

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: P179953

Luminaire Tested: **LDA6A65930D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179953  
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: LDA6A65930D010TE 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: 5136.2 lumens  
Efficiency: N/A  
Efficacy: 65.8 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

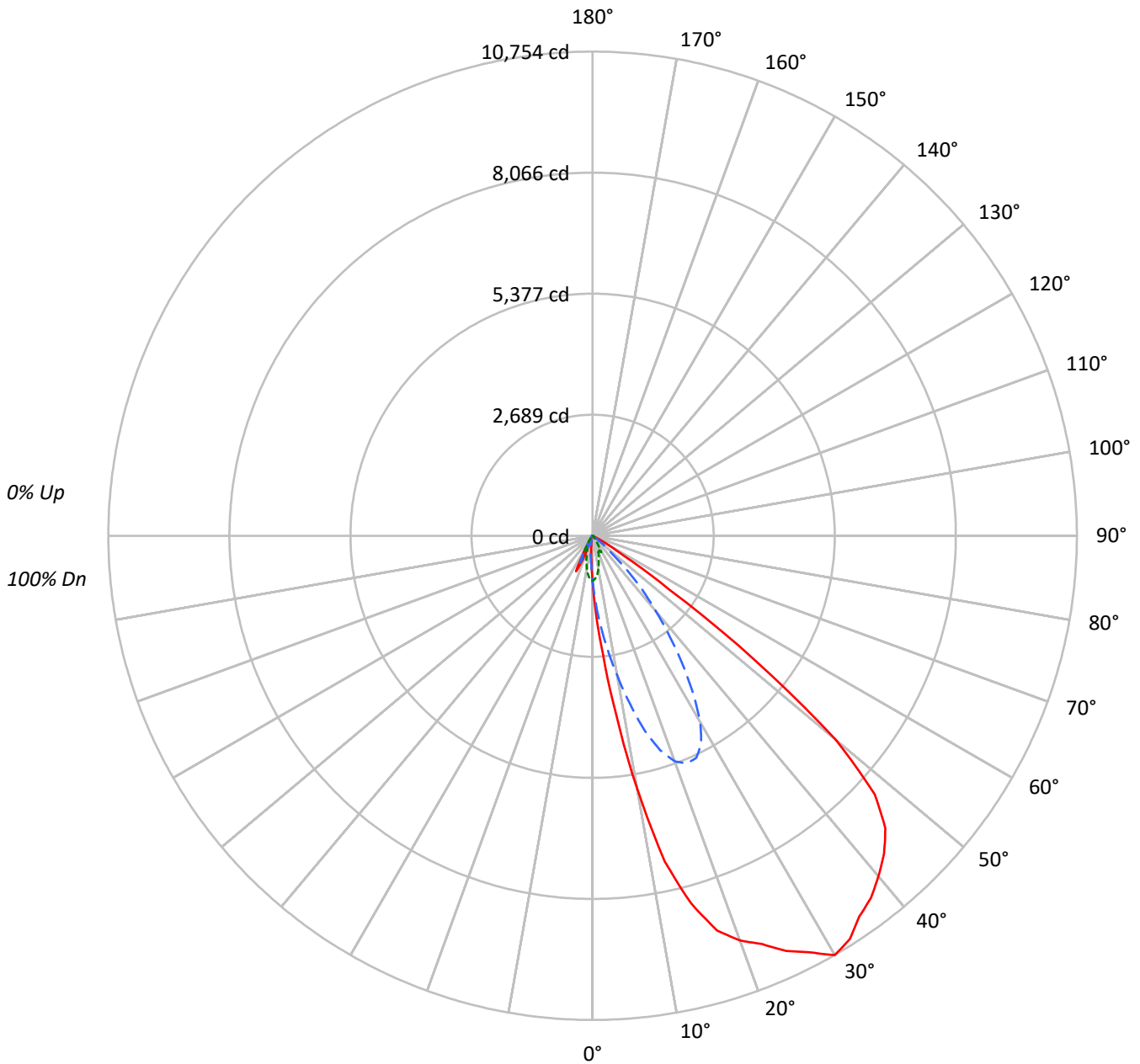
Input Watts (W): 78  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
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	67	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	54	49	59	53	49	57	52	48	47																			
8	69	57	50	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	44	40	38																			
10	60	48	41	37	59	48	41	36	47	41	36	46	40	36	45	40	36	34																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	54848	54848	54848
5°	145564	50853	19458
10°	317741	41120	5800
15°	479611	30046	5045
20°	557890	20628	7917
25°	615265	22253	52715
30°	680719	16756	16395
35°	690833	8573	6137
40°	706717	3485	2941
45°	712648	2148	1775
50°	600338	1467	1143
55°	198292	1004	640
60°	38977	943	417
65°	4592	1245	493
70°	1218	1378	609
75°	212	1822	1017
80°	0	3031	1515
85°	0	6038	2390



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.1	2.6
10°-20°	672.4	13.1
20°-30°	1327.1	25.8
30°-40°	1497.0	29.1
40°-50°	1188.4	23.1
50°-60°	290.6	5.7
60°-70°	15.5	0.3
70°-80°	6.6	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°	2132.6	41.5
0°-40°	3629.6	70.7
0°-60°	5108.6	99.5
0°-90°	5136.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5136.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1000	1000	1000	1000	1000	
5°	2645	1982	924	464	354	349
15°	8451	4492	529	104	89	2371
25°	10172	5444	368	666	872	4711
35°	10323	3465	128	101	92	6492
45°	9192	1080	28	29	23	6889
55°	2075	47	10	10	7	2434
65°	35	9	10	8	4	86
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°	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5
2.5°	1736.4	1702.9	1718.2	1694.3	1626.5	1605.5	1622.7	1596.9	1519.5	1489.8	1459.3
5°	2645.2	2615.6	2625.1	2570.7	2443.6	2399.6	2396.7	2318.4	2161.6	2073.7	1982.0
7.5°	4010.8	3969.7	3958.2	3827.3	3582.7	3490.9	3446.0	3253.0	2957.7	2748.4	2542.9
10°	5708.0	5748.1	5707.0	5494.9	5110.7	4938.7	4829.8	4464.7	3932.4	3533.9	3149.8
12.5°	7410.0	7434.8	7357.4	7093.7	6605.3	6398.9	6238.4	5771.1	5069.6	4393.0	3819.7
15°	8450.7	8568.2	8495.6	8311.1	7932.7	7682.3	7538.0	6960.8	6077.8	5334.3	4491.5
17.5°	9192.2	9301.2	9241.0	9090.0	8662.8	8461.2	8367.5	7892.6	6931.2	5986.1	4994.1
20°	9563.0	9695.9	9641.4	9470.3	9156.9	8988.7	8875.0	8411.5	7544.7	6470.6	5329.6
22.5°	9814.4	9961.5	9902.3	9746.5	9427.3	9231.4	9177.9	8739.3	7865.8	6761.1	5472.0
25°	10171.8	10295.0	10127.8	9935.7	9620.4	9413.9	9381.5	8933.3	8019.7	6871.0	5444.2
27.5°	10427.9	10574.1	10290.3	10095.3	9735.0	9518.1	9476.1	9054.6	8034.0	6784.0	5219.7
30°	10753.7	10659.1	10409.7	10126.8	9742.7	9511.4	9457.9	8983.9	7890.7	6463.9	4780.1
32.5°	10624.7	10601.8	10352.4	10019.8	9661.5	9428.3	9356.6	8766.0	7496.9	5911.5	4158.0
35°	10322.8	10395.4	10187.1	9980.6	9535.3	9292.6	9193.2	8444.9	6903.5	5200.6	3465.1
37.5°	10146.0	10191.8	10060.0	9807.7	9366.2	9047.0	8858.7	7905.0	6126.6	4304.2	2797.1
40°	9875.5	9992.1	9865.0	9575.4	9066.1	8628.4	8300.6	6929.3	5103.1	3393.5	2187.4
42.5°	9579.3	9683.4	9562.1	9215.2	8495.6	7908.8	7364.1	5782.5	3995.5	2592.6	1640.8
45°	9192.2	9285.9	9068.0	8528.1	7509.4	6699.9	6156.2	4541.2	3013.1	1904.6	1079.9
47.5°	8494.6	8469.8	8161.1	7322.1	6067.3	5342.0	4709.4	3253.0	2003.0	1078.9	537.1
50°	7039.2	6807.0	6353.1	5379.3	4072.0	3288.3	2856.4	1679.0	908.8	522.7	337.3
52.5°	4559.3	4300.4	3884.7	2985.4	1955.2	1569.2	1258.6	758.8	474.0	295.3	132.8
55°	2074.7	1891.2	1625.5	1206.0	839.0	697.6	590.6	384.2	254.2	109.9	46.8
57.5°	790.3	729.1	647.9	517.0	388.0	335.4	278.1	184.4	79.3	41.1	27.7
60°	355.5	329.7	302.9	237.0	166.3	119.5	90.8	49.7	33.4	23.9	18.2
62.5°	121.4	101.3	84.1	60.2	44.9	39.2	34.4	27.7	20.1	16.2	12.4
65°	35.4	34.4	32.5	28.7	22.9	21.0	20.1	16.2	12.4	10.5	8.6
67.5°	17.2	16.2	15.3	14.3	11.5	10.5	10.5	9.6	7.6	6.7	5.7
70°	7.6	7.6	6.7	6.7	5.7	5.7	5.7	4.8	4.8	4.8	4.8
72.5°	3.8	3.8	3.8	2.9	2.9	2.9	2.9	3.8	3.8	4.8	4.8
75°	1.0	1.9	1.9	1.9	1.9	2.9	2.9	3.8	3.8	4.8	4.8
77.5°	1.0	1.0	1.0	1.9	1.9	1.9	2.9	3.8	3.8	4.8	4.8
80°	0.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	3.8	4.8	4.8
82.5°	0.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	3.8	4.8	4.8
85°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.8	4.8	4.8
87.5°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.8	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°	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5
2.5°	1384.7	1364.6	1285.3	1224.2	1195.5	1193.6	1129.6	1090.4	1021.6	968.1	917.4
5°	1820.5	1731.6	1571.1	1444.0	1382.8	1351.3	1225.1	1134.3	1015.8	924.1	833.3
7.5°	2263.9	2094.7	1869.2	1627.4	1528.1	1466.9	1271.9	1126.7	969.0	841.0	728.2
10°	2717.8	2419.7	2083.3	1764.1	1620.8	1517.5	1267.2	1070.3	888.7	738.7	615.4
12.5°	3190.9	2720.7	2252.4	1853.0	1663.8	1528.1	1224.2	988.1	790.3	630.7	513.2
15°	3589.4	2953.9	2359.5	1874.0	1650.4	1486.0	1132.4	884.0	685.2	529.4	422.4
17.5°	3897.1	3084.8	2379.5	1822.4	1575.8	1392.4	1013.9	769.3	574.3	436.7	330.6
20°	4051.9	3104.9	2316.5	1700.1	1441.1	1251.9	879.2	652.7	481.6	353.6	262.8
22.5°	4063.4	3011.2	2178.8	1542.4	1293.0	1100.9	768.3	562.9	422.4	317.3	249.4
25°	3914.3	2830.6	1994.4	1380.9	1141.0	968.1	689.0	539.9	425.3	367.9	338.3
27.5°	3631.4	2580.2	1791.8	1219.4	1010.1	876.3	656.5	539.9	460.6	415.7	426.2
30°	3239.6	2261.0	1509.9	999.6	821.8	705.3	516.0	404.2	317.3	264.7	255.2
32.5°	2731.2	1850.1	1170.7	738.7	599.2	508.4	348.8	253.2	204.5	199.7	194.0
35°	2247.7	1461.2	888.7	545.7	441.5	359.3	222.7	149.1	135.7	128.1	122.3
37.5°	1775.6	1093.2	638.4	396.6	302.9	228.4	114.7	96.5	84.1	76.5	69.8
40°	1335.0	785.5	450.1	239.9	158.6	98.4	68.8	59.2	52.6	48.7	46.8
42.5°	944.2	522.7	279.0	101.3	75.5	62.1	47.8	42.0	38.2	36.3	34.4
45°	548.5	324.9	112.8	59.2	47.8	43.0	35.4	31.5	29.6	27.7	26.8
47.5°	343.1	130.9	58.3	38.2	33.4	30.6	25.8	24.8	22.9	22.0	22.0
50°	138.6	58.3	36.3	26.8	23.9	22.9	20.1	19.1	17.2	17.2	17.2
52.5°	52.6	34.4	24.8	19.1	17.2	16.2	14.3	14.3	13.4	13.4	13.4
55°	30.6	22.9	17.2	13.4	12.4	12.4	11.5	11.5	10.5	10.5	10.5
57.5°	20.1	15.3	12.4	9.6	9.6	9.6	8.6	8.6	8.6	8.6	8.6
60°	13.4	10.5	8.6	7.6	7.6	7.6	7.6	8.6	8.6	8.6	8.6
62.5°	9.6	8.6	7.6	7.6	7.6	7.6	7.6	8.6	8.6	8.6	9.6
65°	7.6	6.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	9.6	9.6
67.5°	5.7	5.7	5.7	5.7	6.7	6.7	7.6	8.6	8.6	8.6	9.6
70°	4.8	5.7	5.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	9.6
72.5°	4.8	5.7	5.7	6.7	6.7	6.7	7.6	8.6	8.6	8.6	9.6
75°	4.8	5.7	5.7	6.7	6.7	6.7	7.6	8.6	8.6	8.6	9.6
77.5°	5.7	5.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	9.6	9.6
80°	5.7	5.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	9.6	9.6
82.5°	5.7	5.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	9.6	9.6
85°	5.7	5.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	9.6	9.6
87.5°	5.7	5.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	8.6	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°	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5
2.5°	892.6	848.6	800.8	785.5	770.2	740.6	722.5	690.0	666.1	642.2	623.1
5°	773.1	703.3	645.1	620.2	596.3	555.2	526.6	492.2	464.4	440.5	418.6
7.5°	648.9	568.6	510.3	485.5	461.6	416.7	380.3	337.3	304.8	278.1	256.1
10°	534.2	457.7	394.7	365.1	337.3	290.5	256.1	221.7	194.0	171.1	151.0
12.5°	434.8	352.6	288.6	266.6	239.9	201.6	169.1	131.9	115.6	108.9	104.2
15°	337.3	263.8	210.2	190.2	166.3	130.0	115.6	108.9	104.2	101.3	97.5
17.5°	257.1	195.9	143.3	130.0	122.3	114.7	110.9	106.1	103.2	102.3	99.4
20°	201.6	148.1	134.7	130.9	130.9	129.0	126.1	126.1	125.2	128.1	128.1
22.5°	207.4	207.4	218.8	217.9	233.2	248.5	259.9	297.2	318.2	363.1	393.7
25°	362.2	396.6	436.7	449.1	478.8	522.7	568.6	625.9	666.1	709.1	726.3
27.5°	452.0	457.7	452.0	466.3	447.2	435.8	439.6	446.3	446.3	449.1	460.6
30°	267.6	281.0	293.4	302.9	298.2	293.4	291.5	277.1	277.1	271.4	266.6
32.5°	181.6	179.7	177.7	181.6	177.7	177.7	174.9	175.8	170.1	166.3	164.4
35°	124.2	118.5	111.8	112.8	108.9	108.0	105.1	105.1	101.3	99.4	98.4
37.5°	68.8	68.8	65.9	66.9	65.9	65.9	65.9	66.9	65.9	65.9	66.9
40°	46.8	46.8	45.9	46.8	45.9	46.8	47.8	47.8	47.8	47.8	46.8
42.5°	35.4	35.4	34.4	35.4	34.4	35.4	36.3	36.3	36.3	36.3	36.3
45°	27.7	27.7	27.7	27.7	27.7	27.7	27.7	28.7	28.7	27.7	27.7
47.5°	22.0	22.9	22.0	22.0	22.0	22.0	22.9	22.9	22.0	22.0	22.0
50°	18.2	18.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
52.5°	14.3	13.4	13.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	11.5
55°	10.5	10.5	9.6	9.6	9.6	10.5	10.5	10.5	10.5	9.6	9.6
57.5°	9.6	9.6	9.6	8.6	8.6	9.6	9.6	8.6	8.6	8.6	7.6
60°	8.6	9.6	8.6	8.6	8.6	8.6	8.6	7.6	7.6	7.6	6.7
62.5°	9.6	9.6	8.6	8.6	8.6	8.6	7.6	7.6	7.6	6.7	6.7
65°	9.6	9.6	9.6	8.6	8.6	8.6	8.6	7.6	7.6	6.7	6.7
67.5°	9.6	9.6	9.6	9.6	8.6	8.6	8.6	7.6	7.6	7.6	6.7
70°	9.6	9.6	9.6	9.6	9.6	8.6	8.6	8.6	7.6	7.6	6.7
72.5°	9.6	9.6	9.6	8.6	8.6	8.6	8.6	8.6	7.6	7.6	6.7
75°	9.6	9.6	9.6	8.6	8.6	8.6	8.6	7.6	7.6	7.6	6.7
77.5°	9.6	9.6	9.6	8.6	8.6	8.6	8.6	7.6	7.6	7.6	6.7
80°	9.6	9.6	9.6	8.6	8.6	8.6	8.6	7.6	7.6	7.6	6.7
82.5°	9.6	9.6	9.6	8.6	8.6	8.6	8.6	7.6	7.6	6.7	6.7
85°	9.6	9.6	8.6	8.6	8.6	8.6	7.6	7.6	6.7	6.7	5.7
87.5°	8.6	8.6	8.6	8.6	7.6	7.6	7.6	6.7	5.7	5.7	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: P179953

CATALOG NUMBER: LDA6A65930D010TE LARH40FL 6LAL1LI 30°

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5	1000.5
2.5°	600.1	596.3	593.4	599.2	597.3	573.4	576.2	575.3
5°	393.7	385.1	378.4	381.3	373.7	363.1	355.5	353.6
7.5°	234.1	224.6	218.8	213.1	211.2	197.8	192.1	195.9
10°	129.0	115.6	114.7	111.8	108.0	105.1	103.2	104.2
12.5°	99.4	98.4	96.5	95.6	93.7	92.7	91.7	90.8
15°	94.6	93.7	92.7	91.7	90.8	89.8	88.9	88.9
17.5°	97.5	97.5	96.5	95.6	95.6	96.5	95.6	94.6
20°	127.1	127.1	129.0	131.9	131.9	134.7	138.6	135.7
22.5°	412.8	433.9	459.7	467.3	512.2	548.5	615.4	585.8
25°	755.0	802.7	814.2	830.4	855.3	867.7	855.3	871.5
27.5°	458.7	474.9	476.9	477.8	483.6	482.6	470.2	477.8
30°	266.6	272.4	270.4	269.5	267.6	257.1	255.2	259.0
32.5°	167.2	165.3	164.4	163.4	163.4	157.7	160.5	158.6
35°	95.6	98.4	97.5	96.5	93.7	92.7	92.7	91.7
37.5°	64.0	65.0	64.0	63.1	61.2	60.2	59.2	58.3
40°	45.9	46.8	45.9	44.9	44.0	43.0	42.0	41.1
42.5°	34.4	35.4	34.4	34.4	32.5	31.5	30.6	29.6
45°	26.8	25.8	25.8	25.8	24.8	23.9	22.9	22.9
47.5°	22.0	22.0	22.0	21.0	20.1	20.1	20.1	19.1
50°	16.2	17.2	16.2	16.2	15.3	14.3	14.3	13.4
52.5°	11.5	11.5	10.5	10.5	9.6	8.6	8.6	8.6
55°	8.6	8.6	8.6	7.6	7.6	6.7	6.7	6.7
57.5°	7.6	6.7	6.7	6.7	5.7	5.7	4.8	4.8
60°	6.7	5.7	5.7	4.8	4.8	3.8	3.8	3.8
62.5°	5.7	4.8	4.8	4.8	3.8	3.8	3.8	3.8
65°	5.7	4.8	4.8	4.8	3.8	3.8	3.8	3.8
67.5°	5.7	5.7	4.8	4.8	4.8	3.8	3.8	3.8
70°	5.7	5.7	5.7	4.8	4.8	4.8	3.8	3.8
72.5°	6.7	5.7	5.7	5.7	4.8	4.8	4.8	4.8
75°	6.7	5.7	5.7	5.7	4.8	4.8	4.8	4.8
77.5°	6.7	5.7	5.7	5.7	4.8	4.8	4.8	4.8
80°	5.7	5.7	5.7	4.8	4.8	4.8	4.8	4.8
82.5°	5.7	5.7	5.7	5.7	4.8	4.8	4.8	4.8
85°	5.7	4.8	4.8	4.8	3.8	3.8	3.8	3.8
87.5°	4.8	3.8	3.8	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)