

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: P179941

Luminaire Tested: **LDA6A55830D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179941
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: LDA6A55830D010TE LARH40FL 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5180.1 lumens
Efficiency: N/A
Efficacy: 84.9 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

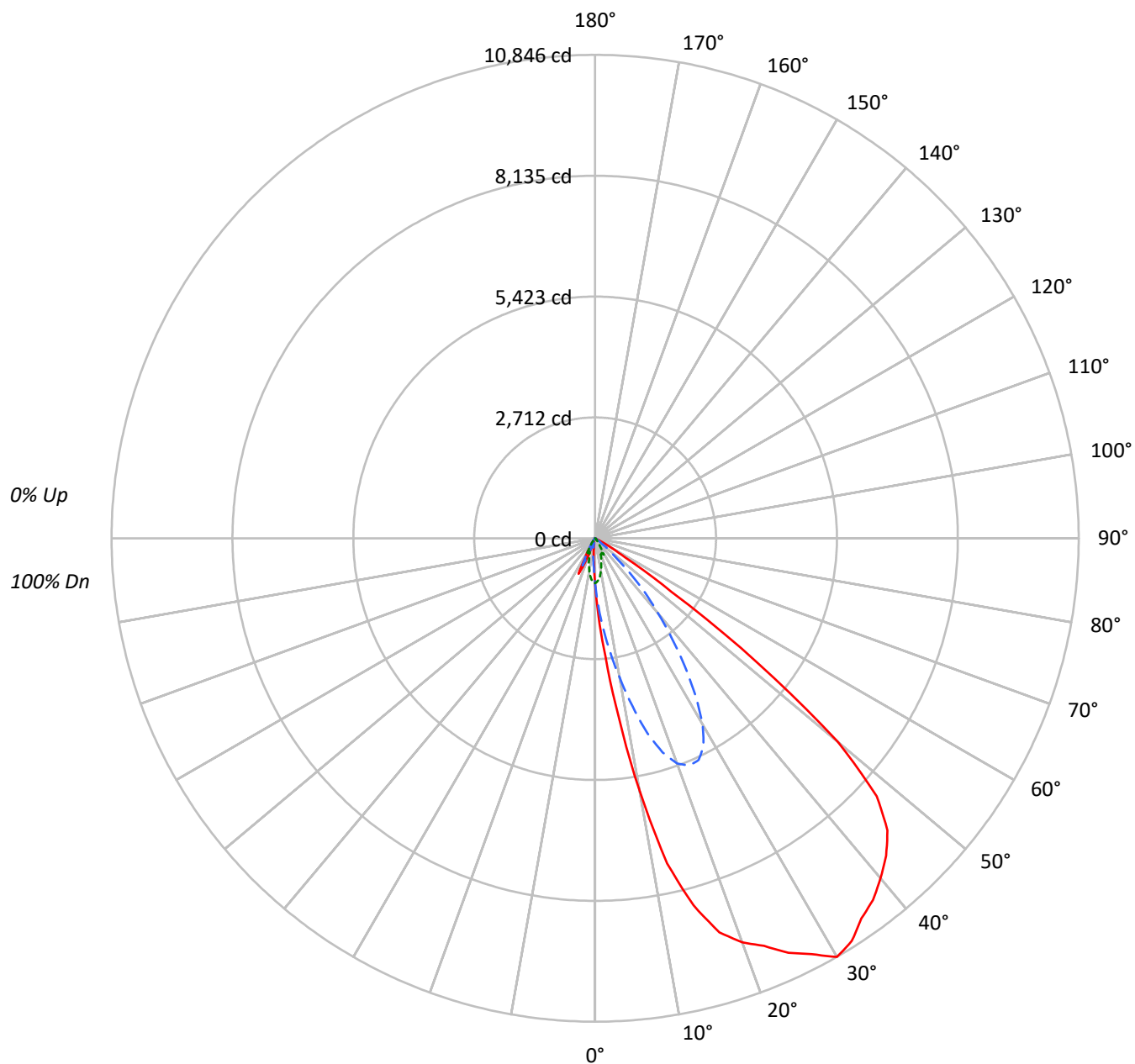
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	55319	55319	55319
5°	146808	51288	19624
10°	320457	41471	5850
15°	483709	30301	5085
20°	562656	20803	7987
25°	620522	22447	53168
30°	686536	16901	16534
35°	696736	8640	6190
40°	712757	3521	2963
45°	718741	2171	1791
50°	605464	1475	1151
55°	199983	1013	640
60°	39306	954	428
65°	4631	1245	506
70°	1234	1394	625
75°	212	1843	1017
80°	0	3031	1515
85°	0	6038	2453



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.3	2.6
10°-20°	678.1	13.1
20°-30°	1338.5	25.8
30°-40°	1509.8	29.1
40°-50°	1198.6	23.1
50°-60°	293.0	5.7
60°-70°	15.6	0.3
70°-80°	6.7	0.1
80°-90°	5.5	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°	2150.9	41.5
0°-40°	3660.6	70.7
0°-60°	5152.2	99.5
0°-90°	5180.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5180.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1009	1009	1009	1009	1009	
5°	2668	1999	932	468	357	352
15°	8523	4530	534	105	90	2391
25°	10259	5491	371	672	879	4751
35°	10411	3495	129	102	92	6547
45°	9271	1089	28	29	23	6948
55°	2092	47	11	11	7	2455
65°	36	9	10	8	4	87
75°	1	5	9	8	5	3
85°	0	5	10	7	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°	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1
2.5°	1751.2	1717.5	1732.9	1708.8	1640.4	1619.2	1636.5	1610.5	1532.4	1502.6	1471.7
5°	2667.8	2637.9	2647.6	2592.6	2464.4	2420.1	2417.2	2338.2	2180.1	2091.4	1998.9
7.5°	4045.1	4003.6	3992.1	3860.0	3613.3	3520.8	3475.5	3280.8	2983.0	2771.9	2564.7
10°	5756.8	5797.3	5755.8	5541.8	5154.4	4980.9	4871.0	4502.9	3966.0	3564.1	3176.7
12.5°	7473.3	7498.4	7420.3	7154.3	6661.8	6453.6	6291.7	5820.4	5113.0	4430.6	3852.3
15°	8522.9	8641.4	8568.2	8382.2	8000.5	7748.0	7602.5	7020.3	6129.8	5379.9	4529.9
17.5°	9270.8	9380.7	9319.9	9167.7	8736.8	8533.5	8439.0	7960.0	6990.4	6037.2	5036.8
20°	9644.7	9778.7	9723.8	9551.3	9235.1	9065.5	8950.8	8483.4	7609.2	6525.9	5375.1
22.5°	9898.2	10046.6	9986.9	9829.8	9507.9	9310.3	9256.3	8813.9	7933.0	6818.9	5518.7
25°	10258.7	10383.0	10214.4	10020.6	9702.6	9494.4	9461.6	9009.6	8088.2	6929.7	5490.8
27.5°	10517.0	10664.4	10378.2	10181.6	9818.2	9599.4	9557.0	9132.0	8102.7	6842.0	5264.3
30°	10845.6	10750.2	10498.7	10213.4	9825.9	9592.7	9538.7	9060.7	7958.1	6519.1	4820.9
32.5°	10715.5	10692.4	10440.8	10105.4	9744.0	9508.8	9436.6	8840.9	7561.0	5962.1	4193.5
35°	10411.0	10484.2	10274.1	10065.9	9616.8	9372.0	9271.8	8517.1	6962.5	5245.0	3494.7
37.5°	10232.7	10278.9	10145.9	9891.5	9446.2	9124.3	8934.4	7972.6	6178.9	4341.0	2821.0
40°	9959.9	10077.5	9949.3	9657.3	9143.6	8702.1	8371.6	6988.5	5146.7	3422.5	2206.1
42.5°	9661.1	9766.2	9643.8	9293.9	8568.2	7976.4	7427.0	5832.0	4029.6	2614.8	1654.8
45°	9270.8	9365.2	9145.5	8601.0	7573.5	6757.2	6208.8	4580.0	3038.9	1920.9	1089.1
47.5°	8567.2	8542.2	8230.9	7384.6	6119.2	5387.6	4749.6	3280.8	2020.1	1088.1	541.7
50°	7099.3	6865.1	6407.3	5425.2	4106.8	3316.4	2880.8	1693.4	916.6	527.2	340.2
52.5°	4598.3	4337.1	3917.8	3010.9	1971.9	1582.6	1269.3	765.3	478.0	297.8	134.0
55°	2092.4	1907.4	1639.4	1216.3	846.2	703.6	595.6	387.4	256.4	110.8	47.2
57.5°	797.1	735.4	653.5	521.4	391.3	338.3	280.5	186.0	80.0	41.4	28.0
60°	358.5	332.5	305.5	239.0	167.7	120.5	91.6	50.1	33.7	24.1	18.3
62.5°	122.4	102.2	84.8	60.7	45.3	39.5	34.7	28.0	20.2	16.4	12.5
65°	35.7	34.7	32.8	28.9	23.1	21.2	20.2	16.4	12.5	10.6	8.7
67.5°	17.3	16.4	15.4	14.5	11.6	10.6	10.6	9.6	7.7	6.7	5.8
70°	7.7	7.7	6.7	6.7	5.8	5.8	5.8	4.8	4.8	4.8	4.8
72.5°	3.9	3.9	3.9	2.9	2.9	2.9	2.9	3.9	3.9	4.8	4.8
75°	1.0	1.9	1.9	1.9	1.9	2.9	2.9	3.9	3.9	4.8	4.8
77.5°	1.0	1.0	1.0	1.9	1.9	1.9	2.9	3.9	3.9	4.8	4.8
80°	0.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	3.9	4.8	4.8
82.5°	0.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	3.9	4.8	4.8
85°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.9	4.8	4.8
87.5°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.9	4.8	4.8
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°	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1
2.5°	1396.5	1376.3	1296.3	1234.6	1205.7	1203.8	1139.2	1099.7	1030.3	976.3	925.2
5°	1836.0	1746.4	1584.5	1456.3	1394.6	1362.8	1235.6	1144.0	1024.5	932.0	840.4
7.5°	2283.2	2112.6	1885.2	1641.4	1541.1	1479.4	1282.8	1136.3	977.3	848.1	734.4
10°	2741.0	2440.3	2101.1	1779.2	1634.6	1530.5	1278.0	1079.5	896.3	745.0	620.7
12.5°	3218.1	2743.9	2271.7	1868.8	1678.0	1541.1	1234.6	996.6	797.1	636.1	517.6
15°	3620.0	2979.1	2379.6	1890.0	1664.5	1498.7	1142.1	891.5	691.0	533.9	426.0
17.5°	3930.4	3111.1	2399.9	1838.0	1589.3	1404.3	1022.6	775.9	579.2	440.5	333.5
20°	4086.5	3131.4	2336.3	1714.6	1453.4	1262.6	886.7	658.3	485.8	356.6	265.0
22.5°	4098.1	3036.9	2197.5	1555.6	1304.0	1110.3	774.9	567.7	426.0	320.0	251.6
25°	3947.7	2854.8	2011.5	1392.7	1150.8	976.3	694.9	544.5	428.9	371.1	341.2
27.5°	3662.4	2602.3	1807.1	1229.8	1018.7	883.8	662.1	544.5	464.6	419.3	429.9
30°	3267.3	2280.4	1522.8	1008.1	828.9	711.3	520.5	407.7	320.0	267.0	257.3
32.5°	2754.5	1865.9	1180.7	745.0	604.3	512.7	351.8	255.4	206.3	201.4	195.7
35°	2266.9	1473.7	896.3	550.3	445.3	362.4	224.6	150.4	136.9	129.1	123.4
37.5°	1790.7	1102.6	643.8	400.0	305.5	230.3	115.7	97.3	84.8	77.1	70.4
40°	1346.4	792.2	453.9	241.9	160.0	99.3	69.4	59.8	53.0	49.2	47.2
42.5°	952.2	527.2	281.4	102.2	76.1	62.6	48.2	42.4	38.6	36.6	34.7
45°	553.2	327.7	113.7	59.8	48.2	43.4	35.7	31.8	29.9	28.0	27.0
47.5°	346.0	132.0	58.8	38.6	33.7	30.8	26.0	25.1	23.1	22.2	22.2
50°	139.8	58.8	36.6	27.0	24.1	23.1	20.2	19.3	17.3	17.3	17.3
52.5°	53.0	34.7	25.1	19.3	17.3	16.4	14.5	14.5	13.5	13.5	13.5
55°	30.8	23.1	17.3	13.5	12.5	12.5	11.6	11.6	10.6	10.6	10.6
57.5°	20.2	15.4	12.5	9.6	9.6	9.6	8.7	8.7	8.7	8.7	8.7
60°	13.5	10.6	8.7	7.7	7.7	7.7	7.7	8.7	8.7	8.7	8.7
62.5°	9.6	8.7	7.7	7.7	7.7	7.7	7.7	8.7	8.7	8.7	9.6
65°	7.7	6.7	6.7	6.7	6.7	7.7	7.7	8.7	8.7	9.6	9.6
67.5°	5.8	5.8	5.8	5.8	6.7	6.7	7.7	8.7	8.7	8.7	9.6
70°	4.8	5.8	5.8	6.7	6.7	6.7	7.7	7.7	8.7	8.7	9.6
72.5°	4.8	5.8	5.8	6.7	6.7	6.7	7.7	8.7	8.7	8.7	9.6
75°	4.8	5.8	5.8	6.7	6.7	6.7	7.7	8.7	8.7	8.7	9.6
77.5°	5.8	5.8	6.7	6.7	6.7	7.7	7.7	8.7	8.7	9.6	9.6
80°	5.8	5.8	6.7	6.7	6.7	7.7	7.7	8.7	8.7	9.6	9.6
82.5°	5.8	5.8	6.7	6.7	6.7	7.7	7.7	8.7	8.7	9.6	9.6
85°	5.8	5.8	6.7	6.7	6.7	7.7	7.7	8.7	8.7	9.6	9.6
87.5°	5.8	5.8	6.7	6.7	6.7	7.7	7.7	8.7	8.7	8.7	9.6
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°	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1
2.5°	900.2	855.9	807.7	792.2	776.8	746.9	728.6	695.9	671.8	647.7	628.4
5°	779.7	709.4	650.6	625.5	601.4	560.0	531.1	496.4	468.4	444.3	422.1
7.5°	654.4	573.5	514.7	489.6	465.5	420.2	383.6	340.2	307.5	280.5	258.3
10°	538.8	461.7	398.0	368.2	340.2	293.0	258.3	223.6	195.7	172.5	152.3
12.5°	438.5	355.6	291.1	268.9	241.9	203.4	170.6	133.0	116.6	109.9	105.1
15°	340.2	266.0	212.0	191.8	167.7	131.1	116.6	109.9	105.1	102.2	98.3
17.5°	259.3	197.6	144.6	131.1	123.4	115.7	111.8	107.0	104.1	103.1	100.2
20°	203.4	149.4	135.9	132.0	132.0	130.1	127.2	127.2	126.3	129.1	129.1
22.5°	209.1	209.1	220.7	219.7	235.2	250.6	262.2	299.7	320.9	366.2	397.1
25°	365.3	400.0	440.5	453.0	482.9	527.2	573.5	631.3	671.8	715.1	732.5
27.5°	455.9	461.7	455.9	470.3	451.1	439.5	443.3	450.1	450.1	453.0	464.6
30°	269.9	283.4	295.9	305.5	300.7	295.9	294.0	279.5	279.5	273.7	268.9
32.5°	183.1	181.2	179.3	183.1	179.3	179.3	176.4	177.3	171.6	167.7	165.8
35°	125.3	119.5	112.8	113.7	109.9	108.9	106.0	106.0	102.2	100.2	99.3
37.5°	69.4	69.4	66.5	67.5	66.5	66.5	66.5	67.5	66.5	66.5	67.5
40°	47.2	47.2	46.3	47.2	46.3	47.2	48.2	48.2	48.2	48.2	47.2
42.5°	35.7	35.7	34.7	35.7	34.7	35.7	36.6	36.6	36.6	36.6	36.6
45°	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.9	28.9	28.0	28.0
47.5°	22.2	23.1	22.2	22.2	22.2	22.2	23.1	23.1	22.2	22.2	22.2
50°	18.3	18.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
52.5°	14.5	13.5	13.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	11.6
55°	10.6	10.6	9.6	9.6	9.6	10.6	10.6	10.6	10.6	9.6	9.6
57.5°	9.6	9.6	9.6	8.7	8.7	9.6	9.6	8.7	8.7	8.7	7.7
60°	8.7	9.6	8.7	8.7	8.7	8.7	8.7	7.7	7.7	7.7	6.7
62.5°	9.6	9.6	8.7	8.7	8.7	8.7	7.7	7.7	7.7	6.7	6.7
65°	9.6	9.6	9.6	8.7	8.7	8.7	8.7	7.7	7.7	6.7	6.7
67.5°	9.6	9.6	9.6	9.6	8.7	8.7	8.7	7.7	7.7	7.7	6.7
70°	9.6	9.6	9.6	9.6	9.6	8.7	8.7	8.7	7.7	7.7	6.7
72.5°	9.6	9.6	9.6	8.7	8.7	8.7	8.7	8.7	7.7	7.7	6.7
75°	9.6	9.6	9.6	8.7	8.7	8.7	8.7	7.7	7.7	7.7	6.7
77.5°	9.6	9.6	9.6	8.7	8.7	8.7	8.7	7.7	7.7	7.7	6.7
80°	9.6	9.6	9.6	8.7	8.7	8.7	8.7	7.7	7.7	7.7	6.7
82.5°	9.6	9.6	9.6	8.7	8.7	8.7	8.7	7.7	7.7	6.7	6.7
85°	9.6	9.6	8.7	8.7	8.7	8.7	7.7	7.7	6.7	6.7	5.8
87.5°	8.7	8.7	8.7	8.7	7.7	7.7	7.7	6.7	5.8	5.8	4.8
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: P179941

CATALOG NUMBER: LDA6A55830D010TE LARH40FL 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1	1009.1
2.5°	605.3	601.4	598.5	604.3	602.4	578.3	581.2	580.2
5°	397.1	388.4	381.7	384.6	376.8	366.2	358.5	356.6
7.5°	236.1	226.5	220.7	214.9	213.0	199.5	193.7	197.6
10°	130.1	116.6	115.7	112.8	108.9	106.0	104.1	105.1
12.5°	100.2	99.3	97.3	96.4	94.5	93.5	92.5	91.6
15°	95.4	94.5	93.5	92.5	91.6	90.6	89.6	89.6
17.5°	98.3	98.3	97.3	96.4	96.4	97.3	96.4	95.4
20°	128.2	128.2	130.1	133.0	133.0	135.9	139.8	136.9
22.5°	416.4	437.6	463.6	471.3	516.6	553.2	620.7	590.8
25°	761.4	809.6	821.2	837.5	862.6	875.1	862.6	879.0
27.5°	462.6	479.0	480.9	481.9	487.7	486.7	474.2	481.9
30°	268.9	274.7	272.8	271.8	269.9	259.3	257.3	261.2
32.5°	168.7	166.7	165.8	164.8	164.8	159.0	161.9	160.0
35°	96.4	99.3	98.3	97.3	94.5	93.5	93.5	92.5
37.5°	64.6	65.5	64.6	63.6	61.7	60.7	59.8	58.8
40°	46.3	47.2	46.3	45.3	44.3	43.4	42.4	41.4
42.5°	34.7	35.7	34.7	34.7	32.8	31.8	30.8	29.9
45°	27.0	26.0	26.0	26.0	25.1	24.1	23.1	23.1
47.5°	22.2	22.2	22.2	21.2	20.2	20.2	20.2	19.3
50°	16.4	17.3	16.4	16.4	15.4	14.5	14.5	13.5
52.5°	11.6	11.6	10.6	10.6	9.6	8.7	8.7	8.7
55°	8.7	8.7	8.7	7.7	7.7	6.7	6.7	6.7
57.5°	7.7	6.7	6.7	6.7	5.8	5.8	4.8	4.8
60°	6.7	5.8	5.8	4.8	4.8	3.9	3.9	3.9
62.5°	5.8	4.8	4.8	4.8	3.9	3.9	3.9	3.9
65°	5.8	4.8	4.8	4.8	3.9	3.9	3.9	3.9
67.5°	5.8	5.8	4.8	4.8	4.8	3.9	3.9	3.9
70°	5.8	5.8	5.8	4.8	4.8	4.8	3.9	3.9
72.5°	6.7	5.8	5.8	5.8	4.8	4.8	4.8	4.8
75°	6.7	5.8	5.8	5.8	4.8	4.8	4.8	4.8
77.5°	6.7	5.8	5.8	5.8	4.8	4.8	4.8	4.8
80°	5.8	5.8	5.8	4.8	4.8	4.8	4.8	4.8
82.5°	5.8	5.8	5.8	5.8	4.8	4.8	4.8	4.8
85°	5.8	4.8	4.8	4.8	3.9	3.9	3.9	3.9
87.5°	4.8	3.9	3.9	2.9	2.9	2.9	1.9	1.9
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)