

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: P179955

Luminaire Tested: **LDA6A65940D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179955  
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: LDA6A65940D010TE LARH40FL 6LAL1LI 30°  
Description: PORTFOLIO 6" Lensed Adjustable, 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: 5607.1 lumens  
Efficiency: N/A  
Efficacy: 71.9 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

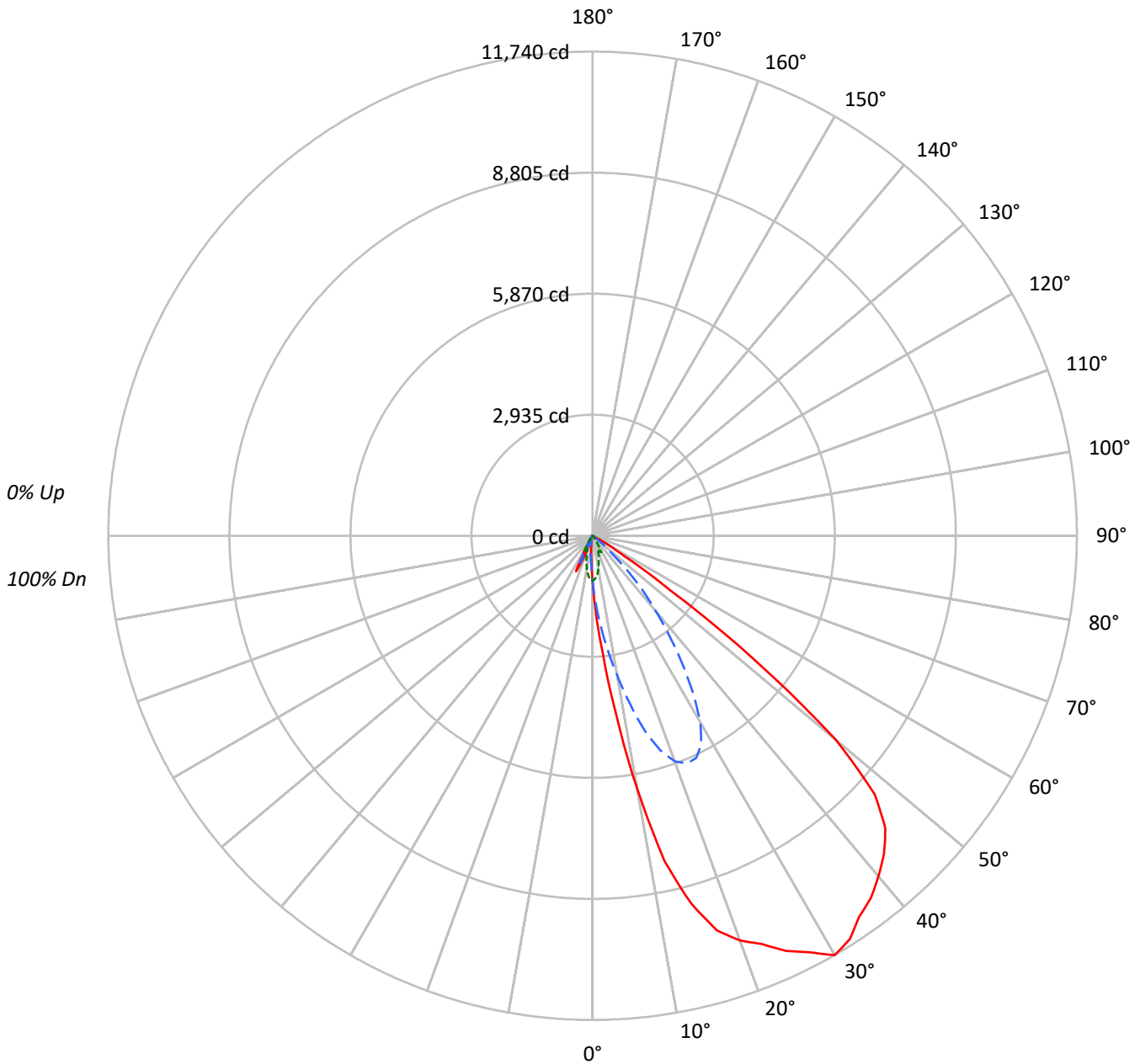
Input Watts (W): 78  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	59880	59880	59880
5°	158909	55514	21241
10°	346876	44889	6329
15°	523584	32804	5505
20°	609047	22519	8640
25°	671676	24298	57554
30°	743140	18294	17895
35°	754176	9356	6706
40°	771517	3807	3213
45°	777995	2349	1938
50°	655381	1603	1245
55°	216470	1099	698
60°	42551	1031	460
65°	5007	1349	545
70°	1330	1507	673
75°	212	1991	1101
80°	0	3283	1642
85°	0	6542	2642



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.3	2.6
10°-20°	734.0	13.1
20°-30°	1448.8	25.8
30°-40°	1634.2	29.1
40°-50°	1297.4	23.1
50°-60°	317.2	5.7
60°-70°	16.9	0.3
70°-80°	7.2	0.1
80°-90°	6.0	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°	2328.2	41.5
0°-40°	3962.4	70.7
0°-60°	5577.0	99.5
0°-90°	5607.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5607.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1092	1092	1092	1092	1092	
5°	2888	2164	1009	507	386	381
15°	9226	4903	578	114	97	2588
25°	11104	5943	402	727	952	5143
35°	11269	3783	140	111	100	7087
45°	10035	1179	30	31	25	7521
55°	2265	51	12	12	7	2657
65°	39	9	10	8	4	94
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°	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3
2.5°	1895.6	1859.1	1875.8	1849.7	1775.6	1752.7	1771.4	1743.3	1658.8	1626.4	1593.1
5°	2887.7	2855.4	2865.8	2806.4	2667.6	2619.6	2616.5	2530.9	2359.8	2263.9	2163.7
7.5°	4378.5	4333.7	4321.2	4178.2	3911.2	3811.0	3762.0	3551.2	3228.9	3000.4	2776.1
10°	6231.4	6275.2	6230.3	5998.7	5579.3	5391.6	5272.6	4874.1	4293.0	3858.0	3438.6
12.5°	8089.4	8116.5	8032.0	7744.1	7211.0	6985.6	6810.4	6300.2	5534.5	4795.9	4169.9
15°	9225.5	9353.8	9274.6	9073.2	8660.1	8386.7	8229.2	7599.1	6635.1	5823.5	4903.3
17.5°	10035.1	10154.0	10088.3	9923.5	9457.1	9237.0	9134.8	8616.3	7566.7	6535.0	5452.1
20°	10439.9	10584.9	10525.4	10338.7	9996.5	9812.9	9688.7	9182.7	8236.5	7063.9	5818.2
22.5°	10714.2	10874.9	10810.2	10640.2	10291.7	10077.9	10019.4	9540.6	8587.0	7381.0	5973.7
25°	11104.4	11239.0	11056.4	10846.7	10502.5	10277.1	10241.7	9752.4	8755.0	7501.0	5943.4
27.5°	11384.0	11543.6	11233.8	11021.0	10627.7	10390.8	10344.9	9884.9	8770.7	7406.1	5698.3
30°	11739.8	11636.5	11364.2	11055.4	10636.0	10383.5	10325.1	9807.7	8614.2	7056.6	5218.4
32.5°	11598.9	11573.9	11301.6	10938.5	10547.3	10292.8	10214.5	9569.8	8184.3	6453.6	4539.2
35°	11269.3	11348.5	11121.1	10895.8	10409.6	10144.6	10036.1	9219.3	7536.5	5677.4	3782.8
37.5°	11076.3	11126.3	10982.4	10706.9	10225.0	9876.5	9671.0	8629.8	6688.3	4698.8	3053.6
40°	10781.0	10908.3	10769.5	10453.4	9897.4	9419.6	9061.7	7564.7	5571.0	3704.6	2388.0
42.5°	10457.6	10571.3	10438.8	10060.1	9274.6	8634.0	8039.3	6312.7	4361.9	2830.4	1791.3
45°	10035.1	10137.3	9899.5	9310.0	8197.9	7314.3	6720.7	4957.6	3289.4	2079.2	1178.9
47.5°	9273.5	9246.4	8909.4	7993.4	6623.6	5831.8	5141.2	3551.2	2186.7	1177.8	586.3
50°	7684.6	7431.1	6935.6	5872.5	4445.3	3589.8	3118.3	1833.0	992.1	570.7	368.3
52.5°	4977.4	4694.7	4240.8	3259.1	2134.5	1713.0	1374.0	828.3	517.5	322.4	145.0
55°	2264.9	2064.6	1774.6	1316.6	916.0	761.6	644.7	419.4	277.5	120.0	51.1
57.5°	862.8	796.0	707.3	564.4	423.6	366.2	303.6	201.3	86.6	44.9	30.3
60°	388.1	359.9	330.7	258.7	181.5	130.4	99.1	54.2	36.5	26.1	19.8
62.5°	132.5	110.6	91.8	65.7	49.0	42.8	37.6	30.3	21.9	17.7	13.6
65°	38.6	37.6	35.5	31.3	25.0	23.0	21.9	17.7	13.6	11.5	9.4
67.5°	18.8	17.7	16.7	15.6	12.5	11.5	11.5	10.4	8.3	7.3	6.3
70°	8.3	8.3	7.3	7.3	6.3	6.3	6.3	5.2	5.2	5.2	5.2
72.5°	4.2	4.2	4.2	3.1	3.1	3.1	3.1	4.2	4.2	5.2	5.2
75°	1.0	2.1	2.1	2.1	2.1	3.1	3.1	4.2	4.2	5.2	5.2
77.5°	1.0	1.0	1.0	2.1	2.1	2.1	3.1	4.2	4.2	5.2	5.2
80°	0.0	1.0	1.0	2.1	2.1	2.1	3.1	3.1	4.2	5.2	5.2
82.5°	0.0	1.0	1.0	2.1	2.1	2.1	3.1	3.1	4.2	5.2	5.2
85°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	5.2
87.5°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	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°	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3
2.5°	1511.7	1489.8	1403.2	1336.4	1305.1	1303.0	1233.1	1190.4	1115.2	1056.8	1001.5
5°	1987.4	1890.4	1715.1	1576.4	1509.6	1475.2	1337.5	1238.3	1109.0	1008.8	909.7
7.5°	2471.5	2286.8	2040.6	1776.7	1668.2	1601.4	1388.6	1230.0	1057.9	918.1	795.0
10°	2967.0	2641.5	2274.3	1925.9	1769.4	1656.7	1383.4	1168.4	970.2	806.4	671.9
12.5°	3483.4	2970.2	2459.0	2022.9	1816.3	1668.2	1336.4	1078.7	862.8	688.5	560.2
15°	3918.5	3224.7	2575.8	2045.8	1801.7	1622.3	1236.3	965.0	748.0	578.0	461.1
17.5°	4254.4	3367.6	2597.7	1989.5	1720.3	1520.0	1106.9	839.8	627.0	476.8	361.0
20°	4423.4	3389.5	2528.9	1856.0	1573.2	1366.7	959.8	712.5	525.8	386.0	286.9
22.5°	4435.9	3287.3	2378.6	1683.8	1411.5	1201.8	838.8	614.5	461.1	346.4	272.3
25°	4273.2	3090.1	2177.3	1507.5	1245.6	1056.8	752.2	589.4	464.2	401.7	369.3
27.5°	3964.4	2816.8	1956.1	1331.2	1102.7	956.7	716.7	589.4	502.8	453.8	465.3
30°	3536.6	2468.3	1648.3	1091.2	897.2	769.9	563.4	441.3	346.4	289.0	278.5
32.5°	2981.6	2019.7	1278.0	806.4	654.1	555.0	380.8	276.5	223.3	218.0	211.8
35°	2453.7	1595.1	970.2	595.7	482.0	392.3	243.1	162.7	148.1	139.8	133.5
37.5°	1938.4	1193.5	696.9	433.0	330.7	249.3	125.2	105.4	91.8	83.5	76.2
40°	1457.4	857.6	491.4	261.9	173.2	107.5	75.1	64.7	57.4	53.2	51.1
42.5°	1030.7	570.7	304.6	110.6	82.4	67.8	52.2	45.9	41.7	39.6	37.6
45°	598.8	354.7	123.1	64.7	52.2	46.9	38.6	34.4	32.3	30.3	29.2
47.5°	374.5	142.9	63.6	41.7	36.5	33.4	28.2	27.1	25.0	24.0	24.0
50°	151.3	63.6	39.6	29.2	26.1	25.0	21.9	20.9	18.8	18.8	18.8
52.5°	57.4	37.6	27.1	20.9	18.8	17.7	15.6	15.6	14.6	14.6	14.6
55°	33.4	25.0	18.8	14.6	13.6	13.6	12.5	12.5	11.5	11.5	11.5
57.5°	21.9	16.7	13.6	10.4	10.4	10.4	9.4	9.4	9.4	9.4	9.4
60°	14.6	11.5	9.4	8.3	8.3	8.3	8.3	9.4	9.4	9.4	9.4
62.5°	10.4	9.4	8.3	8.3	8.3	8.3	8.3	9.4	9.4	9.4	10.4
65°	8.3	7.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	10.4	10.4
67.5°	6.3	6.3	6.3	6.3	7.3	7.3	8.3	9.4	9.4	9.4	10.4
70°	5.2	6.3	6.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	10.4
72.5°	5.2	6.3	6.3	7.3	7.3	7.3	8.3	9.4	9.4	9.4	10.4
75°	5.2	6.3	6.3	7.3	7.3	7.3	8.3	9.4	9.4	9.4	10.4
77.5°	6.3	6.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	10.4	10.4
80°	6.3	6.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	10.4	10.4
82.5°	6.3	6.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	10.4	10.4
85°	6.3	6.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	10.4	10.4
87.5°	6.3	6.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	9.4	10.4
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°	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3
2.5°	974.4	926.4	874.2	857.6	840.9	808.5	788.7	753.2	727.1	701.1	680.2
5°	844.0	767.8	704.2	677.1	651.0	606.1	574.8	537.3	507.0	480.9	456.9
7.5°	708.4	620.7	557.1	530.0	503.9	454.9	415.2	368.3	332.8	303.6	279.6
10°	583.2	499.7	430.9	398.5	368.3	317.2	279.6	242.0	211.8	186.7	164.8
12.5°	474.7	385.0	315.1	291.1	261.9	220.1	184.7	144.0	126.2	118.9	113.7
15°	368.3	287.9	229.5	207.6	181.5	141.9	126.2	118.9	113.7	110.6	106.4
17.5°	280.6	213.9	156.5	141.9	133.5	125.2	121.0	115.8	112.7	111.6	108.5
20°	220.1	161.7	147.1	142.9	142.9	140.8	137.7	137.7	136.7	139.8	139.8
22.5°	226.4	226.4	238.9	237.9	254.6	271.2	283.8	324.5	347.4	396.4	429.8
25°	395.4	433.0	476.8	490.3	522.7	570.7	620.7	683.3	727.1	774.1	792.9
27.5°	493.5	499.7	493.5	509.1	488.2	475.7	479.9	487.2	487.2	490.3	502.8
30°	292.1	306.7	320.3	330.7	325.5	320.3	318.2	302.5	302.5	296.3	291.1
32.5°	198.2	196.1	194.0	198.2	194.0	194.0	190.9	192.0	185.7	181.5	179.4
35°	135.6	129.4	122.1	123.1	118.9	117.9	114.8	114.8	110.6	108.5	107.5
37.5°	75.1	75.1	72.0	73.0	72.0	72.0	72.0	73.0	72.0	72.0	73.0
40°	51.1	51.1	50.1	51.1	50.1	51.1	52.2	52.2	52.2	52.2	51.1
42.5°	38.6	38.6	37.6	38.6	37.6	38.6	39.6	39.6	39.6	39.6	39.6
45°	30.3	30.3	30.3	30.3	30.3	30.3	30.3	31.3	31.3	30.3	30.3
47.5°	24.0	25.0	24.0	24.0	24.0	24.0	25.0	25.0	24.0	24.0	24.0
50°	19.8	19.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8
52.5°	15.6	14.6	14.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	12.5
55°	11.5	11.5	10.4	10.4	10.4	11.5	11.5	11.5	11.5	10.4	10.4
57.5°	10.4	10.4	10.4	9.4	9.4	10.4	10.4	9.4	9.4	9.4	8.3
60°	9.4	10.4	9.4	9.4	9.4	9.4	9.4	8.3	8.3	8.3	7.3
62.5°	10.4	10.4	9.4	9.4	9.4	9.4	8.3	8.3	8.3	7.3	7.3
65°	10.4	10.4	10.4	9.4	9.4	9.4	9.4	8.3	8.3	7.3	7.3
67.5°	10.4	10.4	10.4	10.4	9.4	9.4	9.4	8.3	8.3	8.3	7.3
70°	10.4	10.4	10.4	10.4	10.4	9.4	9.4	9.4	8.3	8.3	7.3
72.5°	10.4	10.4	10.4	9.4	9.4	9.4	9.4	9.4	8.3	8.3	7.3
75°	10.4	10.4	10.4	9.4	9.4	9.4	9.4	8.3	8.3	8.3	7.3
77.5°	10.4	10.4	10.4	9.4	9.4	9.4	9.4	8.3	8.3	8.3	7.3
80°	10.4	10.4	10.4	9.4	9.4	9.4	9.4	8.3	8.3	8.3	7.3
82.5°	10.4	10.4	10.4	9.4	9.4	9.4	9.4	8.3	8.3	7.3	7.3
85°	10.4	10.4	9.4	9.4	9.4	9.4	8.3	8.3	7.3	7.3	6.3
87.5°	9.4	9.4	9.4	9.4	8.3	8.3	8.3	7.3	6.3	6.3	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





TEST NUMBER: P179955

CATALOG NUMBER: LDA6A65940D010TE LARH40FL 6LAL1LI 30°

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3	1092.3
2.5°	655.2	651.0	647.9	654.1	652.0	626.0	629.1	628.0
5°	429.8	420.4	413.1	416.3	407.9	396.4	388.1	386.0
7.5°	255.6	245.2	238.9	232.6	230.6	216.0	209.7	213.9
10°	140.8	126.2	125.2	122.1	117.9	114.8	112.7	113.7
12.5°	108.5	107.5	105.4	104.3	102.2	101.2	100.2	99.1
15°	103.3	102.2	101.2	100.2	99.1	98.1	97.0	97.0
17.5°	106.4	106.4	105.4	104.3	104.3	105.4	104.3	103.3
20°	138.8	138.8	140.8	144.0	144.0	147.1	151.3	148.1
22.5°	450.7	473.6	501.8	510.2	559.2	598.8	671.9	639.5
25°	824.2	876.3	888.9	906.6	933.7	947.3	933.7	951.5
27.5°	500.8	518.5	520.6	521.6	527.9	526.8	513.3	521.6
30°	291.1	297.3	295.2	294.2	292.1	280.6	278.5	282.7
32.5°	182.6	180.5	179.4	178.4	178.4	172.1	175.3	173.2
35°	104.3	107.5	106.4	105.4	102.2	101.2	101.2	100.2
37.5°	69.9	70.9	69.9	68.9	66.8	65.7	64.7	63.6
40°	50.1	51.1	50.1	49.0	48.0	46.9	45.9	44.9
42.5°	37.6	38.6	37.6	37.6	35.5	34.4	33.4	32.3
45°	29.2	28.2	28.2	28.2	27.1	26.1	25.0	25.0
47.5°	24.0	24.0	24.0	23.0	21.9	21.9	21.9	20.9
50°	17.7	18.8	17.7	17.7	16.7	15.6	15.6	14.6
52.5°	12.5	12.5	11.5	11.5	10.4	9.4	9.4	9.4
55°	9.4	9.4	9.4	8.3	8.3	7.3	7.3	7.3
57.5°	8.3	7.3	7.3	7.3	6.3	6.3	5.2	5.2
60°	7.3	6.3	6.3	5.2	5.2	4.2	4.2	4.2
62.5°	6.3	5.2	5.2	5.2	4.2	4.2	4.2	4.2
65°	6.3	5.2	5.2	5.2	4.2	4.2	4.2	4.2
67.5°	6.3	6.3	5.2	5.2	5.2	4.2	4.2	4.2
70°	6.3	6.3	6.3	5.2	5.2	5.2	4.2	4.2
72.5°	7.3	6.3	6.3	6.3	5.2	5.2	5.2	5.2
75°	7.3	6.3	6.3	6.3	5.2	5.2	5.2	5.2
77.5°	7.3	6.3	6.3	6.3	5.2	5.2	5.2	5.2
80°	6.3	6.3	6.3	5.2	5.2	5.2	5.2	5.2
82.5°	6.3	6.3	6.3	6.3	5.2	5.2	5.2	5.2
85°	6.3	5.2	5.2	5.2	4.2	4.2	4.2	4.2
87.5°	5.2	4.2	4.2	3.1	3.1	3.1	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)