

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: P175443

Luminaire Tested: **LDA6A20927D010TE LARL15SP 6LAL1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P175443
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: LDA6A20927D010TE 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: 1001.5 lumens
Efficiency: N/A
Efficacy: 34.4 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

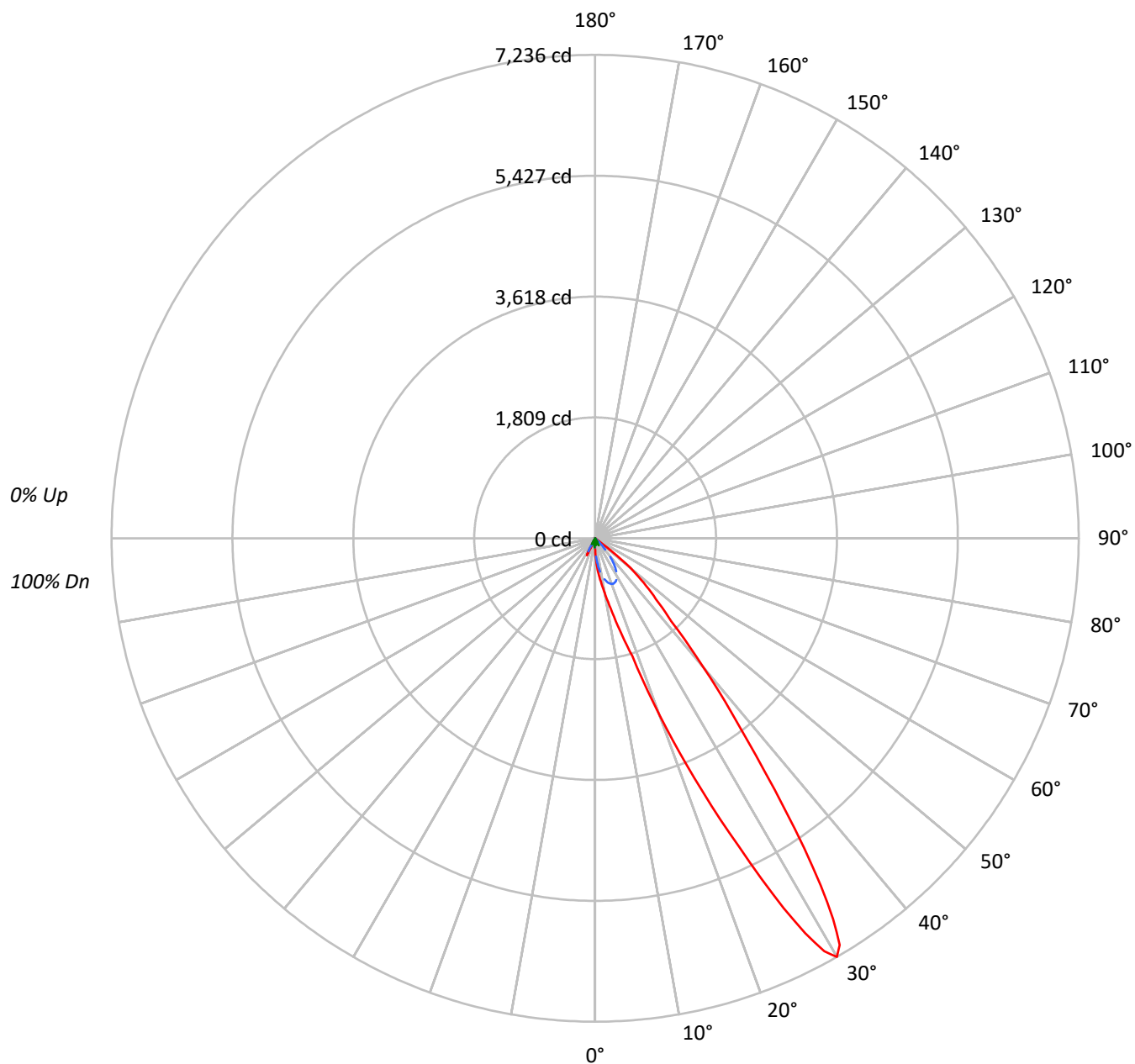
Input Watts (W): 29.12
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
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°	8080	8080	8080
5°	27630	6873	919
10°	46247	3813	451
15°	80330	1407	386
20°	164118	922	659
25°	308074	1803	11644
30°	458051	3140	1886
35°	330567	241	154
40°	179544	100	0
45°	99669	109	0
50°	58318	119	0
55°	1854	86	0
60°	647	153	0
65°	298	182	0
70°	224	224	0
75°	106	381	0
80°	0	568	0
85°	0	1132	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.6	2.1
10°-20°	107.2	10.7
20°-30°	345.1	34.5
30°-40°	359.2	35.9
40°-50°	153.1	15.3
50°-60°	12.7	1.3
60°-70°	1.3	0.1
70°-80°	1.2	0.1
80°-90°	1.1	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°	472.9	47.2
0°-40°	832.1	83.1
0°-60°	997.9	99.6
0°-90°	1001.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1001.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	147	147	147	147	147	
5°	502	366	125	22	17	57
15°	1415	674	25	9	7	463
25°	5093	718	30	90	192	2446
35°	4940	512	4	3	2	3058
45°	1286	88	1	1	0	1057
55°	19	3	1	1	0	121
65°	2	1	1	1	0	3
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°	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4
2.5°	327.3	310.1	323.2	315.5	310.6	309.2	316.9	308.3	299.3	298.9	296.2
5°	502.1	485.9	499.4	487.7	482.3	477.8	481.4	467.4	452.6	453.0	446.3
7.5°	654.5	645.5	654.5	641.9	637.8	633.3	632.0	618.4	600.9	602.2	591.9
10°	830.8	804.6	819.0	791.5	784.8	772.6	768.5	746.5	718.5	717.2	702.3
12.5°	1073.7	1063.3	1077.8	1039.0	1030.9	1010.2	998.9	963.7	917.8	906.0	871.8
15°	1415.4	1382.0	1396.5	1341.9	1326.6	1290.5	1265.7	1211.2	1167.5	1117.9	1065.6
17.5°	1849.5	1830.5	1849.0	1741.7	1702.1	1631.8	1573.6	1482.6	1389.7	1345.1	1271.6
20°	2813.2	2723.1	2733.0	2533.7	2406.6	2217.3	2065.8	1864.8	1680.4	1574.5	1453.3
22.5°	3882.9	3780.1	3754.8	3498.8	3283.4	2998.9	2733.0	2396.7	2069.9	1833.2	1627.7
25°	5093.2	5026.4	4894.4	4475.2	4104.6	3699.0	3307.7	2867.7	2444.0	2081.6	1773.3
26°	5667.9	5614.2	5415.9	4891.7	4412.1	3926.6	3479.4	3007.0	2550.0	2152.4	1807.6
27°	6213.8	6170.5	5912.6	5302.3	4702.8	4118.6	3604.3	3106.2	2626.1	2197.9	1831.9
28°	6694.7	6650.5	6317.4	5650.3	4933.1	4257.4	3682.7	3168.0	2669.9	2208.7	1830.5
29°	7068.9	7013.0	6582.9	5873.4	5068.4	4324.2	3698.5	3175.6	2663.6	2183.5	1805.3
30°	7236.1	7166.7	6658.7	5921.2	5070.6	4298.9	3653.9	3134.6	2612.2	2124.0	1758.4
31°	7104.9	7045.9	6521.2	5783.3	4933.1	4183.5	3543.0	3039.9	2514.8	2037.9	1696.2
32°	6722.7	6668.6	6184.9	5480.4	4673.1	3988.3	3382.1	2904.7	2385.4	1933.8	1624.1
33°	6198.4	6156.5	5722.9	5064.3	4339.0	3748.1	3189.6	2735.2	2229.9	1817.0	1536.2
34°	5600.3	5567.4	5171.6	4594.2	3974.4	3481.2	2970.1	2491.4	2060.0	1699.4	1470.4
35°	4939.5	4916.9	4594.2	4111.4	3611.5	3204.0	2726.2	2275.9	1888.7	1586.2	1399.6
36°	4311.5	4293.1	4046.9	3668.8	3266.2	2916.4	2462.1	2051.4	1724.6	1484.4	1333.4
37°	3775.1	3761.6	3579.5	3274.8	2934.5	2617.6	2193.0	1841.4	1581.7	1395.6	1265.3
38°	3328.9	3318.1	3170.2	2900.2	2592.8	2308.4	1933.3	1655.6	1460.0	1318.5	1188.2
39°	2912.8	2898.9	2765.9	2521.6	2252.5	2007.2	1761.1	1502.8	1364.5	1238.2	1105.3
40°	2508.9	2490.9	2374.2	2166.4	1941.9	1751.7	1530.8	1409.1	1286.9	1144.9	1020.5
42.5°	1683.6	1673.7	1610.1	1516.4	1421.3	1351.8	1282.0	1173.3	1044.4	927.2	835.3
45°	1285.6	1283.3	1252.2	1203.1	1140.0	1081.4	988.1	925.4	838.4	739.7	673.9
47.5°	986.3	986.7	957.9	920.9	877.6	839.8	771.7	721.7	659.5	603.1	552.2
50°	683.8	655.0	659.0	629.7	594.6	572.5	509.4	471.0	382.7	293.4	229.4
51°	512.5	474.7	479.6	446.7	410.2	390.8	331.8	293.0	210.1	137.9	90.2
52°	312.8	283.1	282.6	257.4	225.8	208.7	161.8	126.2	71.7	37.9	26.1
53°	140.2	120.4	115.8	98.7	77.5	67.2	46.0	33.8	25.2	19.4	14.9
54°	37.0	32.9	31.6	28.8	26.1	25.2	22.1	18.5	14.4	11.3	9.5
55°	19.4	18.0	17.6	16.7	15.3	14.9	13.1	11.3	9.0	8.1	7.2
57.5°	9.0	9.0	8.6	8.1	7.7	7.7	6.8	6.3	5.9	5.9	5.0
60°	5.9	5.9	5.9	5.4	5.4	5.0	4.5	4.1	3.6	4.1	3.6
61°	5.0	5.0	5.0	4.5	4.1	3.6	3.6	3.6	3.2	3.2	2.7
62°	3.6	3.6	3.2	3.2	2.7	2.7	2.7	2.7	2.3	2.7	2.7
63°	2.7	2.7	2.3	2.3	2.3	2.3	1.8	1.8	1.8	2.7	2.7
64°	2.3	2.3	2.3	1.8	1.8	1.8	1.8	1.8	1.8	2.3	1.8
65°	2.3	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.4	1.8	1.8
66°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.4	1.4	1.8	1.8



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CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
72.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5
75°	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
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°	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4
2.5°	296.2	290.7	279.5	277.2	266.4	260.1	261.9	258.3	200.6	141.5	88.3
5°	441.3	429.1	412.4	406.6	388.1	378.2	375.0	366.0	248.4	124.9	41.5
7.5°	583.3	567.5	547.2	537.8	512.5	495.8	485.0	471.5	281.3	99.2	23.0
10°	688.8	670.7	649.5	637.4	609.0	592.3	574.7	559.8	298.9	68.5	17.1
12.5°	829.4	793.8	749.6	723.0	681.1	658.1	637.8	623.4	305.6	41.0	13.1
15°	1016.9	959.7	897.0	848.8	777.6	734.3	700.0	673.9	300.2	24.8	11.3
17.5°	1198.6	1117.4	1035.4	970.0	888.5	824.0	758.2	706.8	277.2	19.8	10.4
20°	1349.6	1254.5	1149.9	1058.4	964.2	887.6	800.1	727.5	240.3	15.8	11.3
22.5°	1465.9	1344.6	1226.1	1112.5	1000.2	912.3	816.3	732.0	193.4	16.2	15.8
25°	1549.7	1390.6	1264.4	1135.0	1012.9	916.4	807.8	717.6	142.4	29.8	53.2
26°	1566.8	1400.1	1269.3	1132.8	1008.4	909.6	797.8	708.6	128.5	59.0	117.2
27°	1576.3	1398.7	1265.7	1123.8	998.9	899.7	786.6	700.5	126.2	101.0	174.9
28°	1567.8	1387.4	1250.4	1107.5	983.6	886.6	773.5	691.0	124.9	124.0	165.9
29°	1544.3	1367.6	1227.4	1082.3	960.1	865.9	753.7	677.5	111.8	98.7	100.1
30°	1508.7	1339.7	1194.1	1048.5	930.4	836.2	725.3	655.9	73.9	49.6	42.4
31°	1464.5	1303.6	1153.0	1009.3	896.6	800.1	695.5	627.9	38.3	21.2	19.8
32°	1415.8	1260.3	1108.9	969.6	862.3	765.4	670.7	603.1	25.2	11.7	11.3
33°	1364.5	1209.8	1060.2	928.6	824.0	726.6	645.0	576.5	18.9	7.2	6.8
34°	1314.0	1155.8	1011.1	884.4	782.5	691.9	621.6	545.9	15.3	5.4	4.5
35°	1256.7	1097.2	960.6	837.5	737.9	662.2	598.2	512.5	12.2	3.6	3.6
36°	1190.0	1035.0	908.3	788.4	695.5	634.7	572.5	476.0	9.5	2.7	3.2
37°	1119.2	973.2	855.5	739.7	660.8	609.4	541.4	438.6	8.1	2.3	2.7
38°	1046.2	911.9	798.8	692.8	630.6	581.9	506.2	399.8	6.8	1.8	2.3
39°	974.5	849.2	742.0	655.0	602.2	549.5	466.1	360.2	5.9	1.8	2.3
40°	904.7	786.1	691.5	622.1	570.7	509.8	424.6	318.7	4.1	1.4	2.3
42.5°	738.8	655.4	595.5	526.0	467.9	399.4	312.4	206.9	3.2	1.4	1.8
45°	618.4	549.9	480.1	401.6	344.4	274.1	184.8	87.9	3.2	1.4	1.8
47.5°	489.1	408.4	305.6	206.4	134.8	69.4	21.6	12.2	2.3	1.4	1.8
50°	142.4	82.5	30.7	18.5	14.0	8.6	5.4	5.0	1.8	1.4	1.8
51°	41.0	24.3	16.2	10.8	8.1	5.0	4.1	4.5	1.8	1.4	1.4
52°	19.4	14.0	9.5	7.2	5.4	4.1	3.6	4.1	1.8	1.4	1.4
53°	11.3	8.6	6.8	5.9	4.1	3.6	2.7	3.6	1.8	1.4	1.4
54°	7.7	6.8	5.9	5.0	3.6	2.7	2.7	3.6	1.8	1.4	1.4
55°	6.8	5.9	5.0	4.5	3.2	2.7	2.7	2.7	1.4	0.9	1.4
57.5°	4.5	4.5	3.6	3.6	2.7	1.8	0.9	2.3	1.8	1.4	1.4
60°	3.2	3.2	3.2	2.3	0.9	0.9	0.5	1.8	1.8	1.4	1.8
61°	3.2	3.2	2.3	1.8	0.9	0.9	0.5	1.8	1.8	1.4	1.8
62°	2.7	2.3	1.8	1.8	0.9	0.9	0.5	1.8	1.8	1.4	1.8
63°	2.3	1.8	1.8	1.8	0.9	0.5	0.5	1.8	1.8	1.4	1.8
64°	1.8	1.8	1.8	1.8	0.5	0.5	0.5	1.8	1.8	1.4	1.8
65°	1.8	1.8	1.8	1.4	0.5	0.5	0.5	1.4	1.8	1.4	1.8
66°	1.8	1.8	1.4	1.4	0.5	0.5	0.5	1.4	1.8	1.4	1.8



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CATALOG NUMBER: LDA6A20927D010TE 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°	0.5	0.9	0.9	0.9	0.0	0.0	0.0	1.4	1.8	1.4	1.8
75°	0.5	0.5	0.9	0.9	0.0	0.0	0.0	1.4	1.8	1.8	1.8
77.5°	0.5	0.5	0.9	0.9	0.0	0.0	0.0	1.4	1.8	1.8	2.3
80°	0.5	0.5	0.9	0.9	0.0	0.0	0.0	1.4	1.8	1.8	2.3
82.5°	0.5	0.5	0.9	0.9	0.0	0.0	0.0	1.4	1.8	1.8	2.3
85°	0.5	0.5	0.9	0.9	0.0	0.0	0.0	1.4	1.8	1.8	2.3
87.5°	0.5	0.5	0.9	0.9	0.0	0.0	0.0	1.4	1.8	1.8	2.3
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°	147.4	147.4	147.4
2.5°	56.3	40.6	37.0
5°	22.5	18.5	16.7
7.5°	14.0	11.7	10.8
10°	11.3	8.6	8.1
12.5°	9.0	7.7	7.2
15°	8.6	7.2	6.8
17.5°	8.6	8.1	7.7
20°	10.8	10.8	11.3
22.5°	18.5	21.6	24.3
25°	89.7	145.1	192.5
26°	188.0	265.0	283.5
27°	233.0	241.2	231.7
28°	179.4	160.9	151.5
29°	96.0	80.2	73.5
30°	38.3	31.6	29.8
31°	18.5	15.8	15.3
32°	10.4	8.6	8.6
33°	6.3	5.4	5.0
34°	4.5	3.6	3.2
35°	3.2	2.7	2.3
36°	2.7	1.8	1.4
37°	2.3	1.4	1.4
38°	1.8	1.4	0.9
39°	1.4	0.9	0.5
40°	1.4	0.5	0.0
42.5°	0.9	0.5	0.0
45°	0.9	0.0	0.0
47.5°	1.4	0.9	0.5
50°	0.9	0.5	0.0
51°	0.9	0.0	0.0
52°	0.9	0.0	0.0
53°	0.9	0.0	0.0
54°	0.9	0.0	0.0
55°	0.9	0.0	0.0
57.5°	0.9	0.0	0.0
60°	0.9	0.0	0.0
61°	0.9	0.0	0.0
62°	0.9	0.0	0.0
63°	0.9	0.5	0.0
64°	0.9	0.5	0.0
65°	0.9	0.5	0.0
66°	0.9	0.5	0.0



TEST NUMBER: P175443

CATALOG NUMBER: LDA6A20927D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	1.4	0.5	0.0
75°	1.4	0.5	0.0
77.5°	1.4	0.5	0.0
80°	1.4	0.5	0.0
82.5°	1.4	0.5	0.0
85°	1.4	0.5	0.0
87.5°	1.4	0.5	0.0
90°	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°







67.5°	1.8	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	1.4	1.4
70°	1.4	1.4	1.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9





67.5°	1.4	1.4	1.4	1.4	0.5	0.0	0.0	1.4	1.8	1.4	1.8
70°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	1.4	1.8	1.4	1.8





67.5°	1.4	0.5	0.0
70°	1.4	0.5	0.0



(END OF REPORT)