

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: P179929

Luminaire Tested: **LDA6A55930D010TE LARH30NF 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179929
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26690)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A55930D010TE LARH30NF 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 30° Narrow Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4091.8 lumens
Efficiency: N/A
Efficacy: 67.1 lumens/watt
Spacing Criteria (0/90/45): 2.55 / 0.46 / 1.37
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

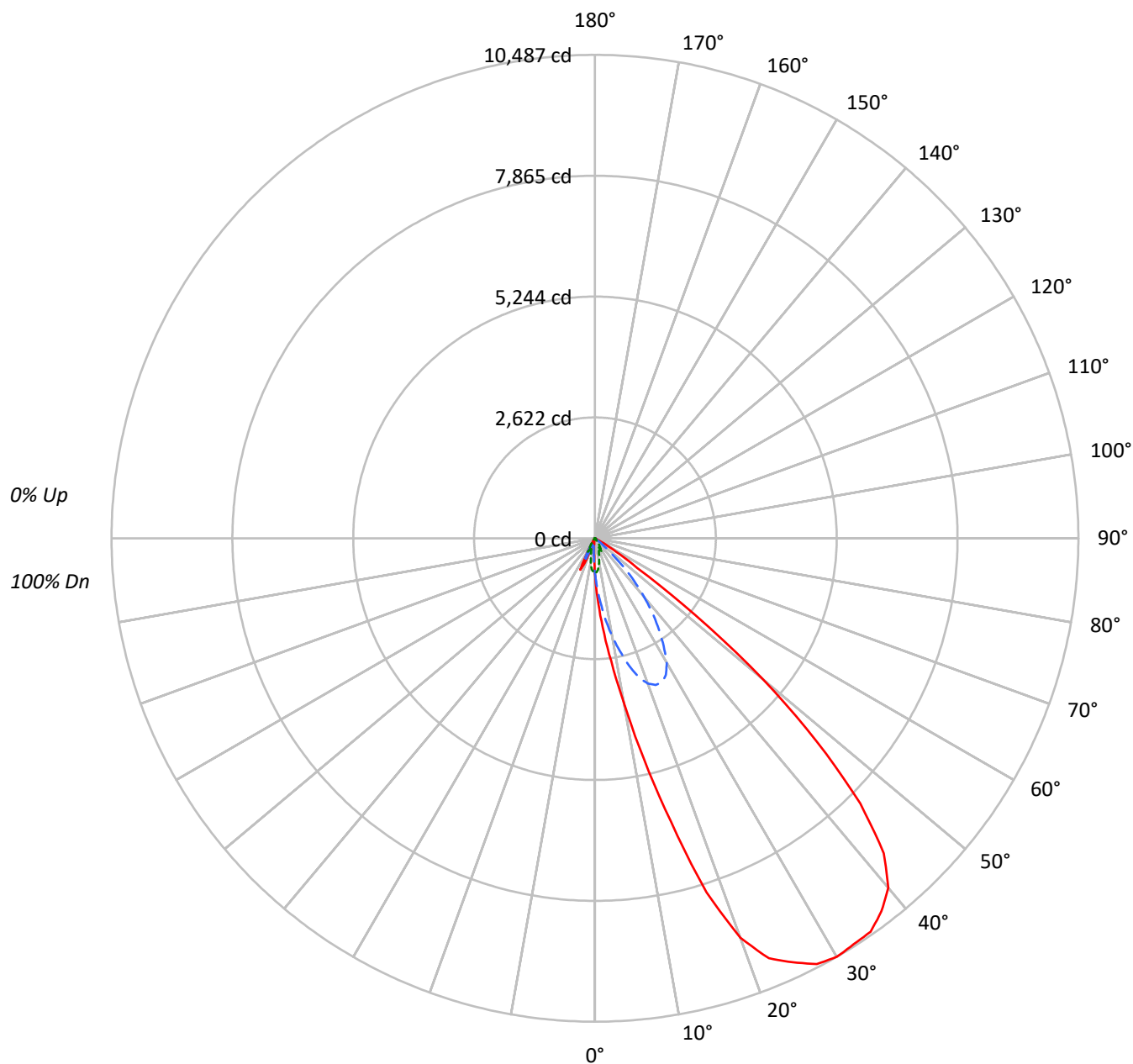
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	112	109	106	103	110	107	104	102	103	100	98		99	97	95		95
2	105	99	94	90	103	97	93	89	94	90	87		91	88	85		88
3	98	90	84	79	96	89	83	78	86	81	77		83	79	76		81
4	91	82	75	70	89	81	74	69	78	73	68		76	71	68		74
5	85	74	67	62	83	73	67	62	72	66	61		70	64	60		68
6	79	68	60	55	77	67	60	55	65	59	55		64	58	54		62
7	74	62	55	49	72	61	54	49	60	54	49		59	53	49		57
8	69	57	49	44	67	56	49	44	55	49	44		54	48	44		53
9	64	52	45	40	63	52	45	40	51	44	40		50	44	40		49
10	60	48	41	36	59	48	41	36	47	40	36		46	40	36		45

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	41230	41230	41230
5°	106438	38213	11947
10°	201922	29158	4014
15°	361058	18956	4001
20°	537991	12899	7286
25°	613862	16084	45783
30°	663862	13432	13692
35°	697345	6538	4290
40°	708377	2347	2176
45°	631128	1551	1302
50°	405334	1092	887
55°	106711	765	459
60°	23803	789	351
65°	2283	934	415
70°	769	1154	513
75°	169	1525	847
80°	0	2526	1263
85°	0	4529	2013



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.3	2.2
10°-20°	476.7	11.6
20°-30°	1118.4	27.3
30°-40°	1286.4	31.4
40°-50°	913.8	22.3
50°-60°	185.8	4.5
60°-70°	9.3	0.2
70°-80°	5.5	0.1
80°-90°	4.6	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°	1686.4	41.2
0°-40°	2972.8	72.7
0°-60°	4072.4	99.5
0°-90°	4091.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4091.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	752	752	752	752	752	
5°	1934	1399	694	278	217	236
15°	6362	2860	334	75	70	1908
25°	10149	3445	266	581	757	4677
35°	10420	2419	98	72	64	6473
45°	8141	860	20	22	17	5999
55°	1116	22	8	8	5	1506
65°	18	6	7	6	3	42
75°	1	4	7	6	4	2
85°	0	4	7	6	3	0
90°	0	0	0	0	0	



TEST NUMBER: P179929

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1
2.5°	1295.9	1256.7	1237.4	1236.6	1180.6	1199.0	1180.6	1166.2	1114.1	1092.5	1056.4
5°	1934.2	1886.2	1847.7	1830.9	1734.8	1714.0	1704.4	1655.5	1546.6	1483.3	1399.2
7.5°	2687.1	2636.7	2573.4	2522.9	2383.6	2344.3	2318.7	2234.6	2073.6	1946.3	1789.3
10°	3627.4	3597.8	3495.3	3402.4	3190.9	3109.2	3032.3	2836.1	2625.5	2370.0	2167.3
12.5°	4893.7	4824.0	4641.4	4455.6	4124.0	4002.3	3874.9	3560.9	3239.0	2838.5	2503.7
15°	6361.8	6302.5	6021.4	5718.7	5246.9	5046.7	4847.2	4353.1	3858.1	3342.3	2860.1
17.5°	8051.8	7939.6	7660.1	7148.3	6488.3	6173.6	5801.9	5172.4	4458.0	3757.2	3158.1
20°	9221.9	9155.4	8919.2	8428.2	7676.9	7261.2	6799.9	5935.7	4958.6	4089.6	3353.5
22.5°	9861.9	9795.4	9618.4	9185.1	8569.2	8151.9	7616.1	6553.2	5336.6	4313.0	3445.6
25°	10148.6	10105.4	10008.4	9655.2	9085.0	8709.3	8202.3	6980.1	5572.9	4414.7	3444.8
27.5°	10413.7	10424.9	10185.4	9894.7	9369.3	8992.1	8511.5	7172.3	5619.3	4363.5	3334.3
30°	10487.4	10459.4	10354.4	9945.2	9455.8	9044.9	8529.9	7070.6	5438.3	4136.8	3114.8
32.5°	10441.7	10442.5	10344.0	9909.1	9334.1	8874.3	8295.2	6706.2	5085.9	3781.2	2773.6
35°	10420.1	10412.9	10157.4	9775.4	9044.9	8504.3	7774.6	6121.5	4597.3	3327.1	2418.8
37.5°	10205.5	10162.2	9978.0	9459.8	8504.3	7813.1	7027.4	5406.3	3995.8	2854.5	2055.2
40°	9898.7	9844.2	9544.7	8801.4	7580.0	6808.7	6027.8	4596.5	3366.3	2384.4	1649.9
42.5°	9270.0	9180.3	8726.1	7740.2	6389.8	5672.2	5025.0	3786.0	2752.0	1935.9	1267.1
45°	8140.7	7994.1	7365.4	6335.4	5158.0	4594.9	4047.9	3034.7	2203.4	1441.7	860.2
47.5°	6536.4	6376.2	5806.0	4978.6	4038.3	3581.8	3117.2	2234.6	1490.5	840.2	431.7
50°	4752.7	4642.2	4138.4	3440.8	2670.3	2287.5	1931.0	1246.2	715.2	406.1	177.0
52.5°	2738.4	2659.1	2308.3	1810.9	1313.5	1099.7	884.2	543.8	364.4	161.0	56.9
55°	1116.5	1070.8	917.1	776.9	583.1	503.8	420.5	271.5	122.5	38.4	22.4
57.5°	546.2	540.6	450.9	361.2	265.9	214.6	161.8	54.5	29.6	19.2	14.4
60°	217.1	209.0	143.4	83.3	46.5	37.6	32.0	22.4	16.8	12.8	10.4
62.5°	37.6	36.8	31.2	26.4	21.6	19.2	17.6	13.6	11.2	8.8	8.0
65°	17.6	17.6	16.0	14.4	12.0	11.2	10.4	8.8	7.2	6.4	6.4
67.5°	8.8	8.8	8.0	7.2	6.4	6.4	5.6	5.6	4.8	4.8	4.8
70°	4.8	4.8	4.8	4.0	4.0	4.0	4.0	4.0	3.2	4.0	4.0
72.5°	3.2	3.2	3.2	2.4	1.6	2.4	2.4	2.4	3.2	4.0	4.0
75°	0.8	0.8	0.8	1.6	1.6	1.6	2.4	2.4	3.2	4.0	4.0
77.5°	0.8	0.8	0.8	0.8	1.6	1.6	1.6	2.4	3.2	4.0	4.0
80°	0.0	0.8	0.8	0.8	1.6	1.6	1.6	2.4	3.2	4.0	4.0
82.5°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.2	4.0	4.0
85°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.2	4.0	4.0
87.5°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.2	4.0	4.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1
2.5°	1040.4	998.8	971.5	923.5	903.5	894.6	850.6	808.1	767.3	737.7	692.0
5°	1335.2	1268.7	1167.0	1071.6	1030.0	1003.6	917.1	837.0	760.9	694.4	615.1
7.5°	1652.3	1515.4	1356.0	1203.0	1130.9	1082.9	949.1	832.2	723.2	622.3	514.2
10°	1956.7	1741.2	1509.0	1290.3	1192.6	1120.5	945.9	796.1	654.4	523.8	407.7
12.5°	2216.2	1937.5	1629.1	1345.6	1218.2	1126.1	916.3	733.7	561.5	421.3	320.4
15°	2434.8	2088.0	1708.4	1364.0	1211.0	1102.1	858.6	648.0	459.7	334.0	258.7
17.5°	2588.6	2160.9	1726.8	1332.7	1160.5	1034.8	771.3	538.2	361.2	269.9	204.2
20°	2678.3	2170.5	1682.0	1256.7	1072.4	939.5	661.6	422.9	293.1	221.1	158.6
22.5°	2691.9	2123.3	1593.9	1154.1	970.7	842.6	551.0	354.0	266.7	206.6	155.4
25°	2626.3	2029.6	1479.3	1054.0	878.6	747.3	476.6	358.0	299.5	265.9	276.3
27.5°	2498.9	1875.0	1348.0	951.5	782.5	649.6	450.1	374.8	326.8	332.4	351.6
30°	2303.5	1657.1	1158.9	777.7	599.1	495.0	358.0	269.9	224.3	212.2	213.0
32.5°	2015.9	1384.0	909.9	539.8	402.9	334.0	226.7	150.6	151.4	140.2	139.4
35°	1687.6	1114.1	680.8	362.0	278.7	232.3	133.8	105.7	101.7	97.7	92.1
37.5°	1362.4	861.0	453.3	247.5	177.8	128.9	67.3	55.3	51.3	48.1	48.1
40°	1037.2	602.3	280.3	129.8	72.1	52.9	40.0	33.6	32.8	32.8	32.0
42.5°	752.9	355.6	152.2	51.3	40.0	35.2	28.0	24.8	24.8	24.8	24.8
45°	400.5	181.0	58.5	32.0	26.4	24.8	20.8	19.2	19.2	20.0	20.0
47.5°	185.0	68.1	29.6	21.6	18.4	18.4	16.0	15.2	15.2	16.0	16.0
50°	66.5	28.0	19.2	15.2	13.6	14.4	12.8	12.0	12.8	12.8	12.8
52.5°	25.6	17.6	13.6	12.0	10.4	11.2	9.6	9.6	10.4	10.4	10.4
55°	16.0	12.8	10.4	8.8	8.0	8.8	8.0	8.0	8.0	8.0	8.0
57.5°	11.2	9.6	8.0	7.2	6.4	7.2	7.2	7.2	7.2	7.2	7.2
60°	8.8	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	7.2	7.2
62.5°	7.2	6.4	6.4	6.4	6.4	6.4	6.4	6.4	7.2	7.2	7.2
65°	6.4	5.6	6.4	6.4	5.6	6.4	6.4	6.4	7.2	7.2	8.0
67.5°	4.8	4.8	4.8	5.6	5.6	5.6	6.4	6.4	7.2	7.2	7.2
70°	4.8	4.8	5.6	5.6	5.6	5.6	6.4	6.4	7.2	7.2	7.2
72.5°	4.8	4.8	5.6	5.6	5.6	6.4	6.4	6.4	7.2	7.2	7.2
75°	4.8	4.8	5.6	5.6	5.6	6.4	6.4	6.4	7.2	7.2	7.2
77.5°	4.8	4.8	5.6	5.6	5.6	6.4	6.4	7.2	7.2	7.2	7.2
80°	4.8	5.6	5.6	6.4	6.4	6.4	6.4	7.2	7.2	8.0	8.0
82.5°	4.8	5.6	5.6	6.4	6.4	6.4	6.4	7.2	7.2	8.0	8.0
85°	4.8	5.6	5.6	6.4	6.4	6.4	6.4	7.2	7.2	7.2	7.2
87.5°	4.8	5.6	5.6	6.4	6.4	6.4	6.4	6.4	7.2	7.2	7.2
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1
2.5°	661.6	622.3	583.1	563.9	547.0	523.0	492.6	467.7	441.3	427.7	396.5
5°	552.6	485.4	428.5	401.3	380.4	351.6	320.4	297.9	277.9	266.7	246.7
7.5°	427.7	363.6	314.0	293.1	277.9	249.1	225.9	202.6	181.8	166.6	146.6
10°	330.8	281.1	240.3	220.3	203.4	173.0	145.0	123.3	100.9	85.7	79.3
12.5°	262.7	216.3	174.6	154.6	137.0	105.7	84.9	80.9	76.9	75.3	72.9
15°	201.8	159.4	115.3	95.3	88.1	84.1	79.3	78.5	75.3	75.3	72.9
17.5°	151.4	104.1	88.1	86.5	85.7	84.1	81.7	80.9	80.1	80.1	79.3
20°	108.9	100.9	98.5	100.1	100.9	102.5	101.7	101.7	104.9	112.1	110.5
22.5°	153.0	165.8	179.4	184.2	201.8	219.5	235.5	255.5	302.8	357.2	370.0
25°	302.8	341.2	376.4	395.7	424.5	463.7	501.4	547.8	580.7	607.9	639.1
27.5°	376.4	390.9	385.2	387.7	384.4	378.8	380.4	390.1	385.2	370.8	376.4
30°	222.7	233.9	227.5	230.7	221.9	221.9	219.5	224.3	221.1	215.5	213.8
32.5°	145.0	151.4	150.6	150.6	147.4	145.8	140.2	138.6	133.0	122.5	120.1
35°	87.3	83.3	79.3	76.9	75.3	75.3	74.5	74.5	72.1	69.7	68.9
37.5°	47.3	48.1	48.1	48.1	48.1	49.7	48.9	48.9	48.9	47.3	47.3
40°	32.8	34.4	34.4	34.4	35.2	35.2	35.2	36.0	35.2	35.2	35.2
42.5°	25.6	26.4	25.6	25.6	26.4	26.4	26.4	27.2	27.2	27.2	26.4
45°	20.8	20.8	20.0	20.8	20.8	21.6	21.6	21.6	21.6	20.8	20.8
47.5°	16.8	16.8	16.8	16.8	17.6	17.6	17.6	17.6	17.6	17.6	17.6
50°	13.6	13.6	13.6	14.4	14.4	14.4	13.6	14.4	14.4	14.4	13.6
52.5°	10.4	10.4	10.4	10.4	10.4	9.6	9.6	9.6	9.6	9.6	8.8
55°	8.0	8.0	8.0	8.0	8.0	8.8	8.0	8.8	8.0	8.0	7.2
57.5°	7.2	7.2	7.2	7.2	8.0	8.0	7.2	7.2	7.2	6.4	6.4
60°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.4	5.6	5.6
62.5°	8.0	8.0	7.2	7.2	7.2	7.2	6.4	6.4	6.4	5.6	5.6
65°	8.0	8.0	7.2	8.0	8.0	7.2	7.2	6.4	6.4	5.6	5.6
67.5°	8.0	8.0	8.0	8.0	8.0	8.0	7.2	7.2	6.4	6.4	5.6
70°	8.0	8.0	8.0	8.0	8.0	8.0	7.2	7.2	6.4	6.4	5.6
72.5°	8.0	8.0	8.0	8.0	8.0	8.0	7.2	7.2	7.2	6.4	5.6
75°	8.0	8.0	8.0	8.0	8.0	7.2	7.2	7.2	6.4	6.4	5.6
77.5°	8.0	8.0	8.0	8.0	8.0	7.2	7.2	7.2	6.4	6.4	5.6
80°	8.0	8.0	8.0	8.0	8.0	8.0	7.2	7.2	6.4	6.4	5.6
82.5°	8.0	8.0	8.0	8.0	8.0	7.2	7.2	7.2	6.4	6.4	5.6
85°	8.0	7.2	7.2	7.2	7.2	7.2	6.4	6.4	5.6	5.6	4.8
87.5°	7.2	7.2	7.2	7.2	7.2	6.4	6.4	5.6	4.8	4.0	4.0
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: P179929

CATALOG NUMBER: LDA6A55930D010TE LARH30NF 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1
2.5°	396.5	389.3	386.0	380.4	375.6	373.2	364.4	374.8
5°	242.7	233.9	231.5	226.7	221.1	217.9	211.4	217.1
7.5°	138.6	128.1	123.3	119.3	113.7	108.9	103.3	106.5
10°	77.7	74.5	75.3	72.9	72.1	71.3	70.5	72.1
12.5°	72.1	69.7	70.5	68.9	68.1	68.1	67.3	68.1
15°	72.9	70.5	72.1	70.5	69.7	69.7	68.9	70.5
17.5°	79.3	77.7	79.3	77.7	78.5	77.7	78.5	79.3
20°	111.3	113.7	118.5	115.3	117.7	120.9	124.9	124.9
22.5°	391.7	442.9	449.3	475.0	540.6	538.2	582.3	583.9
25°	684.0	687.2	716.0	706.4	707.2	740.9	737.7	756.9
27.5°	393.3	392.5	398.1	387.7	390.9	393.3	384.4	394.9
30°	219.5	215.5	217.9	212.2	212.2	213.8	211.4	216.3
32.5°	121.7	118.5	118.5	114.5	113.7	112.9	110.5	112.9
35°	69.7	67.3	68.1	66.5	64.9	64.1	63.3	64.1
37.5°	48.1	46.5	47.3	45.7	44.1	43.3	42.4	43.3
40°	35.2	34.4	34.4	32.8	32.0	31.2	30.4	30.4
42.5°	26.4	25.6	25.6	24.0	23.2	22.4	21.6	22.4
45°	20.0	19.2	19.2	18.4	17.6	16.8	16.8	16.8
47.5°	17.6	16.8	17.6	16.8	16.0	16.0	16.0	16.0
50°	13.6	13.6	13.6	12.8	12.0	12.0	11.2	10.4
52.5°	8.8	8.0	8.0	7.2	7.2	6.4	6.4	6.4
55°	7.2	6.4	6.4	5.6	5.6	4.8	4.8	4.8
57.5°	5.6	5.6	4.8	4.8	4.0	4.0	4.0	4.0
60°	4.8	4.8	4.8	4.0	4.0	3.2	3.2	3.2
62.5°	4.8	4.0	4.0	4.0	3.2	3.2	3.2	3.2
65°	4.8	4.0	4.0	4.0	3.2	3.2	3.2	3.2
67.5°	4.8	4.0	4.0	4.0	3.2	3.2	3.2	3.2
70°	5.6	4.8	4.8	4.0	4.0	4.0	3.2	3.2
72.5°	5.6	4.8	4.8	4.8	4.0	4.0	4.0	4.0
75°	5.6	4.8	4.8	4.8	4.0	4.0	4.0	4.0
77.5°	5.6	4.8	4.8	4.8	4.0	4.0	4.0	4.0
80°	5.6	4.8	4.8	4.8	4.0	4.0	4.0	4.0
82.5°	4.8	4.8	4.8	4.0	4.0	4.0	4.0	4.0
85°	4.8	4.0	4.0	4.0	3.2	3.2	3.2	3.2
87.5°	3.2	3.2	2.4	2.4	2.4	1.6	1.6	1.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)