 | 23 | 19 | 21 | 17 | 14 | 14 | 12 | 10 | 8  | 7  | 6  | 3  |
| 7   | 36 | 28 | 22 | 18 | 32 | 25 | 20 | 16 | 18 | 15 | 13 | 13 | 10 | 9  | 7  | 6  | 5  | 3  |
| 8   | 34 | 25 | 20 | 16 | 29 | 22 | 17 | 14 | 17 | 13 | 11 | 12 | 9  | 8  | 7  | 5  | 4  | 2  |
| 9   | 31 | 23 | 17 | 14 | 27 | 20 | 16 | 12 | 15 | 12 | 10 | 11 | 8  | 7  | 6  | 5  | 4  | 2  |
| 10  | 29 | 21 | 16 | 12 | 25 | 18 | 14 | 11 | 14 | 11 | 8  | 10 | 7  | 6  | 6  | 4  | 3  | 2  |

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

|     |  |     |      |      |
|-----|--|-----|------|------|
|     | 0°   | 90° | 180° | 270° |
| 0°  | Luminaire represents a point source (luminous area is zero). |     |      |      |
| 5°  | No luminance values can be calculated.                       |     |      |      |
| 10° |  |     |      |      |
| 15° |  |     |      |      |
| 20° |  |     |      |      |
| 25° |  |     |      |      |
| 30° |  |     |      |      |
| 35° |  |     |      |      |
| 40° |  |     |      |      |
| 45° |  |     |      |      |
| 50° |  |     |      |      |
| 55° |  |     |      |      |
| 60° |  |     |      |      |
| 65° |  |     |      |      |
| 70° |  |     |      |      |
| 75° |  |     |      |      |
| 80° |  |     |      |      |
| 85° |  |     |      |      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10°    | 3.8    | 0.3       | 0.2    |
| 10°-20°   | 11.8   | 0.9       | 0.7    |
| 20°-30°   | 20.0   | 1.6       | 1.1    |
| 30°-40°   | 27.8   | 2.2       | 1.5    |
| 40°-50°   | 34.6   | 2.7       | 1.9    |
| 50°-60°   | 39.8   | 3.1       | 2.2    |
| 60°-70°   | 42.7   | 3.4       | 2.4    |
| 70°-80°   | 43.2   | 3.4       | 2.4    |
| 80°-90°   | 40.7   | 3.2       | 2.3    |
| 90°-100°  | 46.9   | 3.7       | 2.6    |
| 100°-110° | 79.8   | 6.3       | 4.4    |
| 110°-120° | 133.6  | 10.5      | 7.4    |
| 120°-130° | 173.8  | 13.7      | 9.7    |
| 130°-140° | 182.5  | 14.4      | 10.1   |
| 140°-150° | 162.8  | 12.8      | 9.0    |
| 150°-160° | 125.0  | 9.8       | 6.9    |
| 160°-170° | 76.6   | 6.0       | 4.3    |
| 170°-180° | 24.6   | 1.9       | 1.4    |
| 0°-30°    | 35.7   | 2.8       | 2.0    |
| 0°-40°    | 63.5   | 5.0       | 3.5    |
| 0°-60°    | 137.9  | 10.9      | 7.7    |
| 0°-90°    | 264.4  | 20.8      | 14.7   |
| 90°-120°  | 260.3  | 20.5      | 14.5   |
| 90°-150°  | 779.4  | 61.4      | 43.3   |
| 90°-180°  | 1006.0 | 79.2      | 55.9   |
| 0°-180°   | 1270.0 | 100.0     | 70.6   |

**CANDELA DISTRIBUTION:**

|      | 0°  | 90° | 180° | 270° | 360° | Flux |
|------|-----|-----|------|------|------|------|
| 0°   | 40  | 40  | 40   | 40   | 40   |      |
| 5°   | 41  | 46  | 41   | 32   | 41   | 4    |
| 15°  | 40  | 65  | 40   | 20   | 40   | 11   |
| 25°  | 38  | 83  | 38   | 13   | 38   | 18   |
| 35°  | 36  | 100 | 36   | 6    | 36   | 22   |
| 45°  | 32  | 110 | 32   | 1    | 32   | 24   |
| 55°  | 28  | 119 | 28   | 0    | 28   | 25   |
| 65°  | 23  | 123 | 23   | 0    | 23   | 23   |
| 75°  | 20  | 122 | 20   | 0    | 20   | 21   |
| 85°  | 15  | 117 | 15   | 0    | 15   | 13   |
| 90°  | 12  | 113 | 12   | 0    | 12   | 7    |
| 95°  | 16  | 113 | 16   | 9    | 16   | 15   |
| 105° | 48  | 140 | 48   | 36   | 48   | 51   |
| 115° | 94  | 223 | 94   | 65   | 94   | 93   |
| 125° | 138 | 351 | 138  | 79   | 138  | 124  |
| 135° | 175 | 392 | 175  | 134  | 175  | 135  |
| 145° | 206 | 377 | 206  | 197  | 206  | 129  |
| 155° | 229 | 334 | 229  | 256  | 229  | 106  |
| 165° | 246 | 292 | 246  | 295  | 246  | 70   |
| 175° | 254 | 253 | 254  | 272  | 254  | 24   |
| 180° | 255 | 255 | 255  | 255  | 255  |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°   | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180° | 202.5° | 225° |
|--------|------|-------|-------|-------|-------|--------|-------|--------|------|--------|------|
| 0°     | 39.7 | 39.7  | 39.7  | 39.7  | 39.7  | 39.7   | 39.7  | 39.7   | 39.7 | 39.7   | 39.7 |
| 2.5°   | 41.8 | 38.6  | 41.7  | 42.9  | 41.9  | 42.9   | 41.7  | 38.6   | 41.8 | 40.0   | 37.2 |
| 5°     | 41.1 | 42.9  | 45.2  | 46.4  | 45.7  | 46.4   | 45.2  | 42.9   | 41.1 | 36.9   | 34.1 |
| 7.5°   | 40.9 | 44.7  | 48.7  | 50.4  | 50.4  | 50.4   | 48.7  | 44.7   | 40.9 | 36.9   | 32.9 |
| 10°    | 40.8 | 46.4  | 51.1  | 54.9  | 56.1  | 54.9   | 51.1  | 46.4   | 40.8 | 34.6   | 30.7 |
| 12.5°  | 40.3 | 46.9  | 54.9  | 60.4  | 61.4  | 60.4   | 54.9  | 46.9   | 40.3 | 33.7   | 28.2 |
| 15°    | 40.2 | 46.9  | 58.2  | 61.8  | 65.1  | 61.8   | 58.2  | 46.9   | 40.2 | 32.7   | 27.4 |
| 17.5°  | 38.9 | 48.7  | 60.4  | 67.4  | 69.9  | 67.4   | 60.4  | 48.7   | 38.9 | 30.7   | 25.2 |
| 20°    | 39.6 | 49.9  | 62.4  | 71.9  | 74.3  | 71.9   | 62.4  | 49.9   | 39.6 | 30.1   | 23.9 |
| 22.5°  | 38.8 | 50.7  | 65.8  | 74.1  | 78.8  | 74.1   | 65.8  | 50.7   | 38.8 | 29.6   | 22.0 |
| 25°    | 37.7 | 51.1  | 67.4  | 77.6  | 83.1  | 77.6   | 67.4  | 51.1   | 37.7 | 27.2   | 19.4 |
| 27.5°  | 37.4 | 51.4  | 70.3  | 82.8  | 87.8  | 82.8   | 70.3  | 51.4   | 37.4 | 27.0   | 19.2 |
| 30°    | 35.9 | 51.9  | 72.2  | 85.9  | 92.1  | 85.9   | 72.2  | 51.9   | 35.9 | 25.2   | 17.0 |
| 32.5°  | 35.2 | 51.9  | 73.6  | 89.3  | 96.3  | 89.3   | 73.6  | 51.9   | 35.2 | 24.4   | 15.9 |
| 35°    | 35.6 | 52.4  | 75.9  | 91.8  | 99.9  | 91.8   | 75.9  | 52.4   | 35.6 | 22.5   | 14.2 |
| 37.5°  | 33.7 | 52.9  | 77.1  | 95.1  | 103.0 | 95.1   | 77.1  | 52.9   | 33.7 | 22.0   | 12.7 |
| 40°    | 33.8 | 53.4  | 79.6  | 98.3  | 106.3 | 98.3   | 79.6  | 53.4   | 33.8 | 20.2   | 12.3 |
| 42.5°  | 32.5 | 52.1  | 80.1  | 99.9  | 108.1 | 99.9   | 80.1  | 52.1   | 32.5 | 19.9   | 10.9 |
| 45°    | 31.7 | 52.9  | 82.4  | 102.5 | 109.8 | 102.5  | 82.4  | 52.9   | 31.7 | 18.5   | 10.7 |
| 47.5°  | 30.8 | 53.2  | 83.6  | 104.1 | 113.6 | 104.1  | 83.6  | 53.2   | 30.8 | 18.0   | 9.2  |
| 50°    | 29.1 | 53.4  | 84.6  | 106.1 | 114.1 | 106.1  | 84.6  | 53.4   | 29.1 | 16.2   | 7.8  |
| 52.5°  | 27.8 | 54.4  | 85.4  | 106.5 | 117.3 | 106.5  | 85.4  | 54.4   | 27.8 | 14.2   | 7.5  |
| 55°    | 27.6 | 53.2  | 84.6  | 106.8 | 119.3 | 106.8  | 84.6  | 53.2   | 27.6 | 13.5   | 6.4  |
| 57.5°  | 27.1 | 52.4  | 86.1  | 108.8 | 120.3 | 108.8  | 86.1  | 52.4   | 27.1 | 13.2   | 5.7  |
| 60°    | 26.2 | 51.1  | 84.8  | 109.8 | 121.0 | 109.8  | 84.8  | 51.1   | 26.2 | 12.0   | 5.0  |
| 62.5°  | 24.1 | 50.2  | 84.8  | 109.6 | 121.8 | 109.6  | 84.8  | 50.2   | 24.1 | 10.7   | 4.5  |
| 65°    | 23.4 | 49.7  | 84.8  | 110.3 | 122.6 | 110.3  | 84.8  | 49.7   | 23.4 | 10.9   | 4.2  |
| 67.5°  | 22.5 | 49.2  | 83.1  | 110.1 | 122.3 | 110.1  | 83.1  | 49.2   | 22.5 | 10.2   | 3.0  |
| 70°    | 22.1 | 47.6  | 83.3  | 110.1 | 122.3 | 110.1  | 83.3  | 47.6   | 22.1 | 9.7    | 2.2  |
| 72.5°  | 21.1 | 46.4  | 83.3  | 109.6 | 122.1 | 109.6  | 83.3  | 46.4   | 21.1 | 9.2    | 2.4  |
| 75°    | 20.0 | 44.0  | 82.1  | 108.8 | 121.6 | 108.8  | 82.1  | 44.0   | 20.0 | 8.5    | 1.7  |
| 77.5°  | 18.6 | 44.0  | 80.7  | 108.1 | 120.5 | 108.1  | 80.7  | 44.0   | 18.6 | 5.7    | 1.0  |
| 80°    | 17.6 | 43.1  | 79.8  | 106.8 | 120.0 | 106.8  | 79.8  | 43.1   | 17.6 | 6.7    | 0.5  |
| 82.5°  | 15.8 | 40.2  | 78.1  | 104.6 | 117.6 | 104.6  | 78.1  | 40.2   | 15.8 | 6.0    | 0.7  |
| 85°    | 15.1 | 39.1  | 76.4  | 103.6 | 117.1 | 103.6  | 76.4  | 39.1   | 15.1 | 5.5    | 0.7  |
| 87.5°  | 14.2 | 37.7  | 73.4  | 101.1 | 112.6 | 101.1  | 73.4  | 37.7   | 14.2 | 5.5    | 1.2  |
| 90°    | 12.5 | 35.7  | 72.4  | 98.3  | 112.8 | 98.3   | 72.4  | 35.7   | 12.5 | 5.5    | 1.7  |
| 92.5°  | 13.3 | 44.5  | 79.8  | 104.6 | 111.5 | 104.6  | 79.8  | 44.5   | 13.3 | 6.2    | 5.2  |
| 95°    | 15.7 | 44.2  | 81.9  | 103.6 | 112.6 | 103.6  | 81.9  | 44.2   | 15.7 | 10.4   | 8.7  |
| 97.5°  | 19.0 | 49.4  | 87.6  | 108.8 | 116.8 | 108.8  | 87.6  | 49.4   | 19.0 | 14.7   | 13.7 |
| 100°   | 27.3 | 58.4  | 93.5  | 114.6 | 122.1 | 114.6  | 93.5  | 58.4   | 27.3 | 19.9   | 20.2 |
| 102.5° | 38.4 | 79.3  | 103.9 | 122.3 | 129.5 | 122.3  | 103.9 | 79.3   | 38.4 | 24.7   | 25.2 |
| 105°   | 47.7 | 106.8 | 119.3 | 134.7 | 140.1 | 134.7  | 119.3 | 106.8  | 47.7 | 27.7   | 32.2 |
| 107.5° | 58.6 | 132.0 | 144.6 | 147.2 | 152.0 | 147.2  | 144.6 | 132.0  | 58.6 | 37.4   | 36.9 |
| 110°   | 70.9 | 156.0 | 173.2 | 174.0 | 174.0 | 174.0  | 173.2 | 156.0  | 70.9 | 51.6   | 41.4 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  | 202.5° | 225°  |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 112.5° | 82.7  | 175.2 | 199.5 | 198.6 | 196.7 | 198.6  | 199.5 | 175.2  | 82.7  | 66.6   | 46.6  |
| 115°   | 94.1  | 188.9 | 230.6 | 225.4 | 222.9 | 225.4  | 230.6 | 188.9  | 94.1  | 81.9   | 53.4  |
| 117.5° | 105.0 | 201.4 | 264.8 | 253.1 | 251.8 | 253.1  | 264.8 | 201.4  | 105.0 | 95.1   | 58.2  |
| 120°   | 116.7 | 212.9 | 288.0 | 290.0 | 280.0 | 290.0  | 288.0 | 212.9  | 116.7 | 109.1  | 69.9  |
| 122.5° | 128.6 | 224.9 | 300.1 | 323.7 | 319.7 | 323.7  | 300.1 | 224.9  | 128.6 | 123.5  | 84.8  |
| 125°   | 138.5 | 232.6 | 309.3 | 348.7 | 351.0 | 348.7  | 309.3 | 232.6  | 138.5 | 137.5  | 100.8 |
| 127.5° | 148.7 | 238.3 | 320.7 | 361.2 | 370.6 | 361.2  | 320.7 | 238.3  | 148.7 | 152.5  | 121.8 |
| 130°   | 158.7 | 241.1 | 328.0 | 369.4 | 381.1 | 369.4  | 328.0 | 241.1  | 158.7 | 165.7  | 139.2 |
| 132.5° | 166.1 | 244.6 | 332.0 | 374.9 | 387.4 | 374.9  | 332.0 | 244.6  | 166.1 | 179.7  | 153.0 |
| 135°   | 174.6 | 244.1 | 330.4 | 379.6 | 392.4 | 379.6  | 330.4 | 244.1  | 174.6 | 194.7  | 165.9 |
| 137.5° | 182.8 | 245.1 | 327.5 | 380.9 | 395.1 | 380.9  | 327.5 | 245.1  | 182.8 | 208.5  | 182.2 |
| 140°   | 190.8 | 245.6 | 323.5 | 373.9 | 393.8 | 373.9  | 323.5 | 245.6  | 190.8 | 219.9  | 197.7 |
| 142.5° | 199.2 | 247.1 | 319.7 | 367.1 | 386.9 | 367.1  | 319.7 | 247.1  | 199.2 | 228.6  | 211.4 |
| 145°   | 206.4 | 247.6 | 317.2 | 360.9 | 377.4 | 360.9  | 317.2 | 247.6  | 206.4 | 237.6  | 224.9 |
| 147.5° | 213.0 | 245.9 | 311.0 | 352.9 | 368.4 | 352.9  | 311.0 | 245.9  | 213.0 | 243.3  | 237.6 |
| 150°   | 218.1 | 243.8 | 303.2 | 343.2 | 358.1 | 343.2  | 303.2 | 243.8  | 218.1 | 249.6  | 249.6 |
| 152.5° | 224.4 | 241.4 | 297.5 | 331.8 | 346.7 | 331.8  | 297.5 | 241.4  | 224.4 | 253.5  | 264.1 |
| 155°   | 229.4 | 240.4 | 291.6 | 320.2 | 334.0 | 320.2  | 291.6 | 240.4  | 229.4 | 256.8  | 276.3 |
| 157.5° | 235.0 | 239.3 | 287.1 | 309.3 | 323.0 | 309.3  | 287.1 | 239.3  | 235.0 | 259.4  | 282.3 |
| 160°   | 239.2 | 239.3 | 280.3 | 301.0 | 313.5 | 301.0  | 280.3 | 239.3  | 239.2 | 261.1  | 285.7 |
| 162.5° | 242.9 | 239.3 | 272.6 | 291.6 | 302.2 | 291.6  | 272.6 | 239.3  | 242.9 | 259.8  | 288.0 |
| 165°   | 246.2 | 241.4 | 264.8 | 283.3 | 291.8 | 283.3  | 264.8 | 241.4  | 246.2 | 258.9  | 287.8 |
| 167.5° | 248.9 | 242.4 | 257.8 | 270.1 | 279.5 | 270.1  | 257.8 | 242.4  | 248.9 | 256.8  | 284.8 |
| 170°   | 251.9 | 242.8 | 253.1 | 258.3 | 266.5 | 258.3  | 253.1 | 242.8  | 251.9 | 256.1  | 278.3 |
| 172.5° | 253.0 | 245.4 | 249.6 | 251.6 | 256.6 | 251.6  | 249.6 | 245.4  | 253.0 | 253.5  | 272.0 |
| 175°   | 253.7 | 245.1 | 249.9 | 248.6 | 253.1 | 248.6  | 249.9 | 245.1  | 253.7 | 253.1  | 265.1 |
| 177.5° | 254.0 | 248.8 | 252.1 | 247.8 | 253.1 | 247.8  | 252.1 | 248.8  | 254.0 | 251.3  | 260.1 |
| 180°   | 255.0 | 255.0 | 255.0 | 255.0 | 255.0 | 255.0  | 255.0 | 255.0  | 255.0 | 255.0  | 255.0 |



TEST NUMBER: 19171  
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**CANDELA DISTRIBUTION (continued):**

|        | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|--------|--------|------|--------|------|--------|------|
| 0°     | 39.7   | 39.7 | 39.7   | 39.7 | 39.7   | 39.7 |
| 2.5°   | 35.0   | 34.1 | 35.0   | 37.2 | 40.0   | 41.8 |
| 5°     | 31.9   | 31.9 | 31.9   | 34.1 | 36.9   | 41.1 |
| 7.5°   | 28.9   | 29.2 | 28.9   | 32.9 | 36.9   | 40.9 |
| 10°    | 27.4   | 26.2 | 27.4   | 30.7 | 34.6   | 40.8 |
| 12.5°  | 24.7   | 24.2 | 24.7   | 28.2 | 33.7   | 40.3 |
| 15°    | 22.7   | 19.9 | 22.7   | 27.4 | 32.7   | 40.2 |
| 17.5°  | 20.2   | 18.2 | 20.2   | 25.2 | 30.7   | 38.9 |
| 20°    | 18.2   | 15.7 | 18.2   | 23.9 | 30.1   | 39.6 |
| 22.5°  | 16.2   | 13.0 | 16.2   | 22.0 | 29.6   | 38.8 |
| 25°    | 14.7   | 12.7 | 14.7   | 19.4 | 27.2   | 37.7 |
| 27.5°  | 12.5   | 10.0 | 12.5   | 19.2 | 27.0   | 37.4 |
| 30°    | 10.7   | 9.0  | 10.7   | 17.0 | 25.2   | 35.9 |
| 32.5°  | 10.0   | 7.5  | 10.0   | 15.9 | 24.4   | 35.2 |
| 35°    | 9.0    | 6.0  | 9.0    | 14.2 | 22.5   | 35.6 |
| 37.5°  | 7.5    | 5.2  | 7.5    | 12.7 | 22.0   | 33.7 |
| 40°    | 6.4    | 4.5  | 6.4    | 12.3 | 20.2   | 33.8 |
| 42.5°  | 4.5    | 2.7  | 4.5    | 10.9 | 19.9   | 32.5 |
| 45°    | 3.8    | 1.2  | 3.8    | 10.7 | 18.5   | 31.7 |
| 47.5°  | 3.0    | 1.5  | 3.0    | 9.2  | 18.0   | 30.8 |
| 50°    | 3.5    | 0.7  | 3.5    | 7.8  | 16.2   | 29.1 |
| 52.5°  | 1.5    | 0.5  | 1.5    | 7.5  | 14.2   | 27.8 |
| 55°    | 1.2    | 0.5  | 1.2    | 6.4  | 13.5   | 27.6 |
| 57.5°  | 0.5    | 0.5  | 0.5    | 5.7  | 13.2   | 27.1 |
| 60°    | 1.2    | 0.5  | 1.2    | 5.0  | 12.0   | 26.2 |
| 62.5°  | 1.0    | 0.5  | 1.0    | 4.5  | 10.7   | 24.1 |
| 65°    | 0.7    | 0.5  | 0.7    | 4.2  | 10.9   | 23.4 |
| 67.5°  | 1.0    | 0.5  | 1.0    | 3.0  | 10.2   | 22.5 |
| 70°    | 0.5    | 0.5  | 0.5    | 2.2  | 9.7    | 22.1 |
| 72.5°  | 0.5    | 0.5  | 0.5    | 2.4  | 9.2    | 21.1 |
| 75°    | 0.5    | 0.5  | 0.5    | 1.7  | 8.5    | 20.0 |
| 77.5°  | 1.0    | 0.5  | 1.0    | 1.0  | 5.7    | 18.6 |
| 80°    | 0.5    | 0.5  | 0.5    | 0.5  | 6.7    | 17.6 |
| 82.5°  | 0.5    | 0.5  | 0.5    | 0.7  | 6.0    | 15.8 |
| 85°    | 0.5    | 0.5  | 0.5    | 0.7  | 5.5    | 15.1 |
| 87.5°  | 0.5    | 0.5  | 0.5    | 1.2  | 5.5    | 14.2 |
| 90°    | 0.5    | 0.5  | 0.5    | 1.7  | 5.5    | 12.5 |
| 92.5°  | 3.5    | 4.5  | 3.5    | 5.2  | 6.2    | 13.3 |
| 95°    | 9.5    | 9.0  | 9.5    | 8.7  | 10.4   | 15.7 |
| 97.5°  | 14.2   | 13.7 | 14.2   | 13.7 | 14.7   | 19.0 |
| 100°   | 20.7   | 20.9 | 20.7   | 20.2 | 19.9   | 27.3 |
| 102.5° | 26.7   | 27.2 | 26.7   | 25.2 | 24.7   | 38.4 |
| 105°   | 36.7   | 35.7 | 36.7   | 32.2 | 27.7   | 47.7 |
| 107.5° | 46.2   | 43.1 | 46.2   | 36.9 | 37.4   | 58.6 |
| 110°   | 51.1   | 52.9 | 51.1   | 41.4 | 51.6   | 70.9 |





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**CANDELA DISTRIBUTION (continued):**

|        | 247.5° | 270°  | 292.5° | 315°  | 337.5° | 360°  |
|--------|--------|-------|--------|-------|--------|-------|
| 112.5° | 57.7   | 60.1  | 57.7   | 46.6  | 66.6   | 82.7  |
| 115°   | 61.1   | 64.9  | 61.1   | 53.4  | 81.9   | 94.1  |
| 117.5° | 63.7   | 70.3  | 63.7   | 58.2  | 95.1   | 105.0 |
| 120°   | 67.4   | 74.1  | 67.4   | 69.9  | 109.1  | 116.7 |
| 122.5° | 70.8   | 75.6  | 70.8   | 84.8  | 123.5  | 128.6 |
| 125°   | 77.6   | 79.3  | 77.6   | 100.8 | 137.5  | 138.5 |
| 127.5° | 91.1   | 84.3  | 91.1   | 121.8 | 152.5  | 148.7 |
| 130°   | 105.1  | 97.6  | 105.1  | 139.2 | 165.7  | 158.7 |
| 132.5° | 122.3  | 116.8 | 122.3  | 153.0 | 179.7  | 166.1 |
| 135°   | 141.5  | 133.8 | 141.5  | 165.9 | 194.7  | 174.6 |
| 137.5° | 158.5  | 153.8 | 158.5  | 182.2 | 208.5  | 182.8 |
| 140°   | 173.5  | 169.5 | 173.5  | 197.7 | 219.9  | 190.8 |
| 142.5° | 186.5  | 181.2 | 186.5  | 211.4 | 228.6  | 199.2 |
| 145°   | 200.9  | 197.4 | 200.9  | 224.9 | 237.6  | 206.4 |
| 147.5° | 214.4  | 211.9 | 214.4  | 237.6 | 243.3  | 213.0 |
| 150°   | 228.6  | 226.1 | 228.6  | 249.6 | 249.6  | 218.1 |
| 152.5° | 241.9  | 240.6 | 241.9  | 264.1 | 253.5  | 224.4 |
| 155°   | 256.6  | 255.6 | 256.6  | 276.3 | 256.8  | 229.4 |
| 157.5° | 269.8  | 267.0 | 269.8  | 282.3 | 259.4  | 235.0 |
| 160°   | 281.0  | 282.1 | 281.0  | 285.7 | 261.1  | 239.2 |
| 162.5° | 288.3  | 293.5 | 288.3  | 288.0 | 259.8  | 242.9 |
| 165°   | 289.7  | 295.1 | 289.7  | 287.8 | 258.9  | 246.2 |
| 167.5° | 287.5  | 294.7 | 287.5  | 284.8 | 256.8  | 248.9 |
| 170°   | 282.6  | 291.1 | 282.6  | 278.3 | 256.1  | 251.9 |
| 172.5° | 275.3  | 282.6 | 275.3  | 272.0 | 253.5  | 253.0 |
| 175°   | 265.1  | 271.8 | 265.1  | 265.1 | 253.1  | 253.7 |
| 177.5° | 257.5  | 262.8 | 257.5  | 260.1 | 251.3  | 254.0 |
| 180°   | 255.0  | 255.0 | 255.0  | 255.0 | 255.0  | 255.0 |

(END OF REPORT)