

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: P175468

Luminaire Tested: **LDA6A30930D010TE LARL15SP 6LAL1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P175468
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: LDA6A30930D010TE 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 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1807.5 lumens
Efficiency: N/A
Efficacy: 40.6 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

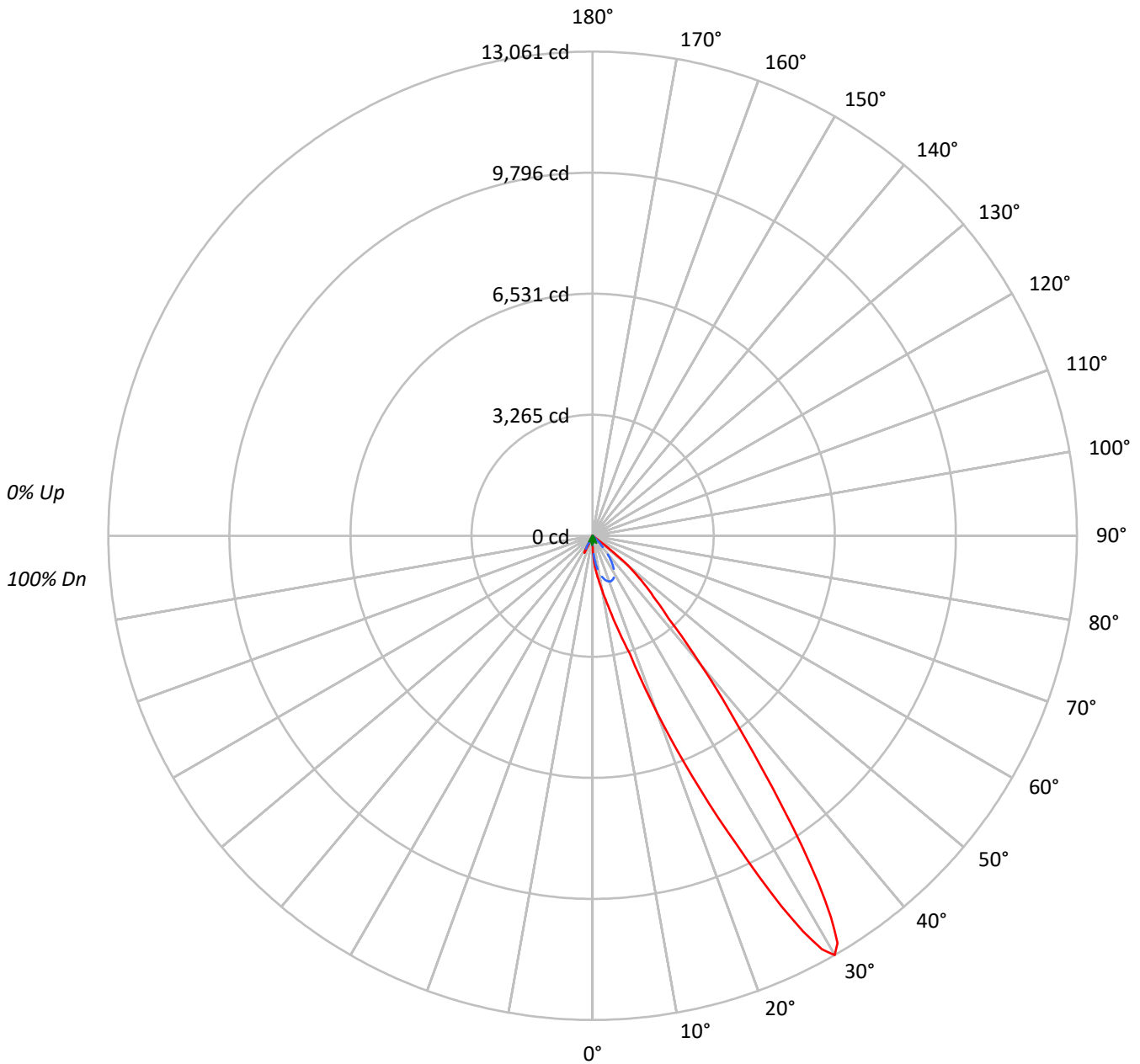
Input Watts (W): 44.49
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	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°	14588	14588	14588
5°	49879	12404	1656
10°	83471	6886	813
15°	144995	2537	692
20°	296231	1663	1184
25°	556066	3248	21013
30°	826773	5665	3399
35°	596659	435	274
40°	324079	172	0
45°	179895	186	0
50°	105267	205	0
55°	3345	153	0
60°	1162	263	0
65°	532	311	0
70°	385	385	0
75°	169	699	0
80°	0	1042	0
85°	0	2076	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.3	2.1
10°-20°	193.5	10.7
20°-30°	622.8	34.5
30°-40°	648.4	35.9
40°-50°	276.2	15.3
50°-60°	22.9	1.3
60°-70°	2.4	0.1
70°-80°	2.1	0.1
80°-90°	1.9	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°	853.6	47.2
0°-40°	1502.0	83.1
0°-60°	1801.1	99.7
0°-90°	1807.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1807.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	266	266	266	266	266	
5°	906	661	225	41	30	103
15°	2555	1216	45	16	12	835
25°	9193	1295	54	162	347	4415
35°	8916	925	6	6	4	5519
45°	2320	159	2	2	0	1909
55°	35	5	2	2	0	218
65°	4	2	2	2	0	5
75°	1	2	3	2	0	1
85°	0	2	3	2	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	266.1	266.1	266.1	266.1	266.1	266.1	266.1	266.1	266.1	266.1	266.1
2.5°	590.7	559.8	583.4	569.5	560.6	558.1	572.0	556.5	540.2	539.4	534.5
5°	906.4	877.1	901.5	880.3	870.6	862.4	868.9	843.7	816.9	817.7	805.5
7.5°	1181.4	1165.1	1181.4	1158.6	1151.3	1143.1	1140.7	1116.3	1084.6	1087.0	1068.3
10°	1499.5	1452.3	1478.3	1428.7	1416.5	1394.5	1387.2	1347.4	1296.9	1294.5	1267.6
12.5°	1938.0	1919.3	1945.4	1875.4	1860.7	1823.3	1803.0	1739.5	1656.5	1635.4	1573.5
15°	2554.8	2494.6	2520.6	2422.1	2394.5	2329.4	2284.6	2186.2	2107.3	2017.8	1923.4
17.5°	3338.3	3304.1	3337.5	3143.8	3072.2	2945.3	2840.3	2676.0	2508.4	2427.8	2295.2
20°	5077.8	4915.1	4933.0	4573.3	4343.9	4002.2	3728.8	3365.9	3033.2	2842.0	2623.1
22.5°	7008.5	6823.0	6777.4	6315.3	5926.4	5413.0	4933.0	4326.0	3736.1	3309.0	2938.0
25°	9193.1	9072.7	8834.3	8077.6	7408.8	6676.6	5970.3	5176.2	4411.4	3757.3	3200.8
26°	10230.4	10133.6	9775.6	8829.4	7963.7	7087.4	6280.3	5427.6	4602.6	3885.0	3262.6
27°	11215.7	11137.6	10672.2	9570.6	8488.5	7434.0	6505.7	5606.6	4740.1	3967.2	3306.5
28°	12083.9	12004.1	11402.9	10198.7	8904.2	7684.6	6647.3	5718.1	4819.1	3986.7	3304.1
29°	12759.2	12658.3	11882.1	10601.4	9148.3	7805.0	6675.7	5731.9	4807.7	3941.2	3258.5
30°	13061.0	12935.7	12018.8	10687.7	9152.4	7759.5	6595.2	5657.9	4714.9	3833.8	3173.9
31°	12824.2	12717.7	11770.6	10438.7	8904.2	7551.2	6395.0	5487.0	4539.2	3678.4	3061.6
32°	12134.3	12036.7	11163.7	9892.0	8434.8	7198.9	6104.6	5243.0	4305.7	3490.4	2931.5
33°	11188.1	11112.4	10329.7	9141.0	7831.9	6765.2	5757.2	4937.0	4025.0	3279.7	2772.8
34°	10108.4	10049.0	9334.6	8292.4	7173.7	6283.6	5360.9	4496.9	3718.2	3067.3	2654.0
35°	8915.6	8874.9	8292.4	7421.0	6518.7	5783.2	4920.8	4108.0	3409.1	2863.1	2526.3
36°	7782.3	7748.9	7304.7	6622.0	5895.5	5264.1	4444.0	3702.8	3112.9	2679.2	2406.7
37°	6814.1	6789.6	6460.9	5910.9	5296.7	4724.7	3958.3	3323.6	2855.0	2519.0	2283.8
38°	6008.6	5989.0	5722.2	5234.8	4679.9	4166.5	3489.6	2988.4	2635.3	2379.8	2144.7
39°	5257.6	5232.4	4992.4	4551.4	4065.6	3623.0	3178.8	2712.6	2462.8	2235.0	1995.0
40°	4528.6	4496.1	4285.3	3910.2	3505.1	3161.7	2763.0	2543.4	2322.9	2066.6	1842.0
42.5°	3038.9	3021.0	2906.2	2737.0	2565.3	2440.0	2313.9	2117.8	1885.2	1673.6	1507.6
45°	2320.4	2316.4	2260.2	2171.5	2057.6	1951.9	1783.5	1670.4	1513.3	1335.1	1216.4
47.5°	1780.2	1781.0	1728.9	1662.2	1584.1	1515.8	1392.9	1302.6	1190.3	1088.6	996.7
50°	1234.3	1182.2	1189.5	1136.6	1073.2	1033.3	919.4	850.2	690.8	529.7	414.1
51°	925.1	856.7	865.7	806.3	740.4	705.4	598.8	528.9	379.1	249.0	162.7
52°	564.7	511.0	510.1	464.6	407.6	376.7	292.1	227.8	129.4	68.3	47.2
53°	253.0	217.2	209.1	178.2	139.9	121.2	83.0	61.0	45.6	35.0	26.8
54°	66.7	59.4	57.0	52.1	47.2	45.6	39.9	33.4	26.0	20.3	17.1
55°	35.0	32.5	31.7	30.1	27.7	26.8	23.6	20.3	16.3	14.6	13.0
57.5°	16.3	16.3	15.5	14.6	13.8	13.8	12.2	11.4	10.6	10.6	8.9
60°	10.6	10.6	10.6	9.8	9.8	8.9	8.1	7.3	6.5	7.3	6.5
61°	8.9	8.9	8.9	8.1	7.3	6.5	6.5	6.5	5.7	5.7	4.9
62°	6.5	6.5	5.7	5.7	4.9	4.9	4.9	4.9	4.1	4.9	4.9
63°	4.9	4.9	4.1	4.1	4.1	4.1	3.3	3.3	3.3	4.9	4.9
64°	4.1	4.1	4.1	3.3	3.3	3.3	3.3	3.3	3.3	4.1	3.3
65°	4.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.4	3.3	3.3
66°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.4	2.4	3.3	3.3



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CATALOG NUMBER: LDA6A30930D010TE 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°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.8
75°	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
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°	266.1	266.1	266.1	266.1	266.1	266.1	266.1	266.1	266.1	266.1	266.1
2.5°	534.5	524.8	504.4	500.4	480.8	469.5	472.7	466.2	362.1	255.5	159.5
5°	796.5	774.6	744.5	733.9	700.5	682.6	676.9	660.7	448.3	225.4	74.9
7.5°	1052.8	1024.3	987.7	970.6	925.1	895.0	875.5	851.0	507.7	179.0	41.5
10°	1243.2	1210.7	1172.4	1150.5	1099.2	1069.1	1037.4	1010.5	539.4	123.7	30.9
12.5°	1497.1	1432.8	1353.0	1305.0	1229.4	1187.9	1151.3	1125.2	551.6	74.0	23.6
15°	1835.5	1732.2	1619.1	1532.0	1403.5	1325.4	1263.5	1216.4	541.9	44.7	20.3
17.5°	2163.4	2017.0	1868.9	1750.9	1603.6	1487.3	1368.5	1275.8	500.4	35.8	18.7
20°	2436.0	2264.3	2075.5	1910.4	1740.3	1602.0	1444.2	1313.2	433.7	28.5	20.3
22.5°	2645.9	2427.0	2213.0	2008.0	1805.4	1646.8	1473.5	1321.3	349.0	29.3	28.5
25°	2797.2	2510.0	2282.2	2048.7	1828.2	1654.1	1458.0	1295.3	257.1	53.7	96.0
26°	2828.1	2527.1	2291.1	2044.6	1820.1	1641.9	1440.1	1279.0	231.9	106.6	211.5
27°	2845.2	2524.7	2284.6	2028.3	1803.0	1624.0	1419.8	1264.4	227.8	182.3	315.7
28°	2829.8	2504.3	2257.0	1999.1	1775.3	1600.4	1396.2	1247.3	225.4	223.7	299.4
29°	2787.5	2468.5	2215.5	1953.5	1733.0	1563.0	1360.4	1222.9	201.8	178.2	180.6
30°	2723.2	2418.1	2155.3	1892.5	1679.3	1509.3	1309.1	1183.8	133.4	89.5	76.5
31°	2643.4	2353.0	2081.2	1821.7	1618.3	1444.2	1255.4	1133.4	69.2	38.2	35.8
32°	2555.6	2274.9	2001.5	1750.1	1556.5	1381.5	1210.7	1088.6	45.6	21.2	20.3
33°	2462.8	2183.8	1913.6	1676.1	1487.3	1311.6	1164.3	1040.6	34.2	13.0	12.2
34°	2371.7	2086.1	1824.9	1596.3	1412.4	1248.9	1122.0	985.3	27.7	9.8	8.1
35°	2268.4	1980.3	1733.8	1511.7	1331.9	1195.2	1079.7	925.1	22.0	6.5	6.5
36°	2148.0	1868.1	1639.4	1423.0	1255.4	1145.6	1033.3	859.2	17.1	4.9	5.7
37°	2020.2	1756.6	1544.2	1335.1	1192.8	1100.0	977.2	791.7	14.6	4.1	4.9
38°	1888.4	1645.9	1441.7	1250.5	1138.3	1050.4	913.7	721.7	12.2	3.3	4.1
39°	1759.0	1532.9	1339.2	1182.2	1087.0	991.8	841.3	650.1	10.6	3.3	4.1
40°	1632.9	1418.9	1248.1	1122.8	1030.0	920.2	766.4	575.2	7.3	2.4	4.1
42.5°	1333.5	1183.0	1074.8	949.5	844.5	720.9	563.8	373.5	5.7	2.4	3.3
45°	1116.3	992.6	866.5	724.9	621.6	494.7	333.6	158.7	5.7	2.4	3.3
47.5°	882.8	737.1	551.6	372.6	243.3	125.3	39.1	22.0	4.1	2.4	3.3
50°	257.1	148.9	55.3	33.4	25.2	15.5	9.8	8.9	3.3	2.4	3.3
51°	74.0	43.9	29.3	19.5	14.6	8.9	7.3	8.1	3.3	2.4	2.4
52°	35.0	25.2	17.1	13.0	9.8	7.3	6.5	7.3	3.3	2.4	2.4
53°	20.3	15.5	12.2	10.6	7.3	6.5	4.9	6.5	3.3	2.4	2.4
54°	13.8	12.2	10.6	8.9	6.5	4.9	4.9	6.5	3.3	2.4	2.4
55°	12.2	10.6	8.9	8.1	5.7	4.9	4.9	4.9	2.4	1.6	2.4
57.5°	8.1	8.1	6.5	6.5	4.9	3.3	1.6	4.1	3.3	2.4	2.4
60°	5.7	5.7	5.7	4.1	1.6	1.6	0.8	3.3	3.3	2.4	3.3
61°	5.7	5.7	4.1	3.3	1.6	1.6	0.8	3.3	3.3	2.4	3.3
62°	4.9	4.1	3.3	3.3	1.6	1.6	0.8	3.3	3.3	2.4	3.3
63°	4.1	3.3	3.3	3.3	1.6	0.8	0.8	3.3	3.3	2.4	3.3
64°	3.3	3.3	3.3	3.3	0.8	0.8	0.8	3.3	3.3	2.4	3.3
65°	3.3	3.3	3.3	2.4	0.8	0.8	0.8	2.4	3.3	2.4	3.3
66°	3.3	3.3	2.4	2.4	0.8	0.8	0.8	2.4	3.3	2.4	3.3



TEST NUMBER: P175468

CATALOG NUMBER: LDA6A30930D010TE 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°	0.8	1.6	1.6	1.6	0.0	0.0	0.0	2.4	3.3	2.4	3.3
75°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.4	3.3	3.3	3.3
77.5°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.4	3.3	3.3	4.1
80°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.4	3.3	3.3	4.1
82.5°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.4	3.3	3.3	4.1
85°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.4	3.3	3.3	4.1
87.5°	0.8	0.8	1.6	1.6	0.0	0.0	0.0	2.4	3.3	3.3	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: P175468

CATALOG NUMBER: LDA6A30930D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	266.1	266.1	266.1
2.5°	101.7	73.2	66.7
5°	40.7	33.4	30.1
7.5°	25.2	21.2	19.5
10°	20.3	15.5	14.6
12.5°	16.3	13.8	13.0
15°	15.5	13.0	12.2
17.5°	15.5	14.6	13.8
20°	19.5	19.5	20.3
22.5°	33.4	39.1	43.9
25°	161.9	262.0	347.4
26°	339.3	478.4	511.8
27°	420.6	435.3	418.2
28°	323.8	290.5	273.4
29°	173.3	144.8	132.6
30°	69.2	57.0	53.7
31°	33.4	28.5	27.7
32°	18.7	15.5	15.5
33°	11.4	9.8	8.9
34°	8.1	6.5	5.7
35°	5.7	4.9	4.1
36°	4.9	3.3	2.4
37°	4.1	2.4	2.4
38°	3.3	2.4	1.6
39°	2.4	1.6	0.8
40°	2.4	0.8	0.0
42.5°	1.6	0.8	0.0
45°	1.6	0.0	0.0
47.5°	2.4	1.6	0.8
50°	1.6	0.8	0.0
51°	1.6	0.0	0.0
52°	1.6	0.0	0.0
53°	1.6	0.0	0.0
54°	1.6	0.0	0.0
55°	1.6	0.0	0.0
57.5°	1.6	0.0	0.0
60°	1.6	0.0	0.0
61°	1.6	0.0	0.0
62°	1.6	0.0	0.0
63°	1.6	0.8	0.0
64°	1.6	0.8	0.0
65°	1.6	0.8	0.0
66°	1.6	0.8	0.0



TEST NUMBER: P175468

CATALOG NUMBER: LDA6A30930D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	2.4	0.8	0.0
75°	2.4	0.8	0.0
77.5°	2.4	0.8	0.0
80°	2.4	0.8	0.0
82.5°	2.4	0.8	0.0
85°	2.4	0.8	0.0
87.5°	2.4	0.8	0.0
90°	0.0	0.0	0.0



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







67.5°	3.3	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6	2.4	2.4
70°	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6





67.5°	2.4	2.4	2.4	2.4	0.8	0.0	0.0	2.4	3.3	2.4	3.3
70°	1.6	1.6	1.6	1.6	0.0	0.0	0.0	2.4	3.3	2.4	3.3





67.5°	2.4	0.8	0.0
70°	2.4	0.8	0.0



(END OF REPORT)