

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: P170757

Luminaire Tested: **LDA4A13827D010TE LAR15SP 4LAL1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170757
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26104)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A13827D010TE LAR15SP 4LAL1 30° Tilt
Description: PORTFOLIO 4" Lensed Adjustable, Self-flanged, 15° Spot Optic, at 30° tilt. --- 27.9W
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1292.9 lumens
Efficiency: N/A
Efficacy: 58.1 lumens/watt
Spacing Criteria (0/90/45): 2.57 / 1.16 / 1.36
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

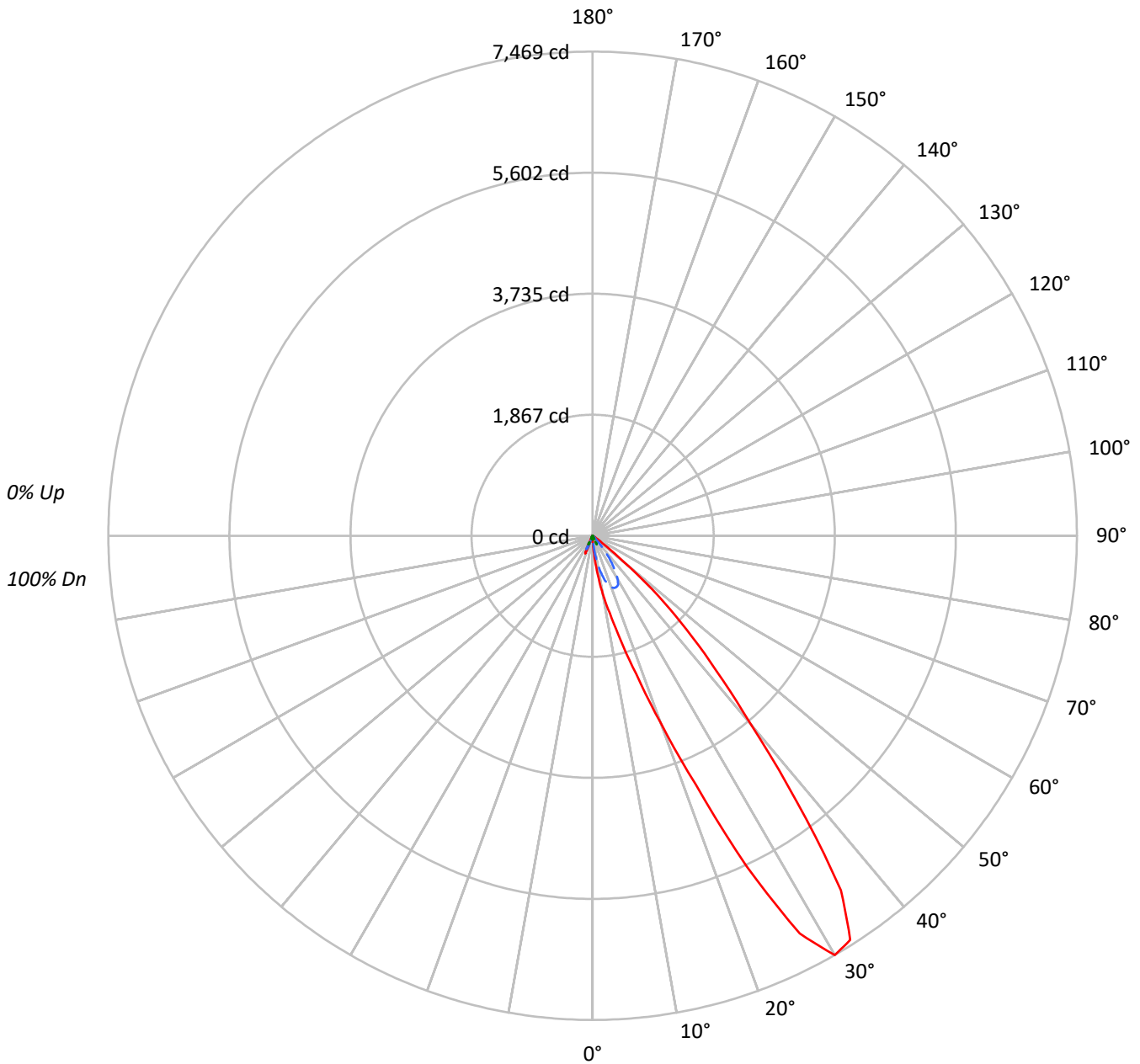
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P170757

CATALOG NUMBER: LDA4A13827D010TE LAR15SP 4LAL1 30° Tilt

Luminous Intensity Polar Plot





TEST NUMBER: P170757

CATALOG NUMBER: LDA4A13827D010TE LAR15SP 4LAL1 30° Tilt

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| RC | 80 | | | | | | | | | 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 | 0 | | | | | | | | | | | | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | | | | | | | | | | | | | | |
| 1 | 112 | 109 | 106 | 104 | 110 | 107 | 104 | 102 | 103 | 101 | 99 | 99 | 97 | 96 | 96 | 94 | 93 | 91 | | | | | | | | | | | | | | | | | | | |
| 2 | 105 | 100 | 95 | 91 | 103 | 98 | 93 | 90 | 94 | 91 | 88 | 91 | 88 | 86 | 89 | 86 | 84 | 82 | | | | | | | | | | | | | | | | | | | |
| 3 | 99 | 91 | 85 | 80 | 96 | 89 | 84 | 79 | 87 | 82 | 78 | 84 | 80 | 77 | 82 | 78 | 76 | 74 | | | | | | | | | | | | | | | | | | | |
| 4 | 92 | 83 | 76 | 71 | 90 | 82 | 75 | 70 | 79 | 74 | 70 | 77 | 72 | 69 | 75 | 71 | 68 | 66 | | | | | | | | | | | | | | | | | | | |
| 5 | 86 | 75 | 68 | 63 | 84 | 74 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | | | | | | | | | | | | | | | | | | |
| 6 | 80 | 69 | 62 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 56 | 65 | 59 | 55 | 63 | 59 | 55 | 53 | | | | | | | | | | | | | | | | | | | |
| 7 | 74 | 63 | 56 | 51 | 73 | 62 | 55 | 50 | 61 | 55 | 50 | 60 | 54 | 50 | 58 | 53 | 49 | 48 | | | | | | | | | | | | | | | | | | | |
| 8 | 69 | 58 | 50 | 45 | 68 | 57 | 50 | 45 | 56 | 50 | 45 | 55 | 49 | 45 | 54 | 48 | 45 | 43 | | | | | | | | | | | | | | | | | | | |
| 9 | 65 | 53 | 46 | 41 | 64 | 52 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 40 | 49 | 44 | 40 | 39 | | | | | | | | | | | | | | | | | | | |
| 10 | 61 | 49 | 42 | 37 | 59 | 48 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 46 | 40 | 37 | 35 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|---------|-------|-------|
| 0° | 7524 | 7524 | 7524 |
| 5° | 39683 | 7107 | 3776 |
| 10° | 116068 | 6037 | 2492 |
| 15° | 211147 | 5070 | 2809 |
| 20° | 402803 | 5776 | 13677 |
| 25° | 765531 | 20074 | 30200 |
| 30° | 1063803 | 6765 | 5854 |
| 35° | 1005314 | 3102 | 2244 |
| 40° | 609318 | 1369 | 805 |
| 45° | 357073 | 750 | 244 |
| 50° | 118512 | 537 | 0 |
| 55° | 22558 | 452 | 0 |
| 60° | 5082 | 345 | 0 |
| 65° | 1459 | 613 | 0 |
| 70° | 505 | 757 | 0 |
| 75° | 0 | 1001 | 0 |
| 80° | 0 | 1492 | 0 |
| 85° | 0 | 2972 | 991 |



TEST NUMBER: P170757

CATALOG NUMBER: LDA4A13827D010TE LAR15SP 4LAL1 30° Tilt

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 14.6 | 1.1 |
| 10°-20° | 119.0 | 9.2 |
| 20°-30° | 421.9 | 32.6 |
| 30°-40° | 500.2 | 38.7 |
| 40°-50° | 212.8 | 16.5 |
| 50°-60° | 19.2 | 1.5 |
| 60°-70° | 2.4 | 0.2 |
| 70°-80° | 1.6 | 0.1 |
| 80°-90° | 1.4 | 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° | 555.4 | 43.0 |
| 0°-40° | 1055.5 | 81.6 |
| 0°-60° | 1287.5 | 99.6 |
| 0°-90° | 1292.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1292.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|-----|-----|------|------|------|
| 0° | 61 | 61 | 61 | 61 | 61 | |
| 5° | 320 | 158 | 57 | 36 | 30 | 50 |
| 15° | 1654 | 696 | 40 | 22 | 22 | 533 |
| 25° | 5625 | 873 | 148 | 232 | 222 | 2606 |
| 35° | 6676 | 516 | 21 | 16 | 15 | 3857 |
| 45° | 2047 | 57 | 4 | 3 | 1 | 1604 |
| 55° | 105 | 8 | 2 | 1 | 0 | 147 |
| 65° | 5 | 2 | 2 | 1 | 0 | 7 |
| 75° | 0 | 1 | 2 | 2 | 0 | 0 |
| 85° | 0 | 1 | 2 | 2 | 1 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P170757

CATALOG NUMBER: LDA4A13827D010TE LAR15SP 4LAL1 30° Tilt

CANDELA DISTRIBUTION (FULL):

| | 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 |
| 2.5° | 112.0 | 105.6 | 109.9 | 108.5 | 109.2 | 111.3 | 109.2 | 109.2 | 108.5 | 105.6 | 105.6 |
| 5° | 320.5 | 301.3 | 310.6 | 305.6 | 308.4 | 312.0 | 307.0 | 305.6 | 303.5 | 297.1 | 295.7 |
| 7.5° | 597.0 | 586.4 | 597.7 | 589.2 | 597.0 | 598.4 | 591.3 | 589.9 | 586.4 | 577.2 | 573.6 |
| 10° | 926.7 | 909.0 | 919.6 | 910.4 | 922.5 | 921.8 | 910.4 | 911.8 | 907.6 | 895.5 | 889.9 |
| 12.5° | 1218.8 | 1204.7 | 1215.3 | 1189.1 | 1218.8 | 1199.7 | 1201.8 | 1204.7 | 1199.0 | 1183.4 | 1176.3 |
| 15° | 1653.5 | 1614.5 | 1632.9 | 1587.6 | 1632.9 | 1626.6 | 1601.7 | 1600.3 | 1585.4 | 1559.2 | 1543.6 |
| 17.5° | 2230.7 | 2241.3 | 2227.8 | 2200.9 | 2261.1 | 2244.8 | 2209.4 | 2202.3 | 2173.9 | 2102.3 | 2100.9 |
| 20° | 3068.7 | 3054.6 | 3077.3 | 2992.2 | 3069.5 | 2994.3 | 2984.4 | 2964.5 | 2916.3 | 2816.3 | 2800.7 |
| 22.5° | 4141.5 | 4149.3 | 4108.9 | 4050.1 | 4145.1 | 4028.8 | 3993.3 | 3945.8 | 3857.9 | 3704.1 | 3655.8 |
| 25° | 5624.9 | 5614.9 | 5562.5 | 5464.6 | 5566.0 | 5378.1 | 5289.5 | 5191.6 | 5027.8 | 4788.2 | 4672.6 |
| 27.5° | 6917.5 | 6957.9 | 6923.1 | 6823.9 | 6891.2 | 6706.2 | 6501.9 | 6439.6 | 6217.6 | 5915.6 | 5707.1 |
| 30° | 7469.1 | 7488.2 | 7473.3 | 7397.5 | 7421.6 | 7269.1 | 7067.1 | 6993.3 | 6765.7 | 6480.0 | 6209.8 |
| 32.5° | 7393.2 | 7402.4 | 7405.3 | 7303.9 | 7308.1 | 7164.2 | 6952.9 | 6843.7 | 6595.5 | 6320.4 | 5997.8 |
| 35° | 6676.4 | 6714.7 | 6739.5 | 6644.5 | 6550.2 | 6406.9 | 6167.3 | 5997.8 | 5736.9 | 5485.9 | 5156.2 |
| 37.5° | 5170.4 | 5218.6 | 5256.9 | 5176.0 | 5131.4 | 4958.4 | 4759.1 | 4627.9 | 4447.8 | 4300.4 | 4066.4 |
| 40° | 3784.2 | 3793.4 | 3816.8 | 3775.0 | 3705.5 | 3659.4 | 3545.2 | 3470.8 | 3361.6 | 3282.2 | 3126.9 |
| 42.5° | 2812.8 | 2807.8 | 2824.1 | 2800.7 | 2798.6 | 2729.1 | 2656.8 | 2612.8 | 2575.3 | 2491.6 | 2382.4 |
| 45° | 2047.0 | 2048.4 | 2064.0 | 2049.1 | 2009.4 | 1994.5 | 1947.0 | 1907.3 | 1857.7 | 1831.5 | 1745.0 |
| 47.5° | 1391.9 | 1396.1 | 1406.7 | 1398.2 | 1362.1 | 1356.4 | 1325.9 | 1286.2 | 1285.5 | 1245.1 | 1169.2 |
| 50° | 617.6 | 619.0 | 631.8 | 628.9 | 585.7 | 591.3 | 571.5 | 535.3 | 545.3 | 521.1 | 463.0 |
| 52.5° | 204.9 | 205.6 | 207.8 | 206.3 | 199.2 | 199.2 | 194.3 | 193.6 | 187.9 | 182.2 | 169.5 |
| 55° | 104.9 | 104.9 | 106.4 | 105.6 | 102.1 | 102.1 | 96.4 | 100.0 | 97.1 | 95.0 | 87.2 |
| 57.5° | 44.7 | 44.7 | 45.4 | 45.4 | 43.3 | 45.4 | 43.3 | 43.3 | 41.8 | 41.1 | 38.3 |
| 60° | 20.6 | 20.6 | 20.6 | 20.6 | 19.9 | 21.3 | 19.9 | 19.9 | 19.9 | 19.1 | 17.7 |
| 62.5° | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 | 9.9 | 9.9 | 9.9 | 9.2 |
| 65° | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.7 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| 67.5° | 2.1 | 2.1 | 2.1 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.1 | 2.1 | 2.1 |
| 70° | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 0.7 |
| 72.5° | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| 75° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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: P170757

CATALOG NUMBER: LDA4A13827D010TE LAR15SP 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

| | 11° | 12° | 13° | 14° | 15° | 17.5° | 20° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|
| 0° | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 | 61.0 |
| 2.5° | 106.4 | 102.8 | 107.8 | 103.5 | 106.4 | 103.5 | 100.0 | 101.4 | 81.5 | 68.1 | 60.3 |
| 5° | 296.4 | 285.7 | 295.0 | 285.7 | 286.5 | 281.5 | 268.0 | 266.6 | 158.1 | 77.3 | 57.4 |
| 7.5° | 558.0 | 556.6 | 567.9 | 555.9 | 554.5 | 542.4 | 517.6 | 507.7 | 286.5 | 90.8 | 53.2 |
| 10° | 886.3 | 865.7 | 875.7 | 862.9 | 858.7 | 836.7 | 801.2 | 782.1 | 426.1 | 104.2 | 48.2 |
| 12.5° | 1156.5 | 1148.7 | 1155.7 | 1143.7 | 1139.4 | 1109.7 | 1067.8 | 1042.3 | 569.4 | 112.0 | 43.3 |
| 15° | 1509.6 | 1494.0 | 1498.9 | 1474.1 | 1461.3 | 1404.6 | 1333.0 | 1286.2 | 696.3 | 111.3 | 39.7 |
| 17.5° | 2048.4 | 2017.9 | 2015.1 | 1972.6 | 1941.4 | 1838.6 | 1710.2 | 1613.8 | 789.2 | 102.8 | 38.3 |
| 20° | 2723.4 | 2668.1 | 2649.7 | 2582.3 | 2529.9 | 2359.7 | 2161.9 | 2005.2 | 847.3 | 91.5 | 44.0 |
| 22.5° | 3532.5 | 3435.3 | 3380.7 | 3273.0 | 3182.9 | 2909.9 | 2619.9 | 2385.2 | 872.8 | 87.9 | 63.1 |
| 25° | 4475.5 | 4308.9 | 4193.3 | 4023.8 | 3872.1 | 3453.1 | 3046.1 | 2717.1 | 872.8 | 114.2 | 147.5 |
| 27.5° | 5432.0 | 5168.9 | 4956.2 | 4708.8 | 4478.3 | 3884.2 | 3359.5 | 2931.2 | 851.6 | 142.5 | 134.7 |
| 30° | 5916.3 | 5593.0 | 5303.7 | 5014.4 | 4725.1 | 4011.1 | 3429.7 | 2957.4 | 771.4 | 83.7 | 47.5 |
| 32.5° | 5710.7 | 5369.6 | 5049.8 | 4769.8 | 4484.0 | 3787.0 | 3239.6 | 2783.7 | 648.1 | 48.9 | 30.5 |
| 35° | 4922.2 | 4626.5 | 4348.6 | 4139.4 | 3916.8 | 3366.5 | 2876.6 | 2479.5 | 515.5 | 38.3 | 20.6 |
| 37.5° | 3928.8 | 3727.5 | 3529.6 | 3395.6 | 3236.1 | 2822.7 | 2427.8 | 2102.3 | 368.7 | 27.7 | 12.8 |
| 40° | 3047.5 | 2909.9 | 2771.7 | 2686.6 | 2573.8 | 2272.5 | 1964.8 | 1706.0 | 217.7 | 19.1 | 8.5 |
| 42.5° | 2334.2 | 2239.2 | 2136.4 | 2077.5 | 1996.7 | 1771.9 | 1531.5 | 1348.6 | 100.7 | 13.5 | 6.4 |
| 45° | 1715.9 | 1645.7 | 1567.0 | 1529.4 | 1472.7 | 1324.5 | 1165.0 | 1035.9 | 56.7 | 9.9 | 4.3 |
| 47.5° | 1155.0 | 1092.6 | 1019.6 | 996.2 | 941.6 | 811.9 | 648.8 | 521.9 | 37.6 | 7.1 | 3.5 |
| 50° | 459.5 | 418.3 | 393.5 | 360.9 | 329.0 | 275.8 | 206.3 | 164.5 | 22.7 | 5.7 | 2.8 |
| 52.5° | 168.8 | 159.5 | 155.3 | 146.8 | 139.7 | 124.8 | 105.6 | 91.5 | 13.5 | 4.3 | 2.1 |
| 55° | 87.9 | 82.2 | 79.4 | 76.6 | 72.3 | 63.8 | 53.2 | 45.4 | 8.5 | 2.8 | 2.1 |
| 57.5° | 38.3 | 36.2 | 36.9 | 34.0 | 31.9 | 29.1 | 25.5 | 22.0 | 5.7 | 2.8 | 2.1 |
| 60° | 18.4 | 17.0 | 17.7 | 16.3 | 15.6 | 14.9 | 13.5 | 11.3 | 3.5 | 2.1 | 1.4 |
| 62.5° | 9.2 | 9.2 | 9.2 | 8.5 | 8.5 | 7.8 | 7.1 | 6.4 | 2.8 | 2.1 | 2.1 |
| 65° | 5.0 | 4.3 | 5.0 | 4.3 | 4.3 | 4.3 | 3.5 | 3.5 | 2.1 | 2.1 | 2.1 |
| 67.5° | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 1.4 | 2.1 | 2.1 |
| 70° | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 0.7 | 1.4 | 1.4 | 2.1 | 2.1 |
| 72.5° | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 1.4 | 2.1 | 2.1 |
| 75° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.7 | 0.7 | 1.4 | 2.1 | 2.1 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 1.4 | 2.1 | 2.1 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.7 | 0.7 | 1.4 | 2.1 | 2.1 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.7 | 0.7 | 1.4 | 2.1 | 2.1 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 1.4 | 2.1 | 2.1 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.7 | 0.7 | 0.7 | 1.4 | 2.1 | 2.1 |
| 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: P170757

CATALOG NUMBER: LDA4A13827D010TE LAR15SP 4LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

| | 112.5° | 135° | 157.5° | 180° |
|-------|--------|-------|--------|-------|
| 0° | 61.0 | 61.0 | 61.0 | 61.0 |
| 2.5° | 51.1 | 45.4 | 41.1 | 40.4 |
| 5° | 43.3 | 36.2 | 31.2 | 30.5 |
| 7.5° | 36.9 | 29.1 | 24.8 | 24.1 |
| 10° | 32.6 | 24.8 | 20.6 | 19.9 |
| 12.5° | 29.1 | 22.0 | 19.1 | 18.4 |
| 15° | 26.9 | 22.0 | 21.3 | 22.0 |
| 17.5° | 29.1 | 29.8 | 32.6 | 36.2 |
| 20° | 48.2 | 68.8 | 89.3 | 104.2 |
| 22.5° | 108.5 | 200.7 | 265.9 | 297.1 |
| 25° | 204.9 | 231.9 | 232.6 | 221.9 |
| 27.5° | 111.3 | 88.6 | 79.4 | 75.2 |
| 30° | 44.0 | 41.8 | 41.8 | 41.1 |
| 32.5° | 29.1 | 26.9 | 26.2 | 25.5 |
| 35° | 17.7 | 15.6 | 14.9 | 14.9 |
| 37.5° | 11.3 | 9.9 | 9.2 | 8.5 |
| 40° | 7.8 | 6.4 | 5.7 | 5.0 |
| 42.5° | 5.7 | 4.3 | 2.8 | 2.8 |
| 45° | 4.3 | 2.8 | 1.4 | 1.4 |
| 47.5° | 3.5 | 2.1 | 0.7 | 0.7 |
| 50° | 2.8 | 1.4 | 0.7 | 0.0 |
| 52.5° | 2.1 | 1.4 | 0.0 | 0.0 |
| 55° | 2.1 | 1.4 | 0.0 | 0.0 |
| 57.5° | 2.1 | 1.4 | 0.0 | 0.0 |
| 60° | 2.1 | 1.4 | 0.0 | 0.0 |
| 62.5° | 2.1 | 1.4 | 0.0 | 0.0 |
| 65° | 2.1 | 1.4 | 0.7 | 0.0 |
| 67.5° | 2.8 | 1.4 | 0.7 | 0.0 |
| 70° | 2.8 | 1.4 | 0.7 | 0.0 |
| 72.5° | 2.8 | 1.4 | 0.7 | 0.0 |
| 75° | 2.8 | 2.1 | 0.7 | 0.0 |
| 77.5° | 2.8 | 2.1 | 0.7 | 0.0 |
| 80° | 2.8 | 2.1 | 0.7 | 0.0 |
| 82.5° | 2.8 | 2.1 | 0.7 | 0.0 |
| 85° | 2.8 | 2.1 | 0.7 | 0.7 |
| 87.5° | 2.8 | 2.1 | 0.7 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By E9808895 / USPTCWHP6082093





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











(END OF REPORT)