

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: IRiS

Report Number: P1335844

Luminaire Tested: P3A02R409840DE010 E3A451WMH

Issue Date: 2/13/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1335844  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2510-583-78)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/13/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: IRiS  
Catalog Number: P3A02R409840DE010 E3A451WMH  
Description: 3in Adjustable LED luminaire with, R40 optic, 4000K CCT AND, 98CRI , E3A451WMH TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

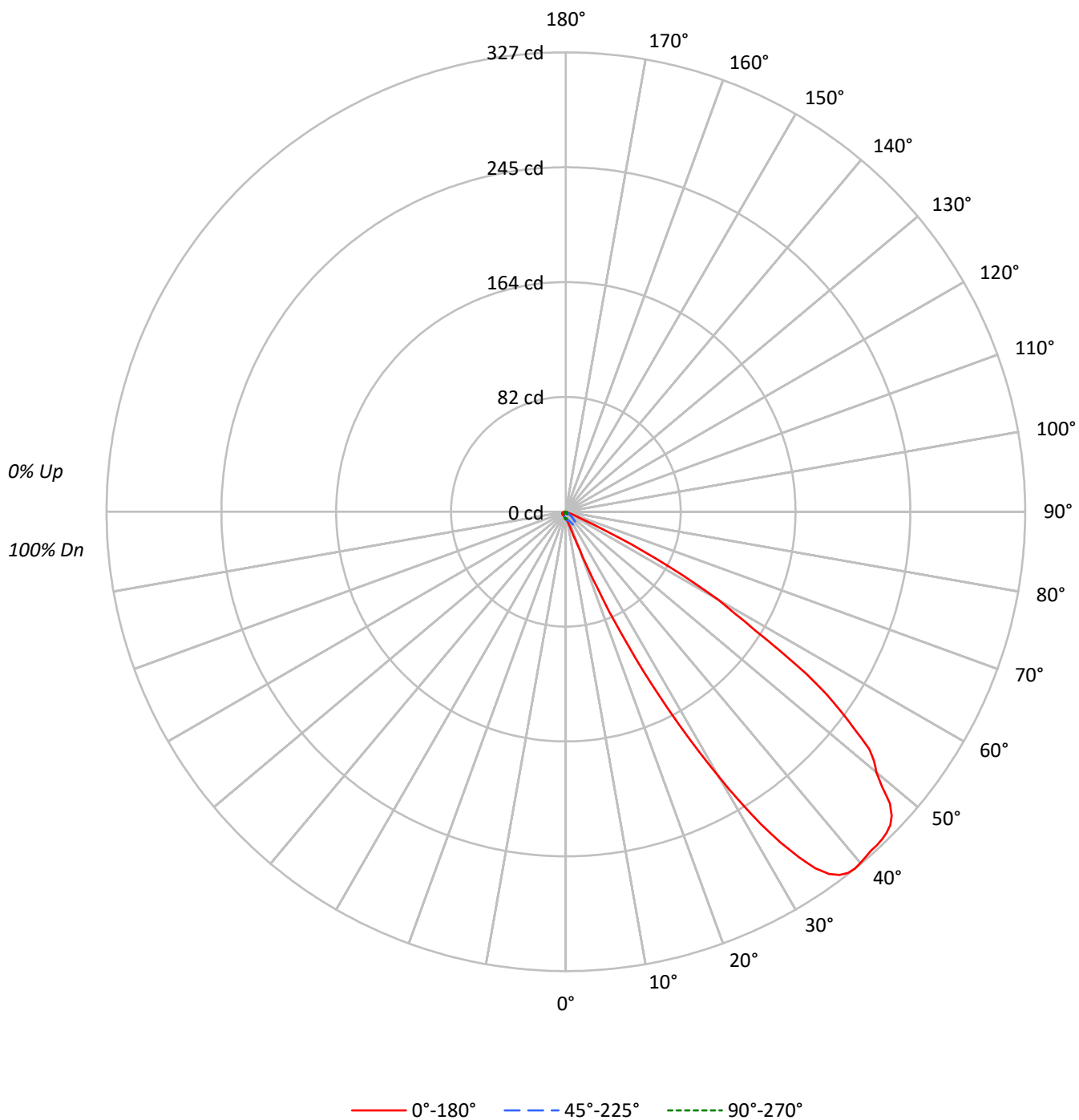
Lumens per Lamp: N/A  
Luminaire Lumens: 101.0 lumens  
Efficiency: N/A  
Efficacy: 28.1 lumens/watt  
Spacing Criteria (0/90/45): 3.99 / 0.74 / 1.54  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 3.6  
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: 24 FT

TEST NUMBER: P1335844

CATALOG NUMBER: P3A02R409840DE010 E3A451WMH

### 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  |     |     |  | 10  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 110 | 106 | 102 | 99  | 107 | 104 | 100 | 97  | 99  | 97  | 94  |  | 96  | 93  | 91  |  | 92  |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  | 87  | 82  | 78  |  | 84  | 80  | 76  |  | 81  |
| 3   | 91  | 81  | 73  | 66  | 89  | 79  | 72  | 66  | 76  | 70  | 65  |  | 73  | 68  | 64  |  | 71  |
| 4   | 82  | 70  | 62  | 55  | 80  | 69  | 61  | 54  | 67  | 59  | 54  |  | 64  | 58  | 53  |  | 62  |
| 5   | 75  | 62  | 52  | 46  | 73  | 60  | 52  | 45  | 58  | 51  | 45  |  | 56  | 50  | 44  |  | 54  |
| 6   | 68  | 54  | 45  | 38  | 66  | 53  | 44  | 38  | 51  | 43  | 38  |  | 50  | 43  | 37  |  | 48  |
| 7   | 62  | 48  | 39  | 32  | 60  | 47  | 38  | 32  | 45  | 37  | 32  |  | 44  | 37  | 31  |  | 42  |
| 8   | 57  | 42  | 33  | 27  | 55  | 42  | 33  | 27  | 40  | 32  | 27  |  | 39  | 32  | 27  |  | 38  |
| 9   | 52  | 38  | 29  | 23  | 51  | 37  | 29  | 23  | 36  | 28  | 23  |  | 35  | 28  | 23  |  | 34  |
| 10  | 48  | 34  | 25  | 20  | 47  | 33  | 25  | 20  | 32  | 25  | 20  |  | 31  | 24  | 20  |  | 30  |

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

|     | 0°     | 45°  | 90°  | 135° | 180° |
|-----|--------|------|------|------|------|
| 0°  | 1140   | 1140 | 1140 | 1140 | 1140 |
| 5°  | 1277   | 1233 | 1123 | 1013 | 991  |
| 10° | 1536   | 1291 | 1024 | 935  | 913  |
| 15° | 2497   | 1407 | 885  | 817  | 840  |
| 20° | 6627   | 1657 | 747  | 747  | 793  |
| 25° | 25550  | 2057 | 581  | 677  | 774  |
| 30° | 55097  | 2760 | 481  | 658  | 785  |
| 35° | 82931  | 3266 | 402  | 642  | 803  |
| 40° | 93432  | 3263 | 344  | 658  | 859  |
| 45° | 100196 | 2543 | 310  | 682  | 930  |
| 50° | 98487  | 1569 | 273  | 716  | 1023 |
| 55° | 86630  | 765  | 268  | 803  | 1147 |
| 60° | 54820  | 175  | 307  | 877  | 1272 |
| 65° | 11207  | 52   | 311  | 986  | 1401 |
| 70° | 256    | 64   | 385  | 1090 | 1603 |
| 75° | 254    | 169  | 424  | 1186 | 1779 |
| 80° | 253    | 126  | 505  | 1263 | 2147 |
| 85° | 252    | 252  | 1006 | 1510 | 2264 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 47°

Luminance: 101988 cd/sqm

TEST NUMBER: P1335844

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 0.5    | 0.5       |
| 10°-20°   | 1.6    | 1.6       |
| 20°-30°   | 7.8    | 7.8       |
| 30°-40°   | 25.5   | 25.3      |
| 40°-50°   | 35.2   | 34.8      |
| 50°-60°   | 24.5   | 24.3      |
| 60°-70°   | 4.6    | 4.6       |
| 70°-80°   | 0.8    | 0.8       |
| 80°-90°   | 0.4    | 0.4       |
| 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°    | 9.9    | 9.8       |
| 0°-40°    | 35.5   | 35.1      |
| 0°-60°    | 95.1   | 94.2      |
| 0°-90°    | 101.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 101.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 5   | 5   | 5   | 5    | 5    |      |
| 5°  | 6   | 6   | 5   | 5    | 4    | 1    |
| 15° | 11  | 6   | 4   | 4    | 4    | 4    |
| 25° | 106 | 8   | 2   | 3    | 3    | 54   |
| 35° | 310 | 12  | 2   | 2    | 3    | 187  |
| 45° | 323 | 8   | 1   | 2    | 3    | 246  |
| 55° | 227 | 2   | 1   | 2    | 3    | 194  |
| 65° | 22  | 0   | 1   | 2    | 3    | 38   |
| 75° | 0   | 0   | 0   | 1    | 2    | 0    |
| 85° | 0   | 0   | 0   | 1    | 1    | 0    |
| 90° | 0   | 0   | 0   | 0    | 0    |      |

TEST NUMBER: P1335844

CATALOG NUMBER: P3A02R409840DE010 E3A451WMH

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 5°    | 10°   | 15°   | 20°   | 25°   | 30°  | 35°  | 45°  | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-----|
| 0°    | 5.2   | 5.2   | 5.2   | 5.2   | 5.2   | 5.2   | 5.2  | 5.2  | 5.2  | 5.2   | 5.2 |
| 2.5°  | 5.4   | 5.4   | 5.4   | 5.4   | 5.4   | 5.4   | 5.4  | 5.4  | 5.4  | 5.3   | 5.2 |
| 5°    | 5.8   | 5.8   | 5.8   | 5.8   | 5.7   | 5.7   | 5.7  | 5.6  | 5.6  | 5.4   | 5.1 |
| 7.5°  | 6.1   | 6.1   | 6.1   | 6.1   | 6.0   | 5.9   | 5.8  | 5.8  | 5.8  | 5.3   | 4.9 |
| 10°   | 6.9   | 6.9   | 6.8   | 6.7   | 6.6   | 6.4   | 6.3  | 6.1  | 5.8  | 5.2   | 4.6 |
| 12.5° | 8.3   | 8.2   | 8.1   | 7.9   | 7.6   | 7.2   | 6.9  | 6.6  | 5.9  | 5.0   | 4.4 |
| 15°   | 11.0  | 10.9  | 10.5  | 9.9   | 9.4   | 8.6   | 8.0  | 7.3  | 6.2  | 4.7   | 3.9 |
| 17.5° | 15.8  | 15.2  | 14.7  | 13.7  | 12.3  | 11.0  | 9.6  | 8.4  | 6.6  | 4.5   | 3.5 |
| 20°   | 28.4  | 28.0  | 24.7  | 22.1  | 17.9  | 14.9  | 12.2 | 10.1 | 7.1  | 4.2   | 3.2 |
| 22.5° | 58.5  | 54.6  | 49.2  | 40.3  | 31.4  | 23.1  | 16.8 | 12.7 | 7.7  | 3.8   | 2.8 |
| 25°   | 105.6 | 99.4  | 87.7  | 70.5  | 52.0  | 36.8  | 24.3 | 16.6 | 8.5  | 3.4   | 2.4 |
| 27.5° | 159.8 | 153.6 | 135.3 | 111.7 | 81.5  | 55.6  | 34.7 | 22.0 | 9.6  | 3.1   | 2.1 |
| 30°   | 217.6 | 212.3 | 189.1 | 156.4 | 114.9 | 77.8  | 46.5 | 27.5 | 10.9 | 2.7   | 1.9 |
| 31°   | 240.9 | 234.1 | 209.1 | 174.2 | 130.6 | 87.0  | 51.2 | 29.8 | 11.3 | 2.6   | 1.8 |
| 32°   | 262.3 | 254.6 | 228.6 | 191.3 | 143.3 | 96.9  | 56.4 | 31.8 | 11.7 | 2.4   | 1.7 |
| 33°   | 280.8 | 271.8 | 246.7 | 207.4 | 157.3 | 106.2 | 61.8 | 33.8 | 12.0 | 2.2   | 1.6 |
| 34°   | 296.4 | 288.7 | 261.8 | 223.6 | 169.7 | 115.1 | 67.1 | 35.7 | 12.2 | 2.1   | 1.5 |
| 35°   | 309.8 | 302.8 | 276.1 | 236.0 | 181.9 | 123.7 | 71.9 | 37.6 | 12.2 | 1.9   | 1.5 |
| 36°   | 318.8 | 312.7 | 288.6 | 248.6 | 192.1 | 131.1 | 76.0 | 39.2 | 12.2 | 1.8   | 1.4 |
| 37°   | 323.7 | 317.8 | 296.7 | 259.0 | 202.1 | 138.3 | 79.7 | 40.5 | 12.1 | 1.7   | 1.3 |
| 38°   | 326.2 | 321.0 | 302.8 | 267.4 | 209.1 | 143.5 | 82.9 | 41.6 | 12.0 | 1.5   | 1.3 |
| 39°   | 326.9 | 322.5 | 306.6 | 273.5 | 215.8 | 148.7 | 85.2 | 42.1 | 11.7 | 1.4   | 1.2 |
| 40°   | 326.4 | 322.6 | 308.6 | 279.0 | 221.0 | 152.8 | 86.9 | 42.3 | 11.4 | 1.2   | 1.2 |
| 41°   | 325.5 | 322.5 | 310.1 | 282.8 | 225.2 | 155.4 | 87.6 | 41.9 | 11.0 | 1.0   | 1.1 |
| 42°   | 324.6 | 321.4 | 310.7 | 285.4 | 228.1 | 156.7 | 87.5 | 41.2 | 10.5 | 0.9   | 1.1 |
| 43°   | 324.6 | 320.9 | 310.8 | 287.1 | 229.5 | 156.8 | 86.4 | 39.8 | 9.7  | 0.8   | 1.0 |
| 44°   | 324.1 | 320.7 | 311.3 | 288.2 | 229.8 | 155.9 | 84.6 | 38.3 | 8.9  | 0.7   | 1.0 |
| 45°   | 323.1 | 319.4 | 311.2 | 288.3 | 229.2 | 153.9 | 81.7 | 36.4 | 8.2  | 0.6   | 1.0 |
| 46°   | 321.1 | 317.9 | 310.4 | 287.6 | 227.2 | 150.9 | 78.3 | 34.4 | 7.3  | 0.5   | 0.9 |
| 47°   | 317.2 | 314.7 | 308.1 | 285.4 | 224.3 | 146.6 | 74.2 | 32.2 | 6.7  | 0.4   | 0.9 |
| 48°   | 310.5 | 308.8 | 304.3 | 280.5 | 218.6 | 141.2 | 69.8 | 29.8 | 6.0  | 0.4   | 0.9 |
| 49°   | 298.3 | 296.9 | 294.3 | 272.6 | 211.4 | 134.6 | 65.1 | 27.1 | 5.4  | 0.3   | 0.9 |
| 50°   | 288.7 | 287.2 | 281.9 | 259.3 | 201.0 | 126.2 | 59.9 | 24.4 | 4.6  | 0.2   | 0.8 |
| 51°   | 282.3 | 279.8 | 271.5 | 243.9 | 185.9 | 115.1 | 54.3 | 21.7 | 3.9  | 0.2   | 0.8 |
| 52°   | 274.2 | 270.6 | 260.2 | 230.1 | 172.1 | 104.0 | 48.1 | 19.0 | 3.4  | 0.2   | 0.8 |
| 53°   | 257.3 | 256.0 | 245.7 | 215.3 | 158.2 | 93.3  | 41.8 | 16.8 | 3.0  | 0.2   | 0.8 |
| 54°   | 242.6 | 240.6 | 226.6 | 194.7 | 143.2 | 81.4  | 35.3 | 14.8 | 2.5  | 0.2   | 0.8 |
| 55°   | 226.6 | 222.8 | 210.4 | 177.3 | 125.6 | 70.5  | 29.1 | 12.8 | 2.0  | 0.2   | 0.7 |
| 56°   | 206.5 | 203.1 | 189.8 | 158.8 | 109.4 | 59.4  | 24.4 | 10.5 | 1.6  | 0.2   | 0.7 |
| 57°   | 182.0 | 178.9 | 168.6 | 136.0 | 92.5  | 48.5  | 19.8 | 8.4  | 1.2  | 0.2   | 0.7 |
| 58°   | 158.3 | 154.9 | 143.1 | 114.1 | 74.7  | 38.5  | 16.6 | 6.9  | 0.9  | 0.2   | 0.7 |
| 59°   | 140.2 | 135.5 | 120.3 | 95.8  | 58.4  | 29.2  | 13.2 | 5.5  | 0.6  | 0.2   | 0.7 |
| 60°   | 125.0 | 121.2 | 105.5 | 79.8  | 45.8  | 21.5  | 9.7  | 4.2  | 0.4  | 0.2   | 0.7 |
| 62.5° | 72.4  | 71.4  | 57.2  | 41.1  | 21.6  | 10.0  | 4.8  | 1.9  | 0.2  | 0.3   | 0.7 |
| 65°   | 21.6  | 18.8  | 14.7  | 8.7   | 5.6   | 3.3   | 1.8  | 0.6  | 0.1  | 0.3   | 0.6 |



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CATALOG NUMBER: P3A02R409840DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 5°  | 10° | 15° | 20° | 25° | 30° | 35° | 45° | 67.5° | 90° |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
| 67.5° | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.4 | 0.2 | 0.1 | 0.3   | 0.6 |
| 70°   | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.3   | 0.6 |
| 72.5° | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.3   | 0.5 |
| 75°   | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3   | 0.5 |
| 77.5° | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3   | 0.5 |
| 80°   | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3   | 0.4 |
| 82.5° | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3   | 0.4 |
| 85°   | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.3   | 0.4 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.3   | 0.3 |
| 90°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0   | 0.0 |

TEST NUMBER: P1335844

CATALOG NUMBER: P3A02R409840DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 0°    | 5.2    | 5.2  | 5.2    | 5.2  |
| 2.5°  | 5.0    | 4.9  | 4.8    | 4.8  |
| 5°    | 4.8    | 4.6  | 4.6    | 4.5  |
| 7.5°  | 4.5    | 4.4  | 4.4    | 4.4  |
| 10°   | 4.3    | 4.2  | 4.2    | 4.1  |
| 12.5° | 3.9    | 3.9  | 3.9    | 3.9  |
| 15°   | 3.6    | 3.6  | 3.7    | 3.7  |
| 17.5° | 3.2    | 3.3  | 3.5    | 3.6  |
| 20°   | 3.0    | 3.2  | 3.3    | 3.4  |
| 22.5° | 2.8    | 3.0  | 3.2    | 3.3  |
| 25°   | 2.5    | 2.8  | 3.2    | 3.2  |
| 27.5° | 2.3    | 2.7  | 3.0    | 3.2  |
| 30°   | 2.1    | 2.6  | 2.9    | 3.1  |
| 31°   | 2.1    | 2.5  | 2.9    | 3.1  |
| 32°   | 2.0    | 2.4  | 2.9    | 3.0  |
| 33°   | 2.0    | 2.4  | 2.9    | 3.0  |
| 34°   | 1.9    | 2.4  | 2.8    | 3.0  |
| 35°   | 1.9    | 2.4  | 2.8    | 3.0  |
| 36°   | 1.9    | 2.3  | 2.8    | 3.0  |
| 37°   | 1.9    | 2.3  | 2.8    | 3.0  |
| 38°   | 1.8    | 2.3  | 2.8    | 3.0  |
| 39°   | 1.8    | 2.3  | 2.8    | 3.0  |
| 40°   | 1.8    | 2.3  | 2.8    | 3.0  |
| 41°   | 1.7    | 2.3  | 2.8    | 3.0  |
| 42°   | 1.7    | 2.3  | 2.8    | 3.0  |
| 43°   | 1.7    | 2.2  | 2.8    | 3.0  |
| 44°   | 1.7    | 2.2  | 2.8    | 3.0  |
| 45°   | 1.6    | 2.2  | 2.8    | 3.0  |
| 46°   | 1.6    | 2.2  | 2.8    | 3.0  |
| 47°   | 1.6    | 2.2  | 2.8    | 3.0  |
| 48°   | 1.6    | 2.2  | 2.8    | 3.0  |
| 49°   | 1.6    | 2.2  | 2.8    | 3.0  |
| 50°   | 1.5    | 2.1  | 2.8    | 3.0  |
| 51°   | 1.5    | 2.1  | 2.8    | 3.0  |
| 52°   | 1.5    | 2.1  | 2.8    | 3.0  |
| 53°   | 1.5    | 2.1  | 2.8    | 3.0  |
| 54°   | 1.4    | 2.1  | 2.8    | 3.0  |
| 55°   | 1.4    | 2.1  | 2.8    | 3.0  |
| 56°   | 1.4    | 2.1  | 2.8    | 2.9  |
| 57°   | 1.4    | 2.1  | 2.7    | 2.9  |
| 58°   | 1.4    | 2.0  | 2.7    | 2.9  |
| 59°   | 1.4    | 2.0  | 2.7    | 2.9  |
| 60°   | 1.4    | 2.0  | 2.7    | 2.9  |
| 62.5° | 1.3    | 2.0  | 2.6    | 2.8  |
| 65°   | 1.2    | 1.9  | 2.6    | 2.7  |



TEST NUMBER: P1335844

CATALOG NUMBER: P3A02R409840DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 67.5° | 1.2    | 1.8  | 2.4    | 2.6  |
| 70°   | 1.1    | 1.7  | 2.3    | 2.5  |
| 72.5° | 0.9    | 1.6  | 2.1    | 2.3  |
| 75°   | 0.8    | 1.4  | 1.9    | 2.1  |
| 77.5° | 0.7    | 1.2  | 1.8    | 1.9  |
| 80°   | 0.6    | 1.0  | 1.5    | 1.7  |
| 82.5° | 0.5    | 0.7  | 1.2    | 1.3  |
| 85°   | 0.4    | 0.6  | 0.8    | 0.9  |
| 87.5° | 0.3    | 0.3  | 0.5    | 0.5  |
| 90°   | 0.0    | 0.0  | 0.0    | 0.0  |

(END OF REPORT)