

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: P175459

Luminaire Tested: **LDA6A15927D010TE LARL15SP 6LAL1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P175459
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: LDA6A15927D010TE 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 / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 808.3 lumens
Efficiency: N/A
Efficacy: 36.3 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

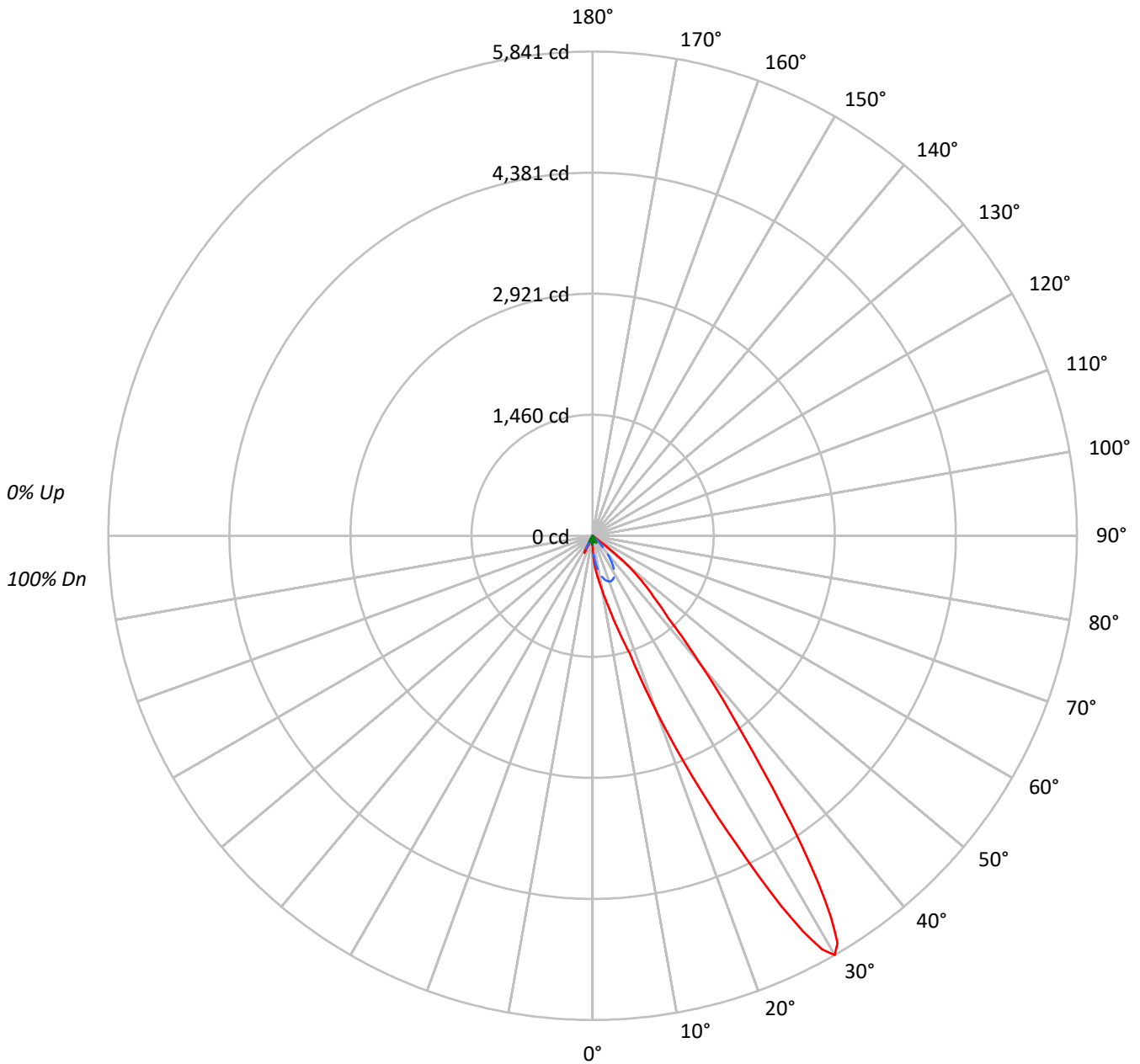
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	6524	6524	6524
5°	22303	5547	743
10°	37330	3078	362
15°	64836	1135	312
20°	132469	741	531
25°	248664	1452	9400
30°	369721	2532	1519
35°	266816	194	120
40°	144922	79	0
45°	80450	85	0
50°	47069	94	0
55°	1491	67	0
60°	515	121	0
65°	233	143	0
70°	176	176	0
75°	85	318	0
80°	0	474	0
85°	0	943	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	16.7	2.1
10°-20°	86.5	10.7
20°-30°	278.5	34.5
30°-40°	289.9	35.9
40°-50°	123.5	15.3
50°-60°	10.3	1.3
60°-70°	1.1	0.1
70°-80°	0.9	0.1
80°-90°	0.9	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°	381.7	47.2
0°-40°	671.7	83.1
0°-60°	805.4	99.6
0°-90°	808.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	808.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	119	119	119	119	119	
5°	405	295	101	18	14	46
15°	1142	544	20	7	6	373
25°	4111	579	24	72	155	1974
35°	3987	414	3	2	2	2468
45°	1038	71	1	1	0	853
55°	16	2	1	1	0	98
65°	2	1	1	1	0	2
75°	0	1	2	1	0	0
85°	0	1	2	1	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°	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0
2.5°	264.1	250.3	260.9	254.7	250.7	249.6	255.8	248.9	241.6	241.2	239.0
5°	405.3	392.2	403.1	393.7	389.3	385.7	388.6	377.3	365.3	365.7	360.2
7.5°	528.3	521.0	528.3	518.1	514.8	511.2	510.1	499.2	485.0	486.1	477.7
10°	670.6	649.4	661.1	638.9	633.4	623.6	620.3	602.5	580.0	578.9	566.9
12.5°	866.7	858.3	869.9	838.6	832.1	815.4	806.3	777.9	740.8	731.3	703.7
15°	1142.4	1115.5	1127.2	1083.1	1070.8	1041.7	1021.7	977.6	942.3	902.3	860.1
17.5°	1492.8	1477.5	1492.5	1405.9	1373.8	1317.1	1270.2	1196.7	1121.7	1085.7	1026.4
20°	2270.7	2197.9	2205.9	2045.1	1942.5	1789.7	1667.5	1505.2	1356.4	1270.9	1173.0
22.5°	3134.1	3051.1	3030.8	2824.1	2650.2	2420.6	2205.9	1934.5	1670.7	1479.7	1313.8
25°	4111.0	4057.1	3950.5	3612.2	3313.1	2985.6	2669.8	2314.7	1972.7	1680.2	1431.3
26°	4574.9	4531.6	4371.5	3948.4	3561.2	3169.4	2808.5	2427.2	2058.2	1737.3	1459.0
27°	5015.5	4980.6	4772.4	4279.8	3795.9	3324.4	2909.2	2507.2	2119.7	1774.1	1478.6
28°	5403.7	5368.0	5099.2	4560.7	3981.8	3436.4	2972.5	2557.0	2155.0	1782.8	1477.5
29°	5705.7	5660.6	5313.5	4740.8	4091.0	3490.3	2985.3	2563.2	2149.9	1762.4	1457.2
30°	5840.7	5784.6	5374.6	4779.4	4092.8	3469.9	2949.3	2530.1	2108.4	1714.4	1419.3
31°	5734.8	5687.1	5263.6	4668.0	3981.8	3376.8	2859.8	2453.7	2029.8	1644.9	1369.1
32°	5426.3	5382.6	4992.2	4423.5	3771.9	3219.2	2729.9	2344.6	1925.4	1560.9	1310.9
33°	5003.1	4969.3	4619.3	4087.7	3502.3	3025.3	2574.5	2207.8	1799.9	1466.6	1240.0
34°	4520.3	4493.7	4174.3	3708.2	3207.9	2809.9	2397.3	2010.9	1662.7	1371.7	1186.8
35°	3986.9	3968.7	3708.2	3318.6	2915.1	2586.2	2200.5	1837.0	1524.5	1280.3	1129.7
36°	3480.1	3465.2	3266.5	2961.3	2636.4	2354.0	1987.3	1655.8	1392.0	1198.1	1076.2
37°	3047.1	3036.2	2889.2	2643.3	2368.6	2112.8	1770.1	1486.3	1276.7	1126.4	1021.3
38°	2686.9	2678.2	2558.9	2340.9	2092.8	1863.2	1560.5	1336.4	1178.5	1064.2	959.1
39°	2351.1	2339.8	2232.5	2035.3	1818.1	1620.2	1421.5	1213.0	1101.3	999.5	892.1
40°	2025.1	2010.6	1916.3	1748.6	1567.4	1413.9	1235.6	1137.4	1038.8	924.1	823.7
42.5°	1358.9	1350.9	1299.6	1223.9	1147.2	1091.1	1034.8	947.1	843.0	748.4	674.2
45°	1037.7	1035.8	1010.7	971.1	920.1	872.8	797.5	747.0	676.7	597.1	543.9
47.5°	796.1	796.4	773.2	743.3	708.4	677.8	622.9	582.5	532.3	486.8	445.7
50°	551.9	528.7	531.9	508.3	479.9	462.1	411.1	380.2	308.9	236.9	185.2
51°	413.7	383.1	387.1	360.6	331.1	315.4	267.8	236.5	169.5	111.3	72.8
52°	252.5	228.5	228.1	207.8	182.3	168.5	130.6	101.9	57.9	30.6	21.1
53°	113.2	97.1	93.5	79.7	62.6	54.2	37.1	27.3	20.4	15.6	12.0
54°	29.8	26.6	25.5	23.3	21.1	20.4	17.8	14.9	11.6	9.1	7.6
55°	15.6	14.6	14.2	13.5	12.4	12.0	10.6	9.1	7.3	6.5	5.8
57.5°	7.3	7.3	6.9	6.5	6.2	6.2	5.5	5.1	4.7	4.7	4.0
60°	4.7	4.7	4.7	4.4	4.4	4.0	3.6	3.3	2.9	3.3	2.9
61°	4.0	4.0	4.0	3.6	3.3	2.9	2.9	2.9	2.5	2.5	2.2
62°	2.9	2.9	2.5	2.5	2.2	2.2	2.2	2.2	1.8	2.2	2.2
63°	2.2	2.2	1.8	1.8	1.8	1.8	1.5	1.5	1.5	2.2	2.2
64°	1.8	1.8	1.8	1.5	1.5	1.5	1.5	1.5	1.5	1.8	1.5
65°	1.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.1	1.5	1.5
66°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.1	1.1	1.5	1.5



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CATALOG NUMBER: LDA6A15927D010TE 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°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
75°	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
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°	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0	119.0
2.5°	239.0	234.7	225.6	223.8	215.0	209.9	211.4	208.5	161.9	114.2	71.3
5°	356.2	346.4	332.9	328.2	313.3	305.3	302.7	295.4	200.5	100.8	33.5
7.5°	470.8	458.1	441.7	434.1	413.7	400.2	391.5	380.6	227.0	80.0	18.6
10°	555.9	541.4	524.3	514.5	491.5	478.1	463.9	451.9	241.2	55.3	13.8
12.5°	669.5	640.7	605.1	583.6	549.8	531.2	514.8	503.2	246.7	33.1	10.6
15°	820.8	774.6	724.0	685.1	627.6	592.7	565.0	543.9	242.3	20.0	9.1
17.5°	967.4	902.0	835.7	783.0	717.1	665.1	612.0	570.5	223.8	16.0	8.4
20°	1089.3	1012.6	928.1	854.3	778.2	716.4	645.8	587.2	193.9	12.7	9.1
22.5°	1183.2	1085.3	989.6	897.9	807.4	736.4	658.9	590.9	156.1	13.1	12.7
25°	1250.9	1122.4	1020.6	916.1	817.5	739.7	652.0	579.2	115.0	24.0	42.9
26°	1264.7	1130.1	1024.6	914.3	813.9	734.2	644.0	572.0	103.7	47.7	94.6
27°	1272.3	1129.0	1021.7	907.0	806.3	726.2	634.9	565.4	101.9	81.5	141.2
28°	1265.4	1119.9	1009.3	893.9	793.9	715.7	624.3	557.8	100.8	100.1	133.9
29°	1246.5	1103.9	990.7	873.6	775.0	698.9	608.3	546.8	90.2	79.7	80.8
30°	1217.8	1081.3	963.8	846.3	751.0	674.9	585.4	529.4	59.7	40.0	34.2
31°	1182.1	1052.2	930.7	814.6	723.7	645.8	561.4	506.8	30.9	17.1	16.0
32°	1142.8	1017.3	895.0	782.6	696.0	617.8	541.4	486.8	20.4	9.5	9.1
33°	1101.3	976.5	855.7	749.5	665.1	586.5	520.7	465.3	15.3	5.8	5.5
34°	1060.6	932.9	816.1	713.8	631.6	558.5	501.7	440.6	12.4	4.4	3.6
35°	1014.4	885.6	775.3	676.0	595.6	534.5	482.8	413.7	9.8	2.9	2.9
36°	960.5	835.4	733.1	636.4	561.4	512.3	462.1	384.2	7.6	2.2	2.5
37°	903.4	785.5	690.6	597.1	533.4	491.9	437.0	354.0	6.5	1.8	2.2
38°	844.5	736.0	644.7	559.2	509.0	469.7	408.6	322.7	5.5	1.5	1.8
39°	786.6	685.5	598.9	528.7	486.1	443.5	376.2	290.7	4.7	1.5	1.8
40°	730.2	634.5	558.1	502.1	460.6	411.5	342.7	257.2	3.3	1.1	1.8
42.5°	596.3	529.0	480.6	424.6	377.7	322.4	252.1	167.0	2.5	1.1	1.5
45°	499.2	443.9	387.5	324.2	278.0	221.2	149.2	70.9	2.5	1.1	1.5
47.5°	394.8	329.6	246.7	166.6	108.8	56.0	17.5	9.8	1.8	1.1	1.5
50°	115.0	66.6	24.7	14.9	11.3	6.9	4.4	4.0	1.5	1.1	1.5
51°	33.1	19.6	13.1	8.7	6.5	4.0	3.3	3.6	1.5	1.1	1.1
52°	15.6	11.3	7.6	5.8	4.4	3.3	2.9	3.3	1.5	1.1	1.1
53°	9.1	6.9	5.5	4.7	3.3	2.9	2.2	2.9	1.5	1.1	1.1
54°	6.2	5.5	4.7	4.0	2.9	2.2	2.2	2.9	1.5	1.1	1.1
55°	5.5	4.7	4.0	3.6	2.5	2.2	2.2	2.2	1.1	0.7	1.1
57.5°	3.6	3.6	2.9	2.9	2.2	1.5	0.7	1.8	1.5	1.1	1.1
60°	2.5	2.5	2.5	1.8	0.7	0.7	0.4	1.5	1.5	1.1	1.5
61°	2.5	2.5	1.8	1.5	0.7	0.7	0.4	1.5	1.5	1.1	1.5
62°	2.2	1.8	1.5	1.5	0.7	0.7	0.4	1.5	1.5	1.1	1.5
63°	1.8	1.5	1.5	1.5	0.7	0.4	0.4	1.5	1.5	1.1	1.5
64°	1.5	1.5	1.5	1.5	0.4	0.4	0.4	1.5	1.5	1.1	1.5
65°	1.5	1.5	1.5	1.1	0.4	0.4	0.4	1.1	1.5	1.1	1.5
66°	1.5	1.5	1.1	1.1	0.4	0.4	0.4	1.1	1.5	1.1	1.5



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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	0.4	0.7	0.7	0.7	0.0	0.0	0.0	1.1	1.5	1.1	1.5
75°	0.4	0.4	0.7	0.7	0.0	0.0	0.0	1.1	1.5	1.5	1.5
77.5°	0.4	0.4	0.7	0.7	0.0	0.0	0.0	1.1	1.5	1.5	1.8
80°	0.4	0.4	0.7	0.7	0.0	0.0	0.0	1.1	1.5	1.5	1.8
82.5°	0.4	0.4	0.7	0.7	0.0	0.0	0.0	1.1	1.5	1.5	1.8
85°	0.4	0.4	0.7	0.7	0.0	0.0	0.0	1.1	1.5	1.5	1.8
87.5°	0.4	0.4	0.7	0.7	0.0	0.0	0.0	1.1	1.5	1.5	1.8
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):

	135°	157.5°	180°
0°	119.0	119.0	119.0
2.5°	45.5	32.7	29.8
5°	18.2	14.9	13.5
7.5°	11.3	9.5	8.7
10°	9.1	6.9	6.5
12.5°	7.3	6.2	5.8
15°	6.9	5.8	5.5
17.5°	6.9	6.5	6.2
20°	8.7	8.7	9.1
22.5°	14.9	17.5	19.6
25°	72.4	117.2	155.4
26°	151.7	213.9	228.9
27°	188.1	194.7	187.0
28°	144.8	129.9	122.2
29°	77.5	64.8	59.3
30°	30.9	25.5	24.0
31°	14.9	12.7	12.4
32°	8.4	6.9	6.9
33°	5.1	4.4	4.0
34°	3.6	2.9	2.5
35°	2.5	2.2	1.8
36°	2.2	1.5	1.1
37°	1.8	1.1	1.1
38°	1.5	1.1	0.7
39°	1.1	0.7	0.4
40°	1.1	0.4	0.0
42.5°	0.7	0.4	0.0
45°	0.7	0.0	0.0
47.5°	1.1	0.7	0.4
50°	0.7	0.4	0.0
51°	0.7	0.0	0.0
52°	0.7	0.0	0.0
53°	0.7	0.0	0.0
54°	0.7	0.0	0.0
55°	0.7	0.0	0.0
57.5°	0.7	0.0	0.0
60°	0.7	0.0	0.0
61°	0.7	0.0	0.0
62°	0.7	0.0	0.0
63°	0.7	0.4	0.0
64°	0.7	0.4	0.0
65°	0.7	0.4	0.0
66°	0.7	0.4	0.0



TEST NUMBER: P175459

CATALOG NUMBER: LDA6A15927D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	1.1	0.4	0.0
75°	1.1	0.4	0.0
77.5°	1.1	0.4	0.0
80°	1.1	0.4	0.0
82.5°	1.1	0.4	0.0
85°	1.1	0.4	0.0
87.5°	1.1	0.4	0.0
90°	0.0	0.0	0.0



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







67.5°	1.5	1.1	1.1	1.1	1.1	1.1	1.1	0.7	0.7	1.1	1.1
70°	1.1	1.1	1.1	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7





67.5°	1.1	1.1	1.1	1.1	0.4	0.0	0.0	1.1	1.5	1.1	1.5
70°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	1.1	1.5	1.1	1.5





67.5°	1.1	0.4	0.0
70°	1.1	0.4	0.0



(END OF REPORT)