

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: P175463

Luminaire Tested: **LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P175463
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26267)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt
Description: PORTFOLIO 6" Lensed Adjustable, Self-flange 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: 1952.4 lumens
Efficiency: N/A
Efficacy: 43.9 lumens/watt
Spacing Criteria (0/90/45): 2.44 / 0.33 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

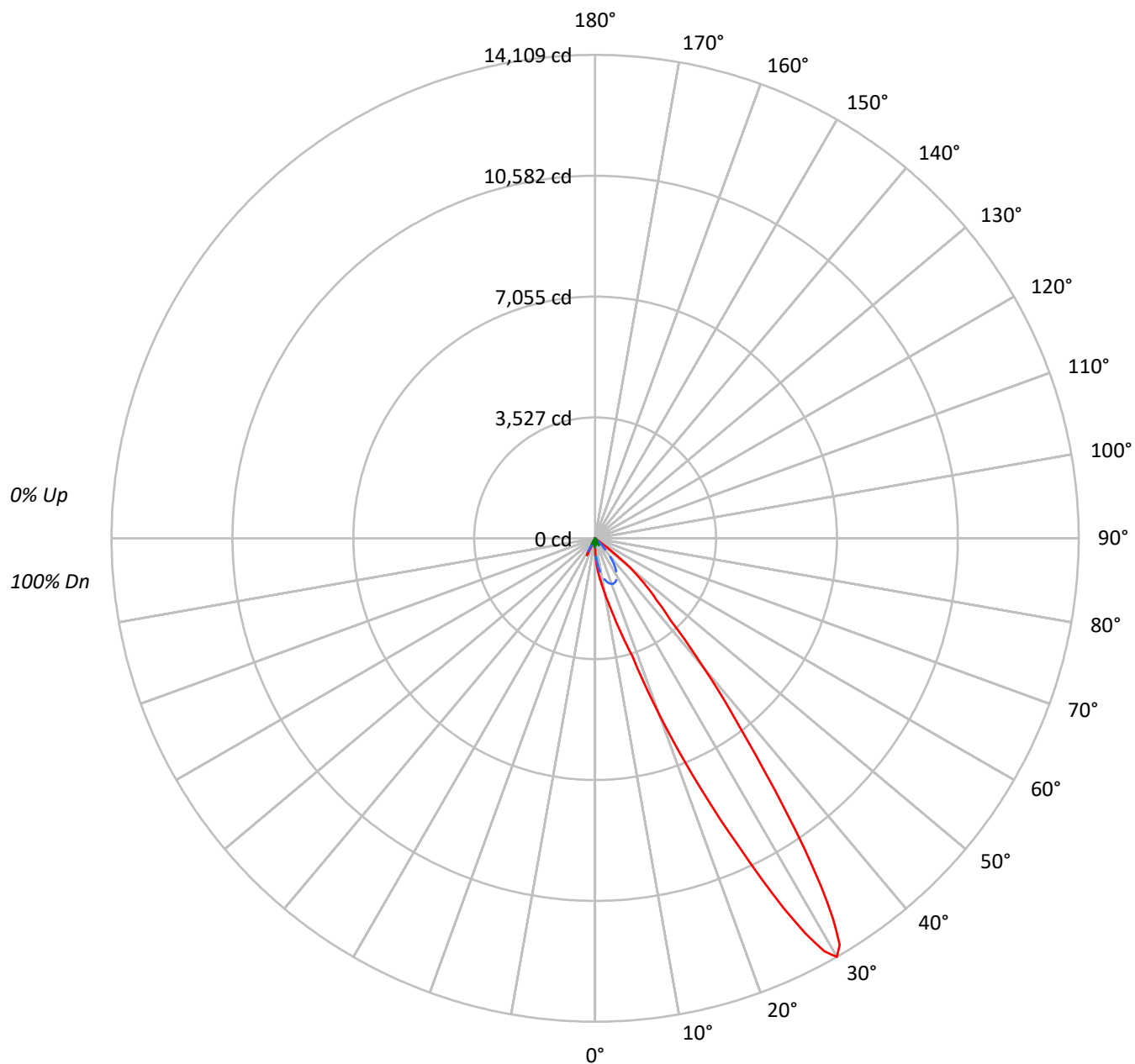
Input Watts (W): 44.49
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P175463

CATALOG NUMBER: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt

Luminous Intensity Polar Plot





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CATALOG NUMBER: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	113	109	106	104	110	107	105	102	103	101	99	99	98	96	96	95	93	91		
2	106	100	95	91	103	98	94	90	95	91	88	92	89	86	89	87	85	83		
3	99	91	86	81	97	90	85	80	87	83	79	85	81	78	82	79	76	75		
4	93	84	77	72	91	82	76	72	80	75	71	78	74	70	76	72	69	67		
5	87	77	70	64	85	76	69	64	74	68	64	72	67	63	70	66	62	61		
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56	55		
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49		
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45		
9	66	55	47	43	65	54	47	43	53	47	42	52	46	42	51	46	42	41		
10	62	50	43	39	61	50	43	39	49	43	39	48	42	38	47	42	38	37		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	15755	15755	15755
5°	53879	13400	1788
10°	90168	7437	880
15°	156624	2741	749
20°	319992	1797	1283
25°	600670	3508	22701
30°	893093	6121	3671
35°	644523	468	294
40°	350077	186	0
45°	194330	202	0
50°	113711	222	0
55°	3613	172	0
60°	1250	285	0
65°	571	337	0
70°	417	417	0
75°	191	741	0
80°	0	1105	0
85°	0	2201	0



TEST NUMBER: P175463

CATALOG NUMBER: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.2	2.1
10°-20°	209.1	10.7
20°-30°	672.8	34.5
30°-40°	700.4	35.9
40°-50°	298.4	15.3
50°-60°	24.8	1.3
60°-70°	2.5	0.1
70°-80°	2.2	0.1
80°-90°	2.0	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°	922.1	47.2
0°-40°	1622.5	83.1
0°-60°	1945.6	99.7
0°-90°	1952.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1952.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	287	287	287	287	287	
5°	979	714	244	44	32	111
15°	2760	1314	48	17	13	902
25°	9930	1399	58	175	375	4769
35°	9631	999	7	6	4	5962
45°	2507	171	3	2	0	2062
55°	38	5	2	2	0	236
65°	4	3	3	2	0	5
75°	1	3	4	3	0	1
85°	0	3	4	3	0	0
90°	0	0	0	0	0	



TEST NUMBER: P175463

CATALOG NUMBER: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	287.4	287.4	287.4	287.4	287.4	287.4	287.4	287.4	287.4	287.4	287.4
2.5°	638.1	604.7	630.2	615.2	605.5	602.9	617.9	601.2	583.6	582.7	577.4
5°	979.1	947.4	973.8	950.9	940.4	931.6	938.6	911.4	882.4	883.3	870.1
7.5°	1276.1	1258.6	1276.1	1251.5	1243.6	1234.8	1232.2	1205.8	1171.5	1174.2	1154.0
10°	1619.8	1568.8	1596.9	1543.3	1530.1	1506.4	1498.5	1455.4	1400.9	1398.3	1369.3
12.5°	2093.5	2073.3	2101.4	2025.8	2010.0	1969.6	1947.6	1879.0	1789.4	1766.6	1699.8
15°	2759.7	2694.7	2722.8	2616.4	2586.5	2516.2	2467.9	2361.6	2276.3	2179.6	2077.7
17.5°	3606.1	3569.1	3605.2	3396.0	3318.7	3181.6	3068.2	2890.6	2709.6	2622.6	2479.3
20°	5485.1	5309.3	5328.7	4940.2	4692.3	4323.2	4027.9	3635.9	3276.5	3069.9	2833.5
22.5°	7570.7	7370.3	7321.1	6821.9	6401.8	5847.2	5328.7	4673.0	4035.8	3574.4	3173.6
25°	9930.5	9800.4	9542.9	8725.5	8003.1	7212.1	6449.2	5591.4	4765.3	4058.7	3457.5
26°	11051.1	10946.5	10559.8	9537.6	8602.5	7655.9	6784.1	5863.0	4971.8	4196.7	3524.3
27°	12115.4	12031.0	11528.3	10338.3	9169.4	8030.3	7027.5	6056.4	5120.4	4285.4	3571.8
28°	13053.1	12967.0	12317.5	11016.8	9618.5	8301.0	7180.5	6176.8	5205.6	4306.5	3569.1
29°	13782.6	13673.6	12835.2	11451.8	9882.1	8431.1	7211.2	6191.7	5193.3	4257.3	3519.9
30°	14108.7	13973.3	12982.8	11545.0	9886.5	8381.9	7124.2	6111.7	5093.1	4141.3	3428.5
31°	13852.9	13737.8	12714.8	11276.0	9618.5	8156.9	6908.0	5927.2	4903.3	3973.4	3307.2
32°	13107.6	13002.2	12059.1	10685.4	9111.4	7776.3	6594.2	5663.5	4651.0	3770.4	3166.6
33°	12085.5	12003.8	11158.3	9874.2	8460.1	7307.9	6219.0	5333.1	4347.8	3542.8	2995.2
34°	10919.2	10855.1	10083.4	8957.6	7749.1	6787.6	5790.9	4857.6	4016.5	3313.4	2866.9
35°	9630.8	9586.8	8957.6	8016.3	7041.6	6247.1	5315.5	4437.5	3682.5	3092.8	2728.9
36°	8406.5	8370.5	7890.6	7153.2	6368.4	5686.4	4800.5	3999.8	3362.6	2894.2	2599.7
37°	7360.6	7334.3	6979.2	6385.1	5721.5	5103.7	4275.8	3590.2	3084.0	2721.0	2467.0
38°	6490.5	6469.4	6181.2	5654.7	5055.3	4500.8	3769.5	3228.1	2846.7	2570.7	2316.7
39°	5679.3	5652.1	5392.8	4916.5	4391.8	3913.7	3433.8	2930.2	2660.4	2414.3	2155.0
40°	4891.9	4856.7	4629.1	4223.9	3786.2	3415.3	2984.7	2747.4	2509.2	2232.4	1989.8
42.5°	3282.6	3263.3	3139.4	2956.6	2771.1	2635.8	2499.5	2287.7	2036.4	1807.9	1628.6
45°	2506.6	2502.2	2441.5	2345.7	2222.7	2108.4	1926.5	1804.3	1634.7	1442.2	1313.9
47.5°	1923.0	1923.9	1867.6	1795.6	1711.2	1637.4	1504.6	1407.1	1285.8	1175.9	1076.6
50°	1333.3	1277.0	1284.9	1227.8	1159.2	1116.2	993.1	918.4	746.2	572.2	447.4
51°	999.3	925.5	935.1	871.0	799.8	762.0	646.9	571.3	409.6	268.9	175.8
52°	609.9	551.9	551.1	501.8	440.3	406.9	315.5	246.1	139.7	73.8	51.0
53°	273.3	234.7	225.9	192.5	151.2	131.0	89.6	65.9	49.2	37.8	29.0
54°	72.1	64.2	61.5	56.2	51.0	49.2	43.1	36.0	28.1	22.0	18.5
55°	37.8	35.2	34.3	32.5	29.9	29.0	25.5	22.0	17.6	15.8	14.1
57.5°	17.6	17.6	16.7	15.8	14.9	14.9	13.2	12.3	11.4	11.4	9.7
60°	11.4	11.4	11.4	10.5	10.5	9.7	8.8	7.9	7.0	7.9	7.0
61°	9.7	9.7	9.7	8.8	7.9	7.0	7.0	7.0	6.2	6.2	5.3
62°	7.0	7.0	6.2	6.2	5.3	5.3	5.3	5.3	4.4	5.3	5.3
63°	5.3	5.3	4.4	4.4	4.4	4.4	3.5	3.5	3.5	5.3	5.3
64°	4.4	4.4	4.4	3.5	3.5	3.5	3.5	3.5	3.5	4.4	3.5
65°	4.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.6	3.5	3.5
66°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.6	2.6	3.5	3.5



TEST NUMBER: P175463

CATALOG NUMBER: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
72.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.9	0.9
75°	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
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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CATALOG NUMBER: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
0°	287.4	287.4	287.4	287.4	287.4	287.4	287.4	287.4	287.4	287.4	287.4
2.5°	577.4	566.9	544.9	540.5	519.4	507.1	510.6	503.6	391.1	276.0	172.3
5°	860.4	836.7	804.2	792.8	756.7	737.4	731.2	713.7	484.3	243.5	80.9
7.5°	1137.3	1106.5	1067.0	1048.5	999.3	966.8	945.7	919.3	548.4	193.4	44.8
10°	1342.9	1307.8	1266.5	1242.7	1187.4	1154.9	1120.6	1091.6	582.7	133.6	33.4
12.5°	1617.1	1547.7	1461.6	1409.7	1328.0	1283.2	1243.6	1215.5	595.9	80.0	25.5
15°	1982.8	1871.1	1749.0	1654.9	1516.1	1431.7	1364.9	1313.9	585.3	48.3	22.0
17.5°	2336.9	2178.7	2018.8	1891.4	1732.3	1606.6	1478.3	1378.1	540.5	38.7	20.2
20°	2631.4	2445.9	2242.0	2063.6	1879.9	1730.5	1560.0	1418.5	468.4	30.8	22.0
22.5°	2858.1	2621.7	2390.6	2169.1	1950.2	1778.9	1591.7	1427.3	377.0	31.6	30.8
25°	3021.6	2711.3	2465.3	2213.0	1974.8	1786.8	1575.0	1399.2	277.7	58.0	103.7
26°	3055.0	2729.8	2474.9	2208.6	1966.1	1773.6	1555.6	1381.6	250.5	115.1	228.5
27°	3073.4	2727.2	2467.9	2191.1	1947.6	1754.2	1533.6	1365.8	246.1	196.9	341.0
28°	3056.7	2705.2	2438.0	2159.4	1917.7	1728.8	1508.2	1347.3	243.5	241.7	323.4
29°	3011.0	2666.5	2393.2	2110.2	1872.0	1688.3	1469.5	1321.0	218.0	192.5	195.1
30°	2941.6	2612.0	2328.2	2044.3	1814.0	1630.3	1414.1	1278.8	144.1	96.7	82.6
31°	2855.5	2541.7	2248.2	1967.8	1748.1	1560.0	1356.1	1224.3	74.7	41.3	38.7
32°	2760.6	2457.4	2162.0	1890.5	1681.3	1492.3	1307.8	1175.9	49.2	22.9	22.0
33°	2660.4	2358.9	2067.1	1810.5	1606.6	1416.8	1257.7	1124.1	36.9	14.1	13.2
34°	2561.9	2253.5	1971.3	1724.4	1525.7	1349.1	1212.0	1064.3	29.9	10.5	8.8
35°	2450.3	2139.2	1872.9	1633.0	1438.7	1291.1	1166.3	999.3	23.7	7.0	7.0
36°	2320.2	2017.9	1770.9	1537.2	1356.1	1237.5	1116.2	928.1	18.5	5.3	6.2
37°	2182.3	1897.5	1668.1	1442.2	1288.4	1188.2	1055.5	855.2	15.8	4.4	5.3
38°	2039.9	1778.0	1557.4	1350.8	1229.6	1134.6	987.0	779.6	13.2	3.5	4.4
39°	1900.1	1655.8	1446.6	1277.0	1174.2	1071.4	908.8	702.2	11.4	3.5	4.4
40°	1763.9	1532.8	1348.2	1212.9	1112.7	994.0	827.9	621.4	7.9	2.6	4.4
42.5°	1440.5	1277.9	1161.0	1025.7	912.3	778.7	609.1	403.4	6.2	2.6	3.5
45°	1205.8	1072.2	936.0	783.1	671.5	534.4	360.3	171.4	6.2	2.6	3.5
47.5°	953.6	796.3	595.9	402.5	262.8	135.3	42.2	23.7	4.4	2.6	3.5
50°	277.7	160.8	59.8	36.0	27.2	16.7	10.5	9.7	3.5	2.6	3.5
51°	80.0	47.5	31.6	21.1	15.8	9.7	7.9	8.8	3.5	2.6	2.6
52°	37.8	27.2	18.5	14.1	10.5	7.9	7.0	7.9	3.5	2.6	2.6
53°	22.0	16.7	13.2	11.4	7.9	7.0	5.3	7.0	3.5	2.6	2.6
54°	14.9	13.2	11.4	9.7	7.0	5.3	5.3	7.0	3.5	2.6	2.6
55°	13.2	11.4	9.7	8.8	6.2	5.3	5.3	5.3	2.6	1.8	2.6
57.5°	8.8	8.8	7.0	7.0	5.3	3.5	1.8	4.4	3.5	2.6	2.6
60°	6.2	6.2	6.2	4.4	1.8	1.8	0.9	3.5	3.5	2.6	3.5
61°	6.2	6.2	4.4	3.5	1.8	1.8	0.9	3.5	3.5	2.6	3.5
62°	5.3	4.4	3.5	3.5	1.8	1.8	0.9	3.5	3.5	2.6	3.5
63°	4.4	3.5	3.5	3.5	1.8	0.9	0.9	3.5	3.5	2.6	3.5
64°	3.5	3.5	3.5	3.5	0.9	0.9	0.9	3.5	3.5	2.6	3.5
65°	3.5	3.5	3.5	2.6	0.9	0.9	0.9	2.6	3.5	2.6	3.5
66°	3.5	3.5	2.6	2.6	0.9	0.9	0.9	2.6	3.5	2.6	3.5



TEST NUMBER: P175463

CATALOG NUMBER: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	0.9	1.8	1.8	1.8	0.0	0.0	0.0	2.6	3.5	2.6	3.5
75°	0.9	0.9	1.8	1.8	0.0	0.0	0.0	2.6	3.5	3.5	3.5
77.5°	0.9	0.9	1.8	1.8	0.0	0.0	0.0	2.6	3.5	3.5	4.4
80°	0.9	0.9	1.8	1.8	0.0	0.0	0.0	2.6	3.5	3.5	4.4
82.5°	0.9	0.9	1.8	1.8	0.0	0.0	0.0	2.6	3.5	3.5	4.4
85°	0.9	0.9	1.8	1.8	0.0	0.0	0.0	2.6	3.5	3.5	4.4
87.5°	0.9	0.9	1.8	1.8	0.0	0.0	0.0	2.6	3.5	3.5	4.4
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: P175463

CATALOG NUMBER: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	287.4	287.4	287.4
2.5°	109.9	79.1	72.1
5°	43.9	36.0	32.5
7.5°	27.2	22.9	21.1
10°	22.0	16.7	15.8
12.5°	17.6	14.9	14.1
15°	16.7	14.1	13.2
17.5°	16.7	15.8	14.9
20°	21.1	21.1	22.0
22.5°	36.0	42.2	47.5
25°	174.9	283.0	375.3
26°	366.5	516.8	552.8
27°	454.4	470.2	451.7
28°	349.8	313.8	295.3
29°	187.2	156.4	143.3
30°	74.7	61.5	58.0
31°	36.0	30.8	29.9
32°	20.2	16.7	16.7
33°	12.3	10.5	9.7
34°	8.8	7.0	6.2
35°	6.2	5.3	4.4
36°	5.3	3.5	2.6
37°	4.4	2.6	2.6
38°	3.5	2.6	1.8
39°	2.6	1.8	0.9
40°	2.6	0.9	0.0
42.5°	1.8	0.9	0.0
45°	1.8	0.0	0.0
47.5°	2.6	1.8	0.9
50°	1.8	0.9	0.0
51°	1.8	0.0	0.0
52°	1.8	0.0	0.0
53°	1.8	0.0	0.0
54°	1.8	0.0	0.0
55°	1.8	0.0	0.0
57.5°	1.8	0.0	0.0
60°	1.8	0.0	0.0
61°	1.8	0.0	0.0
62°	1.8	0.0	0.0
63°	1.8	0.9	0.0
64°	1.8	0.9	0.0
65°	1.8	0.9	0.0
66°	1.8	0.9	0.0



TEST NUMBER: P175463

CATALOG NUMBER: LDA6A30827D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	2.6	0.9	0.0
75°	2.6	0.9	0.0
77.5°	2.6	0.9	0.0
80°	2.6	0.9	0.0
82.5°	2.6	0.9	0.0
85°	2.6	0.9	0.0
87.5°	2.6	0.9	0.0
90°	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°







67.5°	3.5	2.6	2.6	2.6	2.6	2.6	2.6	1.8	1.8	2.6	2.6
70°	2.6	2.6	2.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8





67.5°	2.6	2.6	2.6	2.6	0.9	0.0	0.0	2.6	3.5	2.6	3.5
70°	1.8	1.8	1.8	1.8	0.0	0.0	0.0	2.6	3.5	2.6	3.5





67.5°	2.6	0.9	0.0
70°	2.6	0.9	0.0



(END OF REPORT)