

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: P179945

Luminaire Tested: **LDA6A55930D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179945
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: LDA6A55930D010TE LARH40FL 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4304.8 lumens
Efficiency: N/A
Efficacy: 70.6 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

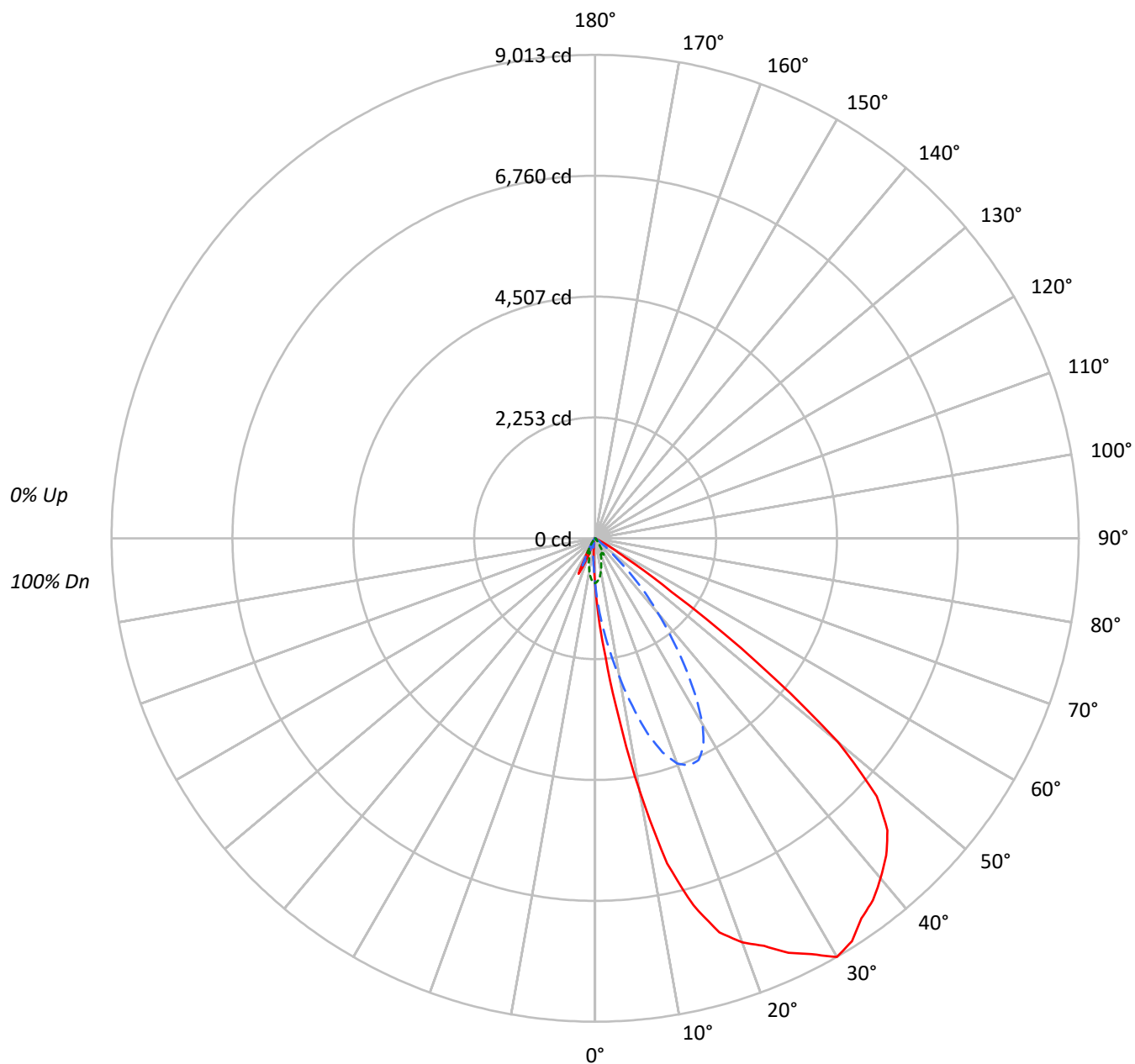
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	45972	45972	45972
5°	122006	42620	16311
10°	266311	34463	4860
15°	401983	25182	4228
20°	467594	17292	6633
25°	515679	18654	44186
30°	570543	14046	13743
35°	579018	7181	5146
40°	592331	2920	2462
45°	597302	1799	1489
50°	503173	1228	955
55°	166197	841	535
60°	32673	789	351
65°	3840	1038	415
70°	1026	1154	513
75°	169	1525	847
80°	0	2526	1263
85°	0	5032	2013



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.6	2.6
10°-20°	563.5	13.1
20°-30°	1112.3	25.8
30°-40°	1254.7	29.1
40°-50°	996.0	23.1
50°-60°	243.5	5.7
60°-70°	13.0	0.3
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°	1787.5	41.5
0°-40°	3042.1	70.7
0°-60°	4281.7	99.5
0°-90°	4304.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4304.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	839	839	839	839	839	
5°	2217	1661	774	389	296	293
15°	7083	3764	444	87	74	1987
25°	8525	4563	308	558	730	3949
35°	8652	2904	107	85	77	5441
45°	7704	905	23	24	19	5774
55°	1739	39	9	9	6	2040
65°	30	7	8	6	3	72
75°	1	4	7	6	4	2
85°	0	4	8	6	3	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°	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6
2.5°	1455.3	1427.3	1440.1	1420.1	1363.2	1345.6	1360.0	1338.4	1273.5	1248.7	1223.1
5°	2217.1	2192.2	2200.2	2154.6	2048.1	2011.2	2008.8	1943.1	1811.8	1738.1	1661.2
7.5°	3361.6	3327.2	3317.6	3207.8	3002.8	2925.9	2888.3	2726.5	2479.0	2303.6	2131.4
10°	4784.1	4817.8	4783.3	4605.5	4283.5	4139.4	4048.1	3742.1	3296.0	2962.0	2640.0
12.5°	6210.6	6231.5	6166.6	5945.5	5536.2	5363.2	5228.7	4837.0	4249.1	3682.0	3201.4
15°	7082.9	7181.4	7120.5	6966.0	6648.8	6438.9	6318.0	5834.2	5094.1	4471.0	3764.5
17.5°	7704.4	7795.7	7745.3	7618.7	7260.7	7091.7	7013.2	6615.1	5809.4	5017.2	4185.8
20°	8015.2	8126.5	8080.9	7937.5	7674.8	7533.8	7438.5	7050.1	6323.6	5423.3	4467.0
22.5°	8225.9	8349.2	8299.6	8169.0	7901.5	7737.3	7692.4	7324.8	6592.7	5666.8	4586.3
25°	8525.4	8628.7	8488.6	8327.6	8063.3	7890.3	7863.0	7487.4	6721.7	5758.9	4563.1
27.5°	8740.1	8862.6	8624.7	8461.3	8159.4	7977.6	7942.3	7589.1	6733.7	5686.0	4374.8
30°	9013.2	8933.9	8724.9	8487.8	8165.8	7972.0	7927.1	7529.8	6613.5	5417.7	4006.4
32.5°	8905.1	8885.9	8676.8	8398.1	8097.7	7902.3	7842.2	7347.2	6283.5	4954.7	3485.0
35°	8652.0	8712.8	8538.2	8365.2	7992.0	7788.5	7705.2	7078.1	5786.1	4358.8	2904.3
37.5°	8503.8	8542.2	8431.7	8220.3	7850.2	7582.7	7424.9	6625.5	5135.0	3607.5	2344.4
40°	8277.1	8374.8	8268.3	8025.6	7598.7	7231.9	6957.1	5807.8	4277.1	2844.2	1833.4
42.5°	8028.8	8116.1	8014.4	7723.7	7120.5	6628.7	6172.2	4846.6	3348.8	2173.0	1375.2
45°	7704.4	7782.9	7600.3	7147.8	6293.9	5615.5	5159.8	3806.2	2525.4	1596.3	905.1
47.5°	7119.7	7098.9	6840.2	6137.0	5085.3	4477.4	3947.1	2726.5	1678.8	904.3	450.1
50°	5899.9	5705.2	5324.8	4508.6	3412.9	2756.1	2394.1	1407.3	761.7	438.1	282.7
52.5°	3821.4	3604.3	3255.9	2502.2	1638.8	1315.2	1054.9	636.0	397.3	247.5	111.3
55°	1738.9	1585.1	1362.4	1010.8	703.2	584.7	495.0	322.0	213.1	92.1	39.2
57.5°	662.4	611.1	543.1	433.3	325.2	281.1	233.1	154.6	66.5	34.4	23.2
60°	298.0	276.3	253.9	198.6	139.4	100.1	76.1	41.6	28.0	20.0	15.2
62.5°	101.7	84.9	70.5	50.5	37.6	32.8	28.8	23.2	16.8	13.6	10.4
65°	29.6	28.8	27.2	24.0	19.2	17.6	16.8	13.6	10.4	8.8	7.2
67.5°	14.4	13.6	12.8	12.0	9.6	8.8	8.8	8.0	6.4	5.6	4.8
70°	6.4	6.4	5.6	5.6	4.8	4.8	4.8	4.0	4.0	4.0	4.0
72.5°	3.2	3.2	3.2	2.4	2.4	2.4	2.4	3.2	3.2	4.0	4.0
75°	0.8	1.6	1.6	1.6	1.6	2.4	2.4	3.2	3.2	4.0	4.0
77.5°	0.8	0.8	0.8	1.6	1.6	1.6	2.4	3.2	3.2	4.0	4.0
80°	0.0	0.8	0.8	1.6	1.6	1.6	2.4	2.4	3.2	4.0	4.0
82.5°	0.0	0.8	0.8	1.6	1.6	1.6	2.4	2.4	3.2	4.0	4.0
85°	0.0	0.0	0.8	0.8	1.6	1.6	2.4	2.4	3.2	4.0	4.0
87.5°	0.0	0.0	0.8	0.8	1.6	1.6	2.4	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°	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6
2.5°	1160.6	1143.8	1077.3	1026.0	1002.0	1000.4	946.7	913.9	856.2	811.4	768.9
5°	1525.8	1451.3	1316.8	1210.3	1159.0	1132.6	1026.8	950.7	851.4	774.5	698.4
7.5°	1897.5	1755.7	1566.7	1364.0	1280.7	1229.5	1066.1	944.3	812.2	704.8	610.3
10°	2277.9	2028.0	1746.1	1478.6	1358.4	1271.9	1062.1	897.1	744.9	619.1	515.8
12.5°	2674.4	2280.3	1887.9	1553.1	1394.5	1280.7	1026.0	828.2	662.4	528.6	430.1
15°	3008.4	2475.8	1977.6	1570.7	1383.3	1245.5	949.1	740.9	574.3	443.7	354.0
17.5°	3266.3	2585.5	1994.4	1527.4	1320.8	1167.0	849.8	644.8	481.4	366.0	277.1
20°	3396.1	2602.3	1941.5	1424.9	1207.8	1049.3	736.9	547.1	403.7	296.4	220.3
22.5°	3405.7	2523.8	1826.2	1292.7	1083.7	922.7	644.0	471.8	354.0	265.9	209.1
25°	3280.7	2372.4	1671.6	1157.4	956.3	811.4	577.5	452.5	356.4	308.4	283.5
27.5°	3043.6	2162.6	1501.8	1022.0	846.6	734.5	550.3	452.5	386.1	348.4	357.2
30°	2715.3	1895.1	1265.5	837.8	688.8	591.1	432.5	338.8	265.9	221.9	213.9
32.5°	2289.1	1550.7	981.2	619.1	502.2	426.1	292.4	212.3	171.4	167.4	162.6
35°	1883.9	1224.7	744.9	457.3	370.0	301.2	186.6	124.9	113.7	107.3	102.5
37.5°	1488.2	916.3	535.0	332.4	253.9	191.4	96.1	80.9	70.5	64.1	58.5
40°	1118.9	658.4	377.3	201.0	133.0	82.5	57.7	49.7	44.1	40.8	39.2
42.5°	791.3	438.1	233.9	84.9	63.3	52.1	40.0	35.2	32.0	30.4	28.8
45°	459.8	272.3	94.5	49.7	40.0	36.0	29.6	26.4	24.8	23.2	22.4
47.5°	287.5	109.7	48.9	32.0	28.0	25.6	21.6	20.8	19.2	18.4	18.4
50°	116.1	48.9	30.4	22.4	20.0	19.2	16.8	16.0	14.4	14.4	14.4
52.5°	44.1	28.8	20.8	16.0	14.4	13.6	12.0	12.0	11.2	11.2	11.2
55°	25.6	19.2	14.4	11.2	10.4	10.4	9.6	9.6	8.8	8.8	8.8
57.5°	16.8	12.8	10.4	8.0	8.0	8.0	7.2	7.2	7.2	7.2	7.2
60°	11.2	8.8	7.2	6.4	6.4	6.4	6.4	7.2	7.2	7.2	7.2
62.5°	8.0	7.2	6.4	6.4	6.4	6.4	6.4	7.2	7.2	7.2	8.0
65°	6.4	5.6	5.6	5.6	5.6	6.4	6.4	7.2	7.2	8.0	8.0
67.5°	4.8	4.8	4.8	4.8	5.6	5.6	6.4	7.2	7.2	7.2	8.0
70°	4.0	4.8	4.8	5.6	5.6	5.6	6.4	6.4	7.2	7.2	8.0
72.5°	4.0	4.8	4.8	5.6	5.6	5.6	6.4	7.2	7.2	7.2	8.0
75°	4.0	4.8	4.8	5.6	5.6	5.6	6.4	7.2	7.2	7.2	8.0
77.5°	4.8	4.8	5.6	5.6	5.6	6.4	6.4	7.2	7.2	8.0	8.0
80°	4.8	4.8	5.6	5.6	5.6	6.4	6.4	7.2	7.2	8.0	8.0
82.5°	4.8	4.8	5.6	5.6	5.6	6.4	6.4	7.2	7.2	8.0	8.0
85°	4.8	4.8	5.6	5.6	5.6	6.4	6.4	7.2	7.2	8.0	8.0
87.5°	4.8	4.8	5.6	5.6	5.6	6.4	6.4	7.2	7.2	7.2	8.0
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6
2.5°	748.1	711.3	671.2	658.4	645.6	620.7	605.5	578.3	558.3	538.2	522.2
5°	648.0	589.5	540.6	519.8	499.8	465.4	441.3	412.5	389.3	369.2	350.8
7.5°	543.9	476.6	427.7	406.9	386.9	349.2	318.8	282.7	255.5	233.1	214.7
10°	447.7	383.7	330.8	306.0	282.7	243.5	214.7	185.8	162.6	143.4	126.6
12.5°	364.4	295.6	241.9	223.5	201.0	169.0	141.8	110.5	96.9	91.3	87.3
15°	282.7	221.1	176.2	159.4	139.4	108.9	96.9	91.3	87.3	84.9	81.7
17.5°	215.5	164.2	120.1	108.9	102.5	96.1	92.9	88.9	86.5	85.7	83.3
20°	169.0	124.1	112.9	109.7	109.7	108.1	105.7	105.7	104.9	107.3	107.3
22.5°	173.8	173.8	183.4	182.6	195.4	208.2	217.9	249.1	266.7	304.4	330.0
25°	303.6	332.4	366.0	376.5	401.3	438.1	476.6	524.6	558.3	594.3	608.7
27.5°	378.9	383.7	378.9	390.9	374.8	365.2	368.4	374.0	374.0	376.5	386.1
30°	224.3	235.5	245.9	253.9	249.9	245.9	244.3	232.3	232.3	227.5	223.5
32.5°	152.2	150.6	149.0	152.2	149.0	149.0	146.6	147.4	142.6	139.4	137.8
35°	104.1	99.3	93.7	94.5	91.3	90.5	88.1	88.1	84.9	83.3	82.5
37.5°	57.7	57.7	55.3	56.1	55.3	55.3	55.3	56.1	55.3	55.3	56.1
40°	39.2	39.2	38.4	39.2	38.4	39.2	40.0	40.0	40.0	40.0	39.2
42.5°	29.6	29.6	28.8	29.6	28.8	29.6	30.4	30.4	30.4	30.4	30.4
45°	23.2	23.2	23.2	23.2	23.2	23.2	23.2	24.0	24.0	23.2	23.2
47.5°	18.4	19.2	18.4	18.4	18.4	18.4	19.2	19.2	18.4	18.4	18.4
50°	15.2	15.2	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4
52.5°	12.0	11.2	11.2	10.4	10.4	10.4	10.4	10.4	10.4	10.4	9.6
55°	8.8	8.8	8.0	8.0	8.0	8.8	8.8	8.8	8.8	8.0	8.0
57.5°	8.0	8.0	8.0	7.2	7.2	8.0	8.0	7.2	7.2	7.2	6.4
60°	7.2	8.0	7.2	7.2	7.2	7.2	7.2	6.4	6.4	6.4	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	8.0	7.2	7.2	7.2	7.2	6.4	6.4	5.6	5.6
67.5°	8.0	8.0	8.0	8.0	7.2	7.2	7.2	6.4	6.4	6.4	5.6
70°	8.0	8.0	8.0	8.0	8.0	7.2	7.2	7.2	6.4	6.4	5.6
72.5°	8.0	8.0	8.0	7.2	7.2	7.2	7.2	7.2	6.4	6.4	5.6
75°	8.0	8.0	8.0	7.2	7.2	7.2	7.2	6.4	6.4	6.4	5.6
77.5°	8.0	8.0	8.0	7.2	7.2	7.2	7.2	6.4	6.4	6.4	5.6
80°	8.0	8.0	8.0	7.2	7.2	7.2	7.2	6.4	6.4	6.4	5.6
82.5°	8.0	8.0	8.0	7.2	7.2	7.2	7.2	6.4	6.4	5.6	5.6
85°	8.0	8.0	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	6.4	6.4	6.4	5.6	4.8	4.8	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: P179945

CATALOG NUMBER: LDA6A55930D010TE LARH40FL 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	838.6	838.6	838.6	838.6	838.6	838.6	838.6	838.6
2.5°	503.0	499.8	497.4	502.2	500.6	480.6	483.0	482.2
5°	330.0	322.8	317.2	319.6	313.2	304.4	298.0	296.4
7.5°	196.2	188.2	183.4	178.6	177.0	165.8	161.0	164.2
10°	108.1	96.9	96.1	93.7	90.5	88.1	86.5	87.3
12.5°	83.3	82.5	80.9	80.1	78.5	77.7	76.9	76.1
15°	79.3	78.5	77.7	76.9	76.1	75.3	74.5	74.5
17.5°	81.7	81.7	80.9	80.1	80.1	80.9	80.1	79.3
20°	106.5	106.5	108.1	110.5	110.5	112.9	116.1	113.7
22.5°	346.0	363.6	385.3	391.7	429.3	459.8	515.8	491.0
25°	632.8	672.8	682.4	696.0	716.9	727.3	716.9	730.5
27.5°	384.5	398.1	399.7	400.5	405.3	404.5	394.1	400.5
30°	223.5	228.3	226.7	225.9	224.3	215.5	213.9	217.1
32.5°	140.2	138.6	137.8	137.0	137.0	132.2	134.6	133.0
35°	80.1	82.5	81.7	80.9	78.5	77.7	77.7	76.9
37.5°	53.7	54.5	53.7	52.9	51.3	50.5	49.7	48.9
40°	38.4	39.2	38.4	37.6	36.8	36.0	35.2	34.4
42.5°	28.8	29.6	28.8	28.8	27.2	26.4	25.6	24.8
45°	22.4	21.6	21.6	21.6	20.8	20.0	19.2	19.2
47.5°	18.4	18.4	18.4	17.6	16.8	16.8	16.8	16.0
50°	13.6	14.4	13.6	13.6	12.8	12.0	12.0	11.2
52.5°	9.6	9.6	8.8	8.8	8.0	7.2	7.2	7.2
55°	7.2	7.2	7.2	6.4	6.4	5.6	5.6	5.6
57.5°	6.4	5.6	5.6	5.6	4.8	4.8	4.0	4.0
60°	5.6	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	4.8	4.0	4.0	4.0	3.2	3.2	3.2
70°	4.8	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°	4.8	4.8	4.8	4.0	4.0	4.0	4.0	4.0
82.5°	4.8	4.8	4.8	4.8	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°	4.0	3.2	3.2	2.4	2.4	2.4	1.6	1.6
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)