

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: P1312774

Luminaire Tested: P3SQAS20R409727D010 E3SQCA451MMS

Issue Date: 1/29/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1312774  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2510-583-78)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/29/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: IRiS  
Catalog Number: P3SQAS20R409727D010 E3SQCA451MMS  
Description: 3in Adjustable LED luminaire with, R40 optic, 2700K CCT AND, 97CRI , E3SQCA451MMS TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

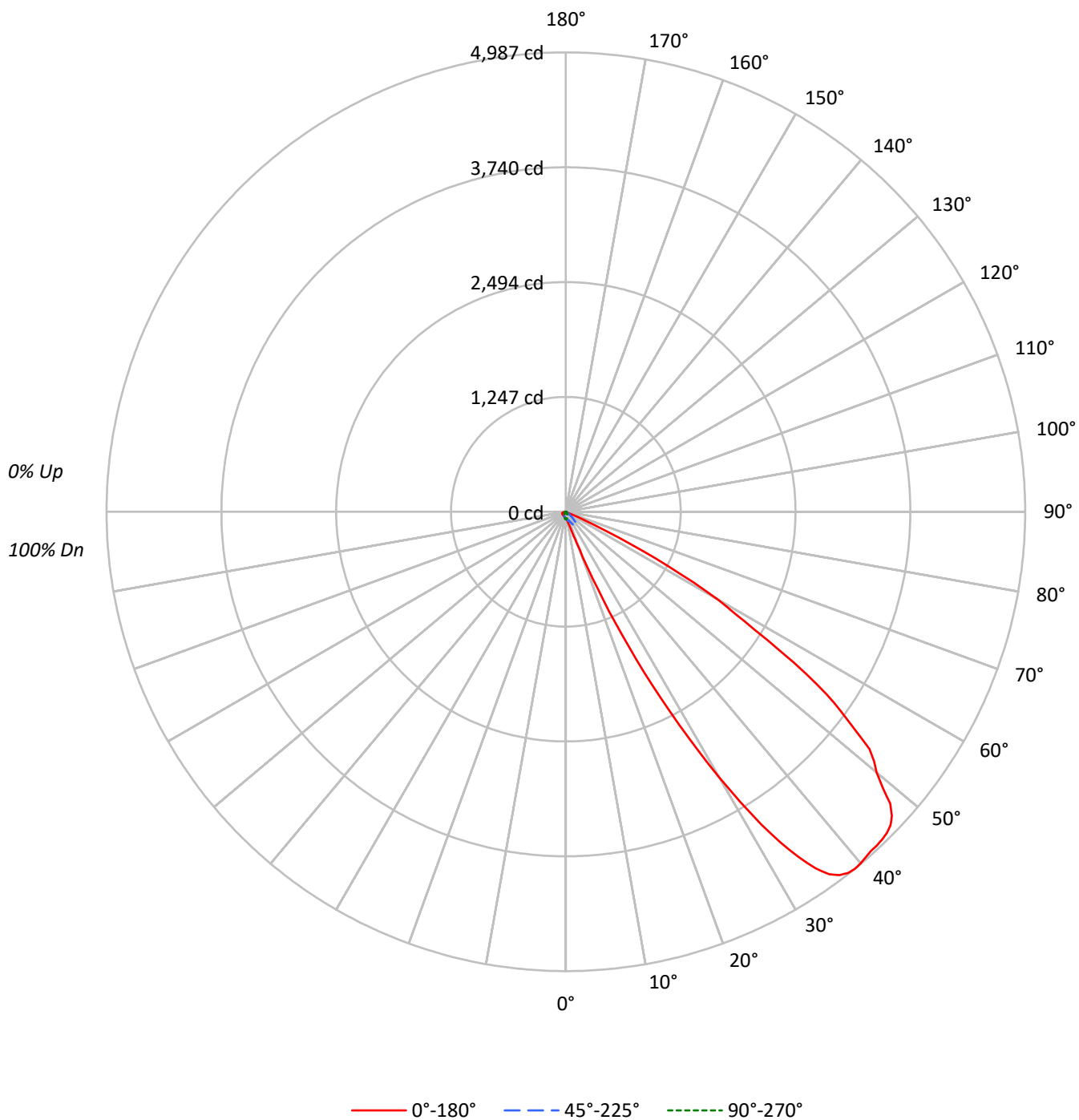
Lumens per Lamp: N/A  
Luminaire Lumens: 1541.0 lumens  
Efficiency: N/A  
Efficacy: 53.5 lumens/watt  
Spacing Criteria (0/90/45): 3.99 / 0.73 / 1.54  
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 28.8  
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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### 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  |
| 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°  | 13657   | 13657 | 13657 | 13657 | 13657 |
| 5°  | 15162   | 14678 | 13450 | 12240 | 11981 |
| 10° | 18310   | 15599 | 12381 | 11140 | 10895 |
| 15° | 30025   | 16903 | 10591 | 9842  | 10092 |
| 20° | 79358   | 19977 | 8816  | 8816  | 9604  |
| 25° | 306038  | 24741 | 6993  | 8076  | 9406  |
| 30° | 660234  | 32932 | 5628  | 7875  | 9287  |
| 35° | 993765  | 38979 | 4752  | 7737  | 9524  |
| 40° | 1119630 | 39141 | 4137  | 7959  | 10184 |
| 45° | 1200530 | 30323 | 3800  | 8281  | 11033 |
| 50° | 1179994 | 18970 | 3403  | 8708  | 12137 |
| 55° | 1038092 | 9338  | 3393  | 9758  | 13602 |
| 60° | 657098  | 1963  | 3892  | 10712 | 15121 |
| 65° | 134357  | 571   | 4034  | 11533 | 16708 |
| 70° | 2870    | 705   | 4280  | 12840 | 19235 |
| 75° | 2795    | 1863  | 4724  | 14107 | 21626 |
| 80° | 2777    | 1389  | 5653  | 15472 | 25291 |
| 85° | 2766    | 2766  | 11263 | 16796 | 28060 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 47°

Luminance: 1222228 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 7.4    | 0.5       |
| 10°-20°   | 24.4   | 1.6       |
| 20°-30°   | 119.7  | 7.8       |
| 30°-40°   | 389.3  | 25.3      |
| 40°-50°   | 536.7  | 34.8      |
| 50°-60°   | 373.8  | 24.3      |
| 60°-70°   | 70.9   | 4.6       |
| 70°-80°   | 12.8   | 0.8       |
| 80°-90°   | 5.9    | 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°    | 151.5  | 9.8       |
| 0°-40°    | 540.8  | 35.1      |
| 0°-60°    | 1451.4 | 94.2      |
| 0°-90°    | 1541.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1541.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45° | 90° | 135° | 180° | Flux |
|-----|------|-----|-----|------|------|------|
| 0°  | 79   | 79  | 79  | 79   | 79   |      |
| 5°  | 88   | 85  | 78  | 71   | 69   | 9    |
| 15° | 168  | 95  | 59  | 55   | 57   | 61   |
| 25° | 1610 | 130 | 37  | 42   | 50   | 829  |
| 35° | 4727 | 185 | 23  | 37   | 45   | 2856 |
| 45° | 4929 | 124 | 16  | 34   | 45   | 3748 |
| 55° | 3457 | 31  | 11  | 32   | 45   | 2955 |
| 65° | 330  | 1   | 10  | 28   | 41   | 583  |
| 75° | 4    | 3   | 7   | 21   | 32   | 4    |
| 85° | 1    | 1   | 6   | 8    | 14   | 1    |
| 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°    | 79.3   | 79.3   | 79.3   | 79.3   | 79.3   | 79.3   | 79.3   | 79.3  | 79.3  | 79.3  | 79.3 |
| 2.5°  | 82.1   | 82.1   | 82.1   | 82.1   | 82.1   | 82.1   | 82.1   | 82.1  | 82.1  | 80.7  | 79.3 |
| 5°    | 87.7   | 87.7   | 87.7   | 87.7   | 86.3   | 86.3   | 86.3   | 84.9  | 84.9  | 82.1  | 77.8 |
| 7.5°  | 93.4   | 93.4   | 93.4   | 93.4   | 92.0   | 90.6   | 89.2   | 89.2  | 87.7  | 80.7  | 75.0 |
| 10°   | 104.7  | 104.7  | 103.3  | 101.9  | 100.5  | 97.6   | 96.2   | 93.4  | 89.2  | 79.3  | 70.8 |
| 12.5° | 127.4  | 124.5  | 123.1  | 120.3  | 116.0  | 110.4  | 104.7  | 100.5 | 90.6  | 76.4  | 66.5 |
| 15°   | 168.4  | 165.6  | 159.9  | 151.4  | 142.9  | 131.6  | 121.7  | 111.8 | 94.8  | 72.2  | 59.4 |
| 17.5° | 240.6  | 232.1  | 223.6  | 209.4  | 188.2  | 168.4  | 147.2  | 128.8 | 100.5 | 67.9  | 53.8 |
| 20°   | 433.0  | 427.4  | 376.4  | 336.8  | 273.1  | 227.8  | 185.4  | 154.3 | 109.0 | 63.7  | 48.1 |
| 22.5° | 893.0  | 833.5  | 750.1  | 614.2  | 478.3  | 352.4  | 256.2  | 193.9 | 117.5 | 58.0  | 42.5 |
| 25°   | 1610.5 | 1517.1 | 1337.4 | 1075.5 | 793.9  | 561.8  | 370.8  | 253.3 | 130.2 | 52.4  | 36.8 |
| 27.5° | 2438.4 | 2343.6 | 2064.8 | 1703.9 | 1244.0 | 847.7  | 529.3  | 335.4 | 147.2 | 46.7  | 32.5 |
| 30°   | 3320.0 | 3239.4 | 2885.6 | 2386.0 | 1753.4 | 1187.3 | 709.0  | 418.9 | 165.6 | 41.0  | 28.3 |
| 31°   | 3675.3 | 3572.0 | 3189.8 | 2657.7 | 1992.6 | 1327.5 | 781.2  | 454.3 | 172.7 | 39.6  | 26.9 |
| 32°   | 4002.2 | 3884.7 | 3488.5 | 2918.1 | 2186.5 | 1478.9 | 860.4  | 485.4 | 178.3 | 36.8  | 25.5 |
| 33°   | 4283.8 | 4146.5 | 3764.4 | 3164.4 | 2400.2 | 1620.4 | 942.5  | 515.1 | 182.6 | 34.0  | 24.1 |
| 34°   | 4523.0 | 4404.1 | 3993.7 | 3412.0 | 2589.8 | 1756.3 | 1023.2 | 544.8 | 185.4 | 32.5  | 22.6 |
| 35°   | 4726.7 | 4619.2 | 4213.0 | 3600.3 | 2775.2 | 1887.9 | 1096.8 | 573.2 | 185.4 | 29.7  | 22.6 |
| 36°   | 4864.0 | 4770.6 | 4402.7 | 3792.7 | 2930.9 | 1999.7 | 1159.0 | 598.6 | 185.4 | 26.9  | 21.2 |
| 37°   | 4939.0 | 4848.5 | 4527.2 | 3951.2 | 3083.7 | 2110.1 | 1215.7 | 618.4 | 184.0 | 25.5  | 19.8 |
| 38°   | 4977.2 | 4898.0 | 4619.2 | 4080.0 | 3189.8 | 2189.3 | 1265.2 | 634.0 | 182.6 | 22.6  | 19.8 |
| 39°   | 4987.1 | 4920.6 | 4677.2 | 4173.4 | 3293.2 | 2268.6 | 1300.6 | 642.5 | 178.3 | 21.2  | 18.4 |
| 40°   | 4980.1 | 4922.0 | 4708.4 | 4256.9 | 3372.4 | 2330.8 | 1326.0 | 645.3 | 174.1 | 18.4  | 18.4 |
| 41°   | 4965.9 | 4920.6 | 4731.0 | 4314.9 | 3436.1 | 2370.5 | 1335.9 | 639.7 | 168.4 | 15.6  | 17.0 |
| 42°   | 4953.2 | 4903.6 | 4740.9 | 4354.6 | 3480.0 | 2390.3 | 1334.5 | 628.3 | 159.9 | 14.2  | 17.0 |
| 43°   | 4953.2 | 4896.6 | 4742.3 | 4380.0 | 3501.2 | 2391.7 | 1317.5 | 607.1 | 148.6 | 12.7  | 15.6 |
| 44°   | 4944.7 | 4892.3 | 4749.4 | 4397.0 | 3506.9 | 2378.9 | 1290.7 | 584.5 | 135.9 | 11.3  | 15.6 |
| 45°   | 4929.1 | 4873.9 | 4748.0 | 4398.4 | 3496.9 | 2347.8 | 1246.8 | 554.8 | 124.5 | 8.5   | 15.6 |
| 46°   | 4899.4 | 4849.9 | 4735.2 | 4388.5 | 3467.2 | 2302.5 | 1194.4 | 525.0 | 111.8 | 7.1   | 14.2 |
| 47°   | 4840.0 | 4801.8 | 4701.3 | 4354.6 | 3421.9 | 2236.0 | 1132.2 | 491.1 | 101.9 | 5.7   | 14.2 |
| 48°   | 4738.1 | 4711.2 | 4643.3 | 4279.5 | 3335.6 | 2153.9 | 1065.6 | 454.3 | 92.0  | 5.7   | 14.2 |
| 49°   | 4551.3 | 4530.0 | 4490.4 | 4159.3 | 3225.2 | 2053.4 | 993.5  | 413.2 | 82.1  | 4.2   | 14.2 |
| 50°   | 4404.1 | 4381.4 | 4300.8 | 3956.9 | 3066.7 | 1926.1 | 914.2  | 372.2 | 70.8  | 2.8   | 12.7 |
| 51°   | 4306.4 | 4269.6 | 4142.3 | 3722.0 | 2836.0 | 1756.3 | 827.9  | 331.2 | 59.4  | 2.8   | 12.7 |
| 52°   | 4183.3 | 4128.1 | 3969.6 | 3511.1 | 2625.2 | 1586.4 | 734.5  | 290.1 | 52.4  | 2.8   | 12.7 |
| 53°   | 3925.7 | 3905.9 | 3748.8 | 3284.7 | 2414.3 | 1423.7 | 638.3  | 256.2 | 45.3  | 2.8   | 12.7 |
| 54°   | 3700.7 | 3671.0 | 3457.3 | 2970.5 | 2185.1 | 1242.5 | 539.2  | 226.4 | 38.2  | 2.8   | 12.7 |
| 55°   | 3457.3 | 3399.3 | 3209.7 | 2705.9 | 1916.2 | 1075.5 | 444.4  | 195.3 | 31.1  | 2.8   | 11.3 |
| 56°   | 3150.2 | 3099.3 | 2895.5 | 2422.8 | 1668.5 | 905.7  | 372.2  | 159.9 | 24.1  | 2.8   | 11.3 |
| 57°   | 2776.6 | 2729.9 | 2572.8 | 2074.7 | 1410.9 | 740.1  | 302.9  | 128.8 | 18.4  | 2.8   | 11.3 |
| 58°   | 2415.7 | 2363.4 | 2183.6 | 1740.7 | 1139.2 | 587.3  | 253.3  | 104.7 | 14.2  | 2.8   | 11.3 |
| 59°   | 2138.4 | 2067.6 | 1835.5 | 1461.9 | 891.6  | 445.8  | 201.0  | 83.5  | 9.9   | 2.8   | 11.3 |
| 60°   | 1907.7 | 1849.7 | 1609.1 | 1217.1 | 699.1  | 328.3  | 148.6  | 63.7  | 5.7   | 2.8   | 11.3 |
| 62.5° | 1105.3 | 1089.7 | 873.2  | 626.9  | 329.7  | 152.8  | 73.6   | 29.7  | 2.8   | 4.2   | 11.3 |
| 65°   | 329.7  | 287.3  | 223.6  | 133.0  | 84.9   | 50.9   | 26.9   | 9.9   | 1.4   | 4.2   | 9.9  |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 5°  | 10° | 15° | 20° | 25° | 30° | 35° | 45° | 67.5° | 90° |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
| 67.5° | 9.9 | 9.9 | 9.9 | 9.9 | 9.9 | 9.9 | 5.7 | 2.8 | 1.4 | 4.2   | 9.9 |
| 70°   | 5.7 | 4.2 | 4.2 | 4.2 | 4.2 | 2.8 | 2.8 | 1.4 | 1.4 | 4.2   | 8.5 |
| 72.5° | 4.2 | 4.2 | 4.2 | 4.2 | 2.8 | 2.8 | 2.8 | 1.4 | 2.8 | 4.2   | 7.1 |
| 75°   | 4.2 | 2.8 | 2.8 | 2.8 | 2.8 | 1.4 | 1.4 | 1.4 | 2.8 | 4.2   | 7.1 |
| 77.5° | 2.8 | 2.8 | 2.8 | 2.8 | 1.4 | 1.4 | 1.4 | 1.4 | 2.8 | 4.2   | 7.1 |
| 80°   | 2.8 | 2.8 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 4.2   | 5.7 |
| 82.5° | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 4.2   | 5.7 |
| 85°   | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 4.2   | 5.7 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 4.2   | 4.2 |
| 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°    | 79.3   | 79.3 | 79.3   | 79.3 |
| 2.5°  | 76.4   | 75.0 | 73.6   | 73.6 |
| 5°    | 73.6   | 70.8 | 70.8   | 69.3 |
| 7.5°  | 69.3   | 66.5 | 66.5   | 66.5 |
| 10°   | 65.1   | 63.7 | 63.7   | 62.3 |
| 12.5° | 59.4   | 59.4 | 59.4   | 59.4 |
| 15°   | 55.2   | 55.2 | 56.6   | 56.6 |
| 17.5° | 49.5   | 50.9 | 53.8   | 55.2 |
| 20°   | 45.3   | 48.1 | 50.9   | 52.4 |
| 22.5° | 42.5   | 45.3 | 49.5   | 50.9 |
| 25°   | 38.2   | 42.5 | 48.1   | 49.5 |
| 27.5° | 35.4   | 41.0 | 45.3   | 48.1 |
| 30°   | 32.5   | 39.6 | 43.9   | 46.7 |
| 31°   | 32.5   | 38.2 | 43.9   | 46.7 |
| 32°   | 31.1   | 36.8 | 43.9   | 45.3 |
| 33°   | 31.1   | 36.8 | 43.9   | 45.3 |
| 34°   | 29.7   | 36.8 | 42.5   | 45.3 |
| 35°   | 29.7   | 36.8 | 42.5   | 45.3 |
| 36°   | 28.3   | 35.4 | 42.5   | 45.3 |
| 37°   | 28.3   | 35.4 | 42.5   | 45.3 |
| 38°   | 26.9   | 35.4 | 42.5   | 45.3 |
| 39°   | 26.9   | 35.4 | 42.5   | 45.3 |
| 40°   | 26.9   | 35.4 | 42.5   | 45.3 |
| 41°   | 25.5   | 35.4 | 42.5   | 45.3 |
| 42°   | 25.5   | 35.4 | 42.5   | 45.3 |
| 43°   | 25.5   | 34.0 | 42.5   | 45.3 |
| 44°   | 25.5   | 34.0 | 42.5   | 45.3 |
| 45°   | 24.1   | 34.0 | 42.5   | 45.3 |
| 46°   | 24.1   | 34.0 | 42.5   | 45.3 |
| 47°   | 24.1   | 34.0 | 42.5   | 45.3 |
| 48°   | 24.1   | 34.0 | 42.5   | 45.3 |
| 49°   | 24.1   | 34.0 | 42.5   | 45.3 |
| 50°   | 22.6   | 32.5 | 42.5   | 45.3 |
| 51°   | 22.6   | 32.5 | 42.5   | 45.3 |
| 52°   | 22.6   | 32.5 | 42.5   | 45.3 |
| 53°   | 22.6   | 32.5 | 42.5   | 45.3 |
| 54°   | 21.2   | 32.5 | 42.5   | 45.3 |
| 55°   | 21.2   | 32.5 | 42.5   | 45.3 |
| 56°   | 21.2   | 32.5 | 42.5   | 43.9 |
| 57°   | 21.2   | 32.5 | 41.0   | 43.9 |
| 58°   | 21.2   | 31.1 | 41.0   | 43.9 |
| 59°   | 21.2   | 31.1 | 41.0   | 43.9 |
| 60°   | 21.2   | 31.1 | 41.0   | 43.9 |
| 62.5° | 19.8   | 31.1 | 39.6   | 42.5 |
| 65°   | 18.4   | 28.3 | 39.6   | 41.0 |



TEST NUMBER: P1312774

CATALOG NUMBER: P3SQAS20R409727D010 E3SQCA451MMS

**CANDELA DISTRIBUTION (continued):**

|       | 112.5° | 135° | 157.5° | 180° |
|-------|--------|------|--------|------|
| 67.5° | 18.4   | 26.9 | 36.8   | 39.6 |
| 70°   | 17.0   | 25.5 | 35.4   | 38.2 |
| 72.5° | 14.2   | 24.1 | 32.5   | 35.4 |
| 75°   | 12.7   | 21.2 | 29.7   | 32.5 |
| 77.5° | 11.3   | 18.4 | 26.9   | 28.3 |
| 80°   | 9.9    | 15.6 | 22.6   | 25.5 |
| 82.5° | 7.1    | 11.3 | 18.4   | 19.8 |
| 85°   | 5.7    | 8.5  | 12.7   | 14.2 |
| 87.5° | 4.2    | 4.2  | 7.1    | 7.1  |
| 90°   | 0.0    | 0.0  | 0.0    | 0.0  |

(END OF REPORT)