

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: P179899

Luminaire Tested: **LDA6A55940D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179899
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26688)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A55940D010TE LARH40FL 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, 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: 5057.2 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Spacing Criteria (0/90/45): 2.63 / 0.54 / 1.37
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

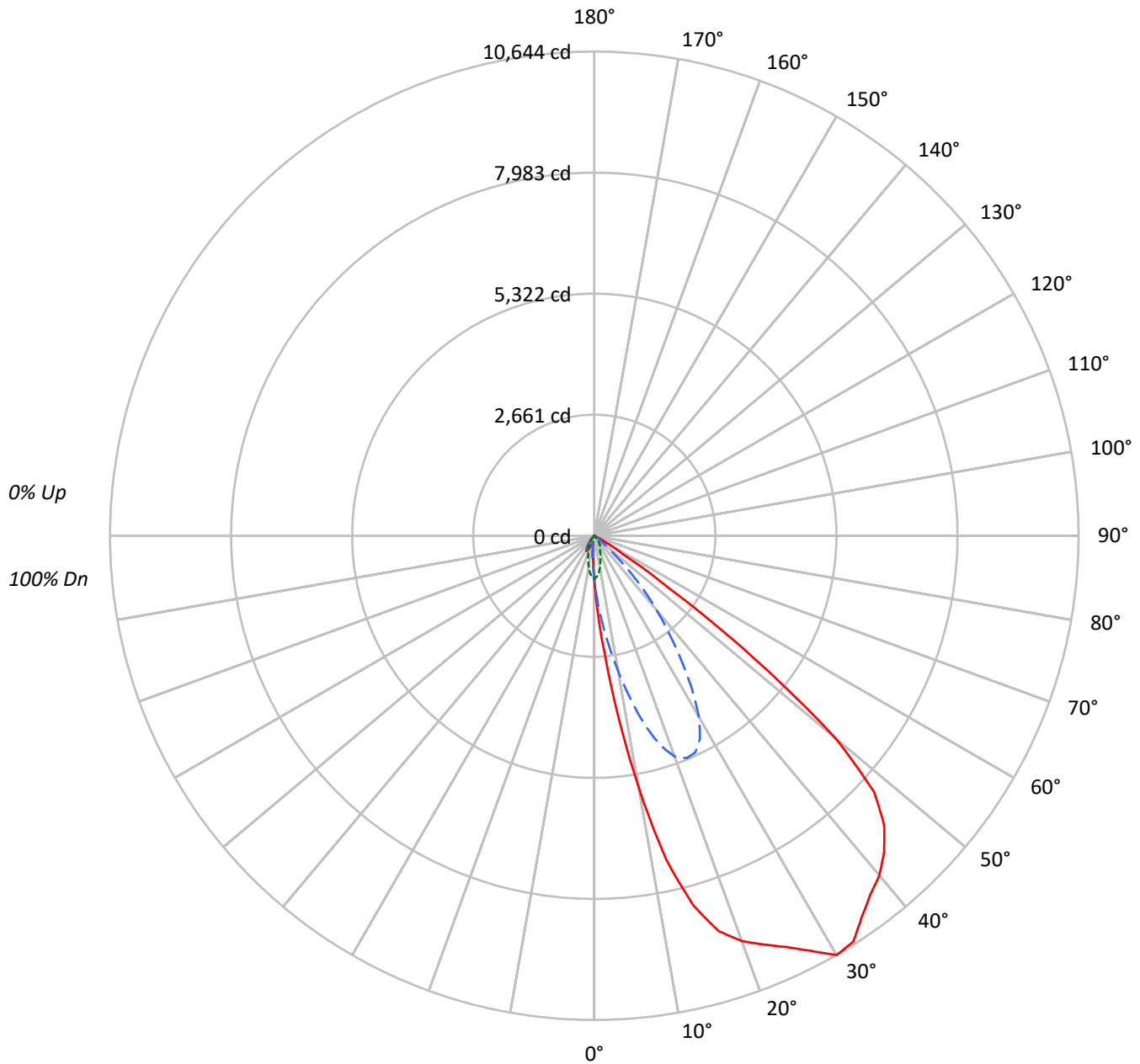
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	112	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91		
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	85	83	81		
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73		
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65		
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58		
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52		
7	74	62	55	49	72	61	54	49	60	53	49	59	53	49	57	52	48	46		
8	69	57	49	44	67	56	49	44	55	49	44	54	48	44	53	47	44	42		
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	43	39	38		
10	60	48	41	36	59	48	41	36	47	41	36	46	40	36	45	40	36	34		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	51959	51959	51959
5°	142615	47876	19535
10°	312519	39183	7448
15°	477375	29824	8734
20°	553083	22186	13570
25°	603337	18249	21896
30°	673743	16547	22358
35°	685500	11350	15332
40°	697543	5382	7757
45°	698677	2241	3388
50°	590667	972	1040
55°	190196	669	162
60°	37771	767	0
65°	3853	908	0
70°	417	1266	0
75°	0	1673	0
80°	0	2747	284
85°	0	5472	566



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.7	2.5
10°-20°	665.4	13.2
20°-30°	1274.1	25.2
30°-40°	1501.1	29.7
40°-50°	1179.0	23.3
50°-60°	287.3	5.7
60°-70°	12.3	0.2
70°-80°	4.6	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°	2068.2	40.9
0°-40°	3569.2	70.6
0°-60°	5035.6	99.6
0°-90°	5057.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5057.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	948	948	948	948	948	
5°	2592	1876	870	456	355	343
15°	8411	4320	526	150	154	2348
25°	9975	5253	302	316	362	4649
35°	10243	3321	170	219	229	6423
45°	9012	1026	29	40	44	6771
55°	1990	38	7	4	2	2369
65°	30	4	7	4	0	79
75°	0	4	8	5	0	0
85°	0	5	9	5	1	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°	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8
2.5°	1624.6	1621.1	1597.4	1619.3	1552.9	1550.2	1520.5	1507.4	1468.9	1432.2	1379.7
5°	2591.6	2534.8	2488.4	2490.2	2362.5	2338.9	2272.4	2205.1	2101.9	2005.8	1875.5
7.5°	3950.3	3883.0	3785.1	3744.0	3500.0	3428.3	3291.1	3111.8	2887.1	2663.3	2422.0
10°	5614.2	5624.7	5497.9	5380.8	5011.8	4866.7	4644.6	4291.3	3865.5	3445.0	3017.4
12.5°	7288.6	7281.6	7130.4	6952.9	6498.2	6293.6	5998.1	5557.4	4993.4	4341.2	3672.3
15°	8411.3	8461.1	8397.3	8255.7	7867.4	7633.1	7300.0	6701.9	6014.7	5222.5	4320.2
17.5°	9116.0	9163.2	9140.5	9029.5	8686.7	8436.6	8158.6	7669.0	6874.2	5878.3	4830.8
20°	9480.6	9554.9	9544.5	9423.8	9165.0	8957.8	8650.9	8197.1	7509.0	6333.8	5161.3
22.5°	9723.7	9780.5	9796.3	9659.9	9392.3	9195.6	8970.9	8511.0	7863.9	6611.9	5292.5
25°	9974.6	10075.2	9976.4	9808.5	9562.8	9374.0	9134.4	8693.7	8033.6	6725.5	5253.1
27.5°	10282.4	10330.5	10106.7	9953.7	9680.9	9476.3	9221.8	8799.5	8063.3	6634.6	5028.4
30°	10643.5	10444.2	10287.7	9984.3	9674.7	9475.4	9216.6	8733.1	7906.8	6333.0	4593.0
32.5°	10584.1	10401.3	10223.8	9902.9	9596.9	9399.3	9110.8	8511.8	7536.9	5828.4	3992.3
35°	10243.1	10282.4	10090.9	9825.1	9478.9	9275.2	8960.4	8197.1	6909.2	5132.5	3320.8
37.5°	9955.4	10042.0	9916.9	9671.2	9319.7	9044.3	8619.4	7691.7	6089.9	4249.4	2684.3
40°	9747.3	9775.3	9708.0	9432.5	9010.2	8612.4	8121.0	6784.1	5094.9	3335.7	2118.6
42.5°	9424.7	9499.0	9380.1	9079.3	8439.3	7989.0	7277.3	5735.8	3957.3	2547.9	1594.8
45°	9012.0	9082.8	8935.9	8435.8	7545.7	6885.5	6017.3	4472.3	2927.3	1878.1	1026.5
47.5°	8338.7	8382.4	8098.3	7406.7	6112.6	5490.9	4600.9	3117.9	1886.0	1050.1	499.3
50°	6925.8	6904.8	6319.0	5468.2	4088.5	3436.2	2738.5	1690.1	847.2	497.5	312.1
52.5°	4463.6	4415.5	3835.8	3062.0	2070.5	1580.0	1187.4	729.2	441.5	278.0	123.3
55°	1990.0	1971.7	1614.1	1253.8	847.2	729.2	557.0	357.6	235.2	97.1	37.6
57.5°	738.0	721.3	635.7	533.4	409.2	340.1	270.2	171.4	60.3	32.4	20.1
60°	344.5	343.6	302.5	249.2	173.1	131.2	76.1	40.2	25.4	17.5	11.4
62.5°	110.2	107.5	75.2	55.1	39.3	34.1	27.1	20.1	13.1	9.6	7.0
65°	29.7	29.7	27.1	22.7	18.4	15.7	13.1	9.6	6.1	5.2	4.4
67.5°	11.4	11.4	10.5	9.6	7.0	6.1	5.2	4.4	3.5	4.4	4.4
70°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.5	3.5	4.4
72.5°	0.0	0.0	0.9	0.9	1.7	1.7	2.6	2.6	3.5	4.4	4.4
75°	0.0	0.0	0.9	0.9	1.7	1.7	2.6	2.6	3.5	4.4	4.4
77.5°	0.0	0.0	0.9	0.9	1.7	1.7	2.6	2.6	3.5	4.4	4.4
80°	0.0	0.0	0.9	0.9	1.7	1.7	2.6	2.6	3.5	4.4	4.4
82.5°	0.0	0.0	0.9	1.7	1.7	1.7	2.6	3.5	3.5	4.4	5.2
85°	0.0	0.0	0.9	1.7	1.7	2.6	2.6	3.5	3.5	4.4	5.2
87.5°	0.0	0.0	0.9	1.7	1.7	2.6	2.6	3.5	3.5	4.4	5.2
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8
2.5°	1341.3	1283.6	1204.0	1157.6	1146.3	1121.8	1079.0	1015.1	962.7	912.0	882.2
5°	1765.3	1628.9	1475.9	1368.4	1324.6	1266.1	1162.0	1054.5	955.7	870.0	802.7
7.5°	2214.7	1990.0	1742.6	1543.2	1471.5	1378.9	1209.2	1049.2	913.7	794.8	704.7
10°	2661.5	2299.6	1963.8	1675.3	1558.1	1432.2	1208.4	1001.1	842.0	703.9	604.2
12.5°	3108.3	2588.1	2126.4	1754.8	1602.7	1443.6	1172.5	927.7	751.1	610.3	515.0
15°	3521.0	2818.0	2236.6	1781.9	1598.3	1410.3	1099.9	838.5	655.8	525.5	437.2
17.5°	3828.8	2938.7	2262.0	1740.8	1529.2	1321.1	988.9	733.6	564.8	450.3	360.2
20°	3980.1	2957.9	2201.6	1623.7	1410.3	1194.4	867.4	633.0	487.0	380.3	304.3
22.5°	3980.1	2867.0	2070.5	1476.8	1261.7	1048.4	750.2	550.0	425.8	331.4	267.6
25°	3828.8	2686.0	1894.7	1307.2	1098.2	904.1	648.8	487.9	378.6	301.7	248.3
27.5°	3535.0	2436.0	1669.1	1118.3	937.3	775.6	568.3	431.1	342.7	271.9	272.8
30°	3131.1	2129.1	1410.3	918.9	772.1	637.4	478.3	361.1	274.5	261.4	269.3
32.5°	2664.2	1761.8	1117.4	712.6	598.1	501.9	363.7	255.3	218.6	220.3	229.1
35°	2185.0	1386.7	841.1	528.1	445.0	363.7	238.7	167.9	166.1	169.6	175.7
37.5°	1725.1	1037.9	608.6	386.5	299.0	223.8	128.5	115.4	115.4	118.9	122.4
40°	1292.3	736.2	418.8	229.1	145.1	102.3	81.3	75.2	74.3	75.2	79.6
42.5°	887.5	466.0	249.2	91.8	69.9	59.5	51.6	47.2	46.3	47.2	49.8
45°	498.4	286.8	97.1	49.0	42.0	37.6	32.4	29.7	28.9	28.9	30.6
47.5°	312.1	113.7	43.7	30.6	26.2	24.5	21.0	19.2	18.4	18.4	19.2
50°	119.8	44.6	27.1	20.1	17.5	15.7	14.0	12.2	11.4	11.4	12.2
52.5°	41.1	26.2	17.5	13.1	11.4	10.5	8.7	7.9	7.9	7.9	7.9
55°	22.7	15.7	10.5	7.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0
57.5°	14.0	9.6	7.0	6.1	6.1	6.1	6.1	6.1	6.1	7.0	7.0
60°	7.9	6.1	5.2	5.2	5.2	5.2	6.1	6.1	6.1	7.0	7.0
62.5°	5.2	5.2	5.2	5.2	5.2	5.2	6.1	6.1	7.0	7.0	7.0
65°	4.4	4.4	4.4	5.2	5.2	5.2	6.1	6.1	7.0	7.0	7.0
67.5°	4.4	4.4	5.2	5.2	5.2	6.1	6.1	7.0	7.0	7.0	7.0
70°	4.4	5.2	5.2	6.1	6.1	6.1	7.0	7.0	7.0	7.9	7.9
72.5°	4.4	5.2	5.2	6.1	6.1	6.1	7.0	7.0	7.9	7.9	7.9
75°	5.2	5.2	5.2	6.1	6.1	6.1	7.0	7.9	7.9	7.9	7.9
77.5°	5.2	5.2	6.1	6.1	6.1	7.0	7.0	7.9	7.9	7.9	7.9
80°	5.2	5.2	6.1	6.1	7.0	7.0	7.9	7.9	7.9	8.7	8.7
82.5°	5.2	5.2	6.1	7.0	7.0	7.0	7.9	7.9	8.7	8.7	8.7
85°	5.2	6.1	6.1	7.0	7.0	7.0	7.9	7.9	8.7	8.7	8.7
87.5°	5.2	6.1	6.1	7.0	7.0	7.0	7.9	7.9	8.7	8.7	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°	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8
2.5°	842.9	806.2	769.4	742.3	729.2	716.1	687.2	649.6	633.9	611.2	598.1
5°	734.5	672.4	623.4	591.1	571.8	546.5	513.2	476.5	455.5	431.9	416.2
7.5°	622.5	550.0	502.8	473.0	453.8	422.3	380.3	336.6	311.3	285.0	266.7
10°	524.6	455.5	402.2	368.1	343.6	306.9	264.9	234.3	212.5	189.7	171.4
12.5°	438.1	363.7	306.9	278.0	261.4	226.5	191.5	157.4	144.3	139.9	139.9
15°	355.0	287.7	239.6	215.1	197.6	160.0	153.0	151.3	150.4	149.5	151.3
17.5°	289.4	232.6	181.9	169.6	167.9	167.0	167.9	167.9	168.8	171.4	175.7
20°	243.1	190.6	187.1	188.0	188.0	191.5	195.9	199.4	202.9	207.2	215.1
22.5°	216.0	215.1	221.2	222.1	226.5	231.7	239.6	244.8	253.6	257.9	269.3
25°	249.2	255.3	266.7	270.2	277.2	285.9	298.2	305.1	315.6	320.9	334.0
27.5°	282.4	292.0	306.0	310.4	316.5	330.5	339.2	345.4	350.6	354.1	362.0
30°	279.8	288.5	302.5	303.4	312.1	321.8	327.0	332.3	335.8	334.9	339.2
32.5°	237.0	244.8	257.9	257.9	267.6	275.4	278.0	282.4	282.4	282.4	284.2
35°	181.9	187.1	195.9	198.5	206.3	211.6	213.3	218.6	218.6	216.8	216.8
37.5°	125.9	132.9	139.0	140.8	146.0	149.5	153.9	154.8	153.0	153.9	153.9
40°	82.2	86.6	90.9	91.8	96.2	98.8	103.2	103.2	104.0	103.2	104.9
42.5°	50.7	54.2	56.8	58.6	60.3	62.1	64.7	65.6	66.5	65.6	67.3
45°	31.5	33.2	35.0	35.8	36.7	37.6	40.2	40.2	40.2	40.2	41.1
47.5°	19.2	20.1	21.0	21.0	21.9	22.7	23.6	23.6	23.6	23.6	24.5
50°	11.4	12.2	12.2	12.2	13.1	13.1	14.0	14.0	14.0	13.1	14.0
52.5°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.0	7.9
55°	7.0	7.0	6.1	6.1	6.1	6.1	6.1	5.2	4.4	4.4	3.5
57.5°	6.1	6.1	6.1	6.1	6.1	5.2	5.2	4.4	4.4	3.5	2.6
60°	6.1	6.1	6.1	6.1	6.1	5.2	5.2	4.4	3.5	3.5	2.6
62.5°	7.0	6.1	6.1	6.1	6.1	5.2	5.2	4.4	3.5	3.5	2.6
65°	7.0	7.0	6.1	6.1	6.1	5.2	5.2	4.4	4.4	3.5	2.6
67.5°	7.0	7.0	7.0	6.1	7.0	6.1	5.2	5.2	4.4	3.5	3.5
70°	7.9	7.0	7.0	7.0	7.0	6.1	6.1	5.2	4.4	3.5	3.5
72.5°	7.9	7.9	7.0	7.0	7.0	6.1	6.1	5.2	4.4	4.4	3.5
75°	7.9	7.9	7.0	7.0	7.0	6.1	6.1	5.2	5.2	4.4	3.5
77.5°	7.9	7.9	7.9	7.0	7.0	7.0	6.1	6.1	5.2	4.4	3.5
80°	7.9	7.9	7.9	7.9	7.9	7.0	7.0	6.1	5.2	4.4	3.5
82.5°	8.7	7.9	7.9	7.9	7.9	7.0	7.0	6.1	5.2	4.4	4.4
85°	8.7	8.7	7.9	7.9	7.9	7.0	7.0	6.1	5.2	5.2	4.4
87.5°	8.7	7.9	7.9	7.9	7.9	7.0	7.0	6.1	5.2	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



TEST NUMBER: P179899

CATALOG NUMBER: LDA6A55940D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	947.8	947.8	947.8	947.8	947.8	947.8	947.8	947.8
2.5°	584.9	577.9	577.9	565.7	564.0	554.3	562.2	557.0
5°	398.7	387.3	383.8	371.6	367.2	355.9	359.4	355.0
7.5°	250.9	239.6	236.1	227.3	222.1	213.3	214.2	211.6
10°	153.0	142.5	139.9	137.3	134.7	133.8	134.7	133.8
12.5°	139.0	138.1	136.4	137.3	135.5	136.4	137.3	136.4
15°	151.3	153.0	151.3	152.1	151.3	153.0	153.9	153.9
17.5°	177.5	181.0	179.2	181.9	181.0	185.4	185.4	185.4
20°	217.7	223.8	222.1	225.6	225.6	230.8	230.8	232.6
22.5°	273.7	281.5	280.7	288.5	286.8	292.9	292.9	294.7
25°	341.0	348.9	349.7	355.0	354.1	360.2	360.2	362.0
27.5°	369.0	373.3	372.5	375.1	376.0	379.5	382.1	380.3
30°	346.2	349.7	348.9	350.6	350.6	353.2	355.9	353.2
32.5°	291.2	293.8	293.8	297.3	294.7	295.5	299.9	297.3
35°	223.0	224.7	223.0	224.7	225.6	225.6	230.0	229.1
37.5°	159.1	160.0	160.0	162.6	160.0	160.0	164.4	165.3
40°	106.7	107.5	106.7	110.2	108.4	108.4	111.0	108.4
42.5°	68.2	69.1	68.2	70.8	69.1	70.8	71.7	72.6
45°	42.0	42.0	41.1	42.8	42.0	42.8	43.7	43.7
47.5°	24.5	24.5	23.6	25.4	24.5	24.5	24.5	25.4
50°	13.1	13.1	13.1	14.0	13.1	13.1	13.1	12.2
52.5°	7.0	7.0	6.1	7.0	6.1	6.1	6.1	6.1
55°	3.5	2.6	2.6	2.6	1.7	1.7	1.7	1.7
57.5°	2.6	1.7	1.7	0.9	0.9	0.9	0.0	0.0
60°	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0
62.5°	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0
65°	1.7	1.7	0.9	0.9	0.0	0.0	0.0	0.0
67.5°	2.6	1.7	1.7	0.9	0.9	0.0	0.0	0.0
70°	2.6	1.7	1.7	0.9	0.9	0.0	0.0	0.0
72.5°	2.6	1.7	1.7	1.7	0.9	0.9	0.0	0.0
75°	2.6	2.6	1.7	1.7	0.9	0.9	0.0	0.0
77.5°	3.5	2.6	1.7	1.7	0.9	0.9	0.0	0.0
80°	3.5	2.6	1.7	1.7	1.7	0.9	0.9	0.9
82.5°	3.5	2.6	2.6	1.7	1.7	0.9	0.9	0.9
85°	3.5	2.6	2.6	1.7	1.7	0.9	0.9	0.9
87.5°	3.5	2.6	2.6	1.7	1.7	0.9	0.9	0.9
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)