

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: P1346127

Luminaire Tested: P3A13R409840DE010 E3A451LI

Issue Date: 2/13/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1346127  
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: P3A13R409840DE010 E3A451LI  
Description: 3in Adjustable LED luminaire with, R40 optic, 4000K CCT AND, 98CRI , E3A451LI TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

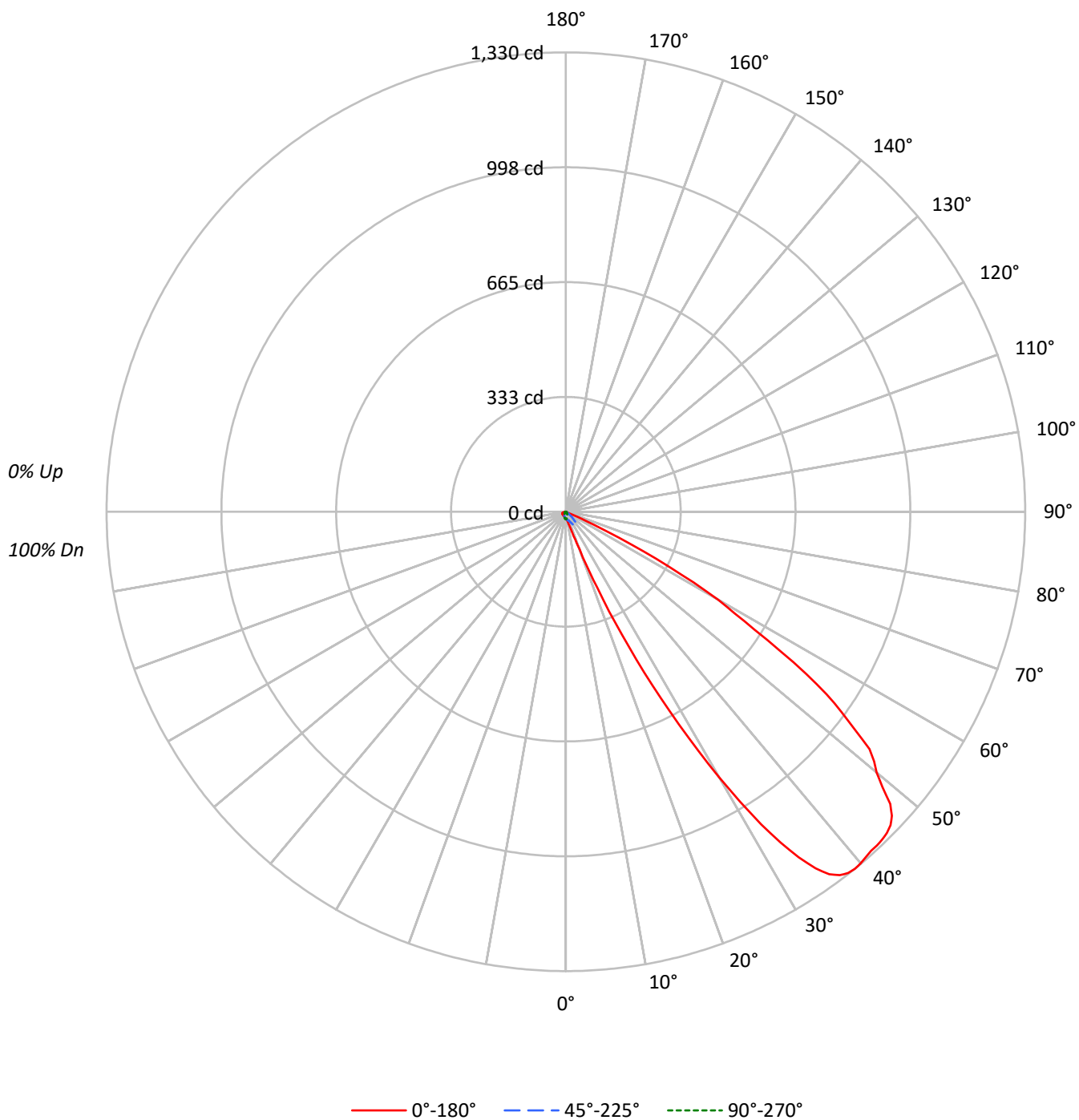
Lumens per Lamp: N/A  
Luminaire Lumens: 411.0 lumens  
Efficiency: N/A  
Efficacy: 28.3 lumens/watt  
Spacing Criteria (0/90/45): 3.99 / 0.73 / 1.54  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

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: P1346127

CATALOG NUMBER: P3A13R409840DE010 E3A451LI

### Luminous Intensity Polar Plot



TEST NUMBER: P1346127

CATALOG NUMBER: P3A13R409840DE010 E3A451LI

**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°  | 4627   | 4627  | 4627 | 4627 | 4627 |
| 5°  | 5151   | 4975  | 4578 | 4160 | 4072 |
| 10° | 6212   | 5299  | 4208 | 3785 | 3696 |
| 15° | 10193  | 5744  | 3610 | 3337 | 3428 |
| 20° | 26952  | 6791  | 2987 | 2987 | 3267 |
| 25° | 103917 | 8396  | 2371 | 2734 | 3194 |
| 30° | 224212 | 11192 | 1899 | 2684 | 3165 |
| 35° | 337480 | 13224 | 1606 | 2623 | 3239 |
| 40° | 380198 | 13282 | 1403 | 2691 | 3464 |
| 45° | 407670 | 10296 | 1302 | 2822 | 3752 |
| 50° | 400703 | 6448  | 1160 | 2968 | 4128 |
| 55° | 352523 | 3173  | 1147 | 3326 | 4626 |
| 60° | 223140 | 658   | 1316 | 3640 | 5131 |
| 65° | 45608  | 208   | 1349 | 3891 | 5656 |
| 70° | 962    | 256   | 1475 | 4360 | 6540 |
| 75° | 932    | 678   | 1610 | 4829 | 7371 |
| 80° | 1010   | 505   | 1894 | 5304 | 8587 |
| 85° | 1006   | 1006  | 3774 | 5787 | 9561 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 47°

Luminance: 415059 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 2.0    | 0.5       |
| 10°-20°   | 6.5    | 1.6       |
| 20°-30°   | 31.9   | 7.8       |
| 30°-40°   | 103.8  | 25.3      |
| 40°-50°   | 143.1  | 34.8      |
| 50°-60°   | 99.7   | 24.3      |
| 60°-70°   | 18.9   | 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°    | 40.4   | 9.8       |
| 0°-40°    | 144.2  | 35.1      |
| 0°-60°    | 387.1  | 94.2      |
| 0°-90°    | 411.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 411.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45° | 90° | 135° | 180° | Flux |
|-----|------|-----|-----|------|------|------|
| 0°  | 21   | 21  | 21  | 21   | 21   |      |
| 5°  | 23   | 23  | 21  | 19   | 18   | 2    |
| 15° | 45   | 25  | 16  | 15   | 15   | 16   |
| 25° | 430  | 35  | 10  | 11   | 13   | 221  |
| 35° | 1261 | 49  | 6   | 10   | 12   | 762  |
| 45° | 1315 | 33  | 4   | 9    | 12   | 1000 |
| 55° | 922  | 8   | 3   | 9    | 12   | 788  |
| 65° | 88   | 0   | 3   | 8    | 11   | 155  |
| 75° | 1    | 1   | 2   | 6    | 9    | 1    |
| 85° | 0    | 0   | 2   | 2    | 4    | 0    |
| 90° | 0    | 0   | 0   | 0    | 0    |      |

TEST NUMBER: P1346127

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°   | 25°   | 30°   | 35°   | 45°  | 67.5° | 90°  |
|-------|--------|--------|--------|--------|-------|-------|-------|-------|------|-------|------|
| 0°    | 21.1   | 21.1   | 21.1   | 21.1   | 21.1  | 21.1  | 21.1  | 21.1  | 21.1 | 21.1  | 21.1 |
| 2.5°  | 21.9   | 21.9   | 21.9   | 21.9   | 21.9  | 21.9  | 21.9  | 21.9  | 21.9 | 21.5  | 21.1 |
| 5°    | 23.4   | 23.4   | 23.4   | 23.4   | 23.0  | 23.0  | 23.0  | 22.6  | 22.6 | 21.9  | 20.8 |
| 7.5°  | 24.9   | 24.9   | 24.9   | 24.9   | 24.5  | 24.2  | 23.8  | 23.8  | 23.4 | 21.5  | 20.0 |
| 10°   | 27.9   | 27.9   | 27.6   | 27.2   | 26.8  | 26.0  | 25.7  | 24.9  | 23.8 | 21.1  | 18.9 |
| 12.5° | 34.0   | 33.2   | 32.8   | 32.1   | 31.0  | 29.4  | 27.9  | 26.8  | 24.2 | 20.4  | 17.7 |
| 15°   | 44.9   | 44.2   | 42.7   | 40.4   | 38.1  | 35.1  | 32.5  | 29.8  | 25.3 | 19.2  | 15.9 |
| 17.5° | 64.2   | 61.9   | 59.6   | 55.9   | 50.2  | 44.9  | 39.3  | 34.3  | 26.8 | 18.1  | 14.3 |
| 20°   | 115.5  | 114.0  | 100.4  | 89.8   | 72.8  | 60.8  | 49.4  | 41.1  | 29.1 | 17.0  | 12.8 |
| 22.5° | 238.2  | 222.3  | 200.0  | 163.8  | 127.6 | 94.0  | 68.3  | 51.7  | 31.3 | 15.5  | 11.3 |
| 25°   | 429.5  | 404.6  | 356.7  | 286.9  | 211.7 | 149.8 | 98.9  | 67.6  | 34.7 | 14.0  | 9.8  |
| 27.5° | 650.3  | 625.1  | 550.7  | 454.4  | 331.8 | 226.1 | 141.2 | 89.5  | 39.3 | 12.5  | 8.7  |
| 30°   | 885.5  | 864.0  | 769.6  | 636.4  | 467.7 | 316.7 | 189.1 | 111.7 | 44.2 | 10.9  | 7.5  |
| 31°   | 980.2  | 952.7  | 850.8  | 708.8  | 531.4 | 354.0 | 208.4 | 121.2 | 46.0 | 10.6  | 7.2  |
| 32°   | 1067.4 | 1036.1 | 930.4  | 778.3  | 583.2 | 394.4 | 229.5 | 129.5 | 47.6 | 9.8   | 6.8  |
| 33°   | 1142.5 | 1105.9 | 1004.0 | 844.0  | 640.1 | 432.2 | 251.4 | 137.4 | 48.7 | 9.1   | 6.4  |
| 34°   | 1206.3 | 1174.6 | 1065.2 | 910.0  | 690.7 | 468.4 | 272.9 | 145.3 | 49.4 | 8.7   | 6.0  |
| 35°   | 1260.7 | 1232.0 | 1123.7 | 960.2  | 740.2 | 503.5 | 292.5 | 152.9 | 49.4 | 7.9   | 6.0  |
| 36°   | 1297.3 | 1272.4 | 1174.2 | 1011.6 | 781.7 | 533.3 | 309.1 | 159.7 | 49.4 | 7.2   | 5.7  |
| 37°   | 1317.3 | 1293.1 | 1207.5 | 1053.8 | 822.5 | 562.8 | 324.2 | 164.9 | 49.1 | 6.8   | 5.3  |
| 38°   | 1327.5 | 1306.3 | 1232.0 | 1088.2 | 850.8 | 583.9 | 337.4 | 169.1 | 48.7 | 6.0   | 5.3  |
| 39°   | 1330.1 | 1312.4 | 1247.5 | 1113.1 | 878.3 | 605.0 | 346.9 | 171.4 | 47.6 | 5.7   | 4.9  |
| 40°   | 1328.2 | 1312.8 | 1255.8 | 1135.4 | 899.5 | 621.7 | 353.7 | 172.1 | 46.4 | 4.9   | 4.9  |
| 41°   | 1324.5 | 1312.4 | 1261.8 | 1150.8 | 916.4 | 632.2 | 356.3 | 170.6 | 44.9 | 4.2   | 4.5  |
| 42°   | 1321.1 | 1307.9 | 1264.4 | 1161.4 | 928.1 | 637.5 | 355.9 | 167.6 | 42.7 | 3.8   | 4.5  |
| 43°   | 1321.1 | 1306.0 | 1264.8 | 1168.2 | 933.8 | 637.9 | 351.4 | 161.9 | 39.6 | 3.4   | 4.2  |
| 44°   | 1318.8 | 1304.8 | 1266.7 | 1172.7 | 935.3 | 634.5 | 344.2 | 155.9 | 36.2 | 3.0   | 4.2  |
| 45°   | 1314.6 | 1299.9 | 1266.3 | 1173.1 | 932.7 | 626.2 | 332.5 | 148.0 | 33.2 | 2.3   | 4.2  |
| 46°   | 1306.7 | 1293.5 | 1262.9 | 1170.5 | 924.7 | 614.1 | 318.6 | 140.0 | 29.8 | 1.9   | 3.8  |
| 47°   | 1290.9 | 1280.7 | 1253.9 | 1161.4 | 912.7 | 596.4 | 302.0 | 131.0 | 27.2 | 1.5   | 3.8  |
| 48°   | 1263.7 | 1256.5 | 1238.4 | 1141.4 | 889.6 | 574.5 | 284.2 | 121.2 | 24.5 | 1.5   | 3.8  |
| 49°   | 1213.9 | 1208.2 | 1197.6 | 1109.3 | 860.2 | 547.7 | 265.0 | 110.2 | 21.9 | 1.1   | 3.8  |
| 50°   | 1174.6 | 1168.6 | 1147.1 | 1055.3 | 817.9 | 513.7 | 243.8 | 99.3  | 18.9 | 0.8   | 3.4  |
| 51°   | 1148.6 | 1138.8 | 1104.8 | 992.7  | 756.4 | 468.4 | 220.8 | 88.3  | 15.9 | 0.8   | 3.4  |
| 52°   | 1115.7 | 1101.0 | 1058.7 | 936.4  | 700.2 | 423.1 | 195.9 | 77.4  | 14.0 | 0.8   | 3.4  |
| 53°   | 1047.0 | 1041.8 | 999.9  | 876.1  | 643.9 | 379.7 | 170.2 | 68.3  | 12.1 | 0.8   | 3.4  |
| 54°   | 987.0  | 979.1  | 922.1  | 792.3  | 582.8 | 331.4 | 143.8 | 60.4  | 10.2 | 0.8   | 3.4  |
| 55°   | 922.1  | 906.6  | 856.0  | 721.7  | 511.1 | 286.9 | 118.5 | 52.1  | 8.3  | 0.8   | 3.0  |
| 56°   | 840.2  | 826.6  | 772.3  | 646.2  | 445.0 | 241.6 | 99.3  | 42.7  | 6.4  | 0.8   | 3.0  |
| 57°   | 740.5  | 728.1  | 686.2  | 553.3  | 376.3 | 197.4 | 80.8  | 34.3  | 4.9  | 0.8   | 3.0  |
| 58°   | 644.3  | 630.3  | 582.4  | 464.3  | 303.8 | 156.6 | 67.6  | 27.9  | 3.8  | 0.8   | 3.0  |
| 59°   | 570.3  | 551.4  | 489.5  | 389.9  | 237.8 | 118.9 | 53.6  | 22.3  | 2.6  | 0.8   | 3.0  |
| 60°   | 508.8  | 493.3  | 429.2  | 324.6  | 186.5 | 87.6  | 39.6  | 17.0  | 1.5  | 0.8   | 3.0  |
| 62.5° | 294.8  | 290.6  | 232.9  | 167.2  | 87.9  | 40.8  | 19.6  | 7.9   | 0.8  | 1.1   | 3.0  |
| 65°   | 87.9   | 76.6   | 59.6   | 35.5   | 22.6  | 13.6  | 7.2   | 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 | 0.8 | 0.4 | 1.1   | 2.6 |
| 70°   | 1.5 | 1.1 | 1.1 | 1.1 | 1.1 | 0.8 | 0.8 | 0.4 | 0.4 | 1.1   | 2.3 |
| 72.5° | 1.1 | 1.1 | 1.1 | 1.1 | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 | 1.1   | 1.9 |
| 75°   | 1.1 | 0.8 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.8 | 1.1   | 1.9 |
| 77.5° | 0.8 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 | 0.8 | 1.1   | 1.9 |
| 80°   | 0.8 | 0.8 | 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 |

TEST NUMBER: P1346127

CATALOG NUMBER: P3A13R409840DE010 E3A451LI

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 0°    | 21.1   | 21.1 | 21.1   | 21.1 |
| 2.5°  | 20.4   | 20.0 | 19.6   | 19.6 |
| 5°    | 19.6   | 18.9 | 18.9   | 18.5 |
| 7.5°  | 18.5   | 17.7 | 17.7   | 17.7 |
| 10°   | 17.4   | 17.0 | 17.0   | 16.6 |
| 12.5° | 15.9   | 15.9 | 15.9   | 15.9 |
| 15°   | 14.7   | 14.7 | 15.1   | 15.1 |
| 17.5° | 13.2   | 13.6 | 14.3   | 14.7 |
| 20°   | 12.1   | 12.8 | 13.6   | 14.0 |
| 22.5° | 11.3   | 12.1 | 13.2   | 13.6 |
| 25°   | 10.2   | 11.3 | 12.8   | 13.2 |
| 27.5° | 9.4    | 10.9 | 12.1   | 12.8 |
| 30°   | 8.7    | 10.6 | 11.7   | 12.5 |
| 31°   | 8.7    | 10.2 | 11.7   | 12.5 |
| 32°   | 8.3    | 9.8  | 11.7   | 12.1 |
| 33°   | 8.3    | 9.8  | 11.7   | 12.1 |
| 34°   | 7.9    | 9.8  | 11.3   | 12.1 |
| 35°   | 7.9    | 9.8  | 11.3   | 12.1 |
| 36°   | 7.5    | 9.4  | 11.3   | 12.1 |
| 37°   | 7.5    | 9.4  | 11.3   | 12.1 |
| 38°   | 7.2    | 9.4  | 11.3   | 12.1 |
| 39°   | 7.2    | 9.4  | 11.3   | 12.1 |
| 40°   | 7.2    | 9.4  | 11.3   | 12.1 |
| 41°   | 6.8    | 9.4  | 11.3   | 12.1 |
| 42°   | 6.8    | 9.4  | 11.3   | 12.1 |
| 43°   | 6.8    | 9.1  | 11.3   | 12.1 |
| 44°   | 6.8    | 9.1  | 11.3   | 12.1 |
| 45°   | 6.4    | 9.1  | 11.3   | 12.1 |
| 46°   | 6.4    | 9.1  | 11.3   | 12.1 |
| 47°   | 6.4    | 9.1  | 11.3   | 12.1 |
| 48°   | 6.4    | 9.1  | 11.3   | 12.1 |
| 49°   | 6.4    | 9.1  | 11.3   | 12.1 |
| 50°   | 6.0    | 8.7  | 11.3   | 12.1 |
| 51°   | 6.0    | 8.7  | 11.3   | 12.1 |
| 52°   | 6.0    | 8.7  | 11.3   | 12.1 |
| 53°   | 6.0    | 8.7  | 11.3   | 12.1 |
| 54°   | 5.7    | 8.7  | 11.3   | 12.1 |
| 55°   | 5.7    | 8.7  | 11.3   | 12.1 |
| 56°   | 5.7    | 8.7  | 11.3   | 11.7 |
| 57°   | 5.7    | 8.7  | 10.9   | 11.7 |
| 58°   | 5.7    | 8.3  | 10.9   | 11.7 |
| 59°   | 5.7    | 8.3  | 10.9   | 11.7 |
| 60°   | 5.7    | 8.3  | 10.9   | 11.7 |
| 62.5° | 5.3    | 8.3  | 10.6   | 11.3 |
| 65°   | 4.9    | 7.5  | 10.6   | 10.9 |



TEST NUMBER: P1346127

CATALOG NUMBER: P3A13R409840DE010 E3A451LI

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 67.5° | 4.9    | 7.2  | 9.8    | 10.6 |
| 70°   | 4.5    | 6.8  | 9.4    | 10.2 |
| 72.5° | 3.8    | 6.4  | 8.7    | 9.4  |
| 75°   | 3.4    | 5.7  | 7.9    | 8.7  |
| 77.5° | 3.0    | 4.9  | 7.2    | 7.5  |
| 80°   | 2.6    | 4.2  | 6.0    | 6.8  |
| 82.5° | 1.9    | 3.0  | 4.9    | 5.3  |
| 85°   | 1.5    | 2.3  | 3.4    | 3.8  |
| 87.5° | 1.1    | 1.1  | 1.9    | 1.9  |
| 90°   | 0.0    | 0.0  | 0.0    | 0.0  |

(END OF REPORT)