

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: P179927

Luminaire Tested: **LDA6A55840D010TE LARH30NF 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179927
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: LDA6A55840D010TE LARH30NF 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 30° Narrow Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5243.3 lumens
Efficiency: N/A
Efficacy: 86.0 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

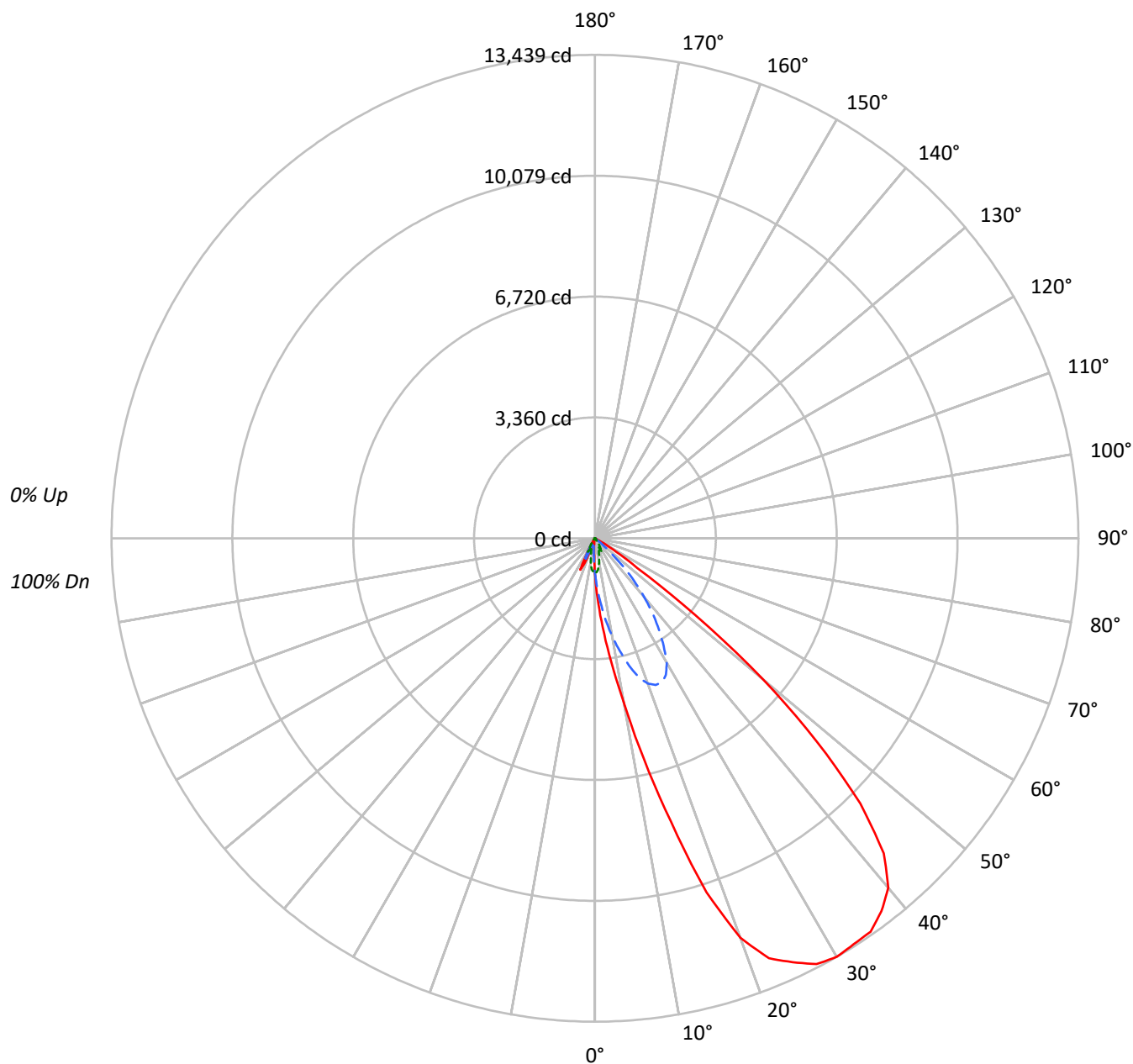
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
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	89	83	78	86	81	77	83	79	76	81	77	75	73		
4	91	82	75	70	89	81	74	69	78	73	68	76	71	68	74	70	67	65		
5	85	74	67	62	83	73	67	62	72	66	61	70	64	60	68	63	60	58		
6	79	68	60	55	77	67	60	55	65	59	55	64	58	54	62	58	54	52		
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47		
8	69	57	49	44	67	56	49	44	55	49	44	54	48	44	53	48	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	40	36	46	40	36	45	40	36	34		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	52830	52830	52830
5°	136396	48965	15304
10°	258746	37363	5144
15°	462664	24291	5125
20°	689391	16527	9340
25°	786608	20608	58667
30°	850682	17218	17541
35°	893590	8379	5494
40°	907722	3013	2791
45°	808735	1992	1675
50°	519403	1399	1134
55°	136741	984	593
60°	30491	1009	450
65°	2932	1193	532
70°	994	1475	657
75°	212	1949	1080
80°	0	3252	1610
85°	0	5787	2579



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.0	2.2
10°-20°	610.8	11.6
20°-30°	1433.1	27.3
30°-40°	1648.4	31.4
40°-50°	1171.0	22.3
50°-60°	238.1	4.5
60°-70°	11.9	0.2
70°-80°	7.1	0.1
80°-90°	5.9	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°	2161.0	41.2
0°-40°	3809.4	72.7
0°-60°	5218.4	99.5
0°-90°	5243.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5243.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	964	964	964	964	964	
5°	2479	1793	890	356	278	302
15°	8152	3665	428	96	90	2445
25°	13004	4414	341	744	970	5993
35°	13352	3100	125	92	82	8295
45°	10432	1102	26	28	22	7687
55°	1431	29	10	10	6	1930
65°	23	8	9	8	4	54
75°	1	5	9	8	5	2
85°	0	5	9	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°	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7
2.5°	1660.6	1610.3	1585.7	1584.6	1512.8	1536.4	1512.8	1494.3	1427.6	1399.9	1353.7
5°	2478.6	2417.0	2367.7	2346.2	2223.0	2196.3	2184.0	2121.4	1981.8	1900.8	1793.0
7.5°	3443.3	3378.7	3297.6	3232.9	3054.3	3004.0	2971.2	2863.4	2657.2	2494.0	2292.8
10°	4648.2	4610.2	4478.9	4359.8	4088.9	3984.2	3885.7	3634.2	3364.3	3036.9	2777.2
12.5°	6270.8	6181.5	5947.5	5709.4	5284.5	5128.5	4965.4	4563.0	4150.5	3637.3	3208.3
15°	8152.1	8076.1	7715.9	7328.0	6723.4	6466.9	6211.3	5578.1	4943.8	4282.8	3665.0
17.5°	10317.6	10173.9	9815.8	9159.9	8314.2	7910.9	7434.7	6628.0	5712.5	4814.5	4046.8
20°	11817.1	11731.9	11429.1	10800.0	9837.3	9304.7	8713.5	7606.1	6354.0	5240.4	4297.2
22.5°	12637.1	12551.9	12325.1	11769.9	10980.6	10445.9	9759.3	8397.4	6838.4	5526.8	4415.2
25°	13004.5	12949.1	12824.9	12372.3	11641.6	11160.2	10510.6	8944.4	7141.2	5657.1	4414.2
27.5°	13344.3	13358.6	13051.8	12679.2	12005.9	11522.5	10906.7	9190.7	7200.7	5591.4	4272.6
30°	13438.7	13402.8	13268.3	12743.9	12116.8	11590.3	10930.3	9060.4	6968.7	5301.0	3991.4
32.5°	13380.2	13381.2	13255.0	12697.7	11960.8	11371.7	10629.6	8593.4	6517.2	4845.3	3554.2
35°	13352.5	13343.2	13015.8	12526.3	11590.3	10897.5	9962.5	7844.2	5891.1	4263.3	3099.5
37.5°	13077.4	13022.0	12785.9	12121.9	10897.5	10011.8	9005.0	6927.7	5120.3	3657.8	2633.5
40°	12684.3	12614.5	12230.7	11278.3	9713.1	8724.8	7724.1	5890.1	4313.6	3055.4	2114.2
42.5°	11878.7	11763.7	11181.8	9918.4	8188.0	7268.4	6439.2	4851.4	3526.4	2480.6	1623.6
45°	10431.6	10243.7	9438.1	8118.2	6609.5	5888.0	5187.0	3888.7	2823.4	1847.4	1102.3
47.5°	8375.8	8170.6	7439.8	6379.6	5174.7	4589.7	3994.5	2863.4	1910.0	1076.6	553.2
50°	6090.2	5948.6	5303.0	4409.1	3421.8	2931.2	2474.5	1597.0	916.5	520.3	226.8
52.5°	3509.0	3407.4	2957.9	2320.5	1683.2	1409.1	1133.1	696.9	467.0	206.3	72.9
55°	1430.7	1372.2	1175.1	995.5	747.2	645.6	538.8	347.9	157.0	49.3	28.7
57.5°	700.0	692.8	577.8	462.9	340.7	275.1	207.3	69.8	38.0	24.6	18.5
60°	278.1	267.9	183.7	106.7	59.5	48.2	41.1	28.7	21.6	16.4	13.3
62.5°	48.2	47.2	40.0	33.9	27.7	24.6	22.6	17.4	14.4	11.3	10.3
65°	22.6	22.6	20.5	18.5	15.4	14.4	13.3	11.3	9.2	8.2	8.2
67.5°	11.3	11.3	10.3	9.2	8.2	8.2	7.2	7.2	6.2	6.2	6.2
70°	6.2	6.2	6.2	5.1	5.1	5.1	5.1	5.1	4.1	5.1	5.1
72.5°	4.1	4.1	4.1	3.1	2.1	3.1	3.1	3.1	4.1	5.1	5.1
75°	1.0	1.0	1.0	2.1	2.1	2.1	3.1	3.1	4.1	5.1	5.1
77.5°	1.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	5.1	5.1
80°	0.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	5.1	5.1
82.5°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	5.1	5.1
85°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	5.1	5.1
87.5°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	5.1	5.1
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°	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7
2.5°	1333.2	1279.8	1244.9	1183.4	1157.7	1146.4	1090.0	1035.6	983.2	945.2	886.7
5°	1710.9	1625.7	1495.4	1373.2	1319.9	1286.0	1175.1	1072.5	975.0	889.8	788.2
7.5°	2117.3	1941.8	1737.6	1541.5	1449.2	1387.6	1216.2	1066.4	926.8	797.5	658.9
10°	2507.3	2231.2	1933.6	1653.4	1528.2	1435.8	1212.1	1020.2	838.5	671.2	522.4
12.5°	2839.8	2482.7	2087.5	1724.2	1561.0	1443.0	1174.1	940.1	719.5	539.8	410.5
15°	3120.0	2675.6	2189.1	1747.8	1551.8	1412.2	1100.2	830.3	589.1	428.0	331.5
17.5°	3317.1	2769.0	2212.8	1707.8	1487.1	1326.0	988.3	689.7	462.9	345.9	261.7
20°	3432.0	2781.3	2155.3	1610.3	1374.2	1203.9	847.7	541.9	375.6	283.3	203.2
22.5°	3449.5	2720.8	2042.4	1478.9	1243.9	1079.7	706.1	453.6	341.8	264.8	199.1
25°	3365.3	2600.7	1895.6	1350.6	1125.9	957.6	610.7	458.8	383.8	340.7	354.1
27.5°	3202.1	2402.6	1727.3	1219.3	1002.7	832.3	576.8	480.3	418.7	425.9	450.6
30°	2951.7	2123.5	1485.1	996.6	767.7	634.3	458.8	345.9	287.4	272.0	273.0
32.5°	2583.3	1773.5	1165.9	691.7	516.2	428.0	290.4	192.9	194.0	179.6	178.6
35°	2162.5	1427.6	872.4	463.9	357.2	297.6	171.4	135.5	130.3	125.2	118.0
37.5°	1745.8	1103.3	580.9	317.1	227.8	165.2	86.2	70.8	65.7	61.6	61.6
40°	1329.1	771.8	359.2	166.3	92.4	67.7	51.3	43.1	42.1	42.1	41.1
42.5°	964.7	455.7	195.0	65.7	51.3	45.2	35.9	31.8	31.8	31.8	31.8
45°	513.2	231.9	74.9	41.1	33.9	31.8	26.7	24.6	24.6	25.7	25.7
47.5°	237.1	87.2	38.0	27.7	23.6	23.6	20.5	19.5	19.5	20.5	20.5
50°	85.2	35.9	24.6	19.5	17.4	18.5	16.4	15.4	16.4	16.4	16.4
52.5°	32.8	22.6	17.4	15.4	13.3	14.4	12.3	12.3	13.3	13.3	13.3
55°	20.5	16.4	13.3	11.3	10.3	11.3	10.3	10.3	10.3	10.3	10.3
57.5°	14.4	12.3	10.3	9.2	8.2	9.2	9.2	9.2	9.2	9.2	9.2
60°	11.3	9.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	9.2	9.2
62.5°	9.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	9.2	9.2	9.2
65°	8.2	7.2	8.2	8.2	7.2	8.2	8.2	8.2	9.2	9.2	10.3
67.5°	6.2	6.2	6.2	7.2	7.2	7.2	8.2	8.2	9.2	9.2	9.2
70°	6.2	6.2	7.2	7.2	7.2	7.2	8.2	8.2	9.2	9.2	9.2
72.5°	6.2	6.2	7.2	7.2	7.2	8.2	8.2	8.2	9.2	9.2	9.2
75°	6.2	6.2	7.2	7.2	7.2	8.2	8.2	8.2	9.2	9.2	9.2
77.5°	6.2	6.2	7.2	7.2	7.2	8.2	8.2	9.2	9.2	9.2	9.2
80°	6.2	7.2	7.2	8.2	8.2	8.2	8.2	9.2	9.2	10.3	10.3
82.5°	6.2	7.2	7.2	8.2	8.2	8.2	8.2	9.2	9.2	10.3	10.3
85°	6.2	7.2	7.2	8.2	8.2	8.2	8.2	9.2	9.2	9.2	9.2
87.5°	6.2	7.2	7.2	8.2	8.2	8.2	8.2	8.2	9.2	9.2	9.2
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°	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7
2.5°	847.7	797.5	747.2	722.5	701.0	670.2	631.2	599.4	565.5	548.1	508.0
5°	708.2	622.0	549.1	514.2	487.5	450.6	410.5	381.8	356.1	341.8	316.1
7.5°	548.1	466.0	402.3	375.6	356.1	319.2	289.4	259.7	233.0	213.5	187.8
10°	423.9	360.2	307.9	282.2	260.7	221.7	185.8	158.1	129.3	109.8	101.6
12.5°	336.6	277.1	223.7	198.1	175.5	135.5	108.8	103.7	98.5	96.5	93.4
15°	258.6	204.2	147.8	122.1	112.9	107.8	101.6	100.6	96.5	96.5	93.4
17.5°	194.0	133.4	112.9	110.8	109.8	107.8	104.7	103.7	102.6	102.6	101.6
20°	139.6	129.3	126.2	128.3	129.3	131.4	130.3	130.3	134.4	143.7	141.6
22.5°	196.0	212.4	229.9	236.1	258.6	281.2	301.7	327.4	388.0	457.7	474.2
25°	388.0	437.2	482.4	507.0	544.0	594.2	642.5	702.0	744.1	779.0	819.0
27.5°	482.4	500.8	493.7	496.7	492.6	485.5	487.5	499.8	493.7	475.2	482.4
30°	285.3	299.7	291.5	295.6	284.3	284.3	281.2	287.4	283.3	276.1	274.0
32.5°	185.8	194.0	192.9	192.9	188.8	186.8	179.6	177.6	170.4	157.0	153.9
35°	111.9	106.7	101.6	98.5	96.5	96.5	95.4	95.4	92.4	89.3	88.3
37.5°	60.6	61.6	61.6	61.6	61.6	63.6	62.6	62.6	62.6	60.6	60.6
40°	42.1	44.1	44.1	44.1	45.2	45.2	45.2	46.2	45.2	45.2	45.2
42.5°	32.8	33.9	32.8	32.8	33.9	33.9	33.9	34.9	34.9	34.9	33.9
45°	26.7	26.7	25.7	26.7	26.7	27.7	27.7	27.7	27.7	26.7	26.7
47.5°	21.6	21.6	21.6	21.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6
50°	17.4	17.4	17.4	18.5	18.5	18.5	17.4	18.5	18.5	18.5	17.4
52.5°	13.3	13.3	13.3	13.3	13.3	12.3	12.3	12.3	12.3	12.3	11.3
55°	10.3	10.3	10.3	10.3	10.3	11.3	10.3	11.3	10.3	10.3	9.2
57.5°	9.2	9.2	9.2	9.2	10.3	10.3	9.2	9.2	9.2	8.2	8.2
60°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.2	7.2	7.2
62.5°	10.3	10.3	9.2	9.2	9.2	9.2	8.2	8.2	8.2	7.2	7.2
65°	10.3	10.3	9.2	10.3	10.3	9.2	9.2	8.2	8.2	7.2	7.2
67.5°	10.3	10.3	10.3	10.3	10.3	10.3	9.2	9.2	8.2	8.2	7.2
70°	10.3	10.3	10.3	10.3	10.3	10.3	9.2	9.2	8.2	8.2	7.2
72.5°	10.3	10.3	10.3	10.3	10.3	10.3	9.2	9.2	9.2	8.2	7.2
75°	10.3	10.3	10.3	10.3	10.3	9.2	9.2	9.2	8.2	8.2	7.2
77.5°	10.3	10.3	10.3	10.3	10.3	9.2	9.2	9.2	8.2	8.2	7.2
80°	10.3	10.3	10.3	10.3	10.3	10.3	9.2	9.2	8.2	8.2	7.2
82.5°	10.3	10.3	10.3	10.3	10.3	9.2	9.2	9.2	8.2	8.2	7.2
85°	10.3	9.2	9.2	9.2	9.2	9.2	8.2	8.2	7.2	7.2	6.2
87.5°	9.2	9.2	9.2	9.2	9.2	8.2	8.2	7.2	6.2	5.1	5.1
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: P179927

CATALOG NUMBER: LDA6A55840D010TE LARH30NF 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	963.7	963.7	963.7	963.7	963.7	963.7	963.7	963.7
2.5°	508.0	498.8	494.7	487.5	481.3	478.3	467.0	480.3
5°	311.0	299.7	296.6	290.4	283.3	279.2	270.9	278.1
7.5°	177.6	164.2	158.1	152.9	145.7	139.6	132.4	136.5
10°	99.6	95.4	96.5	93.4	92.4	91.3	90.3	92.4
12.5°	92.4	89.3	90.3	88.3	87.2	87.2	86.2	87.2
15°	93.4	90.3	92.4	90.3	89.3	89.3	88.3	90.3
17.5°	101.6	99.6	101.6	99.6	100.6	99.6	100.6	101.6
20°	142.7	145.7	151.9	147.8	150.9	155.0	160.1	160.1
22.5°	501.9	567.6	575.8	608.6	692.8	689.7	746.1	748.2
25°	876.5	880.6	917.5	905.2	906.2	949.3	945.2	969.9
27.5°	503.9	502.9	510.1	496.7	500.8	503.9	492.6	506.0
30°	281.2	276.1	279.2	272.0	272.0	274.0	270.9	277.1
32.5°	156.0	151.9	151.9	146.8	145.7	144.7	141.6	144.7
35°	89.3	86.2	87.2	85.2	83.1	82.1	81.1	82.1
37.5°	61.6	59.5	60.6	58.5	56.4	55.4	54.4	55.4
40°	45.2	44.1	44.1	42.1	41.1	40.0	39.0	39.0
42.5°	33.9	32.8	32.8	30.8	29.8	28.7	27.7	28.7
45°	25.7	24.6	24.6	23.6	22.6	21.6	21.6	21.6
47.5°	22.6	21.6	22.6	21.6	20.5	20.5	20.5	20.5
50°	17.4	17.4	17.4	16.4	15.4	15.4	14.4	13.3
52.5°	11.3	10.3	10.3	9.2	9.2	8.2	8.2	8.2
55°	9.2	8.2	8.2	7.2	7.2	6.2	6.2	6.2
57.5°	7.2	7.2	6.2	6.2	5.1	5.1	5.1	5.1
60°	6.2	6.2	6.2	5.1	5.1	4.1	4.1	4.1
62.5°	6.2	5.1	5.1	5.1	4.1	4.1	4.1	4.1
65°	6.2	5.1	5.1	5.1	4.1	4.1	4.1	4.1
67.5°	6.2	5.1	5.1	5.1	4.1	4.1	4.1	4.1
70°	7.2	6.2	6.2	5.1	5.1	5.1	4.1	4.1
72.5°	7.2	6.2	6.2	6.2	5.1	5.1	5.1	5.1
75°	7.2	6.2	6.2	6.2	5.1	5.1	5.1	5.1
77.5°	7.2	6.2	6.2	6.2	5.1	5.1	5.1	5.1
80°	7.2	6.2	6.2	6.2	5.1	5.1	5.1	5.1
82.5°	6.2	6.2	6.2	5.1	5.1	5.1	5.1	5.1
85°	6.2	5.1	5.1	5.1	4.1	4.1	4.1	4.1
87.5°	4.1	4.1	3.1	3.1	3.1	2.1	2.1	2.1
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)