

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: P179947

Luminaire Tested: **LDA6A55940D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179947
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26691)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A55940D010TE LARH40FL 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4699.6 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 2.62 / 0.52 / 1.36
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

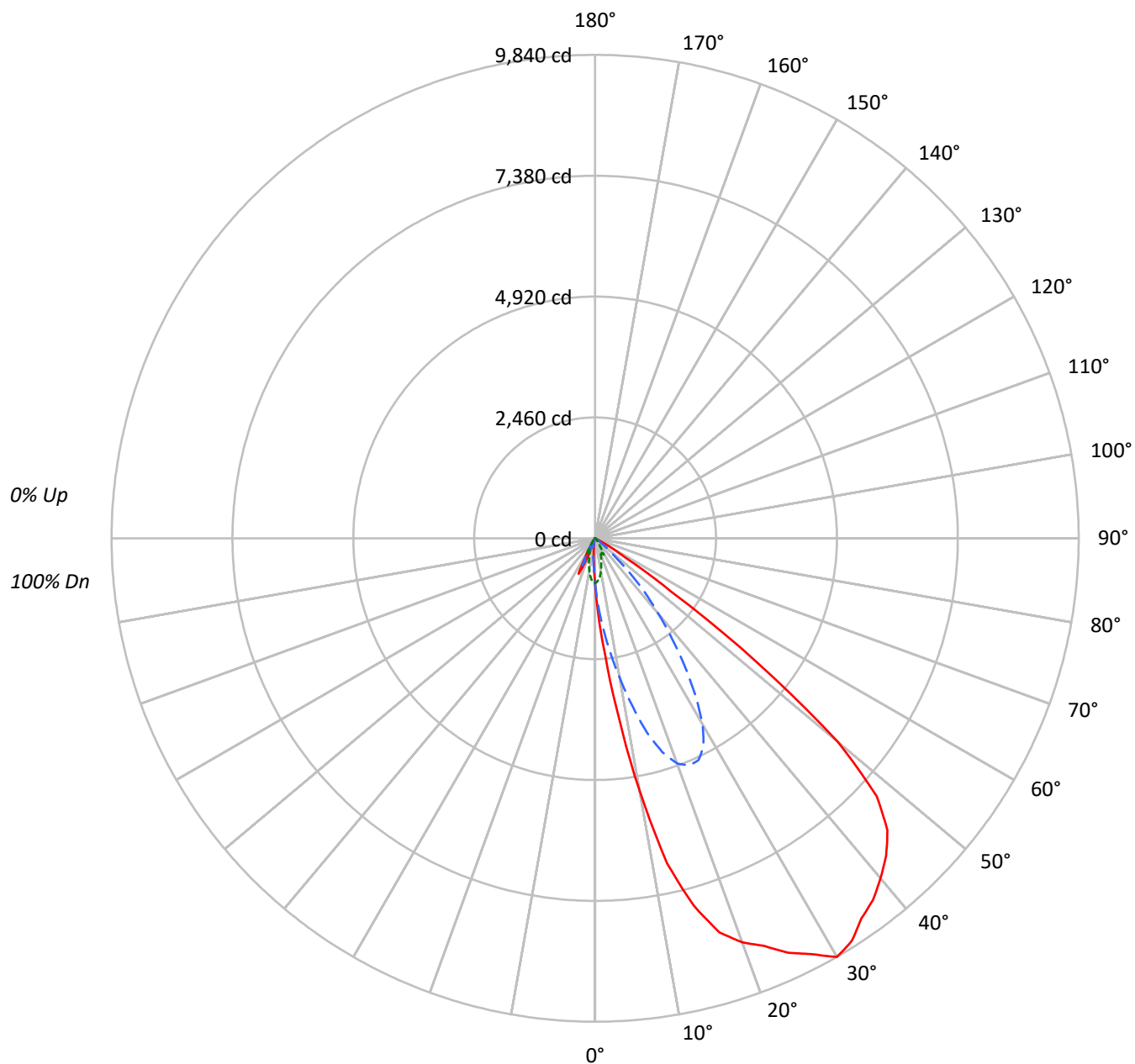
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	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
1	112	109	106	103	110	107	104	102		103	100	98		99	97	95		95	94	93
2	105	99	94	90	103	97	93	89		94	90	87		91	88	85		88	85	83
3	98	90	84	79	96	88	83	78		86	81	77		83	79	76		81	77	74
4	91	82	75	70	89	80	74	69		78	73	68		76	71	67		74	70	67
5	85	74	67	62	83	73	67	61		71	65	61		70	64	60		68	63	60
6	79	68	60	55	77	67	60	55		65	59	54		64	58	54		62	57	54
7	74	62	55	49	72	61	54	49		60	54	49		59	53	49		57	52	48
8	69	57	50	44	67	56	49	44		55	49	44		54	48	44		53	48	44
9	64	52	45	40	63	52	45	40		51	44	40		50	44	40		49	44	40
10	60	48	41	37	59	48	41	36		47	41	36		46	40	36		45	40	36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	50188	50188	50188
5°	133188	46528	17802
10°	290732	37625	5305
15°	438839	27492	4614
20°	510467	18872	7246
25°	562962	20360	48239
30°	622855	15331	15002
35°	632108	7843	5615
40°	646647	3192	2691
45°	652075	1969	1628
50°	549304	1339	1040
55°	181432	918	583
60°	35666	866	384
65°	4203	1129	454
70°	1122	1266	561
75°	191	1673	932
80°	0	2747	1389
85°	0	5472	2201



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.8	2.6
10°-20°	615.2	13.1
20°-30°	1214.3	25.8
30°-40°	1369.7	29.1
40°-50°	1087.4	23.1
50°-60°	265.9	5.7
60°-70°	14.2	0.3
70°-80°	6.0	0.1
80°-90°	5.0	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°	1951.4	41.5
0°-40°	3321.1	70.7
0°-60°	4674.3	99.5
0°-90°	4699.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4699.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	916	916	916	916	916	
5°	2420	1814	846	425	324	320
15°	7732	4110	484	95	81	2169
25°	9307	4982	337	610	798	4311
35°	9445	3171	117	93	84	5940
45°	8411	988	25	26	21	6304
55°	1898	43	10	10	6	2227
65°	32	8	9	7	4	79
75°	1	4	8	7	4	2
85°	0	4	9	6	4	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5
2.5°	1588.8	1558.2	1572.2	1550.3	1488.2	1469.0	1484.7	1461.1	1390.3	1363.2	1335.2
5°	2420.3	2393.2	2402.0	2352.1	2235.8	2195.6	2193.0	2121.3	1977.9	1897.5	1813.5
7.5°	3669.9	3632.3	3621.8	3502.0	3278.1	3194.2	3153.1	2976.5	2706.3	2514.8	2326.8
10°	5222.8	5259.5	5221.9	5027.8	4676.3	4518.9	4419.2	4085.2	3598.2	3233.5	2882.0
12.5°	6780.1	6802.8	6732.0	6490.7	6043.9	5855.0	5708.1	5280.5	4638.7	4019.6	3495.0
15°	7732.3	7839.9	7773.4	7604.7	7258.4	7029.3	6897.3	6369.1	5561.2	4880.9	4109.7
17.5°	8410.9	8510.5	8455.5	8317.3	7926.4	7741.9	7656.3	7221.7	6342.0	5477.2	4569.6
20°	8750.1	8871.7	8821.8	8665.3	8378.5	8224.6	8120.6	7696.5	6903.4	5920.6	4876.5
22.5°	8980.1	9114.8	9060.5	8918.0	8626.0	8446.7	8397.8	7996.4	7197.2	6186.4	5006.8
25°	9307.1	9419.9	9266.9	9091.2	8802.6	8613.7	8584.0	8173.9	7338.0	6286.9	4981.5
27.5°	9541.5	9675.3	9415.6	9237.2	8907.5	8709.0	8670.6	8285.0	7351.1	6207.4	4776.0
30°	9839.6	9753.1	9524.9	9266.0	8914.5	8702.9	8653.9	8220.2	7219.9	5914.5	4373.8
32.5°	9721.6	9700.6	9472.4	9168.1	8840.2	8626.8	8561.3	8020.9	6859.7	5409.0	3804.5
35°	9445.3	9511.7	9321.1	9132.2	8724.8	8502.7	8411.7	7727.1	6316.7	4758.5	3170.6
37.5°	9283.5	9325.5	9204.8	8974.0	8570.0	8278.0	8105.7	7233.0	5605.8	3938.3	2559.4
40°	9036.1	9142.7	9026.4	8761.5	8295.4	7895.0	7595.0	6340.3	4669.3	3105.0	2001.5
42.5°	8765.0	8860.3	8749.3	8431.9	7773.4	7236.5	6738.1	5291.0	3655.9	2372.3	1501.3
45°	8410.9	8496.6	8297.2	7803.2	6871.0	6130.4	5632.9	4155.2	2757.0	1742.7	988.1
47.5°	7772.6	7749.8	7467.4	6699.7	5551.6	4887.9	4309.0	2976.5	1832.7	987.2	491.4
50°	6440.8	6228.4	5813.0	4922.0	3725.8	3008.8	2613.6	1536.3	831.6	478.3	308.7
52.5°	4171.8	3934.8	3554.4	2731.6	1789.0	1435.8	1151.6	694.3	433.7	270.2	121.5
55°	1898.3	1730.4	1487.4	1103.5	767.7	638.3	540.4	351.5	232.6	100.6	42.8
57.5°	723.1	667.2	592.8	473.1	355.0	306.9	254.5	168.8	72.6	37.6	25.4
60°	325.3	301.7	277.2	216.9	152.1	109.3	83.1	45.5	30.6	21.9	16.6
62.5°	111.0	92.7	76.9	55.1	41.1	35.9	31.5	25.4	18.4	14.9	11.4
65°	32.4	31.5	29.7	26.2	21.0	19.2	18.4	14.9	11.4	9.6	7.9
67.5°	15.7	14.9	14.0	13.1	10.5	9.6	9.6	8.7	7.0	6.1	5.2
70°	7.0	7.0	6.1	6.1	5.2	5.2	5.2	4.4	4.4	4.4	4.4
72.5°	3.5	3.5	3.5	2.6	2.6	2.6	2.6	3.5	3.5	4.4	4.4
75°	0.9	1.7	1.7	1.7	1.7	2.6	2.6	3.5	3.5	4.4	4.4
77.5°	0.9	0.9	0.9	1.7	1.7	1.7	2.6	3.5	3.5	4.4	4.4
80°	0.0	0.9	0.9	1.7	1.7	1.7	2.6	2.6	3.5	4.4	4.4
82.5°	0.0	0.9	0.9	1.7	1.7	1.7	2.6	2.6	3.5	4.4	4.4
85°	0.0	0.0	0.9	0.9	1.7	1.7	2.6	2.6	3.5	4.4	4.4
87.5°	0.0	0.0	0.9	0.9	1.7	1.7	2.6	2.6	3.5	4.4	4.4
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5
2.5°	1267.0	1248.6	1176.1	1120.1	1093.9	1092.1	1033.5	997.7	934.7	885.8	839.4
5°	1665.7	1584.4	1437.5	1321.2	1265.3	1236.4	1121.0	1037.9	929.5	845.5	762.5
7.5°	2071.5	1916.7	1710.3	1489.1	1398.2	1342.2	1163.8	1030.9	886.6	769.5	666.3
10°	2486.8	2214.0	1906.2	1614.1	1483.0	1388.5	1159.5	979.3	813.2	675.9	563.1
12.5°	2919.6	2489.4	2061.0	1695.5	1522.3	1398.2	1120.1	904.1	723.1	577.1	469.6
15°	3284.3	2702.8	2158.9	1714.7	1510.1	1359.7	1036.2	808.8	626.9	484.4	386.5
17.5°	3565.8	2822.6	2177.3	1667.5	1441.9	1274.0	927.7	703.9	525.5	399.6	302.5
20°	3707.5	2840.9	2119.5	1555.6	1318.6	1145.5	804.4	597.2	440.7	323.5	240.5
22.5°	3718.0	2755.2	1993.6	1411.3	1183.1	1007.3	703.0	515.0	386.5	290.3	228.2
25°	3581.5	2590.0	1824.9	1263.5	1044.0	885.8	630.4	494.0	389.1	336.6	309.5
27.5°	3322.7	2360.9	1639.5	1115.7	924.2	801.8	600.7	494.0	421.5	380.4	390.0
30°	2964.2	2068.8	1381.6	914.6	752.0	645.3	472.2	369.9	290.3	242.2	233.5
32.5°	2499.0	1692.8	1071.1	675.9	548.2	465.2	319.2	231.7	187.1	182.7	177.5
35°	2056.6	1337.0	813.2	499.3	404.0	328.8	203.7	136.4	124.2	117.2	111.9
37.5°	1624.6	1000.3	584.1	362.9	277.2	209.0	104.9	88.3	76.9	70.0	63.8
40°	1221.5	718.8	411.8	219.5	145.2	90.1	63.0	54.2	48.1	44.6	42.8
42.5°	863.9	478.3	255.3	92.7	69.1	56.8	43.7	38.5	35.0	33.2	31.5
45°	501.9	297.3	103.2	54.2	43.7	39.3	32.4	28.9	27.1	25.4	24.5
47.5°	313.9	119.8	53.3	35.0	30.6	28.0	23.6	22.7	21.0	20.1	20.1
50°	126.8	53.3	33.2	24.5	21.9	21.0	18.4	17.5	15.7	15.7	15.7
52.5°	48.1	31.5	22.7	17.5	15.7	14.9	13.1	13.1	12.2	12.2	12.2
55°	28.0	21.0	15.7	12.2	11.4	11.4	10.5	10.5	9.6	9.6	9.6
57.5°	18.4	14.0	11.4	8.7	8.7	8.7	7.9	7.9	7.9	7.9	7.9
60°	12.2	9.6	7.9	7.0	7.0	7.0	7.0	7.9	7.9	7.9	7.9
62.5°	8.7	7.9	7.0	7.0	7.0	7.0	7.0	7.9	7.9	7.9	8.7
65°	7.0	6.1	6.1	6.1	6.1	7.0	7.0	7.9	7.9	8.7	8.7
67.5°	5.2	5.2	5.2	5.2	6.1	6.1	7.0	7.9	7.9	7.9	8.7
70°	4.4	5.2	5.2	6.1	6.1	6.1	7.0	7.0	7.9	7.9	8.7
72.5°	4.4	5.2	5.2	6.1	6.1	6.1	7.0	7.9	7.9	7.9	8.7
75°	4.4	5.2	5.2	6.1	6.1	6.1	7.0	7.9	7.9	7.9	8.7
77.5°	5.2	5.2	6.1	6.1	6.1	7.0	7.0	7.9	7.9	8.7	8.7
80°	5.2	5.2	6.1	6.1	6.1	7.0	7.0	7.9	7.9	8.7	8.7
82.5°	5.2	5.2	6.1	6.1	6.1	7.0	7.0	7.9	7.9	8.7	8.7
85°	5.2	5.2	6.1	6.1	6.1	7.0	7.0	7.9	7.9	8.7	8.7
87.5°	5.2	5.2	6.1	6.1	6.1	7.0	7.0	7.9	7.9	7.9	8.7
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5
2.5°	816.7	776.5	732.7	718.8	704.8	677.7	661.0	631.3	609.5	587.6	570.1
5°	707.4	643.6	590.2	567.5	545.6	508.0	481.8	450.3	425.0	403.1	383.0
7.5°	593.7	520.3	466.9	444.2	422.3	381.2	348.0	308.7	278.9	254.5	234.3
10°	488.8	418.8	361.1	334.0	308.7	265.8	234.3	202.9	177.5	156.5	138.2
12.5°	397.9	322.7	264.1	244.0	219.5	184.5	154.8	120.7	105.8	99.7	95.3
15°	308.7	241.3	192.4	174.0	152.1	118.9	105.8	99.7	95.3	92.7	89.2
17.5°	235.2	179.3	131.2	118.9	111.9	104.9	101.4	97.1	94.4	93.6	90.9
20°	184.5	135.5	123.3	119.8	119.8	118.0	115.4	115.4	114.5	117.2	117.2
22.5°	189.7	189.7	200.2	199.4	213.4	227.3	237.8	271.9	291.2	332.3	360.3
25°	331.4	362.9	399.6	411.0	438.1	478.3	520.3	572.7	609.5	648.8	664.5
27.5°	413.6	418.8	413.6	426.7	409.2	398.7	402.2	408.3	408.3	411.0	421.5
30°	244.8	257.1	268.4	277.2	272.8	268.4	266.7	253.6	253.6	248.3	244.0
32.5°	166.1	164.4	162.6	166.1	162.6	162.6	160.0	160.9	155.6	152.1	150.4
35°	113.7	108.4	102.3	103.2	99.7	98.8	96.2	96.2	92.7	90.9	90.1
37.5°	63.0	63.0	60.3	61.2	60.3	60.3	60.3	61.2	60.3	60.3	61.2
40°	42.8	42.8	42.0	42.8	42.0	42.8	43.7	43.7	43.7	43.7	42.8
42.5°	32.4	32.4	31.5	32.4	31.5	32.4	33.2	33.2	33.2	33.2	33.2
45°	25.4	25.4	25.4	25.4	25.4	25.4	25.4	26.2	26.2	25.4	25.4
47.5°	20.1	21.0	20.1	20.1	20.1	20.1	21.0	21.0	20.1	20.1	20.1
50°	16.6	16.6	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
52.5°	13.1	12.2	12.2	11.4	11.4	11.4	11.4	11.4	11.4	11.4	10.5
55°	9.6	9.6	8.7	8.7	8.7	9.6	9.6	9.6	9.6	8.7	8.7
57.5°	8.7	8.7	8.7	7.9	7.9	8.7	8.7	7.9	7.9	7.9	7.0
60°	7.9	8.7	7.9	7.9	7.9	7.9	7.9	7.0	7.0	7.0	6.1
62.5°	8.7	8.7	7.9	7.9	7.9	7.9	7.0	7.0	7.0	6.1	6.1
65°	8.7	8.7	8.7	7.9	7.9	7.9	7.9	7.0	7.0	6.1	6.1
67.5°	8.7	8.7	8.7	8.7	7.9	7.9	7.9	7.0	7.0	7.0	6.1
70°	8.7	8.7	8.7	8.7	8.7	7.9	7.9	7.9	7.0	7.0	6.1
72.5°	8.7	8.7	8.7	7.9	7.9	7.9	7.9	7.9	7.0	7.0	6.1
75°	8.7	8.7	8.7	7.9	7.9	7.9	7.9	7.0	7.0	7.0	6.1
77.5°	8.7	8.7	8.7	7.9	7.9	7.9	7.9	7.0	7.0	7.0	6.1
80°	8.7	8.7	8.7	7.9	7.9	7.9	7.9	7.0	7.0	7.0	6.1
82.5°	8.7	8.7	8.7	7.9	7.9	7.9	7.9	7.0	7.0	6.1	6.1
85°	8.7	8.7	7.9	7.9	7.9	7.9	7.0	7.0	6.1	6.1	5.2
87.5°	7.9	7.9	7.9	7.9	7.0	7.0	7.0	6.1	5.2	5.2	4.4
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: P179947

CATALOG NUMBER: LDA6A55940D010TE LARH40FL 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	915.5	915.5	915.5	915.5	915.5	915.5	915.5	915.5
2.5°	549.1	545.6	543.0	548.2	546.5	524.6	527.3	526.4
5°	360.3	352.4	346.3	348.9	341.9	332.3	325.3	323.5
7.5°	214.2	205.5	200.2	195.0	193.2	181.0	175.8	179.3
10°	118.0	105.8	104.9	102.3	98.8	96.2	94.4	95.3
12.5°	90.9	90.1	88.3	87.4	85.7	84.8	83.9	83.1
15°	86.6	85.7	84.8	83.9	83.1	82.2	81.3	81.3
17.5°	89.2	89.2	88.3	87.4	87.4	88.3	87.4	86.6
20°	116.3	116.3	118.0	120.7	120.7	123.3	126.8	124.2
22.5°	377.7	397.0	420.6	427.6	468.7	501.9	563.1	536.0
25°	690.8	734.5	745.0	759.9	782.6	794.0	782.6	797.5
27.5°	419.7	434.6	436.3	437.2	442.4	441.6	430.2	437.2
30°	244.0	249.2	247.5	246.6	244.8	235.2	233.5	237.0
32.5°	153.0	151.3	150.4	149.5	149.5	144.3	146.9	145.2
35°	87.4	90.1	89.2	88.3	85.7	84.8	84.8	83.9
37.5°	58.6	59.5	58.6	57.7	56.0	55.1	54.2	53.3
40°	42.0	42.8	42.0	41.1	40.2	39.3	38.5	37.6
42.5°	31.5	32.4	31.5	31.5	29.7	28.9	28.0	27.1
45°	24.5	23.6	23.6	23.6	22.7	21.9	21.0	21.0
47.5°	20.1	20.1	20.1	19.2	18.4	18.4	18.4	17.5
50°	14.9	15.7	14.9	14.9	14.0	13.1	13.1	12.2
52.5°	10.5	10.5	9.6	9.6	8.7	7.9	7.9	7.9
55°	7.9	7.9	7.9	7.0	7.0	6.1	6.1	6.1
57.5°	7.0	6.1	6.1	6.1	5.2	5.2	4.4	4.4
60°	6.1	5.2	5.2	4.4	4.4	3.5	3.5	3.5
62.5°	5.2	4.4	4.4	4.4	3.5	3.5	3.5	3.5
65°	5.2	4.4	4.4	4.4	3.5	3.5	3.5	3.5
67.5°	5.2	5.2	4.4	4.4	4.4	3.5	3.5	3.5
70°	5.2	5.2	5.2	4.4	4.4	4.4	3.5	3.5
72.5°	6.1	5.2	5.2	5.2	4.4	4.4	4.4	4.4
75°	6.1	5.2	5.2	5.2	4.4	4.4	4.4	4.4
77.5°	6.1	5.2	5.2	5.2	4.4	4.4	4.4	4.4
80°	5.2	5.2	5.2	4.4	4.4	4.4	4.4	4.4
82.5°	5.2	5.2	5.2	5.2	4.4	4.4	4.4	4.4
85°	5.2	4.4	4.4	4.4	3.5	3.5	3.5	3.5
87.5°	4.4	3.5	3.5	2.6	2.6	2.6	1.7	1.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)