

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: 19162A

Luminaire Tested: **661-CF1/13**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-66-11  
Report Number: 19162A  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: SHAPER  
Catalog Number: 661-CF1/13  
Description: INTERIOR WALL MOUNT LUMINAIRE WITH WHITE INTERIOR AND WHITE PLASTIC LENS  
Light Source: ONE 13 WATT CPFL LAMP. LUMEN RATING = 900 LMS.  
  
Ballast/Driver: -

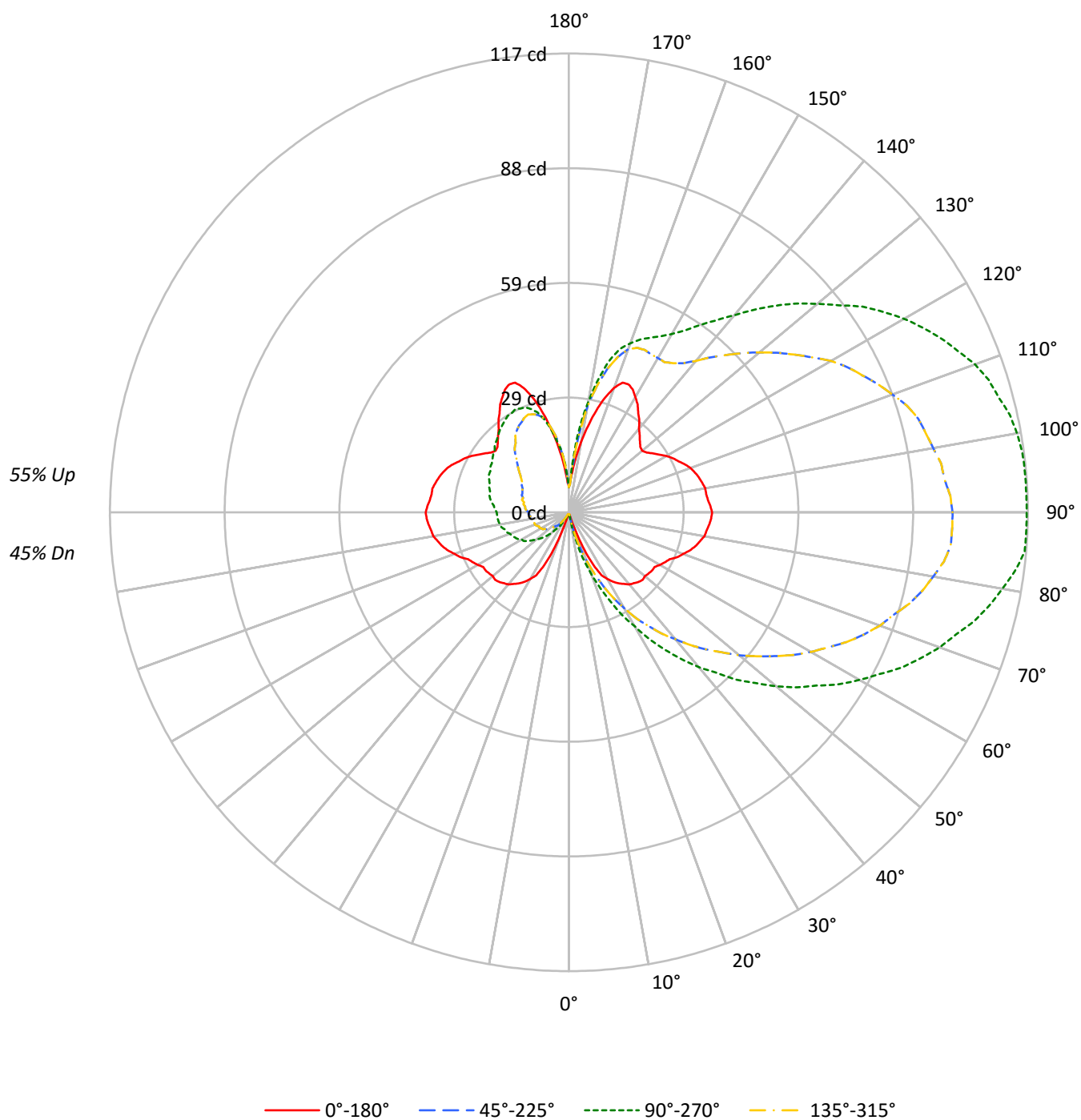
**Summary**

Lumens per Lamp: 900 (1 lamp)  
Luminaire Lumens: 510.9 lumens  
Efficiency: 56.8%  
Efficacy: -  
Spacing Criteria (0/90/45): 10.15 / 12.64 / 10.57  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: General Diffuse

Input Watts (W): 0  
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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CATALOG NUMBER: 661-CF1/13

### Luminous Intensity Polar Plot



TEST NUMBER: 19162A

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

|     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| RF  | 20 |    |    |    | 20 |    |    |    | 20 |    |    |    | 20 |    |    |    | 20 |
| RC  | 80 |    |    |    | 70 |    |    |    | 50 |    |    |    | 30 |    |    |    | 10 |
| RW  | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 |
| RCR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 60 | 60 | 60 | 60 | 55 | 55 | 55 | 55 | 46 | 46 | 46 | 37 | 37 | 37 | 29 | 29 | 29 |
| 1   | 52 | 48 | 44 | 41 | 47 | 43 | 40 | 38 | 35 | 33 | 31 | 28 | 26 | 24 | 21 | 19 | 18 |
| 2   | 46 | 40 | 35 | 31 | 41 | 36 | 32 | 28 | 29 | 26 | 23 | 22 | 20 | 18 | 16 | 15 | 13 |
| 3   | 41 | 34 | 29 | 24 | 37 | 31 | 26 | 22 | 25 | 21 | 18 | 19 | 16 | 14 | 14 | 11 | 10 |
| 4   | 37 | 29 | 24 | 20 | 33 | 27 | 22 | 18 | 21 | 17 | 14 | 16 | 13 | 11 | 11 | 9  | 7  |
| 5   | 34 | 26 | 20 | 16 | 30 | 23 | 18 | 15 | 18 | 15 | 12 | 14 | 11 | 9  | 10 | 8  | 6  |
| 6   | 31 | 23 | 17 | 14 | 28 | 21 | 16 | 12 | 16 | 13 | 10 | 12 | 10 | 7  | 9  | 7  | 5  |
| 7   | 28 | 20 | 15 | 12 | 25 | 18 | 14 | 10 | 15 | 11 | 8  | 11 | 8  | 6  | 8  | 6  | 4  |
| 8   | 26 | 18 | 13 | 10 | 23 | 16 | 12 | 9  | 13 | 10 | 7  | 10 | 7  | 5  | 7  | 5  | 3  |
| 9   | 24 | 16 | 12 | 9  | 22 | 15 | 11 | 8  | 12 | 9  | 6  | 9  | 6  | 4  | 7  | 4  | 3  |
| 10  | 22 | 15 | 10 | 7  | 20 | 14 | 9  | 7  | 11 | 8  | 5  | 8  | 6  | 4  | 6  | 4  | 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°    | 0.0    | 0.0       | 0.0    |
| 10°-20°   | 1.0    | 0.2       | 0.1    |
| 20°-30°   | 5.6    | 1.1       | 0.6    |
| 30°-40°   | 13.7   | 2.7       | 1.5    |
| 40°-50°   | 23.2   | 4.5       | 2.6    |
| 50°-60°   | 33.4   | 6.5       | 3.7    |
| 60°-70°   | 43.6   | 8.5       | 4.8    |
| 70°-80°   | 52.8   | 10.3      | 5.9    |
| 80°-90°   | 58.8   | 11.5      | 6.5    |
| 90°-100°  | 58.7   | 11.5      | 6.5    |
| 100°-110° | 54.2   | 10.6      | 6.0    |
| 110°-120° | 47.0   | 9.2       | 5.2    |
| 120°-130° | 38.0   | 7.4       | 4.2    |
| 130°-140° | 29.7   | 5.8       | 3.3    |
| 140°-150° | 23.5   | 4.6       | 2.6    |
| 150°-160° | 17.4   | 3.4       | 1.9    |
| 160°-170° | 8.8    | 1.7       | 1.0    |
| 170°-180° | 1.5    | 0.3       | 0.2    |
| 0°-30°    | 6.6    | 1.3       | 0.7    |
| 0°-40°    | 20.3   | 4.0       | 2.3    |
| 0°-60°    | 76.9   | 15.1      | 8.5    |
| 0°-90°    | 232.1  | 45.4      | 25.8   |
| 90°-120°  | 159.9  | 31.3      | 17.8   |
| 90°-150°  | 251.1  | 49.2      | 27.9   |
| 90°-180°  | 279.0  | 54.6      | 31.0   |
| 0°-180°   | 510.9  | 100.0     | 56.8   |

**CANDELA DISTRIBUTION:**

|      | 0° | 90° | 180° | 270° | 360° | Flux |
|------|----|-----|------|------|------|------|
| 0°   | 0  | 0   | 0    | 0    | 0    |      |
| 5°   | 0  | 0   | 0    | 0    | 0    | 0    |
| 15°  | 0  | 9   | 0    | 0    | 0    | 0    |
| 25°  | 15 | 25  | 15   | 1    | 15   | 7    |
| 35°  | 22 | 43  | 22   | 5    | 22   | 14   |
| 45°  | 25 | 60  | 25   | 9    | 25   | 19   |
| 55°  | 26 | 77  | 26   | 13   | 26   | 23   |
| 65°  | 28 | 94  | 28   | 15   | 28   | 28   |
| 75°  | 33 | 107 | 33   | 17   | 33   | 35   |
| 85°  | 36 | 117 | 36   | 18   | 36   | 29   |
| 90°  | 36 | 117 | 36   | 18   | 36   | 20   |
| 95°  | 36 | 117 | 36   | 19   | 36   | 29   |
| 105° | 34 | 113 | 34   | 21   | 34   | 36   |
| 115° | 31 | 105 | 31   | 22   | 31   | 31   |
| 125° | 26 | 91  | 26   | 24   | 26   | 24   |
| 135° | 26 | 74  | 26   | 26   | 26   | 20   |
| 145° | 31 | 58  | 31   | 28   | 31   | 19   |
| 155° | 36 | 49  | 36   | 29   | 36   | 16   |
| 165° | 27 | 40  | 27   | 25   | 27   | 8    |
| 175° | 11 | 15  | 11   | 13   | 11   | 1    |
| 180° | 6  | 6   | 6    | 6    | 6    |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°   | 22.5° | 45°  | 67.5° | 90°   | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|--------|------|-------|------|-------|-------|--------|------|--------|------|--------|------|
| 0°     | 0.5  | 0.5   | 0.5  | 0.5   | 0.5   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 2.5°   | 0.5  | 0.5   | 0.5  | 0.5   | 0.5   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 5°     | 0.5  | 0.5   | 0.5  | 0.5   | 0.5   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 7.5°   | 0.5  | 0.5   | 0.5  | 0.5   | 0.5   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 10°    | 0.5  | 0.5   | 0.5  | 0.5   | 0.8   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 12.5°  | 0.5  | 0.5   | 1.9  | 4.0   | 4.5   | 4.0    | 1.9  | 0.5    | 0.5  | 0.5    | 0.5  |
| 15°    | 0.5  | 2.5   | 5.5  | 7.9   | 8.7   | 7.9    | 5.5  | 2.5    | 0.5  | 0.5    | 0.5  |
| 17.5°  | 1.2  | 5.9   | 9.2  | 11.6  | 12.9  | 11.6   | 9.2  | 5.9    | 1.2  | 0.5    | 0.5  |
| 20°    | 5.4  | 10.5  | 12.9 | 16.0  | 16.9  | 16.0   | 12.9 | 10.5   | 5.4  | 0.5    | 0.5  |
| 22.5°  | 10.5 | 14.2  | 16.8 | 20.0  | 20.9  | 20.0   | 16.8 | 14.2   | 10.5 | 0.5    | 0.5  |
| 25°    | 14.8 | 17.8  | 20.7 | 24.0  | 25.0  | 24.0   | 20.7 | 17.8   | 14.8 | 2.0    | 0.5  |
| 27.5°  | 18.1 | 21.8  | 24.7 | 28.2  | 29.7  | 28.2   | 24.7 | 21.8   | 18.1 | 5.0    | 0.5  |
| 30°    | 19.6 | 25.0  | 28.2 | 32.2  | 33.6  | 32.2   | 28.2 | 25.0   | 19.6 | 8.1    | 1.3  |
| 32.5°  | 21.0 | 27.4  | 32.1 | 36.1  | 38.5  | 36.1   | 32.1 | 27.4   | 21.0 | 11.9   | 2.0  |
| 35°    | 22.1 | 29.4  | 35.4 | 40.6  | 42.8  | 40.6   | 35.4 | 29.4   | 22.1 | 15.3   | 2.6  |
| 37.5°  | 23.0 | 32.0  | 39.0 | 44.6  | 47.2  | 44.6   | 39.0 | 32.0   | 23.0 | 17.8   | 3.8  |
| 40°    | 24.0 | 33.9  | 42.2 | 48.7  | 51.5  | 48.7   | 42.2 | 33.9   | 24.0 | 19.4   | 4.4  |
| 42.5°  | 24.5 | 35.9  | 45.9 | 53.2  | 55.4  | 53.2   | 45.9 | 35.9   | 24.5 | 20.4   | 4.6  |
| 45°    | 25.1 | 37.9  | 49.4 | 57.3  | 60.3  | 57.3   | 49.4 | 37.9   | 25.1 | 21.5   | 5.2  |
| 47.5°  | 25.5 | 39.8  | 52.8 | 61.0  | 64.4  | 61.0   | 52.8 | 39.8   | 25.5 | 22.5   | 5.9  |
| 50°    | 25.3 | 42.2  | 56.7 | 65.9  | 69.0  | 65.9   | 56.7 | 42.2   | 25.3 | 23.4   | 6.7  |
| 52.5°  | 25.6 | 44.3  | 60.3 | 69.9  | 73.3  | 69.9   | 60.3 | 44.3   | 25.6 | 23.8   | 7.1  |
| 55°    | 25.9 | 46.3  | 63.9 | 74.3  | 77.0  | 74.3   | 63.9 | 46.3   | 25.9 | 24.2   | 7.4  |
| 57.5°  | 25.9 | 49.1  | 67.7 | 78.4  | 81.6  | 78.4   | 67.7 | 49.1   | 25.9 | 24.2   | 8.0  |
| 60°    | 26.8 | 51.7  | 71.2 | 81.9  | 85.5  | 81.9   | 71.2 | 51.7   | 26.8 | 23.8   | 8.1  |
| 62.5°  | 27.6 | 54.1  | 74.5 | 86.3  | 89.3  | 86.3   | 74.5 | 54.1   | 27.6 | 23.7   | 8.5  |
| 65°    | 28.3 | 56.7  | 78.2 | 90.1  | 93.6  | 90.1   | 78.2 | 56.7   | 28.3 | 22.6   | 8.4  |
| 67.5°  | 29.9 | 59.1  | 81.4 | 93.6  | 97.1  | 93.6   | 81.4 | 59.1   | 29.9 | 22.2   | 8.9  |
| 70°    | 31.0 | 61.3  | 84.4 | 96.9  | 100.6 | 96.9   | 84.4 | 61.3   | 31.0 | 21.9   | 9.2  |
| 72.5°  | 32.3 | 63.1  | 86.8 | 100.3 | 103.5 | 100.3  | 86.8 | 63.1   | 32.3 | 22.1   | 9.2  |
| 75°    | 33.4 | 65.0  | 89.9 | 103.3 | 107.0 | 103.3  | 89.9 | 65.0   | 33.4 | 22.8   | 9.6  |
| 77.5°  | 34.2 | 67.3  | 92.3 | 105.6 | 109.8 | 105.6  | 92.3 | 67.3   | 34.2 | 22.9   | 9.6  |
| 80°    | 35.1 | 68.8  | 94.3 | 108.4 | 112.2 | 108.4  | 94.3 | 68.8   | 35.1 | 23.3   | 9.9  |
| 82.5°  | 35.4 | 69.9  | 96.4 | 110.5 | 114.7 | 110.5  | 96.4 | 69.9   | 35.4 | 23.3   | 9.9  |
| 85°    | 35.9 | 71.1  | 97.7 | 112.2 | 116.6 | 112.2  | 97.7 | 71.1   | 35.9 | 23.5   | 9.9  |
| 87.5°  | 36.3 | 72.0  | 97.8 | 112.2 | 116.7 | 112.2  | 97.8 | 72.0   | 36.3 | 23.6   | 10.3 |
| 90°    | 36.5 | 72.1  | 97.8 | 116.7 | 116.7 | 116.7  | 97.8 | 72.1   | 36.5 | 23.7   | 10.2 |
| 92.5°  | 36.1 | 71.9  | 97.3 | 112.0 | 116.7 | 112.0  | 97.3 | 71.9   | 36.1 | 22.8   | 10.8 |
| 95°    | 35.6 | 69.3  | 96.1 | 112.0 | 116.7 | 112.0  | 96.1 | 69.3   | 35.6 | 21.8   | 11.2 |
| 97.5°  | 35.3 | 68.1  | 95.7 | 111.5 | 116.6 | 111.5  | 95.7 | 68.1   | 35.3 | 18.5   | 11.2 |
| 100°   | 35.3 | 67.1  | 94.3 | 111.1 | 116.0 | 111.1  | 94.3 | 67.1   | 35.3 | 15.2   | 11.8 |
| 102.5° | 34.8 | 66.2  | 93.2 | 109.8 | 115.1 | 109.8  | 93.2 | 66.2   | 34.8 | 12.7   | 11.7 |
| 105°   | 34.3 | 65.0  | 92.2 | 108.7 | 113.4 | 108.7  | 92.2 | 65.0   | 34.3 | 12.9   | 12.4 |
| 107.5° | 33.7 | 63.6  | 90.4 | 107.1 | 112.2 | 107.1  | 90.4 | 63.6   | 33.7 | 12.7   | 12.2 |
| 110°   | 33.0 | 61.4  | 87.8 | 104.5 | 110.2 | 104.5  | 87.8 | 61.4   | 33.0 | 12.7   | 12.8 |

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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° | 32.0 | 59.5  | 85.3 | 101.8 | 107.4 | 101.8  | 85.3 | 59.5   | 32.0 | 12.4   | 12.8 |
| 115°   | 30.8 | 57.3  | 82.6 | 99.1  | 104.8 | 99.1   | 82.6 | 57.3   | 30.8 | 12.4   | 13.1 |
| 117.5° | 29.9 | 55.5  | 80.1 | 96.2  | 101.8 | 96.2   | 80.1 | 55.5   | 29.9 | 12.4   | 13.3 |
| 120°   | 28.7 | 53.3  | 77.2 | 93.3  | 98.7  | 93.3   | 77.2 | 53.3   | 28.7 | 13.0   | 13.9 |
| 122.5° | 27.4 | 50.7  | 73.5 | 89.3  | 95.1  | 89.3   | 73.5 | 50.7   | 27.4 | 13.0   | 14.1 |
| 125°   | 26.2 | 48.4  | 70.1 | 85.9  | 91.4  | 85.9   | 70.1 | 48.4   | 26.2 | 14.2   | 14.8 |
| 127.5° | 25.0 | 45.5  | 66.8 | 81.3  | 86.7  | 81.3   | 66.8 | 45.5   | 25.0 | 15.4   | 15.6 |
| 130°   | 24.4 | 43.3  | 63.4 | 77.3  | 82.7  | 77.3   | 63.4 | 43.3   | 24.4 | 17.4   | 16.7 |
| 132.5° | 24.7 | 41.3  | 60.1 | 73.7  | 78.8  | 73.7   | 60.1 | 41.3   | 24.7 | 19.5   | 17.7 |
| 135°   | 25.6 | 39.1  | 56.7 | 69.6  | 74.5  | 69.6   | 56.7 | 39.1   | 25.6 | 22.7   | 18.8 |
| 137.5° | 26.7 | 37.6  | 53.6 | 65.5  | 70.1  | 65.5   | 53.6 | 37.6   | 26.7 | 25.8   | 20.3 |
| 140°   | 27.8 | 36.5  | 50.4 | 61.3  | 65.6  | 61.3   | 50.4 | 36.5   | 27.8 | 29.0   | 21.5 |
| 142.5° | 29.5 | 36.7  | 47.9 | 57.8  | 61.7  | 57.8   | 47.9 | 36.7   | 29.5 | 32.2   | 22.3 |
| 145°   | 30.8 | 37.7  | 46.4 | 55.0  | 58.3  | 55.0   | 46.4 | 37.7   | 30.8 | 35.1   | 23.8 |
| 147.5° | 32.6 | 38.5  | 45.4 | 52.3  | 54.9  | 52.3   | 45.4 | 38.5   | 32.6 | 37.6   | 24.7 |
| 150°   | 33.9 | 39.7  | 45.4 | 50.5  | 52.5  | 50.5   | 45.4 | 39.7   | 33.9 | 39.1   | 25.5 |
| 152.5° | 35.3 | 40.5  | 45.4 | 49.4  | 50.6  | 49.4   | 45.4 | 40.5   | 35.3 | 39.2   | 26.0 |
| 155°   | 36.0 | 41.0  | 45.7 | 48.7  | 49.1  | 48.7   | 45.7 | 41.0   | 36.0 | 37.8   | 26.7 |
| 157.5° | 35.8 | 40.3  | 45.4 | 47.6  | 47.7  | 47.6   | 45.4 | 40.3   | 35.8 | 35.7   | 27.0 |
| 160°   | 33.8 | 39.0  | 44.3 | 46.3  | 45.9  | 46.3   | 44.3 | 39.0   | 33.8 | 33.0   | 26.6 |
| 162.5° | 30.7 | 36.1  | 41.5 | 44.1  | 43.8  | 44.1   | 41.5 | 36.1   | 30.7 | 30.1   | 26.0 |
| 165°   | 26.8 | 32.4  | 37.8 | 40.6  | 40.2  | 40.6   | 37.8 | 32.4   | 26.8 | 27.2   | 24.8 |
| 167.5° | 22.5 | 27.1  | 32.9 | 35.6  | 34.8  | 35.6   | 32.9 | 27.1   | 22.5 | 23.5   | 22.6 |
| 170°   | 18.4 | 21.3  | 27.5 | 29.9  | 28.7  | 29.9   | 27.5 | 21.3   | 18.4 | 19.4   | 20.0 |
| 172.5° | 14.4 | 15.4  | 20.0 | 22.7  | 22.6  | 22.7   | 20.0 | 15.4   | 14.4 | 15.5   | 16.4 |
| 175°   | 10.7 | 10.8  | 12.8 | 14.7  | 15.1  | 14.7   | 12.8 | 10.8   | 10.7 | 11.4   | 12.8 |
| 177.5° | 7.7  | 7.2   | 7.1  | 7.3   | 7.5   | 7.3    | 7.1  | 7.2    | 7.7  | 8.4    | 9.0  |
| 180°   | 6.4  | 6.4   | 6.4  | 6.4   | 6.4   | 6.4    | 6.4  | 6.4    | 6.4  | 6.4    | 6.4  |

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**CANDELA DISTRIBUTION (continued):**

|        | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|--------|--------|------|--------|------|--------|------|
| 0°     | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 2.5°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 5°     | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 7.5°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 10°    | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 12.5°  | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 15°    | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 17.5°  | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 1.2  |
| 20°    | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 5.4  |
| 22.5°  | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 10.5 |
| 25°    | 1.0    | 0.8  | 1.0    | 0.5  | 2.0    | 14.8 |
| 27.5°  | 1.6    | 1.8  | 1.6    | 0.5  | 5.0    | 18.1 |
| 30°    | 2.6    | 2.5  | 2.6    | 1.3  | 8.1    | 19.6 |
| 32.5°  | 3.6    | 4.0  | 3.6    | 2.0  | 11.9   | 21.0 |
| 35°    | 4.5    | 4.8  | 4.5    | 2.6  | 15.3   | 22.1 |
| 37.5°  | 5.3    | 5.5  | 5.3    | 3.8  | 17.8   | 23.0 |
| 40°    | 6.0    | 6.8  | 6.0    | 4.4  | 19.4   | 24.0 |
| 42.5°  | 7.1    | 7.9  | 7.1    | 4.6  | 20.4   | 24.5 |
| 45°    | 7.9    | 8.9  | 7.9    | 5.2  | 21.5   | 25.1 |
| 47.5°  | 8.7    | 9.9  | 8.7    | 5.9  | 22.5   | 25.5 |
| 50°    | 9.0    | 10.7 | 9.0    | 6.7  | 23.4   | 25.3 |
| 52.5°  | 9.7    | 11.7 | 9.7    | 7.1  | 23.8   | 25.6 |
| 55°    | 10.5   | 12.7 | 10.5   | 7.4  | 24.2   | 25.9 |
| 57.5°  | 10.9   | 13.6 | 10.9   | 8.0  | 24.2   | 25.9 |
| 60°    | 11.8   | 13.9 | 11.8   | 8.1  | 23.8   | 26.8 |
| 62.5°  | 12.2   | 14.7 | 12.2   | 8.5  | 23.7   | 27.6 |
| 65°    | 12.8   | 15.2 | 12.8   | 8.4  | 22.6   | 28.3 |
| 67.5°  | 13.2   | 15.6 | 13.2   | 8.9  | 22.2   | 29.9 |
| 70°    | 13.6   | 16.0 | 13.6   | 9.2  | 21.9   | 31.0 |
| 72.5°  | 14.0   | 16.7 | 14.0   | 9.2  | 22.1   | 32.3 |
| 75°    | 14.2   | 16.9 | 14.2   | 9.6  | 22.8   | 33.4 |
| 77.5°  | 14.3   | 17.6 | 14.3   | 9.6  | 22.9   | 34.2 |
| 80°    | 14.5   | 17.8 | 14.5   | 9.9  | 23.3   | 35.1 |
| 82.5°  | 14.6   | 18.1 | 14.6   | 9.9  | 23.3   | 35.4 |
| 85°    | 14.7   | 18.2 | 14.7   | 9.9  | 23.5   | 35.9 |
| 87.5°  | 15.2   | 18.3 | 15.2   | 10.3 | 23.6   | 36.3 |
| 90°    | 15.1   | 18.4 | 15.1   | 10.2 | 23.7   | 36.5 |
| 92.5°  | 16.0   | 18.9 | 16.0   | 10.8 | 22.8   | 36.1 |
| 95°    | 17.0   | 19.2 | 17.0   | 11.2 | 21.8   | 35.6 |
| 97.5°  | 17.4   | 19.9 | 17.4   | 11.2 | 18.5   | 35.3 |
| 100°   | 17.6   | 20.4 | 17.6   | 11.8 | 15.2   | 35.3 |
| 102.5° | 17.8   | 20.8 | 17.8   | 11.7 | 12.7   | 34.8 |
| 105°   | 18.3   | 20.8 | 18.3   | 12.4 | 12.9   | 34.3 |
| 107.5° | 18.3   | 21.3 | 18.3   | 12.2 | 12.7   | 33.7 |
| 110°   | 19.0   | 21.5 | 19.0   | 12.8 | 12.7   | 33.0 |

TEST NUMBER: 19162A

CATALOG NUMBER: 661-CF1/13

**CANDELA DISTRIBUTION (continued):**

|        | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|--------|--------|------|--------|------|--------|------|
| 112.5° | 19.0   | 22.0 | 19.0   | 12.8 | 12.4   | 32.0 |
| 115°   | 19.6   | 22.5 | 19.6   | 13.1 | 12.4   | 30.8 |
| 117.5° | 19.8   | 22.6 | 19.8   | 13.3 | 12.4   | 29.9 |
| 120°   | 20.5   | 23.1 | 20.5   | 13.9 | 13.0   | 28.7 |
| 122.5° | 20.8   | 23.3 | 20.8   | 14.1 | 13.0   | 27.4 |
| 125°   | 21.3   | 23.8 | 21.3   | 14.8 | 14.2   | 26.2 |
| 127.5° | 21.5   | 24.3 | 21.5   | 15.6 | 15.4   | 25.0 |
| 130°   | 22.1   | 24.7 | 22.1   | 16.7 | 17.4   | 24.4 |
| 132.5° | 22.8   | 25.6 | 22.8   | 17.7 | 19.5   | 24.7 |
| 135°   | 23.3   | 26.0 | 23.3   | 18.8 | 22.7   | 25.6 |
| 137.5° | 24.1   | 26.6 | 24.1   | 20.3 | 25.8   | 26.7 |
| 140°   | 25.0   | 27.4 | 25.0   | 21.5 | 29.0   | 27.8 |
| 142.5° | 25.6   | 27.9 | 25.6   | 22.3 | 32.2   | 29.5 |
| 145°   | 26.7   | 28.5 | 26.7   | 23.8 | 35.1   | 30.8 |
| 147.5° | 27.2   | 29.1 | 27.2   | 24.7 | 37.6   | 32.6 |
| 150°   | 28.1   | 29.2 | 28.1   | 25.5 | 39.1   | 33.9 |
| 152.5° | 28.4   | 29.6 | 28.4   | 26.0 | 39.2   | 35.3 |
| 155°   | 28.7   | 29.2 | 28.7   | 26.7 | 37.8   | 36.0 |
| 157.5° | 28.2   | 29.0 | 28.2   | 27.0 | 35.7   | 35.8 |
| 160°   | 27.5   | 28.0 | 27.5   | 26.6 | 33.0   | 33.8 |
| 162.5° | 26.8   | 26.7 | 26.8   | 26.0 | 30.1   | 30.7 |
| 165°   | 25.0   | 24.7 | 25.0   | 24.8 | 27.2   | 26.8 |
| 167.5° | 22.5   | 22.1 | 22.5   | 22.6 | 23.5   | 22.5 |
| 170°   | 20.1   | 19.0 | 20.1   | 20.0 | 19.4   | 18.4 |
| 172.5° | 16.7   | 16.4 | 16.7   | 16.4 | 15.5   | 14.4 |
| 175°   | 13.4   | 13.2 | 13.4   | 12.8 | 11.4   | 10.7 |
| 177.5° | 9.2    | 9.2  | 9.2    | 9.0  | 8.4    | 7.7  |
| 180°   | 6.4    | 6.4  | 6.4    | 6.4  | 6.4    | 6.4  |

(END OF REPORT)