

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: P1346114

Luminaire Tested: P3A13R409835DE010 E3A451WMH

Issue Date: 2/13/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1346114  
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: P3A13R409835DE010 E3A451WMH  
Description: 3in Adjustable LED luminaire with, R40 optic, 3500K CCT AND, 98CRI , E3A451WMH TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

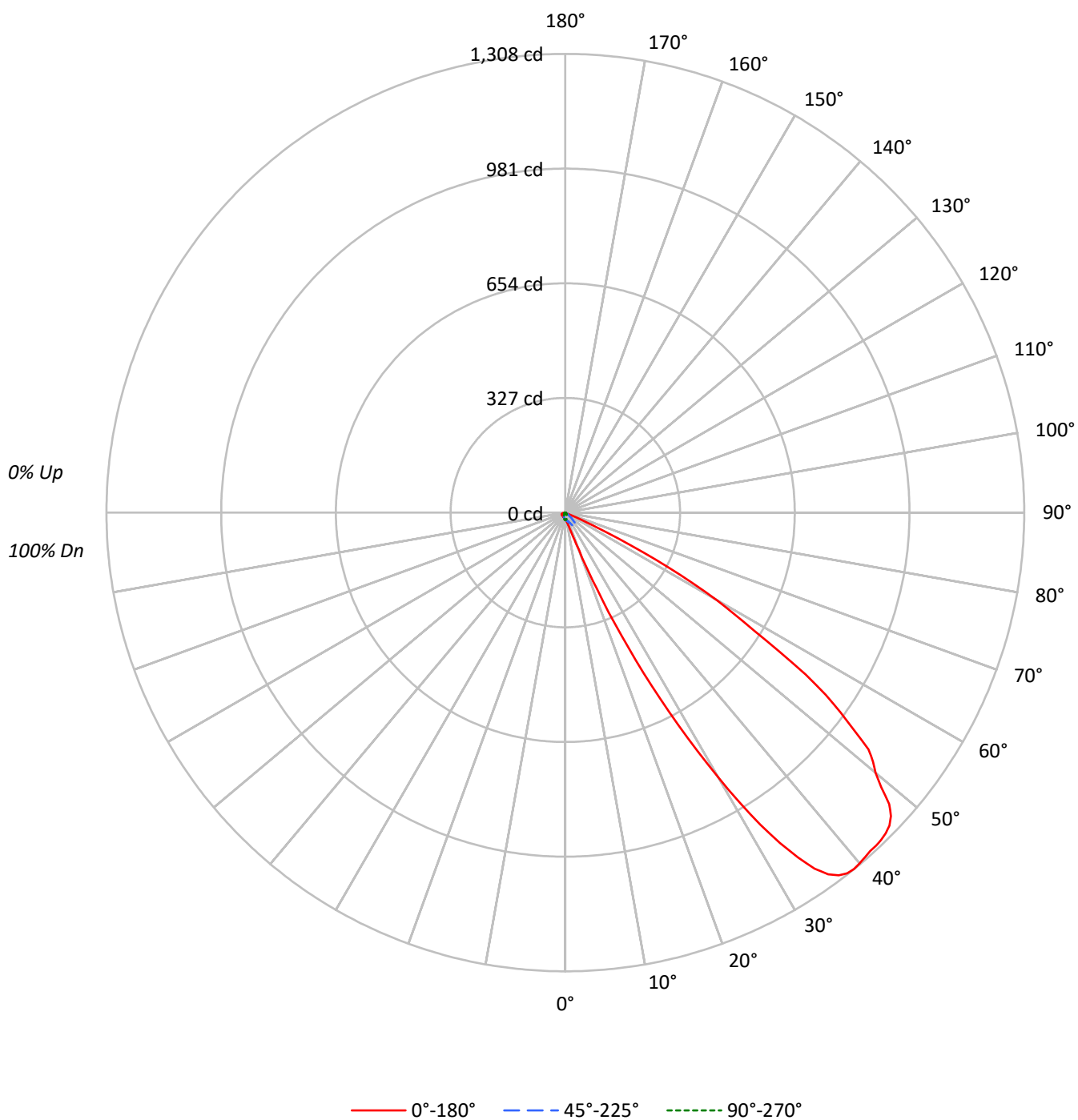
Lumens per Lamp: N/A  
Luminaire Lumens: 404.0 lumens  
Efficiency: N/A  
Efficacy: 27.9 lumens/watt  
Spacing Criteria (0/90/45): 3.99 / 0.73 / 1.54  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 14.5  
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: P1346114

CATALOG NUMBER: P3A13R409835DE010 E3A451WMH

### Luminous Intensity Polar Plot



TEST NUMBER: P1346114

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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°  | 4561   | 4561  | 4561 | 4561 | 4561 |
| 5°  | 5063   | 4909  | 4490 | 4094 | 4006 |
| 10° | 6123   | 5210  | 4142 | 3718 | 3629 |
| 15° | 10034  | 5653  | 3541 | 3292 | 3360 |
| 20° | 26486  | 6674  | 2940 | 2940 | 3197 |
| 25° | 102151 | 8250  | 2323 | 2686 | 3145 |
| 30° | 220388 | 10989 | 1874 | 2633 | 3089 |
| 35° | 331724 | 13010 | 1579 | 2570 | 3186 |
| 40° | 373729 | 13053 | 1374 | 2662 | 3406 |
| 45° | 400755 | 10110 | 1271 | 2760 | 3690 |
| 50° | 393880 | 6345  | 1126 | 2900 | 4060 |
| 55° | 346521 | 3135  | 1147 | 3250 | 4549 |
| 60° | 219325 | 658   | 1316 | 3596 | 5043 |
| 65° | 44830  | 208   | 1349 | 3840 | 5604 |
| 70° | 962    | 256   | 1410 | 4296 | 6411 |
| 75° | 932    | 593   | 1610 | 4745 | 7202 |
| 80° | 884    | 505   | 1894 | 5177 | 8461 |
| 85° | 1006   | 1006  | 3774 | 5535 | 9309 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 47°

Luminance: 407985 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1.9    | 0.5       |
| 10°-20°   | 6.4    | 1.6       |
| 20°-30°   | 31.4   | 7.8       |
| 30°-40°   | 102.1  | 25.3      |
| 40°-50°   | 140.7  | 34.8      |
| 50°-60°   | 98.0   | 24.3      |
| 60°-70°   | 18.6   | 4.6       |
| 70°-80°   | 3.4    | 0.8       |
| 80°-90°   | 1.6    | 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°    | 39.7   | 9.8       |
| 0°-40°    | 141.8  | 35.1      |
| 0°-60°    | 380.5  | 94.2      |
| 0°-90°    | 404.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 404.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45° | 90° | 135° | 180° | Flux |
|-----|------|-----|-----|------|------|------|
| 0°  | 21   | 21  | 21  | 21   | 21   |      |
| 5°  | 23   | 22  | 20  | 19   | 18   | 2    |
| 15° | 44   | 25  | 16  | 14   | 15   | 16   |
| 25° | 422  | 34  | 10  | 11   | 13   | 217  |
| 35° | 1239 | 49  | 6   | 10   | 12   | 749  |
| 45° | 1292 | 33  | 4   | 9    | 12   | 983  |
| 55° | 906  | 8   | 3   | 8    | 12   | 775  |
| 65° | 86   | 0   | 3   | 7    | 11   | 153  |
| 75° | 1    | 1   | 2   | 6    | 8    | 1    |
| 85° | 0    | 0   | 2   | 2    | 4    | 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°    | 20.8   | 20.8   | 20.8   | 20.8   | 20.8  | 20.8  | 20.8  | 20.8  | 20.8 | 20.8  | 20.8 |
| 2.5°  | 21.5   | 21.5   | 21.5   | 21.5   | 21.5  | 21.5  | 21.5  | 21.5  | 21.5 | 21.1  | 20.8 |
| 5°    | 23.0   | 23.0   | 23.0   | 23.0   | 22.6  | 22.6  | 22.6  | 22.3  | 22.3 | 21.5  | 20.4 |
| 7.5°  | 24.5   | 24.5   | 24.5   | 24.5   | 24.1  | 23.7  | 23.4  | 23.4  | 23.0 | 21.1  | 19.7 |
| 10°   | 27.5   | 27.5   | 27.1   | 26.7   | 26.3  | 25.6  | 25.2  | 24.5  | 23.4 | 20.8  | 18.6 |
| 12.5° | 33.4   | 32.6   | 32.3   | 31.5   | 30.4  | 28.9  | 27.5  | 26.3  | 23.7 | 20.0  | 17.4 |
| 15°   | 44.2   | 43.4   | 41.9   | 39.7   | 37.5  | 34.5  | 31.9  | 29.3  | 24.9 | 18.9  | 15.6 |
| 17.5° | 63.1   | 60.8   | 58.6   | 54.9   | 49.3  | 44.2  | 38.6  | 33.8  | 26.3 | 17.8  | 14.1 |
| 20°   | 113.5  | 112.0  | 98.7   | 88.3   | 71.6  | 59.7  | 48.6  | 40.4  | 28.6 | 16.7  | 12.6 |
| 22.5° | 234.1  | 218.5  | 196.6  | 161.0  | 125.4 | 92.4  | 67.2  | 50.8  | 30.8 | 15.2  | 11.1 |
| 25°   | 422.2  | 397.7  | 350.6  | 282.0  | 208.1 | 147.3 | 97.2  | 66.4  | 34.1 | 13.7  | 9.6  |
| 27.5° | 639.3  | 614.4  | 541.3  | 446.7  | 326.1 | 222.2 | 138.8 | 87.9  | 38.6 | 12.2  | 8.5  |
| 30°   | 870.4  | 849.3  | 756.5  | 625.5  | 459.7 | 311.3 | 185.9 | 109.8 | 43.4 | 10.8  | 7.4  |
| 31°   | 963.5  | 936.4  | 836.3  | 696.8  | 522.4 | 348.0 | 204.8 | 119.1 | 45.3 | 10.4  | 7.0  |
| 32°   | 1049.2 | 1018.4 | 914.6  | 765.0  | 573.2 | 387.7 | 225.6 | 127.3 | 46.7 | 9.6   | 6.7  |
| 33°   | 1123.1 | 1087.1 | 986.9  | 829.6  | 629.2 | 424.8 | 247.1 | 135.1 | 47.9 | 8.9   | 6.3  |
| 34°   | 1185.8 | 1154.6 | 1047.0 | 894.5  | 679.0 | 460.4 | 268.2 | 142.8 | 48.6 | 8.5   | 5.9  |
| 35°   | 1239.2 | 1211.0 | 1104.5 | 943.9  | 727.6 | 494.9 | 287.5 | 150.3 | 48.6 | 7.8   | 5.9  |
| 36°   | 1275.2 | 1250.7 | 1154.2 | 994.3  | 768.4 | 524.2 | 303.9 | 156.9 | 48.6 | 7.0   | 5.6  |
| 37°   | 1294.9 | 1271.1 | 1186.9 | 1035.9 | 808.4 | 553.2 | 318.7 | 162.1 | 48.2 | 6.7   | 5.2  |
| 38°   | 1304.9 | 1284.1 | 1211.0 | 1069.6 | 836.3 | 574.0 | 331.7 | 166.2 | 47.9 | 5.9   | 5.2  |
| 39°   | 1307.5 | 1290.0 | 1226.2 | 1094.1 | 863.4 | 594.7 | 341.0 | 168.4 | 46.7 | 5.6   | 4.8  |
| 40°   | 1305.6 | 1290.4 | 1234.4 | 1116.0 | 884.1 | 611.1 | 347.6 | 169.2 | 45.6 | 4.8   | 4.8  |
| 41°   | 1301.9 | 1290.0 | 1240.3 | 1131.2 | 900.8 | 621.5 | 350.2 | 167.7 | 44.2 | 4.1   | 4.5  |
| 42°   | 1298.6 | 1285.6 | 1242.9 | 1141.6 | 912.3 | 626.6 | 349.9 | 164.7 | 41.9 | 3.7   | 4.5  |
| 43°   | 1298.6 | 1283.7 | 1243.3 | 1148.3 | 917.9 | 627.0 | 345.4 | 159.2 | 39.0 | 3.3   | 4.1  |
| 44°   | 1296.3 | 1282.6 | 1245.1 | 1152.8 | 919.4 | 623.7 | 338.4 | 153.2 | 35.6 | 3.0   | 4.1  |
| 45°   | 1292.3 | 1277.8 | 1244.8 | 1153.1 | 916.8 | 615.5 | 326.9 | 145.4 | 32.6 | 2.2   | 4.1  |
| 46°   | 1284.5 | 1271.5 | 1241.4 | 1150.5 | 909.0 | 603.6 | 313.1 | 137.6 | 29.3 | 1.9   | 3.7  |
| 47°   | 1268.9 | 1258.9 | 1232.5 | 1141.6 | 897.1 | 586.2 | 296.8 | 128.7 | 26.7 | 1.5   | 3.7  |
| 48°   | 1242.2 | 1235.1 | 1217.3 | 1122.0 | 874.5 | 564.7 | 279.4 | 119.1 | 24.1 | 1.5   | 3.7  |
| 49°   | 1193.2 | 1187.6 | 1177.2 | 1090.4 | 845.5 | 538.3 | 260.5 | 108.3 | 21.5 | 1.1   | 3.7  |
| 50°   | 1154.6 | 1148.7 | 1127.5 | 1037.4 | 804.0 | 505.0 | 239.7 | 97.6  | 18.6 | 0.7   | 3.3  |
| 51°   | 1129.0 | 1119.4 | 1086.0 | 975.8  | 743.5 | 460.4 | 217.0 | 86.8  | 15.6 | 0.7   | 3.3  |
| 52°   | 1096.7 | 1082.3 | 1040.7 | 920.5  | 688.2 | 415.9 | 192.6 | 76.1  | 13.7 | 0.7   | 3.3  |
| 53°   | 1029.2 | 1024.0 | 982.8  | 861.1  | 633.0 | 373.2 | 167.3 | 67.2  | 11.9 | 0.7   | 3.3  |
| 54°   | 970.2  | 962.4  | 906.4  | 778.8  | 572.9 | 325.8 | 141.4 | 59.4  | 10.0 | 0.7   | 3.3  |
| 55°   | 906.4  | 891.2  | 841.5  | 709.4  | 502.4 | 282.0 | 116.5 | 51.2  | 8.2  | 0.7   | 3.0  |
| 56°   | 825.9  | 812.5  | 759.1  | 635.2  | 437.4 | 237.5 | 97.6  | 41.9  | 6.3  | 0.7   | 3.0  |
| 57°   | 727.9  | 715.7  | 674.5  | 543.9  | 369.9 | 194.0 | 79.4  | 33.8  | 4.8  | 0.7   | 3.0  |
| 58°   | 633.3  | 619.6  | 572.5  | 456.4  | 298.7 | 154.0 | 66.4  | 27.5  | 3.7  | 0.7   | 3.0  |
| 59°   | 560.6  | 542.1  | 481.2  | 383.3  | 233.7 | 116.9 | 52.7  | 21.9  | 2.6  | 0.7   | 3.0  |
| 60°   | 500.1  | 484.9  | 421.8  | 319.1  | 183.3 | 86.1  | 39.0  | 16.7  | 1.5  | 0.7   | 3.0  |
| 62.5° | 289.8  | 285.7  | 228.9  | 164.4  | 86.4  | 40.1  | 19.3  | 7.8   | 0.7  | 1.1   | 3.0  |
| 65°   | 86.4   | 75.3   | 58.6   | 34.9   | 22.3  | 13.4  | 7.0   | 2.6   | 0.4  | 1.1   | 2.6  |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 5°  | 10° | 15° | 20° | 25° | 30° | 35° | 45° | 67.5° | 90° |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
| 67.5° | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 1.5 | 0.7 | 0.4 | 1.1   | 2.6 |
| 70°   | 1.5 | 1.1 | 1.1 | 1.1 | 1.1 | 0.7 | 0.7 | 0.4 | 0.4 | 1.1   | 2.2 |
| 72.5° | 1.1 | 1.1 | 1.1 | 1.1 | 0.7 | 0.7 | 0.7 | 0.4 | 0.7 | 1.1   | 1.9 |
| 75°   | 1.1 | 0.7 | 0.7 | 0.7 | 0.7 | 0.4 | 0.4 | 0.4 | 0.7 | 1.1   | 1.9 |
| 77.5° | 0.7 | 0.7 | 0.7 | 0.7 | 0.4 | 0.4 | 0.4 | 0.4 | 0.7 | 1.1   | 1.9 |
| 80°   | 0.7 | 0.7 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.1   | 1.5 |
| 82.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.1   | 1.5 |
| 85°   | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.1   | 1.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.4 | 1.1   | 1.1 |
| 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°    | 20.8   | 20.8 | 20.8   | 20.8 |
| 2.5°  | 20.0   | 19.7 | 19.3   | 19.3 |
| 5°    | 19.3   | 18.6 | 18.6   | 18.2 |
| 7.5°  | 18.2   | 17.4 | 17.4   | 17.4 |
| 10°   | 17.1   | 16.7 | 16.7   | 16.3 |
| 12.5° | 15.6   | 15.6 | 15.6   | 15.6 |
| 15°   | 14.5   | 14.5 | 14.8   | 14.8 |
| 17.5° | 13.0   | 13.4 | 14.1   | 14.5 |
| 20°   | 11.9   | 12.6 | 13.4   | 13.7 |
| 22.5° | 11.1   | 11.9 | 13.0   | 13.4 |
| 25°   | 10.0   | 11.1 | 12.6   | 13.0 |
| 27.5° | 9.3    | 10.8 | 11.9   | 12.6 |
| 30°   | 8.5    | 10.4 | 11.5   | 12.2 |
| 31°   | 8.5    | 10.0 | 11.5   | 12.2 |
| 32°   | 8.2    | 9.6  | 11.5   | 11.9 |
| 33°   | 8.2    | 9.6  | 11.5   | 11.9 |
| 34°   | 7.8    | 9.6  | 11.1   | 11.9 |
| 35°   | 7.8    | 9.6  | 11.1   | 11.9 |
| 36°   | 7.4    | 9.3  | 11.1   | 11.9 |
| 37°   | 7.4    | 9.3  | 11.1   | 11.9 |
| 38°   | 7.0    | 9.3  | 11.1   | 11.9 |
| 39°   | 7.0    | 9.3  | 11.1   | 11.9 |
| 40°   | 7.0    | 9.3  | 11.1   | 11.9 |
| 41°   | 6.7    | 9.3  | 11.1   | 11.9 |
| 42°   | 6.7    | 9.3  | 11.1   | 11.9 |
| 43°   | 6.7    | 8.9  | 11.1   | 11.9 |
| 44°   | 6.7    | 8.9  | 11.1   | 11.9 |
| 45°   | 6.3    | 8.9  | 11.1   | 11.9 |
| 46°   | 6.3    | 8.9  | 11.1   | 11.9 |
| 47°   | 6.3    | 8.9  | 11.1   | 11.9 |
| 48°   | 6.3    | 8.9  | 11.1   | 11.9 |
| 49°   | 6.3    | 8.9  | 11.1   | 11.9 |
| 50°   | 5.9    | 8.5  | 11.1   | 11.9 |
| 51°   | 5.9    | 8.5  | 11.1   | 11.9 |
| 52°   | 5.9    | 8.5  | 11.1   | 11.9 |
| 53°   | 5.9    | 8.5  | 11.1   | 11.9 |
| 54°   | 5.6    | 8.5  | 11.1   | 11.9 |
| 55°   | 5.6    | 8.5  | 11.1   | 11.9 |
| 56°   | 5.6    | 8.5  | 11.1   | 11.5 |
| 57°   | 5.6    | 8.5  | 10.8   | 11.5 |
| 58°   | 5.6    | 8.2  | 10.8   | 11.5 |
| 59°   | 5.6    | 8.2  | 10.8   | 11.5 |
| 60°   | 5.6    | 8.2  | 10.8   | 11.5 |
| 62.5° | 5.2    | 8.2  | 10.4   | 11.1 |
| 65°   | 4.8    | 7.4  | 10.4   | 10.8 |





TEST NUMBER: P1346114

CATALOG NUMBER: P3A13R409835DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 67.5° | 4.8    | 7.0  | 9.6    | 10.4 |
| 70°   | 4.5    | 6.7  | 9.3    | 10.0 |
| 72.5° | 3.7    | 6.3  | 8.5    | 9.3  |
| 75°   | 3.3    | 5.6  | 7.8    | 8.5  |
| 77.5° | 3.0    | 4.8  | 7.0    | 7.4  |
| 80°   | 2.6    | 4.1  | 5.9    | 6.7  |
| 82.5° | 1.9    | 3.0  | 4.8    | 5.2  |
| 85°   | 1.5    | 2.2  | 3.3    | 3.7  |
| 87.5° | 1.1    | 1.1  | 1.9    | 1.9  |
| 90°   | 0.0    | 0.0  | 0.0    | 0.0  |

(END OF REPORT)