

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: P1346082

Luminaire Tested: P3A13R409827DE010 E3A451WMH

Issue Date: 2/13/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1346082  
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: P3A13R409827DE010 E3A451WMH  
Description: 3in Adjustable LED luminaire with, R40 optic, 2700K CCT AND, 98CRI , E3A451WMH TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

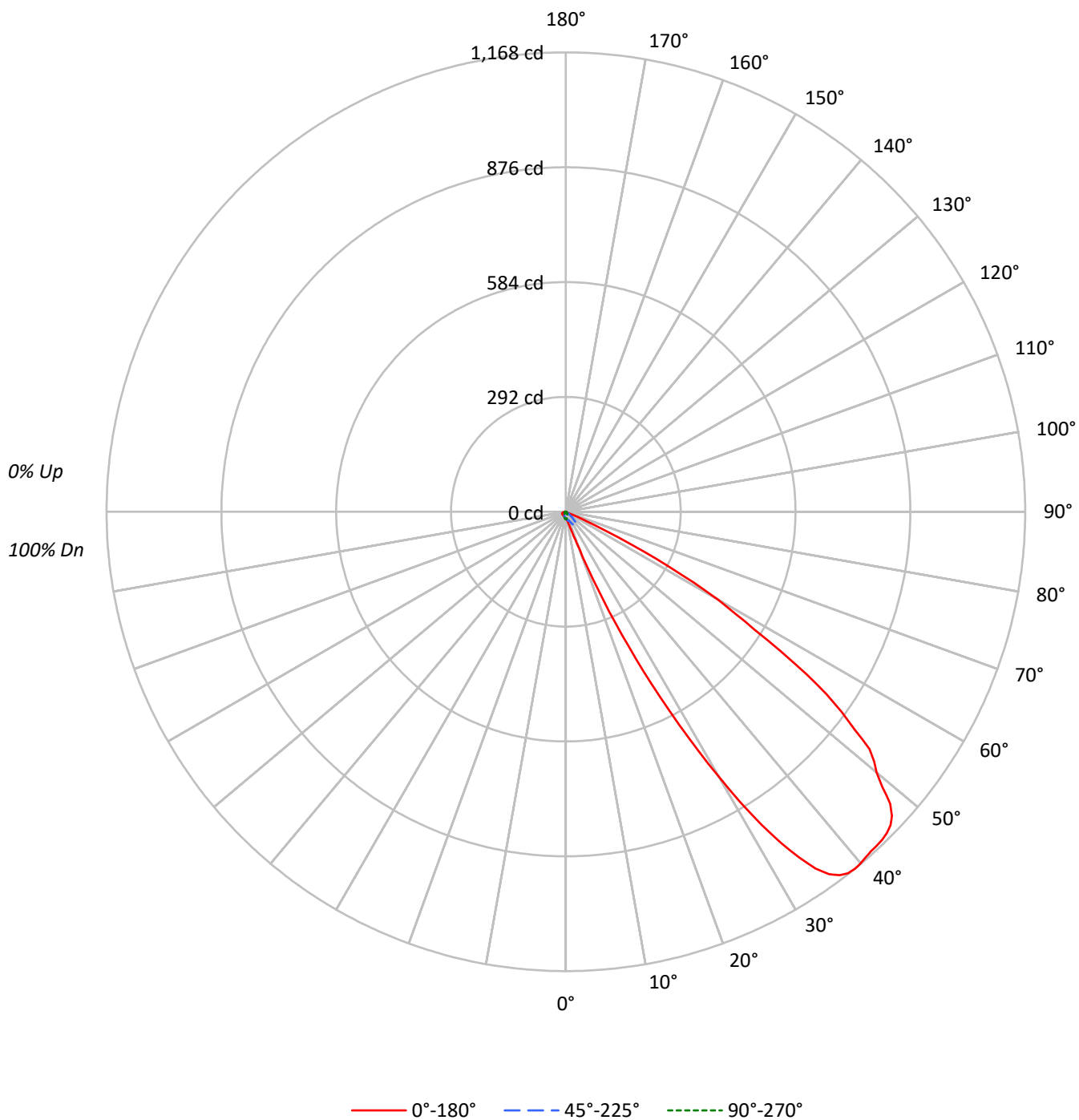
Lumens per Lamp: N/A  
Luminaire Lumens: 361.0 lumens  
Efficiency: N/A  
Efficacy: 24.9 lumens/watt  
Spacing Criteria (0/90/45): 3.99 / 0.73 / 1.54  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

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: P1346082

CATALOG NUMBER: P3A13R409827DE010 E3A451WMH

### Luminous Intensity Polar Plot



TEST NUMBER: P1346082

CATALOG NUMBER: P3A13R409827DE010 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  |
| 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°  | 4079   | 4079  | 4079 | 4079 | 4079 |
| 5°  | 4534   | 4380  | 4006 | 3654 | 3566 |
| 10° | 5455   | 4654  | 3696 | 3318 | 3251 |
| 15° | 8967   | 5040  | 3156 | 2929 | 3019 |
| 20° | 23662  | 5951  | 2637 | 2637 | 2870 |
| 25° | 91288  | 7379  | 2081 | 2395 | 2807 |
| 30° | 196942 | 9824  | 1671 | 2355 | 2760 |
| 35° | 296416 | 11618 | 1419 | 2302 | 2838 |
| 40° | 333940 | 11679 | 1231 | 2376 | 3034 |
| 45° | 358084 | 9055  | 1116 | 2481 | 3287 |
| 50° | 351954 | 5663  | 1023 | 2593 | 3616 |
| 55° | 309628 | 2791  | 1032 | 2906 | 4052 |
| 60° | 195993 | 570   | 1184 | 3201 | 4517 |
| 65° | 40056  | 156   | 1193 | 3424 | 4981 |
| 70° | 833    | 192   | 1282 | 3847 | 5770 |
| 75° | 847    | 593   | 1440 | 4236 | 6439 |
| 80° | 884    | 379   | 1642 | 4546 | 7577 |
| 85° | 755    | 755   | 3271 | 5032 | 8303 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 47°

Luminance: 364547 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 1.7    | 0.5       |
| 10°-20°   | 5.7    | 1.6       |
| 20°-30°   | 28.0   | 7.8       |
| 30°-40°   | 91.2   | 25.3      |
| 40°-50°   | 125.7  | 34.8      |
| 50°-60°   | 87.6   | 24.3      |
| 60°-70°   | 16.6   | 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°    | 35.5   | 9.8       |
| 0°-40°    | 126.7  | 35.1      |
| 0°-60°    | 340.0  | 94.2      |
| 0°-90°    | 361.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 361.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45° | 90° | 135° | 180° | Flux |
|-----|------|-----|-----|------|------|------|
| 0°  | 19   | 19  | 19  | 19   | 19   |      |
| 5°  | 21   | 20  | 18  | 17   | 16   | 2    |
| 15° | 40   | 22  | 14  | 13   | 13   | 14   |
| 25° | 377  | 30  | 9   | 10   | 12   | 194  |
| 35° | 1107 | 43  | 5   | 9    | 11   | 669  |
| 45° | 1155 | 29  | 4   | 8    | 11   | 878  |
| 55° | 810  | 7   | 3   | 8    | 11   | 692  |
| 65° | 77   | 0   | 2   | 7    | 10   | 137  |
| 75° | 1    | 1   | 2   | 5    | 8    | 1    |
| 85° | 0    | 0   | 1   | 2    | 3    | 0    |
| 90° | 0    | 0   | 0   | 0    | 0    |      |

TEST NUMBER: P1346082

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°   | 25°   | 30°   | 35°   | 45°  | 67.5° | 90°  |
|-------|--------|--------|--------|--------|-------|-------|-------|-------|------|-------|------|
| 0°    | 18.6   | 18.6   | 18.6   | 18.6   | 18.6  | 18.6  | 18.6  | 18.6  | 18.6 | 18.6  | 18.6 |
| 2.5°  | 19.2   | 19.2   | 19.2   | 19.2   | 19.2  | 19.2  | 19.2  | 19.2  | 19.2 | 18.9  | 18.6 |
| 5°    | 20.6   | 20.6   | 20.6   | 20.6   | 20.2  | 20.2  | 20.2  | 19.9  | 19.9 | 19.2  | 18.2 |
| 7.5°  | 21.9   | 21.9   | 21.9   | 21.9   | 21.5  | 21.2  | 20.9  | 20.9  | 20.6 | 18.9  | 17.6 |
| 10°   | 24.5   | 24.5   | 24.2   | 23.9   | 23.5  | 22.9  | 22.5  | 21.9  | 20.9 | 18.6  | 16.6 |
| 12.5° | 29.8   | 29.2   | 28.8   | 28.2   | 27.2  | 25.9  | 24.5  | 23.5  | 21.2 | 17.9  | 15.6 |
| 15°   | 39.5   | 38.8   | 37.5   | 35.5   | 33.5  | 30.8  | 28.5  | 26.2  | 22.2 | 16.9  | 13.9 |
| 17.5° | 56.4   | 54.4   | 52.4   | 49.1   | 44.1  | 39.5  | 34.5  | 30.2  | 23.5 | 15.9  | 12.6 |
| 20°   | 101.4  | 100.1  | 88.2   | 78.9   | 64.0  | 53.4  | 43.4  | 36.1  | 25.5 | 14.9  | 11.3 |
| 22.5° | 209.2  | 195.3  | 175.7  | 143.9  | 112.1 | 82.6  | 60.0  | 45.4  | 27.5 | 13.6  | 9.9  |
| 25°   | 377.3  | 355.4  | 313.3  | 252.0  | 186.0 | 131.6 | 86.9  | 59.3  | 30.5 | 12.3  | 8.6  |
| 27.5° | 571.2  | 549.0  | 483.7  | 399.2  | 291.4 | 198.6 | 124.0 | 78.6  | 34.5 | 10.9  | 7.6  |
| 30°   | 777.8  | 758.9  | 676.0  | 559.0  | 410.8 | 278.2 | 166.1 | 98.1  | 38.8 | 9.6   | 6.6  |
| 31°   | 861.0  | 836.8  | 747.3  | 622.6  | 466.8 | 311.0 | 183.0 | 106.4 | 40.4 | 9.3   | 6.3  |
| 32°   | 937.6  | 910.0  | 817.2  | 683.6  | 512.2 | 346.4 | 201.6 | 113.7 | 41.8 | 8.6   | 6.0  |
| 33°   | 1003.5 | 971.4  | 881.9  | 741.3  | 562.3 | 379.6 | 220.8 | 120.7 | 42.8 | 8.0   | 5.6  |
| 34°   | 1059.6 | 1031.7 | 935.6  | 799.3  | 606.7 | 411.4 | 239.7 | 127.6 | 43.4 | 7.6   | 5.3  |
| 35°   | 1107.3 | 1082.1 | 987.0  | 843.4  | 650.1 | 442.3 | 256.9 | 134.3 | 43.4 | 7.0   | 5.3  |
| 36°   | 1139.5 | 1117.6 | 1031.4 | 888.5  | 686.6 | 468.4 | 271.5 | 140.2 | 43.4 | 6.3   | 5.0  |
| 37°   | 1157.0 | 1135.8 | 1060.6 | 925.6  | 722.4 | 494.3 | 284.8 | 144.9 | 43.1 | 6.0   | 4.6  |
| 38°   | 1166.0 | 1147.4 | 1082.1 | 955.8  | 747.3 | 512.9 | 296.4 | 148.5 | 42.8 | 5.3   | 4.6  |
| 39°   | 1168.3 | 1152.7 | 1095.7 | 977.7  | 771.5 | 531.4 | 304.7 | 150.5 | 41.8 | 5.0   | 4.3  |
| 40°   | 1166.6 | 1153.1 | 1103.0 | 997.2  | 790.0 | 546.0 | 310.6 | 151.2 | 40.8 | 4.3   | 4.3  |
| 41°   | 1163.3 | 1152.7 | 1108.3 | 1010.8 | 805.0 | 555.3 | 313.0 | 149.9 | 39.5 | 3.6   | 4.0  |
| 42°   | 1160.3 | 1148.7 | 1110.6 | 1020.1 | 815.2 | 560.0 | 312.6 | 147.2 | 37.5 | 3.3   | 4.0  |
| 43°   | 1160.3 | 1147.1 | 1111.0 | 1026.1 | 820.2 | 560.3 | 308.7 | 142.2 | 34.8 | 3.0   | 3.6  |
| 44°   | 1158.4 | 1146.1 | 1112.6 | 1030.1 | 821.5 | 557.3 | 302.4 | 136.9 | 31.8 | 2.7   | 3.6  |
| 45°   | 1154.7 | 1141.8 | 1112.3 | 1030.4 | 819.2 | 550.0 | 292.1 | 130.0 | 29.2 | 2.0   | 3.6  |
| 46°   | 1147.8 | 1136.1 | 1109.3 | 1028.1 | 812.2 | 539.4 | 279.8 | 123.0 | 26.2 | 1.7   | 3.3  |
| 47°   | 1133.8 | 1124.9 | 1101.3 | 1020.1 | 801.6 | 523.8 | 265.2 | 115.0 | 23.9 | 1.3   | 3.3  |
| 48°   | 1110.0 | 1103.7 | 1087.7 | 1002.5 | 781.4 | 504.6 | 249.6 | 106.4 | 21.5 | 1.3   | 3.3  |
| 49°   | 1066.2 | 1061.2 | 1051.9 | 974.4  | 755.6 | 481.0 | 232.7 | 96.8  | 19.2 | 1.0   | 3.3  |
| 50°   | 1031.7 | 1026.4 | 1007.5 | 927.0  | 718.4 | 451.2 | 214.2 | 87.2  | 16.6 | 0.7   | 3.0  |
| 51°   | 1008.8 | 1000.2 | 970.4  | 871.9  | 664.4 | 411.4 | 193.9 | 77.6  | 13.9 | 0.7   | 3.0  |
| 52°   | 980.0  | 967.1  | 929.9  | 822.5  | 615.0 | 371.6 | 172.1 | 68.0  | 12.3 | 0.7   | 3.0  |
| 53°   | 919.7  | 915.0  | 878.2  | 769.5  | 565.6 | 333.5 | 149.5 | 60.0  | 10.6 | 0.7   | 3.0  |
| 54°   | 866.9  | 860.0  | 809.9  | 695.9  | 511.9 | 291.1 | 126.3 | 53.0  | 9.0  | 0.7   | 3.0  |
| 55°   | 809.9  | 796.3  | 751.9  | 633.9  | 448.9 | 252.0 | 104.1 | 45.8  | 7.3  | 0.7   | 2.7  |
| 56°   | 738.0  | 726.0  | 678.3  | 567.6  | 390.9 | 212.2 | 87.2  | 37.5  | 5.6  | 0.7   | 2.7  |
| 57°   | 650.5  | 639.5  | 602.7  | 486.0  | 330.5 | 173.4 | 70.9  | 30.2  | 4.3  | 0.7   | 2.7  |
| 58°   | 565.9  | 553.7  | 511.5  | 407.8  | 266.9 | 137.6 | 59.3  | 24.5  | 3.3  | 0.7   | 2.7  |
| 59°   | 500.9  | 484.4  | 430.0  | 342.5  | 208.9 | 104.4 | 47.1  | 19.6  | 2.3  | 0.7   | 2.7  |
| 60°   | 446.9  | 433.3  | 376.9  | 285.1  | 163.8 | 76.9  | 34.8  | 14.9  | 1.3  | 0.7   | 2.7  |
| 62.5° | 258.9  | 255.3  | 204.6  | 146.9  | 77.2  | 35.8  | 17.2  | 7.0   | 0.7  | 1.0   | 2.7  |
| 65°   | 77.2   | 67.3   | 52.4   | 31.2   | 19.9  | 11.9  | 6.3   | 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   | 1.7 |
| 75°   | 1.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.3 | 0.3 | 0.3 | 0.7 | 1.0   | 1.7 |
| 77.5° | 0.7 | 0.7 | 0.7 | 0.7 | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 | 1.0   | 1.7 |
| 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 |

TEST NUMBER: P1346082

CATALOG NUMBER: P3A13R409827DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 0°    | 18.6   | 18.6 | 18.6   | 18.6 |
| 2.5°  | 17.9   | 17.6 | 17.2   | 17.2 |
| 5°    | 17.2   | 16.6 | 16.6   | 16.2 |
| 7.5°  | 16.2   | 15.6 | 15.6   | 15.6 |
| 10°   | 15.3   | 14.9 | 14.9   | 14.6 |
| 12.5° | 13.9   | 13.9 | 13.9   | 13.9 |
| 15°   | 12.9   | 12.9 | 13.3   | 13.3 |
| 17.5° | 11.6   | 11.9 | 12.6   | 12.9 |
| 20°   | 10.6   | 11.3 | 11.9   | 12.3 |
| 22.5° | 9.9    | 10.6 | 11.6   | 11.9 |
| 25°   | 9.0    | 9.9  | 11.3   | 11.6 |
| 27.5° | 8.3    | 9.6  | 10.6   | 11.3 |
| 30°   | 7.6    | 9.3  | 10.3   | 10.9 |
| 31°   | 7.6    | 9.0  | 10.3   | 10.9 |
| 32°   | 7.3    | 8.6  | 10.3   | 10.6 |
| 33°   | 7.3    | 8.6  | 10.3   | 10.6 |
| 34°   | 7.0    | 8.6  | 9.9    | 10.6 |
| 35°   | 7.0    | 8.6  | 9.9    | 10.6 |
| 36°   | 6.6    | 8.3  | 9.9    | 10.6 |
| 37°   | 6.6    | 8.3  | 9.9    | 10.6 |
| 38°   | 6.3    | 8.3  | 9.9    | 10.6 |
| 39°   | 6.3    | 8.3  | 9.9    | 10.6 |
| 40°   | 6.3    | 8.3  | 9.9    | 10.6 |
| 41°   | 6.0    | 8.3  | 9.9    | 10.6 |
| 42°   | 6.0    | 8.3  | 9.9    | 10.6 |
| 43°   | 6.0    | 8.0  | 9.9    | 10.6 |
| 44°   | 6.0    | 8.0  | 9.9    | 10.6 |
| 45°   | 5.6    | 8.0  | 9.9    | 10.6 |
| 46°   | 5.6    | 8.0  | 9.9    | 10.6 |
| 47°   | 5.6    | 8.0  | 9.9    | 10.6 |
| 48°   | 5.6    | 8.0  | 9.9    | 10.6 |
| 49°   | 5.6    | 8.0  | 9.9    | 10.6 |
| 50°   | 5.3    | 7.6  | 9.9    | 10.6 |
| 51°   | 5.3    | 7.6  | 9.9    | 10.6 |
| 52°   | 5.3    | 7.6  | 9.9    | 10.6 |
| 53°   | 5.3    | 7.6  | 9.9    | 10.6 |
| 54°   | 5.0    | 7.6  | 9.9    | 10.6 |
| 55°   | 5.0    | 7.6  | 9.9    | 10.6 |
| 56°   | 5.0    | 7.6  | 9.9    | 10.3 |
| 57°   | 5.0    | 7.6  | 9.6    | 10.3 |
| 58°   | 5.0    | 7.3  | 9.6    | 10.3 |
| 59°   | 5.0    | 7.3  | 9.6    | 10.3 |
| 60°   | 5.0    | 7.3  | 9.6    | 10.3 |
| 62.5° | 4.6    | 7.3  | 9.3    | 9.9  |
| 65°   | 4.3    | 6.6  | 9.3    | 9.6  |



TEST NUMBER: P1346082

CATALOG NUMBER: P3A13R409827DE010 E3A451WMH

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 67.5° | 4.3    | 6.3  | 8.6    | 9.3  |
| 70°   | 4.0    | 6.0  | 8.3    | 9.0  |
| 72.5° | 3.3    | 5.6  | 7.6    | 8.3  |
| 75°   | 3.0    | 5.0  | 7.0    | 7.6  |
| 77.5° | 2.7    | 4.3  | 6.3    | 6.6  |
| 80°   | 2.3    | 3.6  | 5.3    | 6.0  |
| 82.5° | 1.7    | 2.7  | 4.3    | 4.6  |
| 85°   | 1.3    | 2.0  | 3.0    | 3.3  |
| 87.5° | 1.0    | 1.0  | 1.7    | 1.7  |
| 90°   | 0.0    | 0.0  | 0.0    | 0.0  |

(END OF REPORT)