

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: P1335656

Luminaire Tested: P3A02R409030D2WDE010 E3CA451MW

Issue Date: 2/13/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1335656  
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: P3A02R409030D2WDE010 E3CA451MW  
Description: 3in Adjustable Dim to Warm LED luminaire with, R40 optic, 3000K CCT AND, 90CRI ,  
E3CA451MW TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

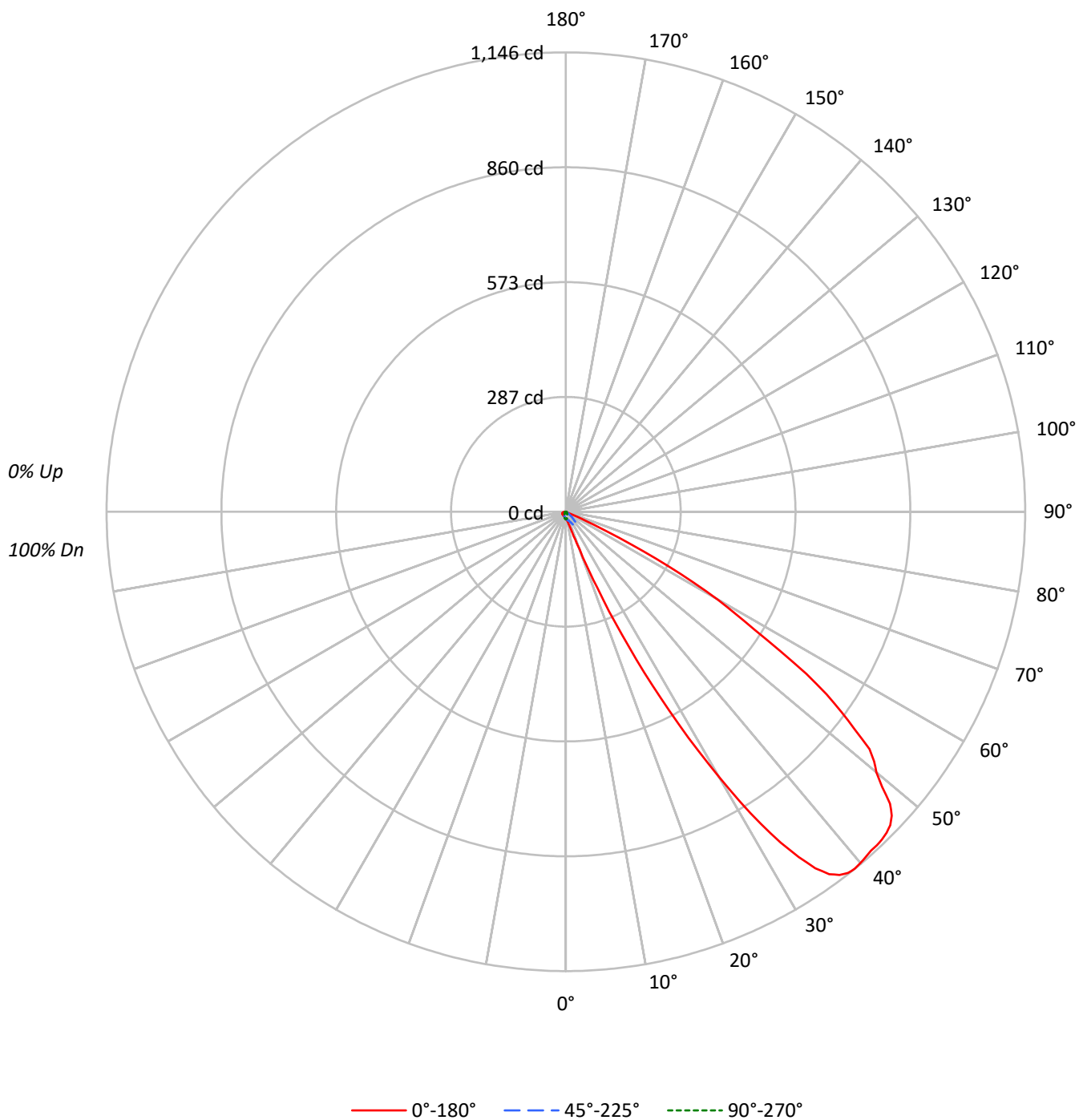
Lumens per Lamp: N/A  
Luminaire Lumens: 354.1 lumens  
Efficiency: N/A  
Efficacy: 49.2 lumens/watt  
Spacing Criteria (0/90/45): 3.99 / 0.74 / 1.54  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 7.2  
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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CATALOG NUMBER: P3A02R409030D2WDE010 E3CA451MW

### 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  |     |  |  | 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   | 110 | 106 | 102 | 99  | 107 | 104 | 100 | 97  | 99  | 97  | 94  | 96  | 93  | 91  | 92  | 90  | 88  | 86  |  |  |   |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  | 87  | 82  | 78  | 84  | 80  | 76  | 81  | 78  | 75  | 72  |  |  |   |
| 3   | 91  | 81  | 73  | 66  | 89  | 79  | 72  | 66  | 76  | 70  | 65  | 73  | 68  | 64  | 71  | 66  | 62  | 60  |  |  |   |
| 4   | 82  | 70  | 62  | 55  | 80  | 69  | 61  | 54  | 67  | 59  | 54  | 64  | 58  | 53  | 62  | 57  | 52  | 50  |  |  |   |
| 5   | 75  | 62  | 52  | 46  | 73  | 60  | 52  | 45  | 58  | 51  | 45  | 56  | 50  | 44  | 54  | 49  | 44  | 42  |  |  |   |
| 6   | 68  | 54  | 45  | 38  | 66  | 53  | 44  | 38  | 51  | 43  | 38  | 50  | 43  | 37  | 48  | 42  | 37  | 35  |  |  |   |
| 7   | 62  | 48  | 39  | 32  | 60  | 47  | 38  | 32  | 45  | 37  | 32  | 44  | 37  | 31  | 42  | 36  | 31  | 29  |  |  |   |
| 8   | 57  | 42  | 33  | 27  | 55  | 42  | 33  | 27  | 40  | 32  | 27  | 39  | 32  | 27  | 38  | 31  | 26  | 24  |  |  |   |
| 9   | 52  | 38  | 29  | 23  | 51  | 37  | 29  | 23  | 36  | 28  | 23  | 35  | 28  | 23  | 34  | 27  | 23  | 21  |  |  |   |
| 10  | 48  | 34  | 25  | 20  | 47  | 33  | 25  | 20  | 32  | 25  | 20  | 31  | 24  | 20  | 30  | 24  | 19  | 18  |  |  |   |

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

|     | 0°     | 45°   | 90°  | 135° | 180° |
|-----|--------|-------|------|------|------|
| 0°  | 3991   | 3991  | 3991 | 3991 | 3991 |
| 5°  | 4446   | 4292  | 3940 | 3588 | 3500 |
| 10° | 5366   | 4565  | 3629 | 3251 | 3184 |
| 15° | 8786   | 4949  | 3110 | 2883 | 2951 |
| 20° | 23219  | 5834  | 2590 | 2590 | 2800 |
| 25° | 89521  | 7234  | 2057 | 2371 | 2758 |
| 30° | 193118 | 9622  | 1646 | 2304 | 2709 |
| 35° | 290660 | 11404 | 1392 | 2275 | 2784 |
| 40° | 327471 | 11450 | 1202 | 2319 | 2977 |
| 45° | 351137 | 8869  | 1116 | 2419 | 3225 |
| 50° | 345132 | 5561  | 989  | 2559 | 3548 |
| 55° | 303626 | 2753  | 994  | 2867 | 3976 |
| 60° | 192178 | 570   | 1140 | 3158 | 4429 |
| 65° | 39278  | 156   | 1193 | 3373 | 4877 |
| 70° | 833    | 192   | 1282 | 3783 | 5642 |
| 75° | 847    | 593   | 1356 | 4151 | 6354 |
| 80° | 884    | 379   | 1642 | 4546 | 7450 |
| 85° | 755    | 755   | 3271 | 5032 | 8303 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle:  $47^\circ$

Luminance: 357473 cd/sqm

TEST NUMBER: P1335656

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1.7    | 0.5       |
| 10°-20°   | 5.6    | 1.6       |
| 20°-30°   | 27.5   | 7.8       |
| 30°-40°   | 89.4   | 25.3      |
| 40°-50°   | 123.3  | 34.8      |
| 50°-60°   | 85.9   | 24.3      |
| 60°-70°   | 16.3   | 4.6       |
| 70°-80°   | 3.0    | 0.8       |
| 80°-90°   | 1.4    | 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°    | 34.8   | 9.8       |
| 0°-40°    | 124.3  | 35.1      |
| 0°-60°    | 333.4  | 94.2      |
| 0°-90°    | 354.1  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 354.1  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45° | 90° | 135° | 180° | Flux |
|-----|------|-----|-----|------|------|------|
| 0°  | 18   | 18  | 18  | 18   | 18   |      |
| 5°  | 20   | 20  | 18  | 16   | 16   | 2    |
| 15° | 39   | 22  | 14  | 13   | 13   | 14   |
| 25° | 370  | 30  | 8   | 10   | 11   | 190  |
| 35° | 1086 | 43  | 5   | 8    | 10   | 656  |
| 45° | 1132 | 29  | 4   | 8    | 10   | 861  |
| 55° | 794  | 7   | 3   | 8    | 10   | 679  |
| 65° | 76   | 0   | 2   | 6    | 9    | 134  |
| 75° | 1    | 1   | 2   | 5    | 8    | 1    |
| 85° | 0    | 0   | 1   | 2    | 3    | 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°    | 18.2   | 18.2   | 18.2   | 18.2   | 18.2  | 18.2  | 18.2  | 18.2  | 18.2 | 18.2  | 18.2 |
| 2.5°  | 18.9   | 18.9   | 18.9   | 18.9   | 18.9  | 18.9  | 18.9  | 18.9  | 18.9 | 18.5  | 18.2 |
| 5°    | 20.2   | 20.2   | 20.2   | 20.2   | 19.8  | 19.8  | 19.8  | 19.5  | 19.5 | 18.9  | 17.9 |
| 7.5°  | 21.5   | 21.5   | 21.5   | 21.5   | 21.1  | 20.8  | 20.5  | 20.5  | 20.2 | 18.5  | 17.2 |
| 10°   | 24.1   | 24.1   | 23.7   | 23.4   | 23.1  | 22.4  | 22.1  | 21.5  | 20.5 | 18.2  | 16.3 |
| 12.5° | 29.3   | 28.6   | 28.3   | 27.6   | 26.7  | 25.4  | 24.1  | 23.1  | 20.8 | 17.6  | 15.3 |
| 15°   | 38.7   | 38.0   | 36.7   | 34.8   | 32.8  | 30.2  | 28.0  | 25.7  | 21.8 | 16.6  | 13.7 |
| 17.5° | 55.3   | 53.3   | 51.4   | 48.1   | 43.2  | 38.7  | 33.8  | 29.6  | 23.1 | 15.6  | 12.4 |
| 20°   | 99.5   | 98.2   | 86.5   | 77.4   | 62.7  | 52.3  | 42.6  | 35.4  | 25.0 | 14.6  | 11.1 |
| 22.5° | 205.1  | 191.5  | 172.3  | 141.1  | 109.9 | 80.9  | 58.8  | 44.5  | 27.0 | 13.3  | 9.8  |
| 25°   | 370.0  | 348.5  | 307.2  | 247.1  | 182.4 | 129.1 | 85.2  | 58.2  | 29.9 | 12.0  | 8.5  |
| 27.5° | 560.1  | 538.4  | 474.3  | 391.4  | 285.8 | 194.7 | 121.6 | 77.0  | 33.8 | 10.7  | 7.5  |
| 30°   | 762.7  | 744.2  | 662.9  | 548.1  | 402.8 | 272.8 | 162.9 | 96.2  | 38.0 | 9.4   | 6.5  |
| 31°   | 844.3  | 820.6  | 732.8  | 610.5  | 457.7 | 304.9 | 179.5 | 104.4 | 39.7 | 9.1   | 6.2  |
| 32°   | 919.4  | 892.4  | 801.4  | 670.4  | 502.3 | 339.7 | 197.7 | 111.5 | 41.0 | 8.5   | 5.9  |
| 33°   | 984.1  | 952.5  | 864.8  | 726.9  | 551.4 | 372.2 | 216.5 | 118.3 | 41.9 | 7.8   | 5.5  |
| 34°   | 1039.0 | 1011.7 | 917.4  | 783.8  | 594.9 | 403.4 | 235.0 | 125.2 | 42.6 | 7.5   | 5.2  |
| 35°   | 1085.8 | 1061.1 | 967.8  | 827.1  | 637.5 | 433.7 | 252.0 | 131.7 | 42.6 | 6.8   | 5.2  |
| 36°   | 1117.4 | 1095.9 | 1011.4 | 871.3  | 673.3 | 459.4 | 266.3 | 137.5 | 42.6 | 6.2   | 4.9  |
| 37°   | 1134.6 | 1113.8 | 1040.0 | 907.7  | 708.4 | 484.7 | 279.3 | 142.1 | 42.3 | 5.9   | 4.6  |
| 38°   | 1143.4 | 1125.2 | 1061.1 | 937.3  | 732.8 | 502.9 | 290.6 | 145.6 | 41.9 | 5.2   | 4.6  |
| 39°   | 1145.7 | 1130.4 | 1074.5 | 958.7  | 756.5 | 521.1 | 298.8 | 147.6 | 41.0 | 4.9   | 4.2  |
| 40°   | 1144.0 | 1130.7 | 1081.6 | 977.9  | 774.7 | 535.4 | 304.6 | 148.2 | 40.0 | 4.2   | 4.2  |
| 41°   | 1140.8 | 1130.4 | 1086.8 | 991.2  | 789.3 | 544.5 | 306.9 | 146.9 | 38.7 | 3.6   | 3.9  |
| 42°   | 1137.8 | 1126.5 | 1089.1 | 1000.3 | 799.4 | 549.1 | 306.6 | 144.3 | 36.7 | 3.3   | 3.9  |
| 43°   | 1137.8 | 1124.8 | 1089.4 | 1006.2 | 804.3 | 549.4 | 302.7 | 139.5 | 34.1 | 2.9   | 3.6  |
| 44°   | 1135.9 | 1123.9 | 1091.0 | 1010.1 | 805.6 | 546.5 | 296.5 | 134.3 | 31.2 | 2.6   | 3.6  |
| 45°   | 1132.3 | 1119.6 | 1090.7 | 1010.4 | 803.3 | 539.3 | 286.4 | 127.4 | 28.6 | 2.0   | 3.6  |
| 46°   | 1125.5 | 1114.1 | 1087.8 | 1008.1 | 796.5 | 528.9 | 274.4 | 120.6 | 25.7 | 1.6   | 3.3  |
| 47°   | 1111.8 | 1103.1 | 1080.0 | 1000.3 | 786.1 | 513.7 | 260.1 | 112.8 | 23.4 | 1.3   | 3.3  |
| 48°   | 1088.4 | 1082.3 | 1066.7 | 983.1  | 766.3 | 494.8 | 244.8 | 104.4 | 21.1 | 1.3   | 3.3  |
| 49°   | 1045.5 | 1040.6 | 1031.5 | 955.5  | 740.9 | 471.7 | 228.2 | 94.9  | 18.9 | 1.0   | 3.3  |
| 50°   | 1011.7 | 1006.5 | 988.0  | 909.0  | 704.5 | 442.5 | 210.0 | 85.5  | 16.3 | 0.7   | 2.9  |
| 51°   | 989.3  | 980.8  | 951.6  | 855.0  | 651.5 | 403.4 | 190.2 | 76.1  | 13.7 | 0.7   | 2.9  |
| 52°   | 961.0  | 948.3  | 911.9  | 806.6  | 603.1 | 364.4 | 168.7 | 66.6  | 12.0 | 0.7   | 2.9  |
| 53°   | 901.8  | 897.3  | 861.2  | 754.6  | 554.6 | 327.1 | 146.6 | 58.8  | 10.4 | 0.7   | 2.9  |
| 54°   | 850.1  | 843.3  | 794.2  | 682.4  | 502.0 | 285.4 | 123.9 | 52.0  | 8.8  | 0.7   | 2.9  |
| 55°   | 794.2  | 780.9  | 737.3  | 621.6  | 440.2 | 247.1 | 102.1 | 44.9  | 7.2  | 0.7   | 2.6  |
| 56°   | 723.7  | 712.0  | 665.2  | 556.6  | 383.3 | 208.1 | 85.5  | 36.7  | 5.5  | 0.7   | 2.6  |
| 57°   | 637.8  | 627.1  | 591.0  | 476.6  | 324.1 | 170.0 | 69.6  | 29.6  | 4.2  | 0.7   | 2.6  |
| 58°   | 554.9  | 542.9  | 501.6  | 399.9  | 261.7 | 134.9 | 58.2  | 24.1  | 3.3  | 0.7   | 2.6  |
| 59°   | 491.2  | 475.0  | 421.7  | 335.8  | 204.8 | 102.4 | 46.2  | 19.2  | 2.3  | 0.7   | 2.6  |
| 60°   | 438.2  | 424.9  | 369.6  | 279.6  | 160.6 | 75.4  | 34.1  | 14.6  | 1.3  | 0.7   | 2.6  |
| 62.5° | 253.9  | 250.3  | 200.6  | 144.0  | 75.7  | 35.1  | 16.9  | 6.8   | 0.7  | 1.0   | 2.6  |
| 65°   | 75.7   | 66.0   | 51.4   | 30.6   | 19.5  | 11.7  | 6.2   | 2.3   | 0.3  | 1.0   | 2.3  |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 5°  | 10° | 15° | 20° | 25° | 30° | 35° | 45° | 67.5° | 90° |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
| 67.5° | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 1.3 | 0.7 | 0.3 | 1.0   | 2.3 |
| 70°   | 1.3 | 1.0 | 1.0 | 1.0 | 1.0 | 0.7 | 0.7 | 0.3 | 0.3 | 1.0   | 2.0 |
| 72.5° | 1.0 | 1.0 | 1.0 | 1.0 | 0.7 | 0.7 | 0.7 | 0.3 | 0.7 | 1.0   | 1.6 |
| 75°   | 1.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.3 | 0.3 | 0.3 | 0.7 | 1.0   | 1.6 |
| 77.5° | 0.7 | 0.7 | 0.7 | 0.7 | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 | 1.0   | 1.6 |
| 80°   | 0.7 | 0.7 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 1.0   | 1.3 |
| 82.5° | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 1.0   | 1.3 |
| 85°   | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 1.0   | 1.3 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.3 | 1.0   | 1.0 |
| 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°    | 18.2   | 18.2 | 18.2   | 18.2 |
| 2.5°  | 17.6   | 17.2 | 16.9   | 16.9 |
| 5°    | 16.9   | 16.3 | 16.3   | 15.9 |
| 7.5°  | 15.9   | 15.3 | 15.3   | 15.3 |
| 10°   | 15.0   | 14.6 | 14.6   | 14.3 |
| 12.5° | 13.7   | 13.7 | 13.7   | 13.7 |
| 15°   | 12.7   | 12.7 | 13.0   | 13.0 |
| 17.5° | 11.4   | 11.7 | 12.4   | 12.7 |
| 20°   | 10.4   | 11.1 | 11.7   | 12.0 |
| 22.5° | 9.8    | 10.4 | 11.4   | 11.7 |
| 25°   | 8.8    | 9.8  | 11.1   | 11.4 |
| 27.5° | 8.1    | 9.4  | 10.4   | 11.1 |
| 30°   | 7.5    | 9.1  | 10.1   | 10.7 |
| 31°   | 7.5    | 8.8  | 10.1   | 10.7 |
| 32°   | 7.2    | 8.5  | 10.1   | 10.4 |
| 33°   | 7.2    | 8.5  | 10.1   | 10.4 |
| 34°   | 6.8    | 8.5  | 9.8    | 10.4 |
| 35°   | 6.8    | 8.5  | 9.8    | 10.4 |
| 36°   | 6.5    | 8.1  | 9.8    | 10.4 |
| 37°   | 6.5    | 8.1  | 9.8    | 10.4 |
| 38°   | 6.2    | 8.1  | 9.8    | 10.4 |
| 39°   | 6.2    | 8.1  | 9.8    | 10.4 |
| 40°   | 6.2    | 8.1  | 9.8    | 10.4 |
| 41°   | 5.9    | 8.1  | 9.8    | 10.4 |
| 42°   | 5.9    | 8.1  | 9.8    | 10.4 |
| 43°   | 5.9    | 7.8  | 9.8    | 10.4 |
| 44°   | 5.9    | 7.8  | 9.8    | 10.4 |
| 45°   | 5.5    | 7.8  | 9.8    | 10.4 |
| 46°   | 5.5    | 7.8  | 9.8    | 10.4 |
| 47°   | 5.5    | 7.8  | 9.8    | 10.4 |
| 48°   | 5.5    | 7.8  | 9.8    | 10.4 |
| 49°   | 5.5    | 7.8  | 9.8    | 10.4 |
| 50°   | 5.2    | 7.5  | 9.8    | 10.4 |
| 51°   | 5.2    | 7.5  | 9.8    | 10.4 |
| 52°   | 5.2    | 7.5  | 9.8    | 10.4 |
| 53°   | 5.2    | 7.5  | 9.8    | 10.4 |
| 54°   | 4.9    | 7.5  | 9.8    | 10.4 |
| 55°   | 4.9    | 7.5  | 9.8    | 10.4 |
| 56°   | 4.9    | 7.5  | 9.8    | 10.1 |
| 57°   | 4.9    | 7.5  | 9.4    | 10.1 |
| 58°   | 4.9    | 7.2  | 9.4    | 10.1 |
| 59°   | 4.9    | 7.2  | 9.4    | 10.1 |
| 60°   | 4.9    | 7.2  | 9.4    | 10.1 |
| 62.5° | 4.6    | 7.2  | 9.1    | 9.8  |
| 65°   | 4.2    | 6.5  | 9.1    | 9.4  |



TEST NUMBER: P1335656

CATALOG NUMBER: P3A02R409030D2WDE010 E3CA451MW

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 67.5° | 4.2    | 6.2  | 8.5    | 9.1  |
| 70°   | 3.9    | 5.9  | 8.1    | 8.8  |
| 72.5° | 3.3    | 5.5  | 7.5    | 8.1  |
| 75°   | 2.9    | 4.9  | 6.8    | 7.5  |
| 77.5° | 2.6    | 4.2  | 6.2    | 6.5  |
| 80°   | 2.3    | 3.6  | 5.2    | 5.9  |
| 82.5° | 1.6    | 2.6  | 4.2    | 4.6  |
| 85°   | 1.3    | 2.0  | 2.9    | 3.3  |
| 87.5° | 1.0    | 1.0  | 1.6    | 1.6  |
| 90°   | 0.0    | 0.0  | 0.0    | 0.0  |

(END OF REPORT)