

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: P175467

Luminaire Tested: **LDA6A30927D010TE LARL15SP 6LAL1 30° Tilt**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P175467
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: LDA6A30927D010TE 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: 1567.9 lumens
Efficiency: N/A
Efficacy: 35.2 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

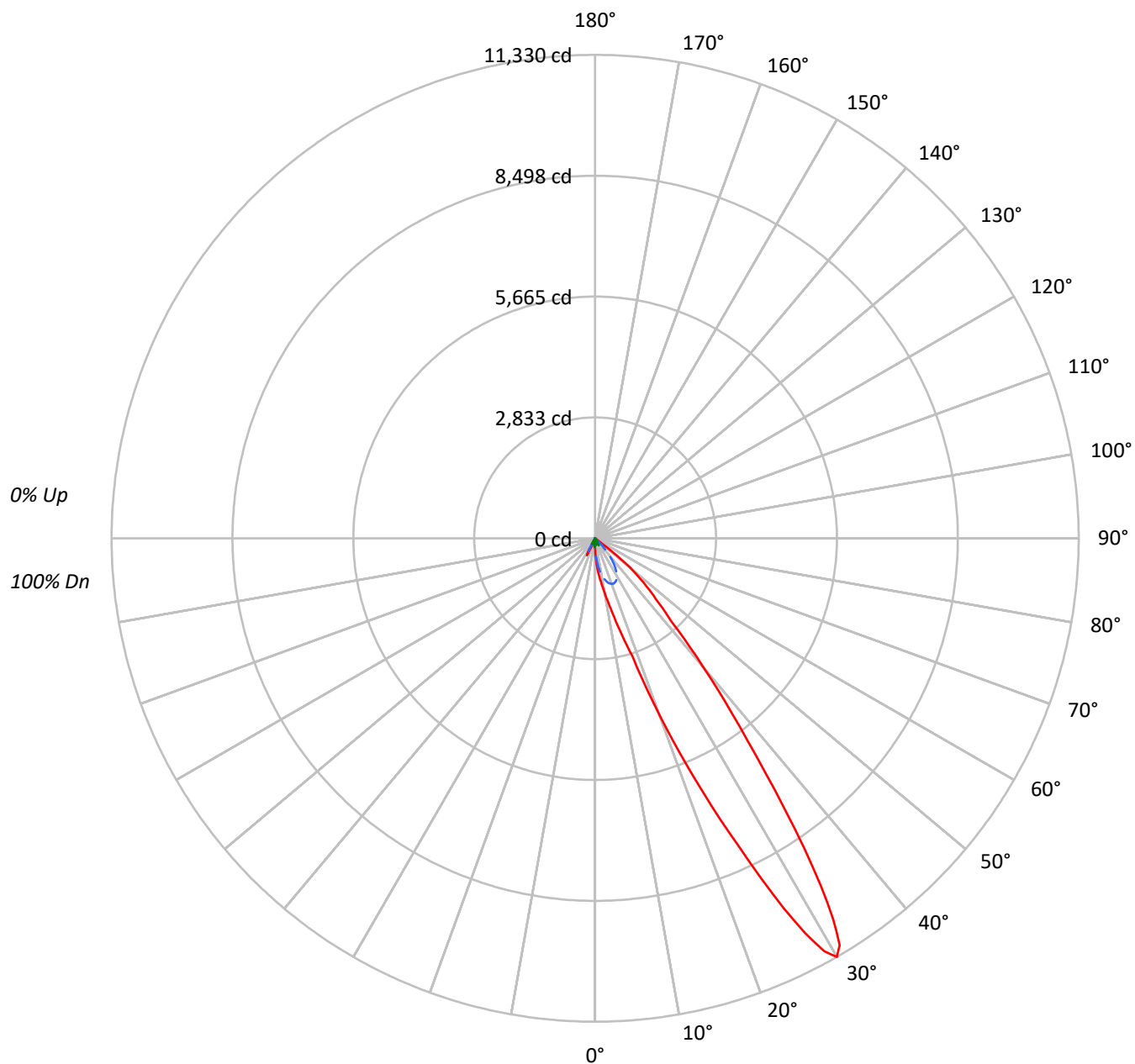
Input Watts (W): 44.49
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					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°	12652	12652	12652
5°	43270	10758	1436
10°	72410	5973	707
15°	125784	2202	602
20°	256981	1441	1027
25°	482387	2819	18231
30°	717224	4912	2950
35°	517603	375	234
40°	281141	150	0
45°	156063	163	0
50°	91315	179	0
55°	2896	134	0
60°	1009	230	0
65°	454	272	0
70°	337	337	0
75°	148	593	0
80°	0	884	0
85°	0	1761	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.3	2.1
10°-20°	167.9	10.7
20°-30°	540.3	34.5
30°-40°	562.5	35.9
40°-50°	239.6	15.3
50°-60°	19.9	1.3
60°-70°	2.0	0.1
70°-80°	1.8	0.1
80°-90°	1.6	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°	740.5	47.2
0°-40°	1303.0	83.1
0°-60°	1562.5	99.7
0°-90°	1567.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1567.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	231	231	231	231	231	
5°	786	573	196	35	26	89
15°	2216	1055	39	13	11	724
25°	7975	1124	47	140	301	3830
35°	7734	802	6	5	4	4788
45°	2013	138	2	1	0	1656
55°	30	4	1	1	0	190
65°	4	2	2	1	0	4
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°	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8
2.5°	512.4	485.6	506.1	494.1	486.3	484.2	496.2	482.8	468.7	468.0	463.7
5°	786.3	760.9	782.0	763.7	755.2	748.2	753.8	731.9	708.6	709.3	698.8
7.5°	1024.8	1010.7	1024.8	1005.1	998.7	991.7	989.5	968.4	940.8	943.0	926.7
10°	1300.8	1259.9	1282.5	1239.4	1228.8	1209.8	1203.4	1168.8	1125.1	1122.9	1099.7
12.5°	1681.2	1665.0	1687.6	1626.9	1614.2	1581.7	1564.1	1509.0	1437.0	1418.7	1365.0
15°	2216.3	2164.0	2186.6	2101.2	2077.2	2020.7	1981.9	1896.5	1828.1	1750.4	1668.5
17.5°	2895.9	2866.3	2895.2	2727.3	2665.1	2555.0	2464.0	2321.4	2176.0	2106.1	1991.1
20°	4405.0	4263.8	4279.3	3967.4	3768.3	3471.9	3234.7	2919.9	2631.3	2465.4	2275.5
22.5°	6079.9	5918.9	5879.4	5478.5	5141.1	4695.8	4279.3	3752.8	3241.1	2870.5	2548.7
25°	7975.0	7870.5	7663.7	7007.3	6427.1	5791.9	5179.3	4490.4	3826.9	3259.4	2776.7
26°	8874.9	8790.9	8480.3	7659.5	6908.5	6148.3	5448.2	4708.5	3992.8	3370.3	2830.3
27°	9729.6	9661.9	9258.1	8302.5	7363.7	6449.0	5643.7	4863.8	4112.1	3441.5	2868.4
28°	10482.7	10413.6	9892.0	8847.4	7724.4	6666.4	5766.5	4960.4	4180.5	3458.5	2866.3
29°	11068.5	10981.0	10307.7	9196.7	7936.2	6770.9	5791.2	4972.4	4170.6	3419.0	2826.8
30°	11330.4	11221.7	10426.3	9271.6	7939.7	6731.3	5721.3	4908.2	4090.2	3325.8	2753.4
31°	11125.0	11032.6	10211.0	9055.6	7724.4	6550.6	5547.7	4760.0	3937.7	3191.0	2656.0
32°	10526.5	10441.8	9684.5	8581.3	7317.2	6245.0	5295.7	4548.3	3735.2	3027.9	2543.0
33°	9705.6	9640.0	8961.0	7929.8	6794.1	5868.8	4994.3	4282.9	3491.7	2845.1	2405.4
34°	8769.0	8717.5	8097.8	7193.6	6223.1	5451.0	4650.6	3901.0	3225.6	2660.9	2302.4
35°	7734.3	7699.0	7193.6	6437.7	5655.0	5016.9	4268.8	3563.6	2957.4	2483.8	2191.5
36°	6751.1	6722.2	6336.8	5744.6	5114.3	4566.6	3855.1	3212.2	2700.4	2324.2	2087.8
37°	5911.2	5890.0	5604.9	5127.7	4594.8	4098.7	3433.8	2883.2	2476.7	2185.2	1981.2
38°	5212.4	5195.5	4964.0	4541.2	4059.8	3614.5	3027.2	2592.4	2286.1	2064.5	1860.5
39°	4561.0	4539.1	4330.9	3948.3	3526.9	3143.0	2757.6	2353.2	2136.5	1938.9	1730.7
40°	3928.6	3900.3	3717.5	3392.1	3040.6	2742.8	2396.9	2206.4	2015.1	1792.8	1598.0
42.5°	2636.2	2620.7	2521.2	2374.4	2225.4	2116.7	2007.3	1837.2	1635.4	1451.9	1307.9
45°	2013.0	2009.4	1960.7	1883.8	1785.0	1693.2	1547.1	1449.0	1312.8	1158.2	1055.2
47.5°	1544.3	1545.0	1499.9	1442.0	1374.2	1314.9	1208.4	1130.0	1032.6	944.4	864.6
50°	1070.7	1025.5	1031.9	986.0	931.0	896.4	797.6	737.6	599.2	459.5	359.3
51°	802.5	743.2	751.0	699.5	642.3	611.9	519.5	458.8	328.9	216.0	141.2
52°	489.8	443.3	442.5	403.0	353.6	326.8	253.4	197.6	112.2	59.3	40.9
53°	219.5	188.5	181.4	154.6	121.4	105.2	72.0	52.9	39.5	30.3	23.3
54°	57.9	51.5	49.4	45.2	40.9	39.5	34.6	28.9	22.6	17.6	14.8
55°	30.3	28.2	27.5	26.1	24.0	23.3	20.5	17.6	14.1	12.7	11.3
57.5°	14.1	14.1	13.4	12.7	12.0	12.0	10.6	9.9	9.2	9.2	7.8
60°	9.2	9.2	9.2	8.5	8.5	7.8	7.1	6.4	5.6	6.4	5.6
61°	7.8	7.8	7.8	7.1	6.4	5.6	5.6	5.6	4.9	4.9	4.2
62°	5.6	5.6	4.9	4.9	4.2	4.2	4.2	4.2	3.5	4.2	4.2
63°	4.2	4.2	3.5	3.5	3.5	3.5	2.8	2.8	2.8	4.2	4.2
64°	3.5	3.5	3.5	2.8	2.8	2.8	2.8	2.8	2.8	3.5	2.8
65°	3.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.1	2.8	2.8
66°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.1	2.1	2.8	2.8



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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°	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.7	0.7
75°	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
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°	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8	230.8
2.5°	463.7	455.2	437.6	434.1	417.1	407.3	410.1	404.4	314.1	221.6	138.3
5°	691.0	671.9	645.8	636.6	607.7	592.2	587.2	573.1	388.9	195.5	64.9
7.5°	913.3	888.6	856.9	842.0	802.5	776.4	759.5	738.3	440.4	155.3	36.0
10°	1078.5	1050.2	1017.1	998.0	953.6	927.4	899.9	876.6	468.0	107.3	26.8
12.5°	1298.7	1242.9	1173.8	1132.1	1066.5	1030.5	998.7	976.1	478.5	64.2	20.5
15°	1592.3	1502.7	1404.6	1329.0	1217.5	1149.8	1096.1	1055.2	470.1	38.8	17.6
17.5°	1876.8	1749.7	1621.3	1518.9	1391.2	1290.2	1187.2	1106.7	434.1	31.1	16.2
20°	2113.2	1964.3	1800.5	1657.2	1509.7	1389.7	1252.8	1139.2	376.2	24.7	17.6
22.5°	2295.3	2105.4	1919.8	1741.9	1566.2	1428.6	1278.2	1146.2	302.8	25.4	24.7
25°	2426.6	2177.4	1979.8	1777.2	1586.0	1434.9	1264.8	1123.7	223.0	46.6	83.3
26°	2453.4	2192.3	1987.6	1773.7	1578.9	1424.3	1249.3	1109.5	201.2	92.5	183.5
27°	2468.2	2190.1	1981.9	1759.6	1564.1	1408.8	1231.6	1096.8	197.6	158.1	273.9
28°	2454.8	2172.5	1957.9	1734.2	1540.1	1388.3	1211.2	1082.0	195.5	194.1	259.7
29°	2418.1	2141.4	1921.9	1694.7	1503.4	1355.9	1180.1	1060.8	175.0	154.6	156.7
30°	2362.4	2097.7	1869.7	1641.7	1456.8	1309.3	1135.7	1027.0	115.8	77.6	66.3
31°	2293.2	2041.2	1805.5	1580.3	1403.9	1252.8	1089.1	983.2	60.0	33.2	31.1
32°	2217.0	1973.5	1736.3	1518.2	1350.2	1198.5	1050.2	944.4	39.5	18.4	17.6
33°	2136.5	1894.4	1660.1	1454.0	1290.2	1137.8	1010.0	902.7	29.6	11.3	10.6
34°	2057.4	1809.7	1583.1	1384.8	1225.3	1083.4	973.3	854.7	24.0	8.5	7.1
35°	1967.8	1717.9	1504.1	1311.4	1155.4	1036.8	936.6	802.5	19.1	5.6	5.6
36°	1863.3	1620.5	1422.2	1234.5	1089.1	993.8	896.4	745.3	14.8	4.2	4.9
37°	1752.5	1523.8	1339.6	1158.2	1034.7	954.3	847.7	686.8	12.7	3.5	4.2
38°	1638.2	1427.9	1250.7	1084.8	987.4	911.2	792.6	626.1	10.6	2.8	3.5
39°	1526.0	1329.8	1161.8	1025.5	943.0	860.4	729.8	563.9	9.2	2.8	3.5
40°	1416.6	1230.9	1082.7	974.0	893.6	798.3	664.9	499.0	6.4	2.1	3.5
42.5°	1156.8	1026.3	932.4	823.7	732.6	625.3	489.1	324.0	4.9	2.1	2.8
45°	968.4	861.1	751.7	628.9	539.2	429.1	289.4	137.6	4.9	2.1	2.8
47.5°	765.8	639.5	478.5	323.3	211.0	108.7	33.9	19.1	3.5	2.1	2.8
50°	223.0	129.2	48.0	28.9	21.9	13.4	8.5	7.8	2.8	2.1	2.8
51°	64.2	38.1	25.4	16.9	12.7	7.8	6.4	7.1	2.8	2.1	2.1
52°	30.3	21.9	14.8	11.3	8.5	6.4	5.6	6.4	2.8	2.1	2.1
53°	17.6	13.4	10.6	9.2	6.4	5.6	4.2	5.6	2.8	2.1	2.1
54°	12.0	10.6	9.2	7.8	5.6	4.2	4.2	5.6	2.8	2.1	2.1
55°	10.6	9.2	7.8	7.1	4.9	4.2	4.2	4.2	2.1	1.4	2.1
57.5°	7.1	7.1	5.6	5.6	4.2	2.8	1.4	3.5	2.8	2.1	2.1
60°	4.9	4.9	4.9	3.5	1.4	1.4	0.7	2.8	2.8	2.1	2.8
61°	4.9	4.9	3.5	2.8	1.4	1.4	0.7	2.8	2.8	2.1	2.8
62°	4.2	3.5	2.8	2.8	1.4	1.4	0.7	2.8	2.8	2.1	2.8
63°	3.5	2.8	2.8	2.8	1.4	0.7	0.7	2.8	2.8	2.1	2.8
64°	2.8	2.8	2.8	2.8	0.7	0.7	0.7	2.8	2.8	2.1	2.8
65°	2.8	2.8	2.8	2.1	0.7	0.7	0.7	2.1	2.8	2.1	2.8
66°	2.8	2.8	2.1	2.1	0.7	0.7	0.7	2.1	2.8	2.1	2.8



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CATALOG NUMBER: LDA6A30927D010TE 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°	0.7	1.4	1.4	1.4	0.0	0.0	0.0	2.1	2.8	2.1	2.8
75°	0.7	0.7	1.4	1.4	0.0	0.0	0.0	2.1	2.8	2.8	2.8
77.5°	0.7	0.7	1.4	1.4	0.0	0.0	0.0	2.1	2.8	2.8	3.5
80°	0.7	0.7	1.4	1.4	0.0	0.0	0.0	2.1	2.8	2.8	3.5
82.5°	0.7	0.7	1.4	1.4	0.0	0.0	0.0	2.1	2.8	2.8	3.5
85°	0.7	0.7	1.4	1.4	0.0	0.0	0.0	2.1	2.8	2.8	3.5
87.5°	0.7	0.7	1.4	1.4	0.0	0.0	0.0	2.1	2.8	2.8	3.5
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: LDA6A30927D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	230.8	230.8	230.8
2.5°	88.2	63.5	57.9
5°	35.3	28.9	26.1
7.5°	21.9	18.4	16.9
10°	17.6	13.4	12.7
12.5°	14.1	12.0	11.3
15°	13.4	11.3	10.6
17.5°	13.4	12.7	12.0
20°	16.9	16.9	17.6
22.5°	28.9	33.9	38.1
25°	140.5	227.3	301.4
26°	294.3	415.0	444.0
27°	364.9	377.6	362.8
28°	280.9	252.0	237.2
29°	150.3	125.6	115.0
30°	60.0	49.4	46.6
31°	28.9	24.7	24.0
32°	16.2	13.4	13.4
33°	9.9	8.5	7.8
34°	7.1	5.6	4.9
35°	4.9	4.2	3.5
36°	4.2	2.8	2.1
37°	3.5	2.1	2.1
38°	2.8	2.1	1.4
39°	2.1	1.4	0.7
40°	2.1	0.7	0.0
42.5°	1.4	0.7	0.0
45°	1.4	0.0	0.0
47.5°	2.1	1.4	0.7
50°	1.4	0.7	0.0
51°	1.4	0.0	0.0
52°	1.4	0.0	0.0
53°	1.4	0.0	0.0
54°	1.4	0.0	0.0
55°	1.4	0.0	0.0
57.5°	1.4	0.0	0.0
60°	1.4	0.0	0.0
61°	1.4	0.0	0.0
62°	1.4	0.0	0.0
63°	1.4	0.7	0.0
64°	1.4	0.7	0.0
65°	1.4	0.7	0.0
66°	1.4	0.7	0.0



TEST NUMBER: P175467

CATALOG NUMBER: LDA6A30927D010TE LARL15SP 6LAL1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	2.1	0.7	0.0
75°	2.1	0.7	0.0
77.5°	2.1	0.7	0.0
80°	2.1	0.7	0.0
82.5°	2.1	0.7	0.0
85°	2.1	0.7	0.0
87.5°	2.1	0.7	0.0
90°	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°







67.5°	2.8	2.1	2.1	2.1	2.1	2.1	2.1	1.4	1.4	2.1	2.1
70°	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4





67.5°	2.1	2.1	2.1	2.1	0.7	0.0	0.0	2.1	2.8	2.1	2.8
70°	1.4	1.4	1.4	1.4	0.0	0.0	0.0	2.1	2.8	2.1	2.8





67.5°	2.1	0.7	0.0
70°	2.1	0.7	0.0



(END OF REPORT)