

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: P175455

Luminaire Tested: **LDA6A15827D010TE LARL15SP 6LAL1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P175455
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: LDA6A15827D010TE 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: 1006.5 lumens
Efficiency: N/A
Efficacy: 45.2 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

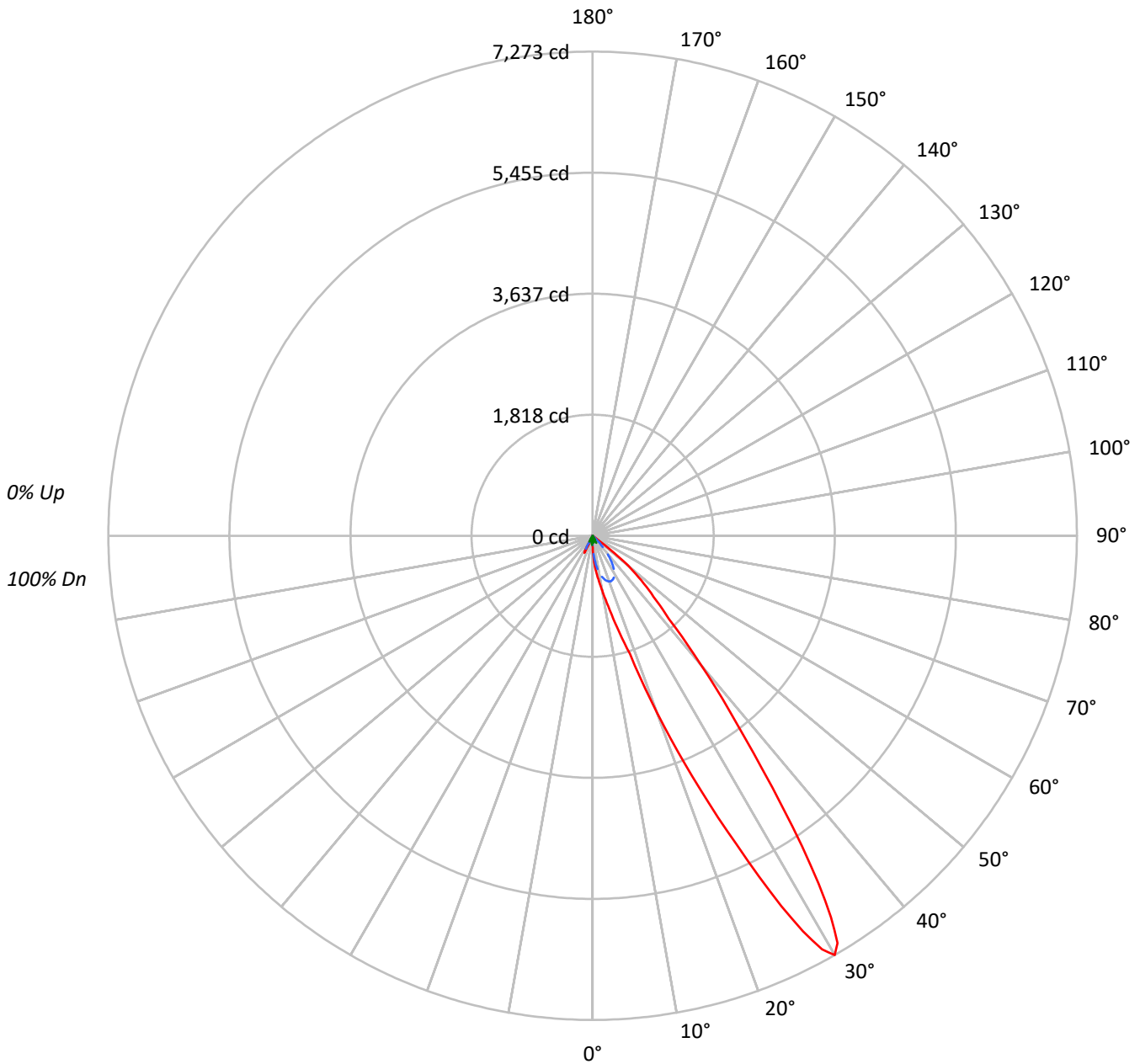
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	8119	8119	8119
5°	27773	6906	924
10°	46481	3835	456
15°	80738	1413	386
20°	164952	928	659
25°	309635	1809	11704
30°	460375	3152	1893
35°	332240	241	154
40°	180460	100	0
45°	100173	109	0
50°	58616	119	0
55°	1864	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°	20.7	2.1
10°-20°	107.8	10.7
20°-30°	346.8	34.5
30°-40°	361.0	35.9
40°-50°	153.8	15.3
50°-60°	12.8	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°	475.3	47.2
0°-40°	836.4	83.1
0°-60°	1003.0	99.6
0°-90°	1006.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1006.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	148	148	148	148	148	
5°	505	368	126	23	17	57
15°	1423	677	25	9	7	465
25°	5119	721	30	90	194	2458
35°	4964	515	4	3	2	3073
45°	1292	88	1	1	0	1063
55°	20	3	1	1	0	122
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°	148.1	148.1	148.1	148.1	148.1	148.1	148.1	148.1	148.1	148.1	148.1
2.5°	328.9	311.7	324.8	317.1	312.2	310.8	318.5	309.9	300.8	300.4	297.7
5°	504.7	488.4	502.0	490.2	484.8	480.2	483.9	469.8	454.9	455.3	448.5
7.5°	657.8	648.8	657.8	645.1	641.1	636.5	635.2	621.6	603.9	605.3	594.9
10°	835.0	808.7	823.2	795.6	788.8	776.5	772.5	750.3	722.2	720.8	705.9
12.5°	1079.2	1068.7	1083.2	1044.3	1036.1	1015.3	1004.0	968.6	922.4	910.6	876.2
15°	1422.6	1389.1	1403.6	1348.7	1333.3	1297.1	1272.2	1217.3	1173.4	1123.6	1071.0
17.5°	1858.9	1839.8	1858.4	1750.6	1710.7	1640.0	1581.6	1490.1	1396.8	1351.9	1278.1
20°	2827.5	2736.9	2746.9	2546.6	2418.8	2228.6	2076.3	1874.3	1689.0	1582.5	1460.6
22.5°	3902.6	3799.3	3773.9	3516.6	3300.0	3014.2	2746.9	2408.9	2080.4	1842.6	1636.0
25°	5119.0	5052.0	4919.2	4497.9	4125.5	3717.7	3324.5	2882.3	2456.4	2092.2	1782.3
26°	5696.7	5642.8	5443.4	4916.5	4434.5	3946.5	3497.1	3022.3	2562.9	2163.3	1816.7
27°	6245.3	6201.8	5942.7	5329.2	4726.7	4139.5	3622.6	3122.0	2639.5	2209.1	1841.2
28°	6728.7	6684.3	6349.5	5679.0	4958.2	4279.1	3701.4	3184.0	2683.4	2220.0	1839.8
29°	7104.8	7048.6	6616.4	5903.3	5094.1	4346.1	3717.3	3191.7	2677.1	2194.6	1814.5
30°	7272.8	7203.1	6692.5	5951.3	5096.4	4320.8	3672.4	3150.5	2625.4	2134.8	1767.4
31°	7141.0	7081.6	6554.3	5812.7	4958.2	4204.8	3561.0	3055.4	2527.6	2048.2	1704.8
32°	6756.8	6702.4	6216.3	5508.2	4696.8	4008.6	3399.2	2919.5	2397.5	1943.6	1632.3
33°	6229.9	6187.8	5751.9	5090.0	4361.1	3767.1	3205.8	2749.1	2241.2	1826.3	1544.0
34°	5628.7	5595.6	5197.9	4617.5	3994.6	3498.9	2985.2	2504.0	2070.4	1708.0	1477.9
35°	4964.5	4941.9	4617.5	4132.3	3629.8	3220.3	2740.1	2287.5	1898.3	1594.3	1406.7
36°	4333.4	4314.9	4067.5	3687.4	3282.8	2931.2	2474.6	2061.8	1733.4	1491.9	1340.1
37°	3794.3	3780.7	3597.7	3291.4	2949.4	2630.9	2204.1	1850.7	1589.8	1402.6	1271.7
38°	3345.8	3334.9	3186.3	2914.9	2606.0	2320.1	1943.1	1664.1	1467.4	1325.2	1194.2
39°	2927.6	2913.6	2779.9	2534.4	2263.9	2017.4	1770.1	1510.5	1371.4	1244.5	1110.9
40°	2521.7	2503.6	2386.2	2177.4	1951.7	1760.6	1538.6	1416.2	1293.5	1150.8	1025.7
42.5°	1692.1	1682.2	1618.3	1524.1	1428.5	1358.7	1288.5	1179.3	1049.7	931.9	839.5
45°	1292.1	1289.8	1258.6	1209.2	1145.8	1086.9	993.1	930.1	842.7	743.5	677.3
47.5°	991.3	991.7	962.7	925.6	882.1	844.0	775.6	725.3	662.8	606.2	555.0
50°	687.3	658.3	662.4	632.9	597.6	575.4	511.9	473.4	384.6	294.9	230.6
51°	515.1	477.1	482.0	449.0	412.3	392.8	333.4	294.5	211.1	138.6	90.6
52°	314.4	284.5	284.1	258.7	227.0	209.8	162.6	126.9	72.0	38.1	26.3
53°	140.9	121.0	116.4	99.2	77.9	67.5	46.2	34.0	25.4	19.5	15.0
54°	37.2	33.1	31.7	29.0	26.3	25.4	22.2	18.6	14.5	11.3	9.5
55°	19.5	18.1	17.7	16.8	15.4	15.0	13.1	11.3	9.1	8.2	7.2
57.5°	9.1	9.1	8.6	8.2	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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CATALOG NUMBER: LDA6A15827D010TE 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°	0.5	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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CATALOG NUMBER: LDA6A15827D010TE 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°	148.1	148.1	148.1	148.1	148.1	148.1	148.1	148.1	148.1	148.1	148.1
2.5°	297.7	292.2	280.9	278.6	267.8	261.4	263.2	259.6	201.6	142.3	88.8
5°	443.5	431.3	414.5	408.7	390.1	380.1	376.9	367.9	249.6	125.5	41.7
7.5°	586.2	570.4	550.0	540.5	515.1	498.4	487.5	473.9	282.7	99.7	23.1
10°	692.3	674.1	652.8	640.6	612.1	595.3	577.6	562.7	300.4	68.9	17.2
12.5°	833.6	797.8	753.4	726.7	684.6	661.5	641.1	626.6	307.2	41.2	13.1
15°	1022.1	964.5	901.6	853.1	781.5	738.0	703.6	677.3	301.7	24.9	11.3
17.5°	1204.7	1123.1	1040.7	975.0	893.0	828.2	762.0	710.4	278.6	19.9	10.4
20°	1356.4	1260.8	1155.7	1063.8	969.1	892.1	804.2	731.2	241.5	15.9	11.3
22.5°	1473.3	1351.5	1232.3	1118.1	1005.3	917.0	820.5	735.8	194.4	16.3	15.9
25°	1557.6	1397.7	1270.8	1140.8	1018.0	921.1	811.9	721.3	143.2	29.9	53.5
26°	1574.8	1407.2	1275.8	1138.5	1013.5	914.3	801.9	712.2	129.1	59.3	117.8
27°	1584.3	1405.8	1272.2	1129.5	1004.0	904.3	790.6	704.0	126.9	101.5	175.8
28°	1575.7	1394.5	1256.8	1113.1	988.6	891.2	777.4	694.5	125.5	124.6	166.7
29°	1552.2	1374.6	1233.7	1087.8	965.0	870.3	757.5	680.9	112.4	99.2	100.6
30°	1516.4	1346.5	1200.1	1053.8	935.1	840.4	729.0	659.2	74.3	49.8	42.6
31°	1472.0	1310.2	1158.9	1014.4	901.1	804.2	699.1	631.1	38.5	21.3	19.9
32°	1423.0	1266.7	1114.5	974.5	866.7	769.3	674.1	606.2	25.4	11.8	11.3
33°	1371.4	1216.0	1065.6	933.3	828.2	730.3	648.3	579.5	19.0	7.2	6.8
34°	1320.6	1161.6	1016.2	888.9	786.5	695.4	624.8	548.6	15.4	5.4	4.5
35°	1263.1	1102.7	965.5	841.8	741.6	665.5	601.2	515.1	12.2	3.6	3.6
36°	1196.1	1040.2	912.9	792.4	699.1	637.9	575.4	478.4	9.5	2.7	3.2
37°	1124.9	978.1	859.9	743.5	664.2	612.5	544.1	440.8	8.2	2.3	2.7
38°	1051.5	916.5	802.8	696.3	633.8	584.9	508.8	401.9	6.8	1.8	2.3
39°	979.5	853.5	745.7	658.3	605.3	552.3	468.5	362.0	5.9	1.8	2.3
40°	909.3	790.1	695.0	625.2	573.6	512.4	426.8	320.3	4.1	1.4	2.3
42.5°	742.6	658.7	598.5	528.7	470.3	401.4	314.0	208.0	3.2	1.4	1.8
45°	621.6	552.7	482.5	403.7	346.1	275.5	185.8	88.3	3.2	1.4	1.8
47.5°	491.6	410.5	307.2	207.5	135.5	69.8	21.7	12.2	2.3	1.4	1.8
50°	143.2	82.9	30.8	18.6	14.0	8.6	5.4	5.0	1.8	1.4	1.8
51°	41.2	24.5	16.3	10.9	8.2	5.0	4.1	4.5	1.8	1.4	1.4
52°	19.5	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



TEST NUMBER: P175455

CATALOG NUMBER: LDA6A15827D010TE 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



TEST NUMBER: P175455

CATALOG NUMBER: LDA6A15827D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	148.1	148.1	148.1
2.5°	56.6	40.8	37.2
5°	22.7	18.6	16.8
7.5°	14.0	11.8	10.9
10°	11.3	8.6	8.2
12.5°	9.1	7.7	7.2
15°	8.6	7.2	6.8
17.5°	8.6	8.2	7.7
20°	10.9	10.9	11.3
22.5°	18.6	21.7	24.5
25°	90.2	145.9	193.5
26°	188.9	266.4	285.0
27°	234.2	242.4	232.9
28°	180.3	161.7	152.2
29°	96.5	80.6	73.8
30°	38.5	31.7	29.9
31°	18.6	15.9	15.4
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: P175455

CATALOG NUMBER: LDA6A15827D010TE 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)