

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: P1335796

Luminaire Tested: P3A02R409827DE010 E3A451WMH

Issue Date: 2/13/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1335796  
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: P3A02R409827DE010 E3A451WMH  
Description: 3in Adjustable LED luminaire with, R40 optic, 2700K CCT AND, 98CRI , E3A451WMH TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

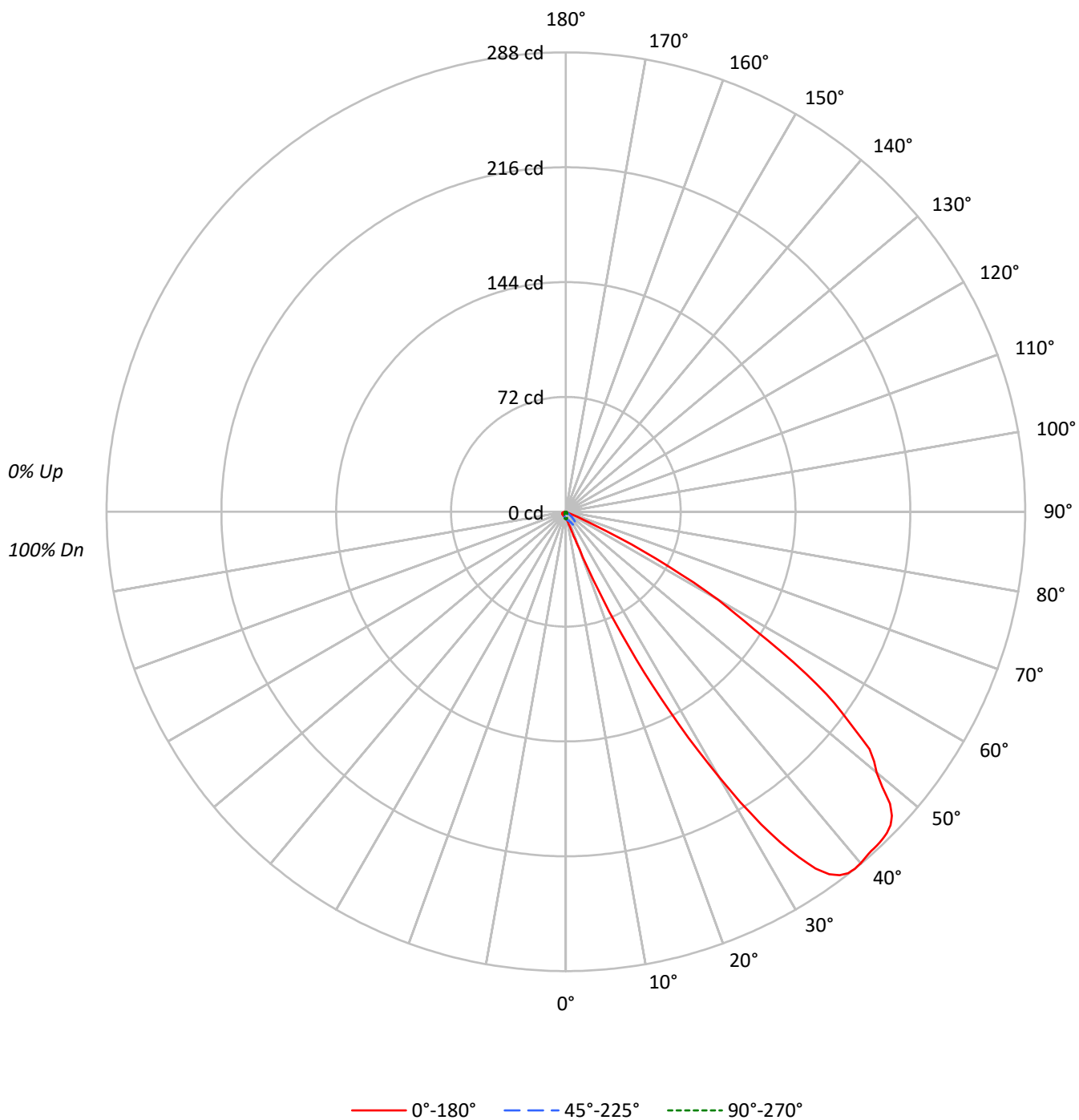
Lumens per Lamp: N/A  
Luminaire Lumens: 89.0 lumens  
Efficiency: N/A  
Efficacy: 24.7 lumens/watt  
Spacing Criteria (0/90/45): 3.99 / 0.73 / 1.54  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

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

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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  |     |     |     | 10  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 |
| 1   | 110 | 106 | 102 | 99  | 107 | 104 | 100 | 97  | 99  | 97  | 94  | 96  | 93  | 91  | 92  | 90  | 88  |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  | 87  | 82  | 78  | 84  | 80  | 76  | 81  | 78  | 75  |
| 3   | 91  | 81  | 73  | 66  | 89  | 79  | 72  | 66  | 76  | 70  | 65  | 73  | 68  | 64  | 71  | 66  | 62  |
| 4   | 82  | 70  | 62  | 55  | 80  | 69  | 61  | 54  | 67  | 59  | 54  | 64  | 58  | 53  | 62  | 57  | 52  |
| 5   | 75  | 62  | 52  | 46  | 73  | 60  | 52  | 45  | 58  | 51  | 45  | 56  | 50  | 44  | 54  | 49  | 44  |
| 6   | 68  | 54  | 45  | 38  | 66  | 53  | 44  | 38  | 51  | 43  | 38  | 50  | 43  | 37  | 48  | 42  | 37  |
| 7   | 62  | 48  | 39  | 32  | 60  | 47  | 38  | 32  | 45  | 37  | 32  | 44  | 37  | 31  | 42  | 36  | 31  |
| 8   | 57  | 42  | 33  | 27  | 55  | 42  | 33  | 27  | 40  | 32  | 27  | 39  | 32  | 27  | 38  | 31  | 26  |
| 9   | 52  | 38  | 29  | 23  | 51  | 37  | 29  | 23  | 36  | 28  | 23  | 35  | 28  | 23  | 34  | 27  | 23  |
| 10  | 48  | 34  | 25  | 20  | 47  | 33  | 25  | 20  | 32  | 25  | 20  | 31  | 24  | 20  | 30  | 24  | 19  |

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

|     | 0°    | 45°  | 90°  | 135° | 180° |
|-----|-------|------|------|------|------|
| 0°  | 1009  | 1009 | 1009 | 1009 | 1009 |
| 5°  | 1123  | 1079 | 991  | 902  | 880  |
| 10° | 1336  | 1136 | 913  | 824  | 802  |
| 15° | 2202  | 1249 | 772  | 726  | 749  |
| 20° | 5834  | 1470 | 653  | 653  | 700  |
| 25° | 22501 | 1815 | 508  | 605  | 702  |
| 30° | 48539 | 2431 | 405  | 582  | 684  |
| 35° | 73080 | 2864 | 348  | 562  | 696  |
| 40° | 82326 | 2891 | 315  | 573  | 744  |
| 45° | 88288 | 2233 | 279  | 620  | 806  |
| 50° | 86786 | 1399 | 239  | 648  | 887  |
| 55° | 76346 | 688  | 268  | 726  | 994  |
| 60° | 48329 | 132  | 307  | 789  | 1096 |
| 65° | 9858  | 52   | 311  | 830  | 1245 |
| 70° | 192   | 64   | 321  | 962  | 1410 |
| 75° | 169   | 169  | 339  | 1017 | 1610 |
| 80° | 253   | 126  | 379  | 1137 | 1894 |
| 85° | 252   | 252  | 755  | 1258 | 2013 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 47°

Luminance: 89867 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 0.4    | 0.5       |
| 10°-20°   | 1.4    | 1.6       |
| 20°-30°   | 6.9    | 7.8       |
| 30°-40°   | 22.5   | 25.3      |
| 40°-50°   | 31.0   | 34.8      |
| 50°-60°   | 21.6   | 24.3      |
| 60°-70°   | 4.1    | 4.6       |
| 70°-80°   | 0.7    | 0.8       |
| 80°-90°   | 0.3    | 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°    | 8.8    | 9.8       |
| 0°-40°    | 31.2   | 35.1      |
| 0°-60°    | 83.8   | 94.2      |
| 0°-90°    | 89.0   | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 89.0   | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 5   | 5   | 5   | 5    | 5    |      |
| 5°  | 5   | 5   | 4   | 4    | 4    | 1    |
| 15° | 10  | 6   | 3   | 3    | 3    | 4    |
| 25° | 93  | 8   | 2   | 2    | 3    | 48   |
| 35° | 273 | 11  | 1   | 2    | 3    | 165  |
| 45° | 285 | 7   | 1   | 2    | 3    | 216  |
| 55° | 200 | 2   | 1   | 2    | 3    | 171  |
| 65° | 19  | 0   | 1   | 2    | 2    | 34   |
| 75° | 0   | 0   | 0   | 1    | 2    | 0    |
| 85° | 0   | 0   | 0   | 0    | 1    | 0    |
| 90° | 0   | 0   | 0   | 0    | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 5°    | 10°   | 15°   | 20°   | 25°   | 30°  | 35°  | 45°  | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-----|
| 0°    | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6   | 4.6  | 4.6  | 4.6  | 4.6   | 4.6 |
| 2.5°  | 4.7   | 4.7   | 4.7   | 4.7   | 4.7   | 4.7   | 4.7  | 4.7  | 4.7  | 4.7   | 4.6 |
| 5°    | 5.1   | 5.1   | 5.1   | 5.1   | 5.0   | 5.0   | 5.0  | 4.9  | 4.9  | 4.7   | 4.5 |
| 7.5°  | 5.4   | 5.4   | 5.4   | 5.4   | 5.3   | 5.2   | 5.1  | 5.1  | 5.1  | 4.7   | 4.3 |
| 10°   | 6.0   | 6.0   | 6.0   | 5.9   | 5.8   | 5.6   | 5.6  | 5.4  | 5.1  | 4.6   | 4.1 |
| 12.5° | 7.4   | 7.2   | 7.1   | 6.9   | 6.7   | 6.4   | 6.0  | 5.8  | 5.2  | 4.4   | 3.8 |
| 15°   | 9.7   | 9.6   | 9.2   | 8.7   | 8.3   | 7.6   | 7.0  | 6.5  | 5.5  | 4.2   | 3.4 |
| 17.5° | 13.9  | 13.4  | 12.9  | 12.1  | 10.9  | 9.7   | 8.5  | 7.4  | 5.8  | 3.9   | 3.1 |
| 20°   | 25.0  | 24.7  | 21.7  | 19.5  | 15.8  | 13.2  | 10.7 | 8.9  | 6.3  | 3.7   | 2.8 |
| 22.5° | 51.6  | 48.1  | 43.3  | 35.5  | 27.6  | 20.4  | 14.8 | 11.2 | 6.8  | 3.4   | 2.5 |
| 25°   | 93.0  | 87.6  | 77.2  | 62.1  | 45.9  | 32.4  | 21.4 | 14.6 | 7.5  | 3.0   | 2.1 |
| 27.5° | 140.8 | 135.4 | 119.3 | 98.4  | 71.8  | 49.0  | 30.6 | 19.4 | 8.5  | 2.7   | 1.9 |
| 30°   | 191.7 | 187.1 | 166.7 | 137.8 | 101.3 | 68.6  | 40.9 | 24.2 | 9.6  | 2.4   | 1.6 |
| 31°   | 212.3 | 206.3 | 184.2 | 153.5 | 115.1 | 76.7  | 45.1 | 26.2 | 10.0 | 2.3   | 1.6 |
| 32°   | 231.1 | 224.4 | 201.5 | 168.5 | 126.3 | 85.4  | 49.7 | 28.0 | 10.3 | 2.1   | 1.5 |
| 33°   | 247.4 | 239.5 | 217.4 | 182.8 | 138.6 | 93.6  | 54.4 | 29.8 | 10.5 | 2.0   | 1.4 |
| 34°   | 261.2 | 254.4 | 230.7 | 197.1 | 149.6 | 101.4 | 59.1 | 31.5 | 10.7 | 1.9   | 1.3 |
| 35°   | 273.0 | 266.8 | 243.3 | 207.9 | 160.3 | 109.0 | 63.3 | 33.1 | 10.7 | 1.7   | 1.3 |
| 36°   | 280.9 | 275.5 | 254.3 | 219.0 | 169.3 | 115.5 | 66.9 | 34.6 | 10.7 | 1.6   | 1.2 |
| 37°   | 285.3 | 280.0 | 261.5 | 228.2 | 178.1 | 121.9 | 70.2 | 35.7 | 10.6 | 1.5   | 1.1 |
| 38°   | 287.5 | 282.9 | 266.8 | 235.6 | 184.2 | 126.4 | 73.1 | 36.6 | 10.5 | 1.3   | 1.1 |
| 39°   | 288.0 | 284.2 | 270.1 | 241.0 | 190.2 | 131.0 | 75.1 | 37.1 | 10.3 | 1.2   | 1.1 |
| 40°   | 287.6 | 284.3 | 271.9 | 245.9 | 194.8 | 134.6 | 76.6 | 37.3 | 10.1 | 1.1   | 1.1 |
| 41°   | 286.8 | 284.2 | 273.2 | 249.2 | 198.5 | 136.9 | 77.2 | 36.9 | 9.7  | 0.9   | 1.0 |
| 42°   | 286.1 | 283.2 | 273.8 | 251.5 | 201.0 | 138.0 | 77.1 | 36.3 | 9.2  | 0.8   | 1.0 |
| 43°   | 286.1 | 282.8 | 273.9 | 253.0 | 202.2 | 138.1 | 76.1 | 35.1 | 8.6  | 0.7   | 0.9 |
| 44°   | 285.6 | 282.6 | 274.3 | 253.9 | 202.5 | 137.4 | 74.5 | 33.8 | 7.8  | 0.7   | 0.9 |
| 45°   | 284.7 | 281.5 | 274.2 | 254.0 | 202.0 | 135.6 | 72.0 | 32.0 | 7.2  | 0.5   | 0.9 |
| 46°   | 283.0 | 280.1 | 273.5 | 253.5 | 200.2 | 133.0 | 69.0 | 30.3 | 6.5  | 0.4   | 0.8 |
| 47°   | 279.5 | 277.3 | 271.5 | 251.5 | 197.6 | 129.1 | 65.4 | 28.4 | 5.9  | 0.3   | 0.8 |
| 48°   | 273.6 | 272.1 | 268.2 | 247.2 | 192.6 | 124.4 | 61.5 | 26.2 | 5.3  | 0.3   | 0.8 |
| 49°   | 262.9 | 261.6 | 259.3 | 240.2 | 186.3 | 118.6 | 57.4 | 23.9 | 4.7  | 0.2   | 0.8 |
| 50°   | 254.4 | 253.0 | 248.4 | 228.5 | 177.1 | 111.2 | 52.8 | 21.5 | 4.1  | 0.2   | 0.7 |
| 51°   | 248.7 | 246.6 | 239.2 | 215.0 | 163.8 | 101.4 | 47.8 | 19.1 | 3.4  | 0.2   | 0.7 |
| 52°   | 241.6 | 238.4 | 229.3 | 202.8 | 151.6 | 91.6  | 42.4 | 16.8 | 3.0  | 0.2   | 0.7 |
| 53°   | 226.7 | 225.6 | 216.5 | 189.7 | 139.4 | 82.2  | 36.9 | 14.8 | 2.6  | 0.2   | 0.7 |
| 54°   | 213.7 | 212.0 | 199.7 | 171.6 | 126.2 | 71.8  | 31.1 | 13.1 | 2.2  | 0.2   | 0.7 |
| 55°   | 199.7 | 196.3 | 185.4 | 156.3 | 110.7 | 62.1  | 25.7 | 11.3 | 1.8  | 0.2   | 0.7 |
| 56°   | 181.9 | 179.0 | 167.2 | 139.9 | 96.4  | 52.3  | 21.5 | 9.2  | 1.4  | 0.2   | 0.7 |
| 57°   | 160.4 | 157.7 | 148.6 | 119.8 | 81.5  | 42.7  | 17.5 | 7.4  | 1.1  | 0.2   | 0.7 |
| 58°   | 139.5 | 136.5 | 126.1 | 100.5 | 65.8  | 33.9  | 14.6 | 6.0  | 0.8  | 0.2   | 0.7 |
| 59°   | 123.5 | 119.4 | 106.0 | 84.4  | 51.5  | 25.7  | 11.6 | 4.8  | 0.6  | 0.2   | 0.7 |
| 60°   | 110.2 | 106.8 | 92.9  | 70.3  | 40.4  | 19.0  | 8.6  | 3.7  | 0.3  | 0.2   | 0.7 |
| 62.5° | 63.8  | 62.9  | 50.4  | 36.2  | 19.0  | 8.8   | 4.3  | 1.7  | 0.2  | 0.2   | 0.7 |
| 65°   | 19.0  | 16.6  | 12.9  | 7.7   | 4.9   | 2.9   | 1.6  | 0.6  | 0.1  | 0.2   | 0.6 |



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**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 | 0.3 | 0.2 | 0.1 | 0.2   | 0.6 |
| 70°   | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2   | 0.5 |
| 72.5° | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2   | 0.4 |
| 75°   | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2   | 0.4 |
| 77.5° | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2   | 0.4 |
| 80°   | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2   | 0.3 |
| 82.5° | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2   | 0.3 |
| 85°   | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2   | 0.3 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.2   | 0.2 |
| 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):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 0°    | 4.6    | 4.6  | 4.6    | 4.6  |
| 2.5°  | 4.4    | 4.3  | 4.3    | 4.3  |
| 5°    | 4.3    | 4.1  | 4.1    | 4.0  |
| 7.5°  | 4.0    | 3.8  | 3.8    | 3.8  |
| 10°   | 3.8    | 3.7  | 3.7    | 3.6  |
| 12.5° | 3.4    | 3.4  | 3.4    | 3.4  |
| 15°   | 3.2    | 3.2  | 3.3    | 3.3  |
| 17.5° | 2.9    | 2.9  | 3.1    | 3.2  |
| 20°   | 2.6    | 2.8  | 2.9    | 3.0  |
| 22.5° | 2.5    | 2.6  | 2.9    | 2.9  |
| 25°   | 2.2    | 2.5  | 2.8    | 2.9  |
| 27.5° | 2.0    | 2.4  | 2.6    | 2.8  |
| 30°   | 1.9    | 2.3  | 2.5    | 2.7  |
| 31°   | 1.9    | 2.2  | 2.5    | 2.7  |
| 32°   | 1.8    | 2.1  | 2.5    | 2.6  |
| 33°   | 1.8    | 2.1  | 2.5    | 2.6  |
| 34°   | 1.7    | 2.1  | 2.5    | 2.6  |
| 35°   | 1.7    | 2.1  | 2.5    | 2.6  |
| 36°   | 1.6    | 2.0  | 2.5    | 2.6  |
| 37°   | 1.6    | 2.0  | 2.5    | 2.6  |
| 38°   | 1.6    | 2.0  | 2.5    | 2.6  |
| 39°   | 1.6    | 2.0  | 2.5    | 2.6  |
| 40°   | 1.6    | 2.0  | 2.5    | 2.6  |
| 41°   | 1.5    | 2.0  | 2.5    | 2.6  |
| 42°   | 1.5    | 2.0  | 2.5    | 2.6  |
| 43°   | 1.5    | 2.0  | 2.5    | 2.6  |
| 44°   | 1.5    | 2.0  | 2.5    | 2.6  |
| 45°   | 1.4    | 2.0  | 2.5    | 2.6  |
| 46°   | 1.4    | 2.0  | 2.5    | 2.6  |
| 47°   | 1.4    | 2.0  | 2.5    | 2.6  |
| 48°   | 1.4    | 2.0  | 2.5    | 2.6  |
| 49°   | 1.4    | 2.0  | 2.5    | 2.6  |
| 50°   | 1.3    | 1.9  | 2.5    | 2.6  |
| 51°   | 1.3    | 1.9  | 2.5    | 2.6  |
| 52°   | 1.3    | 1.9  | 2.5    | 2.6  |
| 53°   | 1.3    | 1.9  | 2.5    | 2.6  |
| 54°   | 1.2    | 1.9  | 2.5    | 2.6  |
| 55°   | 1.2    | 1.9  | 2.5    | 2.6  |
| 56°   | 1.2    | 1.9  | 2.5    | 2.5  |
| 57°   | 1.2    | 1.9  | 2.4    | 2.5  |
| 58°   | 1.2    | 1.8  | 2.4    | 2.5  |
| 59°   | 1.2    | 1.8  | 2.4    | 2.5  |
| 60°   | 1.2    | 1.8  | 2.4    | 2.5  |
| 62.5° | 1.1    | 1.8  | 2.3    | 2.5  |
| 65°   | 1.1    | 1.6  | 2.3    | 2.4  |



TEST NUMBER: P1335796

CATALOG NUMBER: P3A02R409827DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 67.5° | 1.1    | 1.6  | 2.1    | 2.3  |
| 70°   | 1.0    | 1.5  | 2.0    | 2.2  |
| 72.5° | 0.8    | 1.4  | 1.9    | 2.0  |
| 75°   | 0.7    | 1.2  | 1.7    | 1.9  |
| 77.5° | 0.7    | 1.1  | 1.6    | 1.6  |
| 80°   | 0.6    | 0.9  | 1.3    | 1.5  |
| 82.5° | 0.4    | 0.7  | 1.1    | 1.1  |
| 85°   | 0.3    | 0.5  | 0.7    | 0.8  |
| 87.5° | 0.2    | 0.2  | 0.4    | 0.4  |
| 90°   | 0.0    | 0.0  | 0.0    | 0.0  |

(END OF REPORT)