

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P170925

Luminaire Tested: **LDA4A28827D010TE LAR15SP 4LA1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170925
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25648)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A28827D010TE LAR15SP 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 15° Spot Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2216.6 lumens
Efficiency: N/A
Efficacy: 49.8 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

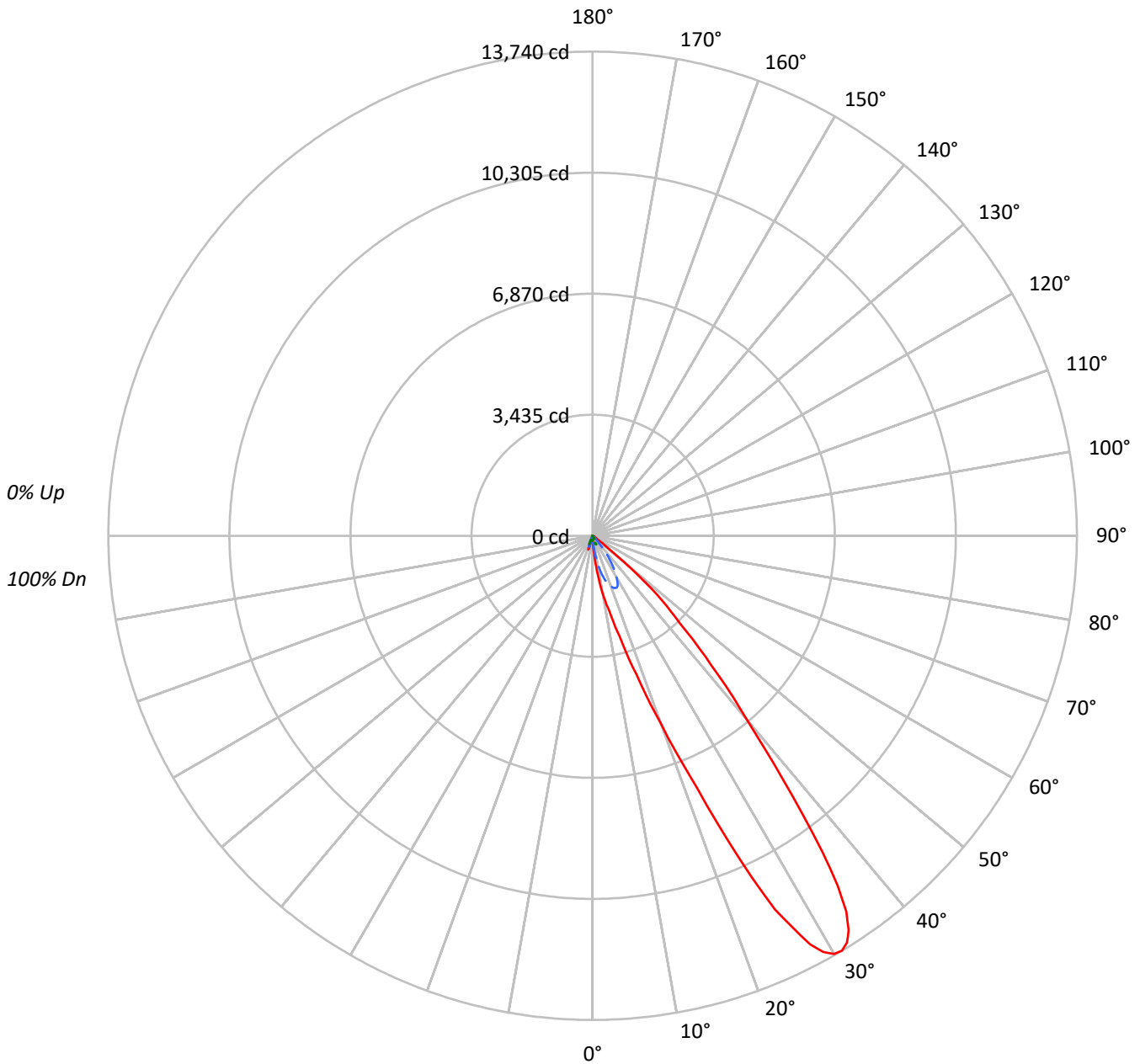
Input Watts (W): 44.49
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P170925

CATALOG NUMBER: LDA4A28827D010TE LAR15SP 4LA1 30° Tilt

Luminous Intensity Polar Plot





TEST NUMBER: P170925

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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 | 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 | | | | | 100 | | | |
| 1 | 112 | 109 | 106 | 104 | 110 | 107 | 104 | 102 | 103 | 101 | 99 | 99 | 98 | 96 | 96 | 94 | 93 | 91 | | | | | 91 | | | |
| 2 | 106 | 100 | 95 | 91 | 103 | 98 | 94 | 90 | 95 | 91 | 88 | 92 | 89 | 86 | 89 | 86 | 84 | 82 | | | | | 82 | | | |
| 3 | 99 | 91 | 85 | 80 | 97 | 90 | 84 | 80 | 87 | 82 | 78 | 84 | 80 | 77 | 82 | 79 | 76 | 74 | | | | | 74 | | | |
| 4 | 92 | 83 | 77 | 71 | 90 | 82 | 76 | 71 | 80 | 74 | 70 | 78 | 73 | 69 | 76 | 72 | 68 | 67 | | | | | 67 | | | |
| 5 | 86 | 76 | 69 | 64 | 84 | 75 | 68 | 63 | 73 | 67 | 63 | 71 | 66 | 62 | 70 | 65 | 62 | 60 | | | | | 60 | | | |
| 6 | 80 | 69 | 62 | 57 | 79 | 69 | 62 | 57 | 67 | 61 | 56 | 65 | 60 | 56 | 64 | 59 | 56 | 54 | | | | | 54 | | | |
| 7 | 75 | 64 | 56 | 51 | 73 | 63 | 56 | 51 | 62 | 55 | 51 | 60 | 55 | 50 | 59 | 54 | 50 | 49 | | | | | 49 | | | |
| 8 | 70 | 58 | 51 | 46 | 69 | 58 | 51 | 46 | 57 | 50 | 46 | 55 | 50 | 46 | 54 | 49 | 45 | 44 | | | | | 44 | | | |
| 9 | 65 | 54 | 47 | 42 | 64 | 53 | 46 | 42 | 52 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 40 | | | | | 40 | | | |
| 10 | 61 | 49 | 42 | 38 | 60 | 49 | 42 | 38 | 48 | 42 | 38 | 47 | 41 | 37 | 46 | 41 | 37 | 36 | | | | | 36 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|---------|-------|-------|
| 0° | 15949 | 15949 | 15949 |
| 5° | 71541 | 14994 | 9707 |
| 10° | 211745 | 13777 | 12400 |
| 15° | 378021 | 16332 | 34951 |
| 20° | 748808 | 32146 | 37554 |
| 25° | 1457107 | 20973 | 10670 |
| 30° | 1951809 | 7833 | 3717 |
| 35° | 1826321 | 3313 | 1446 |
| 40° | 1094412 | 1546 | 451 |
| 45° | 607338 | 959 | 0 |
| 50° | 222786 | 787 | 0 |
| 55° | 34020 | 602 | 0 |
| 60° | 7475 | 691 | 0 |
| 65° | 2422 | 817 | 0 |
| 70° | 505 | 1010 | 0 |
| 75° | 0 | 1954 | 0 |
| 80° | 0 | 2912 | 0 |
| 85° | 0 | 5802 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 28.4 | 1.3 |
| 10°-20° | 239.4 | 10.8 |
| 20°-30° | 714.7 | 32.2 |
| 30°-40° | 846.4 | 38.2 |
| 40°-50° | 351.1 | 15.8 |
| 50°-60° | 27.3 | 1.2 |
| 60°-70° | 3.7 | 0.2 |
| 70°-80° | 2.9 | 0.1 |
| 80°-90° | 2.6 | 0.1 |
| 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° | 982.5 | 44.3 |
| 0°-40° | 1828.9 | 82.5 |
| 0°-60° | 2207.3 | 99.6 |
| 0°-90° | 2216.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2216.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-------|------|-----|------|------|------|
| 0° | 129 | 129 | 129 | 129 | 129 | |
| 5° | 578 | 292 | 121 | 84 | 78 | 91 |
| 15° | 2960 | 1250 | 128 | 191 | 274 | 977 |
| 25° | 10706 | 1625 | 154 | 89 | 78 | 4890 |
| 35° | 12129 | 905 | 22 | 12 | 10 | 7029 |
| 45° | 3482 | 80 | 6 | 4 | 0 | 2838 |
| 55° | 158 | 11 | 3 | 1 | 0 | 232 |
| 65° | 8 | 3 | 3 | 3 | 0 | 10 |
| 75° | 0 | 3 | 4 | 3 | 0 | 0 |
| 85° | 0 | 3 | 4 | 3 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P170925

CATALOG NUMBER: LDA4A28827D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (FULL):

| | 0° | 2.5° | 5° | 7.5° | 10° | 12.5° | 15° | 17.5° | 20° | 22.5° | 25° |
|-------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|
| 0° | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 |
| 2.5° | 224.2 | 213.2 | 218.7 | 209.1 | 214.6 | 205.0 | 198.1 | 205.0 | 205.0 | 199.5 | 191.2 |
| 5° | 577.8 | 575.0 | 586.0 | 559.9 | 566.8 | 537.9 | 513.1 | 520.0 | 514.5 | 496.6 | 465.0 |
| 7.5° | 1100.5 | 1089.5 | 1101.9 | 1064.7 | 1066.1 | 1018.0 | 980.8 | 989.1 | 964.3 | 934.0 | 879.0 |
| 10° | 1690.6 | 1675.5 | 1689.3 | 1645.2 | 1637.0 | 1569.6 | 1517.3 | 1525.6 | 1469.2 | 1419.6 | 1335.7 |
| 12.5° | 2202.4 | 2201.0 | 2157.0 | 2165.2 | 2148.7 | 2045.5 | 2012.5 | 2015.3 | 1938.2 | 1883.2 | 1782.8 |
| 15° | 2960.3 | 2989.2 | 2997.5 | 2941.1 | 2839.3 | 2652.2 | 2569.6 | 2538.0 | 2412.8 | 2320.7 | 2176.2 |
| 17.5° | 4125.5 | 4165.4 | 4029.2 | 4062.2 | 3894.4 | 3601.4 | 3437.7 | 3340.0 | 3104.8 | 2931.4 | 2670.1 |
| 20° | 5704.7 | 5670.3 | 5473.6 | 5448.8 | 5162.7 | 4785.8 | 4441.9 | 4257.5 | 3895.7 | 3642.6 | 3261.6 |
| 22.5° | 7743.3 | 7717.2 | 7380.2 | 7230.2 | 6631.8 | 6100.8 | 5655.1 | 5192.9 | 4655.1 | 4316.7 | 3799.4 |
| 25° | 10706.4 | 10586.7 | 9937.4 | 9511.0 | 8458.6 | 7556.2 | 6813.4 | 6095.3 | 5271.4 | 4904.1 | 4246.5 |
| 26° | 11797.3 | 11768.4 | 11091.6 | 10530.3 | 9262.0 | 8142.3 | 7140.8 | 6421.4 | 5513.5 | 5084.3 | 4373.1 |
| 27° | 12452.1 | 12681.8 | 12051.7 | 11416.2 | 10029.6 | 8688.4 | 7527.4 | 6684.1 | 5701.9 | 5210.8 | 4454.2 |
| 28° | 13131.6 | 13280.2 | 12716.2 | 11918.3 | 10644.5 | 9123.1 | 7820.4 | 6861.6 | 5817.5 | 5272.7 | 4481.7 |
| 29° | 13505.8 | 13648.8 | 13124.7 | 12376.4 | 11047.6 | 9405.1 | 7993.7 | 6940.0 | 5860.1 | 5271.4 | 4457.0 |
| 30° | 13703.9 | 13837.3 | 13325.6 | 12599.2 | 11214.0 | 9493.1 | 8030.8 | 6908.3 | 5818.8 | 5208.1 | 4386.8 |
| 31° | 13739.6 | 13851.1 | 13346.2 | 12592.4 | 11150.7 | 9384.4 | 7926.3 | 6777.6 | 5708.8 | 5091.1 | 4280.9 |
| 32° | 13618.6 | 13705.2 | 13192.1 | 12388.8 | 10866.0 | 9109.3 | 7708.9 | 6575.4 | 5541.0 | 4945.3 | 4144.7 |
| 33° | 13335.2 | 13490.6 | 12864.7 | 11977.5 | 10370.7 | 8702.1 | 7400.8 | 6311.3 | 5331.9 | 4755.5 | 3978.3 |
| 34° | 12866.1 | 12965.2 | 12317.2 | 11333.7 | 9710.5 | 8206.9 | 7022.5 | 6004.6 | 5092.5 | 4531.3 | 3789.8 |
| 35° | 12128.8 | 12216.8 | 11500.1 | 10464.3 | 8958.0 | 7648.4 | 6590.6 | 5666.2 | 4824.3 | 4279.5 | 3580.7 |
| 36° | 11108.1 | 11192.0 | 10442.3 | 9498.6 | 8198.7 | 7066.5 | 6135.2 | 5297.5 | 4534.0 | 4009.9 | 3359.2 |
| 37° | 9915.4 | 9988.3 | 9321.2 | 8550.8 | 7453.1 | 6477.8 | 5674.4 | 4923.3 | 4227.3 | 3734.8 | 3148.8 |
| 38° | 8762.7 | 8828.7 | 8289.4 | 7662.2 | 6733.6 | 5902.8 | 5215.0 | 4535.4 | 3910.9 | 3458.3 | 2927.3 |
| 39° | 7722.7 | 7780.5 | 7345.8 | 6828.5 | 6048.6 | 5351.1 | 4756.9 | 4150.2 | 3593.1 | 3181.8 | 2699.0 |
| 40° | 6796.9 | 6846.4 | 6488.8 | 6063.7 | 5426.8 | 4835.3 | 4311.2 | 3777.4 | 3282.2 | 2913.5 | 2485.7 |
| 42.5° | 4989.3 | 5000.4 | 4787.1 | 4536.8 | 4041.6 | 3701.8 | 3329.0 | 2943.8 | 2582.0 | 2328.9 | 2056.5 |
| 45° | 3481.7 | 3617.9 | 3478.9 | 3312.5 | 2957.6 | 2744.3 | 2506.4 | 2273.9 | 2064.8 | 1821.3 | 1551.7 |
| 47.5° | 2503.6 | 2509.1 | 2426.6 | 2322.0 | 2041.4 | 1895.6 | 1700.3 | 1418.3 | 1210.5 | 865.3 | 642.4 |
| 50° | 1161.0 | 1096.4 | 1100.5 | 1029.0 | 917.5 | 729.1 | 609.4 | 434.7 | 346.7 | 247.6 | 199.5 |
| 51° | 690.6 | 642.4 | 649.3 | 598.4 | 524.1 | 408.6 | 346.7 | 277.9 | 240.7 | 187.1 | 154.1 |
| 52° | 403.1 | 386.5 | 385.2 | 361.8 | 308.1 | 283.4 | 250.4 | 209.1 | 183.0 | 144.4 | 119.7 |
| 53° | 293.0 | 282.0 | 282.0 | 266.9 | 229.7 | 213.2 | 189.8 | 160.9 | 140.3 | 110.0 | 90.8 |
| 54° | 218.7 | 210.5 | 210.5 | 200.8 | 185.7 | 159.6 | 143.1 | 119.7 | 104.5 | 85.3 | 67.4 |
| 55° | 158.2 | 152.7 | 152.7 | 145.8 | 134.8 | 115.6 | 103.2 | 86.7 | 77.0 | 61.9 | 49.5 |
| 57.5° | 66.0 | 63.3 | 63.3 | 60.5 | 57.8 | 49.5 | 46.8 | 39.9 | 34.4 | 30.3 | 24.8 |
| 60° | 30.3 | 28.9 | 30.3 | 28.9 | 26.1 | 27.5 | 23.4 | 20.6 | 19.3 | 16.5 | 13.8 |
| 61° | 23.4 | 22.0 | 22.0 | 22.0 | 19.3 | 19.3 | 17.9 | 16.5 | 15.1 | 12.4 | 11.0 |
| 62° | 17.9 | 16.5 | 16.5 | 16.5 | 15.1 | 15.1 | 13.8 | 12.4 | 12.4 | 9.6 | 8.3 |
| 63° | 13.8 | 12.4 | 12.4 | 12.4 | 11.0 | 11.0 | 11.0 | 9.6 | 9.6 | 8.3 | 6.9 |
| 64° | 9.6 | 9.6 | 9.6 | 9.6 | 9.6 | 8.3 | 8.3 | 8.3 | 6.9 | 5.5 | 5.5 |
| 65° | 8.3 | 6.9 | 8.3 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 5.5 | 4.1 | 4.1 |
| 66° | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 4.1 | 2.8 |



TEST NUMBER: P170925

CATALOG NUMBER: LDA4A28827D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

| | 0° | 2.5° | 5° | 7.5° | 10° | 12.5° | 15° | 17.5° | 20° | 22.5° | 25° |
|-------|-----|------|-----|------|-----|-------|-----|-------|-----|-------|-----|
| 72.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| 75° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| 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):

| | 27.5° | 30° | 32.5° | 35° | 37.5° | 40° | 42.5° | 45° | 67.5° | 90° | 112.5° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|--------|
| 0° | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 | 129.3 |
| 2.5° | 187.1 | 192.6 | 188.5 | 177.5 | 183.0 | 180.2 | 174.7 | 170.6 | 145.8 | 126.6 | 107.3 |
| 5° | 441.6 | 445.7 | 422.3 | 381.0 | 367.3 | 345.3 | 313.6 | 291.6 | 165.1 | 121.1 | 94.9 |
| 7.5° | 835.0 | 807.5 | 785.5 | 708.4 | 675.4 | 624.5 | 564.0 | 521.4 | 188.5 | 114.2 | 88.0 |
| 10° | 1264.2 | 1220.2 | 1174.8 | 1062.0 | 1002.8 | 924.4 | 837.7 | 788.2 | 213.2 | 110.0 | 88.0 |
| 12.5° | 1689.3 | 1630.1 | 1547.6 | 1423.8 | 1339.8 | 1233.9 | 1115.6 | 1027.6 | 231.1 | 112.8 | 101.8 |
| 15° | 2057.9 | 1986.4 | 1895.6 | 1755.3 | 1657.6 | 1525.6 | 1371.5 | 1250.4 | 239.4 | 127.9 | 141.7 |
| 17.5° | 2459.6 | 2330.3 | 2180.3 | 2001.5 | 1894.2 | 1741.5 | 1568.2 | 1421.0 | 239.4 | 162.3 | 227.0 |
| 20° | 2921.8 | 2685.2 | 2444.5 | 2194.1 | 2042.8 | 1883.2 | 1697.5 | 1539.3 | 249.0 | 244.9 | 312.3 |
| 22.5° | 3352.4 | 3026.3 | 2686.6 | 2360.6 | 2150.1 | 1976.8 | 1788.3 | 1606.7 | 288.9 | 269.6 | 207.7 |
| 25° | 3686.6 | 3272.6 | 2872.3 | 2476.1 | 2238.1 | 2045.5 | 1843.3 | 1624.6 | 264.1 | 154.1 | 112.8 |
| 26° | 3773.3 | 3326.2 | 2909.4 | 2489.9 | 2242.2 | 2044.2 | 1837.8 | 1605.3 | 221.5 | 122.4 | 90.8 |
| 27° | 3818.7 | 3344.1 | 2912.2 | 2477.5 | 2225.7 | 2020.8 | 1807.6 | 1565.4 | 177.5 | 99.0 | 74.3 |
| 28° | 3818.7 | 3323.5 | 2883.3 | 2443.1 | 2183.1 | 1976.8 | 1755.3 | 1502.2 | 144.4 | 81.2 | 59.2 |
| 29° | 3780.2 | 3269.8 | 2825.5 | 2390.8 | 2125.3 | 1914.9 | 1683.8 | 1427.9 | 122.4 | 67.4 | 48.1 |
| 30° | 3705.9 | 3191.4 | 2748.5 | 2323.4 | 2051.0 | 1844.7 | 1605.3 | 1350.9 | 105.9 | 55.0 | 38.5 |
| 31° | 3601.4 | 3103.4 | 2653.6 | 2250.5 | 1982.3 | 1780.0 | 1533.8 | 1272.4 | 92.2 | 44.0 | 31.6 |
| 32° | 3476.2 | 2993.3 | 2555.9 | 2174.8 | 1925.9 | 1719.5 | 1459.5 | 1189.9 | 79.8 | 37.1 | 27.5 |
| 33° | 3331.7 | 2869.5 | 2454.1 | 2100.6 | 1870.8 | 1650.7 | 1378.4 | 1100.5 | 68.8 | 30.3 | 23.4 |
| 34° | 3172.2 | 2733.3 | 2349.5 | 2020.8 | 1803.4 | 1564.1 | 1283.4 | 1005.6 | 59.2 | 26.1 | 19.3 |
| 35° | 2998.8 | 2580.7 | 2242.2 | 1939.6 | 1727.8 | 1467.8 | 1181.7 | 905.2 | 50.9 | 22.0 | 16.5 |
| 36° | 2811.8 | 2437.6 | 2137.7 | 1858.5 | 1634.2 | 1363.2 | 1070.2 | 802.0 | 44.0 | 17.9 | 15.1 |
| 37° | 2624.7 | 2302.8 | 2034.5 | 1771.8 | 1525.6 | 1244.9 | 953.3 | 694.7 | 38.5 | 15.1 | 12.4 |
| 38° | 2447.2 | 2172.1 | 1932.7 | 1671.4 | 1399.0 | 1114.2 | 832.2 | 587.4 | 33.0 | 13.8 | 11.0 |
| 39° | 2280.8 | 2045.5 | 1828.2 | 1551.7 | 1268.3 | 987.7 | 715.3 | 476.0 | 28.9 | 12.4 | 9.6 |
| 40° | 2130.8 | 1925.9 | 1714.0 | 1418.3 | 1133.5 | 858.4 | 597.0 | 354.9 | 24.8 | 9.6 | 8.3 |
| 42.5° | 1814.4 | 1597.1 | 1317.8 | 989.1 | 766.2 | 498.0 | 277.9 | 132.1 | 17.9 | 6.9 | 6.9 |
| 45° | 1198.2 | 921.7 | 625.9 | 372.8 | 251.7 | 151.3 | 112.8 | 79.8 | 13.8 | 5.5 | 5.5 |
| 47.5° | 400.3 | 254.5 | 185.7 | 133.4 | 114.2 | 90.8 | 72.9 | 49.5 | 9.6 | 4.1 | 4.1 |
| 50° | 152.7 | 123.8 | 101.8 | 77.0 | 68.8 | 55.0 | 44.0 | 28.9 | 6.9 | 4.1 | 4.1 |
| 51° | 119.7 | 97.7 | 79.8 | 60.5 | 55.0 | 44.0 | 35.8 | 24.8 | 5.5 | 4.1 | 4.1 |
| 52° | 92.2 | 75.7 | 61.9 | 46.8 | 44.0 | 35.8 | 30.3 | 20.6 | 5.5 | 2.8 | 4.1 |
| 53° | 70.2 | 57.8 | 46.8 | 35.8 | 34.4 | 28.9 | 24.8 | 16.5 | 4.1 | 2.8 | 4.1 |
| 54° | 52.3 | 44.0 | 37.1 | 28.9 | 28.9 | 24.8 | 20.6 | 13.8 | 4.1 | 2.8 | 4.1 |
| 55° | 39.9 | 33.0 | 28.9 | 22.0 | 23.4 | 20.6 | 17.9 | 11.0 | 4.1 | 2.8 | 4.1 |
| 57.5° | 20.6 | 19.3 | 16.5 | 13.8 | 15.1 | 13.8 | 12.4 | 6.9 | 4.1 | 2.8 | 4.1 |
| 60° | 12.4 | 11.0 | 9.6 | 8.3 | 9.6 | 9.6 | 9.6 | 4.1 | 4.1 | 2.8 | 4.1 |
| 61° | 9.6 | 8.3 | 6.9 | 6.9 | 8.3 | 8.3 | 8.3 | 4.1 | 4.1 | 2.8 | 4.1 |
| 62° | 6.9 | 6.9 | 5.5 | 5.5 | 8.3 | 6.9 | 6.9 | 4.1 | 4.1 | 2.8 | 4.1 |
| 63° | 5.5 | 5.5 | 5.5 | 4.1 | 6.9 | 6.9 | 6.9 | 4.1 | 4.1 | 2.8 | 4.1 |
| 64° | 4.1 | 4.1 | 4.1 | 4.1 | 5.5 | 6.9 | 6.9 | 2.8 | 4.1 | 2.8 | 4.1 |
| 65° | 4.1 | 4.1 | 2.8 | 2.8 | 5.5 | 5.5 | 5.5 | 2.8 | 4.1 | 2.8 | 4.1 |
| 66° | 2.8 | 2.8 | 2.8 | 2.8 | 5.5 | 5.5 | 5.5 | 2.8 | 4.1 | 2.8 | 4.1 |



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CATALOG NUMBER: LDA4A28827D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

| | 27.5° | 30° | 32.5° | 35° | 37.5° | 40° | 42.5° | 45° | 67.5° | 90° | 112.5° |
|-------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|--------|
| 72.5° | 1.4 | 1.4 | 1.4 | 1.4 | 4.1 | 4.1 | 5.5 | 2.8 | 4.1 | 4.1 | 4.1 |
| 75° | 1.4 | 1.4 | 1.4 | 1.4 | 4.1 | 4.1 | 5.5 | 2.8 | 4.1 | 4.1 | 4.1 |
| 77.5° | 1.4 | 1.4 | 1.4 | 1.4 | 4.1 | 4.1 | 5.5 | 2.8 | 4.1 | 4.1 | 5.5 |
| 80° | 1.4 | 1.4 | 1.4 | 1.4 | 4.1 | 4.1 | 5.5 | 2.8 | 4.1 | 4.1 | 5.5 |
| 82.5° | 1.4 | 1.4 | 1.4 | 1.4 | 4.1 | 4.1 | 5.5 | 2.8 | 4.1 | 4.1 | 5.5 |
| 85° | 1.4 | 1.4 | 1.4 | 1.4 | 4.1 | 4.1 | 5.5 | 2.8 | 4.1 | 4.1 | 5.5 |
| 87.5° | 1.4 | 1.4 | 1.4 | 1.4 | 4.1 | 4.1 | 5.5 | 2.8 | 4.1 | 4.1 | 4.1 |
| 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: P170925

CATALOG NUMBER: LDA4A28827D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

| | 135° | 157.5° | 180° |
|-------|-------|--------|-------|
| 0° | 129.3 | 129.3 | 129.3 |
| 2.5° | 97.7 | 93.5 | 90.8 |
| 5° | 83.9 | 79.8 | 78.4 |
| 7.5° | 78.4 | 77.0 | 78.4 |
| 10° | 86.7 | 92.2 | 99.0 |
| 12.5° | 115.6 | 136.2 | 147.2 |
| 15° | 191.2 | 249.0 | 273.7 |
| 17.5° | 337.0 | 383.8 | 411.3 |
| 20° | 297.1 | 271.0 | 286.1 |
| 22.5° | 160.9 | 140.3 | 144.4 |
| 25° | 89.4 | 77.0 | 78.4 |
| 26° | 71.5 | 61.9 | 61.9 |
| 27° | 57.8 | 49.5 | 49.5 |
| 28° | 46.8 | 39.9 | 39.9 |
| 29° | 37.1 | 31.6 | 31.6 |
| 30° | 30.3 | 26.1 | 26.1 |
| 31° | 24.8 | 20.6 | 20.6 |
| 32° | 20.6 | 17.9 | 16.5 |
| 33° | 17.9 | 15.1 | 13.8 |
| 34° | 15.1 | 12.4 | 11.0 |
| 35° | 12.4 | 9.6 | 9.6 |
| 36° | 11.0 | 8.3 | 8.3 |
| 37° | 9.6 | 6.9 | 6.9 |
| 38° | 8.3 | 5.5 | 5.5 |
| 39° | 6.9 | 5.5 | 4.1 |
| 40° | 5.5 | 4.1 | 2.8 |
| 42.5° | 4.1 | 2.8 | 1.4 |
| 45° | 4.1 | 1.4 | 0.0 |
| 47.5° | 2.8 | 1.4 | 0.0 |
| 50° | 2.8 | 0.0 | 0.0 |
| 51° | 2.8 | 0.0 | 0.0 |
| 52° | 2.8 | 0.0 | 0.0 |
| 53° | 1.4 | 0.0 | 0.0 |
| 54° | 2.8 | 0.0 | 0.0 |
| 55° | 1.4 | 0.0 | 0.0 |
| 57.5° | 2.8 | 0.0 | 0.0 |
| 60° | 2.8 | 0.0 | 0.0 |
| 61° | 2.8 | 0.0 | 0.0 |
| 62° | 2.8 | 0.0 | 0.0 |
| 63° | 2.8 | 0.0 | 0.0 |
| 64° | 2.8 | 1.4 | 0.0 |
| 65° | 2.8 | 1.4 | 0.0 |
| 66° | 2.8 | 1.4 | 0.0 |



TEST NUMBER: P170925

CATALOG NUMBER: LDA4A28827D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

| | 135° | 157.5° | 180° |
|-------|------|--------|------|
| 72.5° | 2.8 | 1.4 | 0.0 |
| 75° | 2.8 | 1.4 | 0.0 |
| 77.5° | 2.8 | 1.4 | 0.0 |
| 80° | 2.8 | 1.4 | 0.0 |
| 82.5° | 2.8 | 1.4 | 0.0 |
| 85° | 2.8 | 1.4 | 0.0 |
| 87.5° | 2.8 | 1.4 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 |



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— 0°-180° - - 45°-225° - - - - 90°-270°







| | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 67.5° | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 2.8 | 2.8 |
| 70° | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 2.8 | 2.8 | 1.4 | 1.4 |





| | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 67.5° | 2.8 | 1.4 | 2.8 | 2.8 | 4.1 | 5.5 | 5.5 | 2.8 | 4.1 | 2.8 | 4.1 |
| 70° | 1.4 | 1.4 | 1.4 | 1.4 | 4.1 | 4.1 | 5.5 | 2.8 | 4.1 | 2.8 | 4.1 |





| | | | |
|-------|-----|-----|-----|
| 67.5° | 2.8 | 1.4 | 0.0 |
| 70° | 2.8 | 1.4 | 0.0 |



(END OF REPORT)