

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: P1342552

Luminaire Tested: P3A09R409830DE010 E3A451WMH

Issue Date: 2/13/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1342552  
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: P3A09R409830DE010 E3A451WMH  
Description: 3in Adjustable LED luminaire with, R40 optic, 3000K CCT AND, 98CRI , E3A451WMH TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

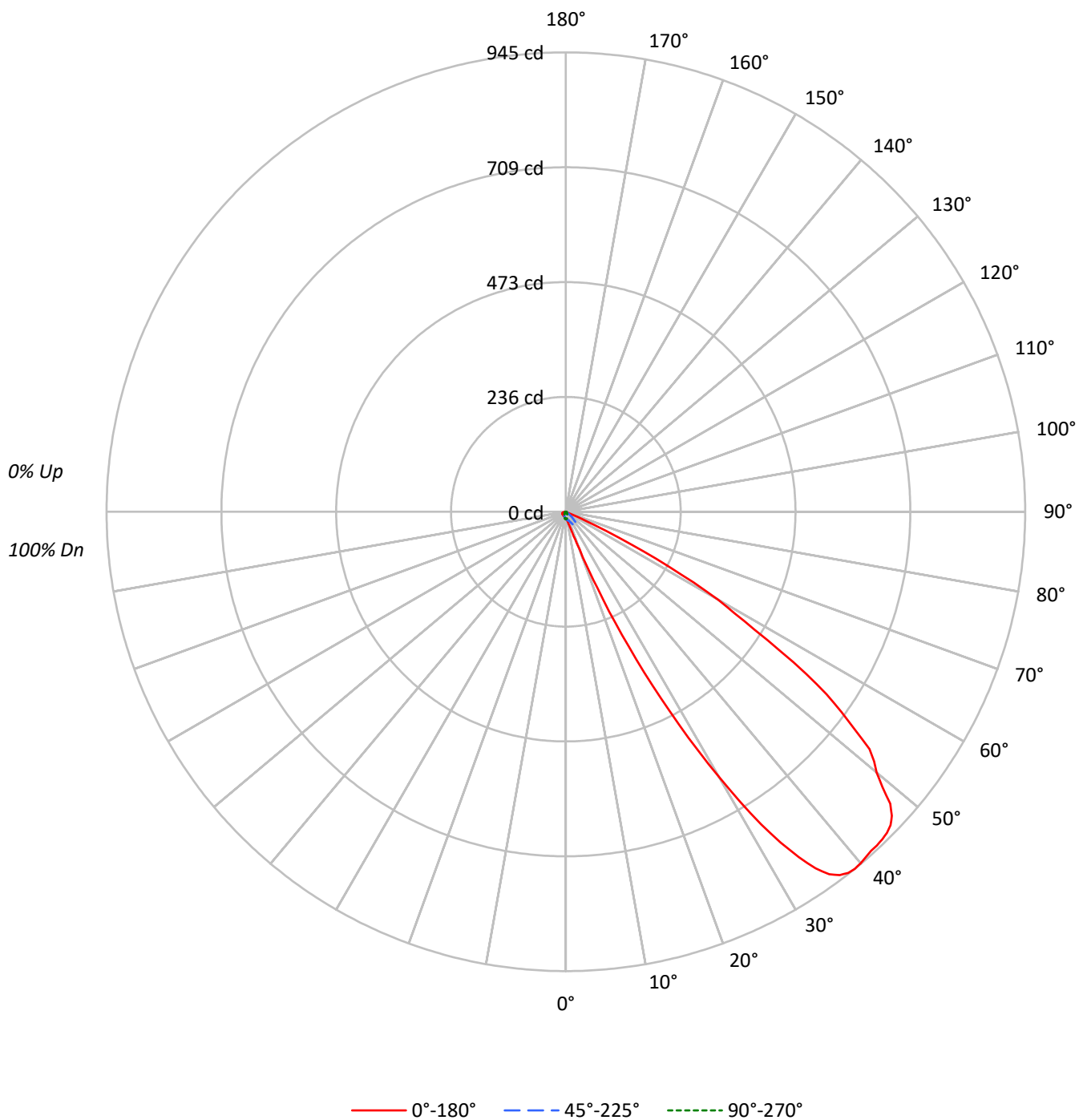
Lumens per Lamp: N/A  
Luminaire Lumens: 292.0 lumens  
Efficiency: N/A  
Efficacy: 26.5 lumens/watt  
Spacing Criteria (0/90/45): 3.99 / 0.73 / 1.54  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 11  
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: P1342552

CATALOG NUMBER: P3A09R409830DE010 E3A451WMH

### Luminous Intensity Polar Plot



TEST NUMBER: P1342552

CATALOG NUMBER: P3A09R409830DE010 E3A451WMH

**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°  | 3289   | 3289 | 3289 | 3289 | 3289 |
| 5°  | 3654   | 3544 | 3236 | 2950 | 2884 |
| 10° | 4409   | 3763 | 2984 | 2694 | 2627 |
| 15° | 7242   | 4086 | 2565 | 2384 | 2429 |
| 20° | 19158  | 4807 | 2124 | 2124 | 2310 |
| 25° | 73843  | 5976 | 1694 | 1936 | 2274 |
| 30° | 159290 | 7951 | 1367 | 1899 | 2228 |
| 35° | 239772 | 9396 | 1151 | 1874 | 2302 |
| 40° | 270135 | 9446 | 1002 | 1918 | 2462 |
| 45° | 289642 | 7319 | 899  | 1985 | 2667 |
| 50° | 284681 | 4571 | 819  | 2115 | 2934 |
| 55° | 250447 | 2256 | 803  | 2370 | 3288 |
| 60° | 158540 | 482  | 921  | 2588 | 3640 |
| 65° | 32429  | 156  | 986  | 2802 | 4047 |
| 70° | 705    | 192  | 1026 | 3077 | 4616 |
| 75° | 678    | 424  | 1101 | 3389 | 5253 |
| 80° | 631    | 379  | 1389 | 3662 | 6061 |
| 85° | 755    | 755  | 2768 | 4026 | 6793 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 47°

Luminance: 294872 cd/sqm

TEST NUMBER: P1342552

CATALOG NUMBER: P3A09R409830DE010 E3A451WMH

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1.4    | 0.5       |
| 10°-20°   | 4.6    | 1.6       |
| 20°-30°   | 22.7   | 7.8       |
| 30°-40°   | 73.8   | 25.3      |
| 40°-50°   | 101.7  | 34.8      |
| 50°-60°   | 70.8   | 24.3      |
| 60°-70°   | 13.4   | 4.6       |
| 70°-80°   | 2.4    | 0.8       |
| 80°-90°   | 1.1    | 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°    | 28.7   | 9.8       |
| 0°-40°    | 102.5  | 35.1      |
| 0°-60°    | 275.0  | 94.2      |
| 0°-90°    | 292.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 292.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 15  | 15  | 15  | 15   | 15   |      |
| 5°  | 17  | 16  | 15  | 13   | 13   | 2    |
| 15° | 32  | 18  | 11  | 10   | 11   | 12   |
| 25° | 305 | 25  | 7   | 8    | 9    | 157  |
| 35° | 896 | 35  | 4   | 7    | 9    | 541  |
| 45° | 934 | 24  | 3   | 6    | 9    | 710  |
| 55° | 655 | 6   | 2   | 6    | 9    | 560  |
| 65° | 62  | 0   | 2   | 5    | 8    | 110  |
| 75° | 1   | 0   | 1   | 4    | 6    | 1    |
| 85° | 0   | 0   | 1   | 2    | 3    | 0    |
| 90° | 0   | 0   | 0   | 0    | 0    |      |

TEST NUMBER: P1342552

CATALOG NUMBER: P3A09R409830DE010 E3A451WMH

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 5°    | 10°   | 15°   | 20°   | 25°   | 30°   | 35°   | 45°  | 67.5° | 90°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|
| 0°    | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0  | 15.0 | 15.0  | 15.0 |
| 2.5°  | 15.6  | 15.6  | 15.6  | 15.6  | 15.6  | 15.6  | 15.6  | 15.6  | 15.6 | 15.3  | 15.0 |
| 5°    | 16.6  | 16.6  | 16.6  | 16.6  | 16.4  | 16.4  | 16.4  | 16.1  | 16.1 | 15.6  | 14.7 |
| 7.5°  | 17.7  | 17.7  | 17.7  | 17.7  | 17.4  | 17.2  | 16.9  | 16.9  | 16.6 | 15.3  | 14.2 |
| 10°   | 19.8  | 19.8  | 19.6  | 19.3  | 19.0  | 18.5  | 18.2  | 17.7  | 16.9 | 15.0  | 13.4 |
| 12.5° | 24.1  | 23.6  | 23.3  | 22.8  | 22.0  | 20.9  | 19.8  | 19.0  | 17.2 | 14.5  | 12.6 |
| 15°   | 31.9  | 31.4  | 30.3  | 28.7  | 27.1  | 24.9  | 23.1  | 21.2  | 18.0 | 13.7  | 11.3 |
| 17.5° | 45.6  | 44.0  | 42.4  | 39.7  | 35.7  | 31.9  | 27.9  | 24.4  | 19.0 | 12.9  | 10.2 |
| 20°   | 82.1  | 81.0  | 71.3  | 63.8  | 51.8  | 43.2  | 35.1  | 29.2  | 20.6 | 12.1  | 9.1  |
| 22.5° | 169.2 | 157.9 | 142.1 | 116.4 | 90.6  | 66.8  | 48.5  | 36.7  | 22.3 | 11.0  | 8.0  |
| 25°   | 305.2 | 287.5 | 253.4 | 203.8 | 150.4 | 106.5 | 70.3  | 48.0  | 24.7 | 9.9   | 7.0  |
| 27.5° | 462.0 | 444.1 | 391.2 | 322.9 | 235.7 | 160.6 | 100.3 | 63.6  | 27.9 | 8.8   | 6.2  |
| 30°   | 629.1 | 613.8 | 546.8 | 452.1 | 332.3 | 225.0 | 134.3 | 79.4  | 31.4 | 7.8   | 5.4  |
| 31°   | 696.4 | 676.8 | 604.4 | 503.6 | 377.6 | 251.5 | 148.0 | 86.1  | 32.7 | 7.5   | 5.1  |
| 32°   | 758.4 | 736.1 | 661.0 | 552.9 | 414.3 | 280.2 | 163.0 | 92.0  | 33.8 | 7.0   | 4.8  |
| 33°   | 811.7 | 785.7 | 713.3 | 599.6 | 454.8 | 307.0 | 178.6 | 97.6  | 34.6 | 6.4   | 4.6  |
| 34°   | 857.0 | 834.5 | 756.8 | 646.5 | 490.7 | 332.8 | 193.9 | 103.2 | 35.1 | 6.2   | 4.3  |
| 35°   | 895.7 | 875.3 | 798.3 | 682.2 | 525.9 | 357.7 | 207.8 | 108.6 | 35.1 | 5.6   | 4.3  |
| 36°   | 921.7 | 904.0 | 834.3 | 718.7 | 555.4 | 378.9 | 219.6 | 113.4 | 35.1 | 5.1   | 4.0  |
| 37°   | 935.9 | 918.7 | 857.8 | 748.7 | 584.3 | 399.8 | 230.4 | 117.2 | 34.9 | 4.8   | 3.8  |
| 38°   | 943.1 | 928.1 | 875.3 | 773.1 | 604.4 | 414.8 | 239.7 | 120.1 | 34.6 | 4.3   | 3.8  |
| 39°   | 945.0 | 932.4 | 886.3 | 790.8 | 624.0 | 429.9 | 246.4 | 121.7 | 33.8 | 4.0   | 3.5  |
| 40°   | 943.7 | 932.7 | 892.2 | 806.6 | 639.0 | 441.7 | 251.3 | 122.3 | 33.0 | 3.5   | 3.5  |
| 41°   | 941.0 | 932.4 | 896.5 | 817.6 | 651.1 | 449.2 | 253.1 | 121.2 | 31.9 | 2.9   | 3.2  |
| 42°   | 938.6 | 929.2 | 898.3 | 825.1 | 659.4 | 452.9 | 252.9 | 119.1 | 30.3 | 2.7   | 3.2  |
| 43°   | 938.6 | 927.8 | 898.6 | 830.0 | 663.4 | 453.2 | 249.7 | 115.0 | 28.2 | 2.4   | 2.9  |
| 44°   | 937.0 | 927.0 | 899.9 | 833.2 | 664.5 | 450.8 | 244.6 | 110.8 | 25.7 | 2.1   | 2.9  |
| 45°   | 934.0 | 923.5 | 899.7 | 833.4 | 662.6 | 444.9 | 236.3 | 105.1 | 23.6 | 1.6   | 2.9  |
| 46°   | 928.4 | 919.0 | 897.3 | 831.6 | 657.0 | 436.3 | 226.3 | 99.5  | 21.2 | 1.3   | 2.7  |
| 47°   | 917.1 | 909.9 | 890.8 | 825.1 | 648.4 | 423.7 | 214.5 | 93.1  | 19.3 | 1.1   | 2.7  |
| 48°   | 897.8 | 892.7 | 879.8 | 810.9 | 632.1 | 408.1 | 201.9 | 86.1  | 17.4 | 1.1   | 2.7  |
| 49°   | 862.4 | 858.4 | 850.9 | 788.1 | 611.1 | 389.1 | 188.2 | 78.3  | 15.6 | 0.8   | 2.7  |
| 50°   | 834.5 | 830.2 | 814.9 | 749.8 | 581.1 | 365.0 | 173.2 | 70.5  | 13.4 | 0.5   | 2.4  |
| 51°   | 816.0 | 809.0 | 784.9 | 705.3 | 537.4 | 332.8 | 156.9 | 62.7  | 11.3 | 0.5   | 2.4  |
| 52°   | 792.7 | 782.2 | 752.2 | 665.3 | 497.4 | 300.6 | 139.2 | 55.0  | 9.9  | 0.5   | 2.4  |
| 53°   | 743.9 | 740.1 | 710.4 | 622.4 | 457.5 | 269.8 | 120.9 | 48.5  | 8.6  | 0.5   | 2.4  |
| 54°   | 701.2 | 695.6 | 655.1 | 562.9 | 414.0 | 235.4 | 102.2 | 42.9  | 7.2  | 0.5   | 2.4  |
| 55°   | 655.1 | 644.1 | 608.2 | 512.7 | 363.1 | 203.8 | 84.2  | 37.0  | 5.9  | 0.5   | 2.1  |
| 56°   | 596.9 | 587.3 | 548.7 | 459.1 | 316.2 | 171.6 | 70.5  | 30.3  | 4.6  | 0.5   | 2.1  |
| 57°   | 526.1 | 517.3 | 487.5 | 393.1 | 267.4 | 140.2 | 57.4  | 24.4  | 3.5  | 0.5   | 2.1  |
| 58°   | 457.8 | 447.8 | 413.8 | 329.8 | 215.9 | 111.3 | 48.0  | 19.8  | 2.7  | 0.5   | 2.1  |
| 59°   | 405.2 | 391.8 | 347.8 | 277.0 | 168.9 | 84.5  | 38.1  | 15.8  | 1.9  | 0.5   | 2.1  |
| 60°   | 361.5 | 350.5 | 304.9 | 230.6 | 132.5 | 62.2  | 28.2  | 12.1  | 1.1  | 0.5   | 2.1  |
| 62.5° | 209.4 | 206.5 | 165.5 | 118.8 | 62.5  | 29.0  | 13.9  | 5.6   | 0.5  | 0.8   | 2.1  |
| 65°   | 62.5  | 54.4  | 42.4  | 25.2  | 16.1  | 9.7   | 5.1   | 1.9   | 0.3  | 0.8   | 1.9  |



TEST NUMBER: P1342552

CATALOG NUMBER: P3A09R409830DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 5°  | 10° | 15° | 20° | 25° | 30° | 35° | 45° | 67.5° | 90° |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
| 67.5° | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.1 | 0.5 | 0.3 | 0.8   | 1.9 |
| 70°   | 1.1 | 0.8 | 0.8 | 0.8 | 0.8 | 0.5 | 0.5 | 0.3 | 0.3 | 0.8   | 1.6 |
| 72.5° | 0.8 | 0.8 | 0.8 | 0.8 | 0.5 | 0.5 | 0.5 | 0.3 | 0.5 | 0.8   | 1.3 |
| 75°   | 0.8 | 0.5 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.5 | 0.8   | 1.3 |
| 77.5° | 0.5 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.5 | 0.8   | 1.3 |
| 80°   | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.8   | 1.1 |
| 82.5° | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.8   | 1.1 |
| 85°   | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.8   | 1.1 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.3 | 0.8   | 0.8 |
| 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: P1342552

CATALOG NUMBER: P3A09R409830DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 0°    | 15.0   | 15.0 | 15.0   | 15.0 |
| 2.5°  | 14.5   | 14.2 | 13.9   | 13.9 |
| 5°    | 13.9   | 13.4 | 13.4   | 13.1 |
| 7.5°  | 13.1   | 12.6 | 12.6   | 12.6 |
| 10°   | 12.3   | 12.1 | 12.1   | 11.8 |
| 12.5° | 11.3   | 11.3 | 11.3   | 11.3 |
| 15°   | 10.5   | 10.5 | 10.7   | 10.7 |
| 17.5° | 9.4    | 9.7  | 10.2   | 10.5 |
| 20°   | 8.6    | 9.1  | 9.7    | 9.9  |
| 22.5° | 8.0    | 8.6  | 9.4    | 9.7  |
| 25°   | 7.2    | 8.0  | 9.1    | 9.4  |
| 27.5° | 6.7    | 7.8  | 8.6    | 9.1  |
| 30°   | 6.2    | 7.5  | 8.3    | 8.8  |
| 31°   | 6.2    | 7.2  | 8.3    | 8.8  |
| 32°   | 5.9    | 7.0  | 8.3    | 8.6  |
| 33°   | 5.9    | 7.0  | 8.3    | 8.6  |
| 34°   | 5.6    | 7.0  | 8.0    | 8.6  |
| 35°   | 5.6    | 7.0  | 8.0    | 8.6  |
| 36°   | 5.4    | 6.7  | 8.0    | 8.6  |
| 37°   | 5.4    | 6.7  | 8.0    | 8.6  |
| 38°   | 5.1    | 6.7  | 8.0    | 8.6  |
| 39°   | 5.1    | 6.7  | 8.0    | 8.6  |
| 40°   | 5.1    | 6.7  | 8.0    | 8.6  |
| 41°   | 4.8    | 6.7  | 8.0    | 8.6  |
| 42°   | 4.8    | 6.7  | 8.0    | 8.6  |
| 43°   | 4.8    | 6.4  | 8.0    | 8.6  |
| 44°   | 4.8    | 6.4  | 8.0    | 8.6  |
| 45°   | 4.6    | 6.4  | 8.0    | 8.6  |
| 46°   | 4.6    | 6.4  | 8.0    | 8.6  |
| 47°   | 4.6    | 6.4  | 8.0    | 8.6  |
| 48°   | 4.6    | 6.4  | 8.0    | 8.6  |
| 49°   | 4.6    | 6.4  | 8.0    | 8.6  |
| 50°   | 4.3    | 6.2  | 8.0    | 8.6  |
| 51°   | 4.3    | 6.2  | 8.0    | 8.6  |
| 52°   | 4.3    | 6.2  | 8.0    | 8.6  |
| 53°   | 4.3    | 6.2  | 8.0    | 8.6  |
| 54°   | 4.0    | 6.2  | 8.0    | 8.6  |
| 55°   | 4.0    | 6.2  | 8.0    | 8.6  |
| 56°   | 4.0    | 6.2  | 8.0    | 8.3  |
| 57°   | 4.0    | 6.2  | 7.8    | 8.3  |
| 58°   | 4.0    | 5.9  | 7.8    | 8.3  |
| 59°   | 4.0    | 5.9  | 7.8    | 8.3  |
| 60°   | 4.0    | 5.9  | 7.8    | 8.3  |
| 62.5° | 3.8    | 5.9  | 7.5    | 8.0  |
| 65°   | 3.5    | 5.4  | 7.5    | 7.8  |



TEST NUMBER: P1342552

CATALOG NUMBER: P3A09R409830DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 67.5° | 3.5    | 5.1  | 7.0    | 7.5  |
| 70°   | 3.2    | 4.8  | 6.7    | 7.2  |
| 72.5° | 2.7    | 4.6  | 6.2    | 6.7  |
| 75°   | 2.4    | 4.0  | 5.6    | 6.2  |
| 77.5° | 2.1    | 3.5  | 5.1    | 5.4  |
| 80°   | 1.9    | 2.9  | 4.3    | 4.8  |
| 82.5° | 1.3    | 2.1  | 3.5    | 3.8  |
| 85°   | 1.1    | 1.6  | 2.4    | 2.7  |
| 87.5° | 0.8    | 0.8  | 1.3    | 1.3  |
| 90°   | 0.0    | 0.0  | 0.0    | 0.0  |

(END OF REPORT)