

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: P179902

Luminaire Tested: **LDA6A65835D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179902  
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: LDA6A65835D010TE LARH40FL 6LA1LI 30°  
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 40° Flood, 30° Tilt  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6901.0 lumens  
Efficiency: N/A  
Efficacy: 88.5 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

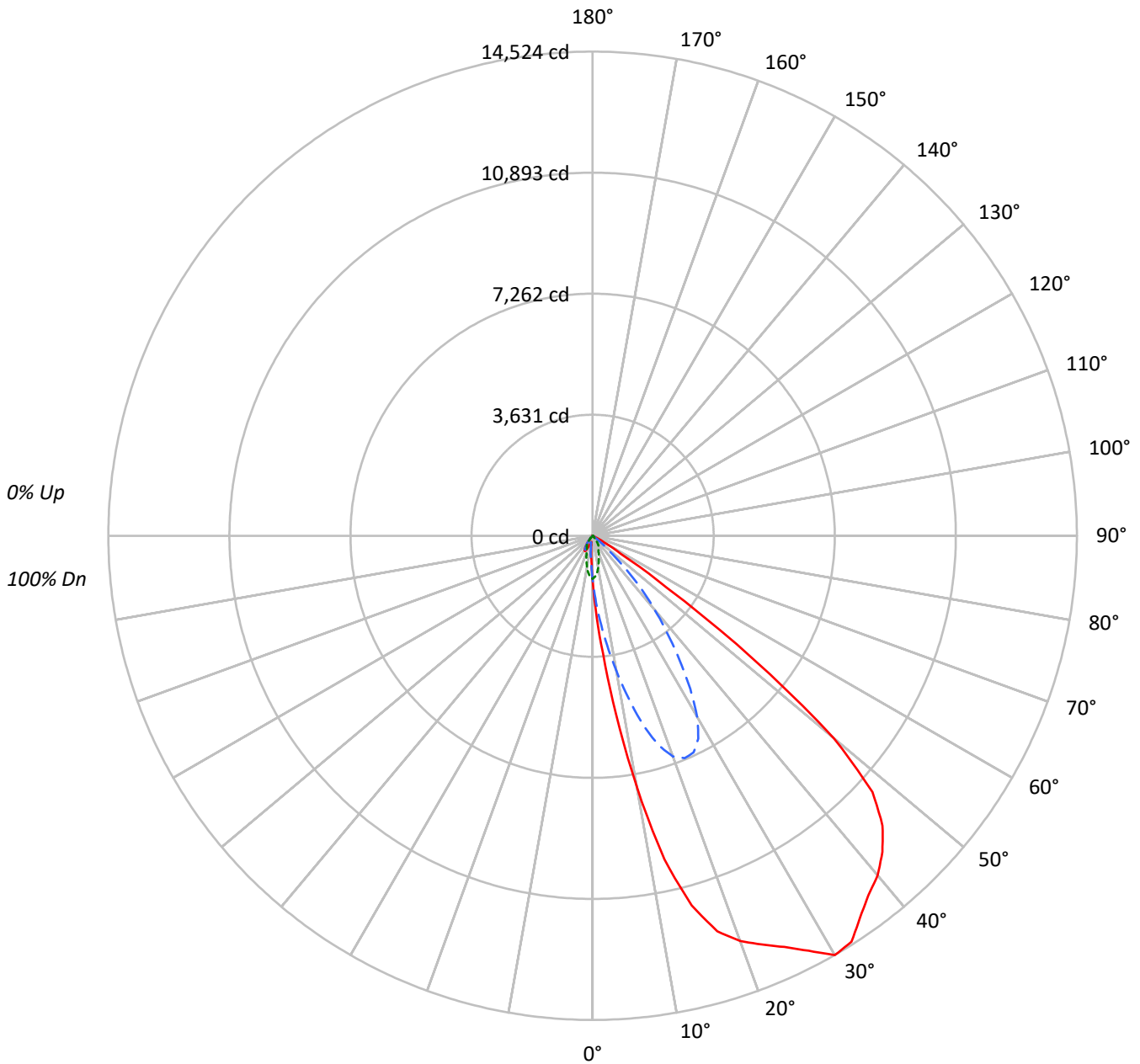
Input Watts (W): 78  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	70899	70899	70899
5°	194607	65331	26656
10°	426462	53467	10159
15°	651417	40698	11918
20°	754730	30278	18517
25°	823306	24897	29881
30°	919376	22579	30511
35°	935417	15493	20920
40°	951855	7342	10584
45°	953394	3055	4628
50°	806012	1322	1424
55°	259546	908	229
60°	51542	1042	0
65°	5266	1232	0
70°	577	1715	0
75°	0	2266	0
80°	0	3757	379
85°	0	7485	755



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.6	2.5
10°-20°	908.0	13.2
20°-30°	1738.6	25.2
30°-40°	2048.3	29.7
40°-50°	1608.9	23.3
50°-60°	392.1	5.7
60°-70°	16.8	0.2
70°-80°	6.3	0.1
80°-90°	6.3	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°	2822.2	40.9
0°-40°	4870.5	70.6
0°-60°	6871.5	99.6
0°-90°	6901.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6901.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1293	1293	1293	1293	1293	
5°	3536	2559	1187	622	484	467
15°	11478	5895	717	205	210	3204
25°	13611	7168	412	431	494	6344
35°	13978	4532	232	298	313	8764
45°	12298	1401	39	55	60	9240
55°	2716	51	10	6	2	3232
65°	41	6	10	6	0	107
75°	0	6	11	7	0	0
85°	0	7	12	7	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°	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3
2.5°	2216.8	2212.1	2179.8	2209.7	2119.0	2115.4	2074.8	2056.9	2004.5	1954.3	1882.8
5°	3536.4	3458.9	3395.6	3398.0	3223.8	3191.6	3100.9	3009.1	2868.3	2737.0	2559.3
7.5°	5390.5	5298.7	5165.0	5109.0	4776.1	4678.2	4490.9	4246.3	3939.7	3634.3	3305.0
10°	7661.1	7675.4	7502.4	7342.5	6839.0	6640.9	6337.9	5855.9	5274.8	4700.9	4117.5
12.5°	9945.9	9936.4	9729.9	9487.7	8867.3	8588.1	8184.8	7583.5	6813.9	5923.9	5011.1
15°	11477.9	11545.9	11458.8	11265.5	10735.7	10416.0	9961.4	9145.3	8207.5	7126.5	5895.2
17.5°	12439.5	12504.0	12472.9	12321.4	11853.7	11512.5	11133.1	10464.9	9380.4	8021.4	6592.0
20°	12937.1	13038.5	13024.2	12859.5	12506.3	12223.6	11804.8	11185.6	10246.6	8643.0	7043.0
22.5°	13268.8	13346.3	13367.8	13181.7	12816.6	12548.1	12241.5	11613.9	10731.0	9022.4	7222.0
25°	13611.2	13748.4	13613.6	13384.5	13049.2	12791.5	12464.6	11863.3	10962.4	9177.5	7168.3
27.5°	14031.2	14096.8	13791.3	13582.5	13210.3	12931.1	12583.9	12007.6	11003.0	9053.4	6861.7
30°	14523.9	14251.9	14038.3	13624.3	13201.9	12929.9	12576.7	11916.9	10789.4	8641.8	6267.5
32.5°	14442.8	14193.4	13951.2	13513.3	13095.8	12826.1	12432.4	11615.1	10284.7	7953.4	5447.8
35°	13977.5	14031.2	13769.9	13407.2	12934.7	12656.7	12227.2	11185.6	9428.1	7003.6	4531.5
37.5°	13584.9	13703.1	13532.4	13197.2	12717.5	12341.7	11761.8	10495.9	8310.1	5798.6	3662.9
40°	13301.0	13339.1	13247.3	12871.4	12295.2	11752.3	11081.8	9257.5	6952.3	4551.8	2890.9
42.5°	12860.7	12962.1	12799.9	12389.4	11516.1	10901.6	9930.4	7826.9	5400.1	3476.8	2176.3
45°	12297.5	12394.2	12193.7	11511.3	10296.7	9395.9	8211.1	6102.8	3994.6	2562.8	1400.7
47.5°	11378.8	11438.5	11050.7	10107.0	8341.1	7492.8	6278.2	4254.7	2573.6	1432.9	681.3
50°	9450.8	9422.1	8622.7	7461.8	5579.1	4689.0	3736.9	2306.3	1156.1	678.9	425.9
52.5°	6090.9	6025.3	5234.2	4178.3	2825.3	2156.0	1620.3	995.1	602.5	379.4	168.2
55°	2715.6	2690.5	2202.5	1710.9	1156.1	995.1	760.0	488.0	321.0	132.4	51.3
57.5°	1007.0	984.3	867.4	727.8	558.4	464.1	368.7	233.9	82.3	44.1	27.4
60°	470.1	468.9	412.8	340.0	236.2	179.0	103.8	54.9	34.6	23.9	15.5
62.5°	150.3	146.8	102.6	75.2	53.7	46.5	37.0	27.4	17.9	13.1	9.5
65°	40.6	40.6	37.0	31.0	25.1	21.5	17.9	13.1	8.4	7.2	6.0
67.5°	15.5	15.5	14.3	13.1	9.5	8.4	7.2	6.0	4.8	6.0	6.0
70°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.8	4.8	6.0
72.5°	0.0	0.0	1.2	1.2	2.4	2.4	3.6	3.6	4.8	6.0	6.0
75°	0.0	0.0	1.2	1.2	2.4	2.4	3.6	3.6	4.8	6.0	6.0
77.5°	0.0	0.0	1.2	1.2	2.4	2.4	3.6	3.6	4.8	6.0	6.0
80°	0.0	0.0	1.2	1.2	2.4	2.4	3.6	3.6	4.8	6.0	6.0
82.5°	0.0	0.0	1.2	2.4	2.4	2.4	3.6	4.8	4.8	6.0	7.2
85°	0.0	0.0	1.2	2.4	2.4	3.6	3.6	4.8	4.8	6.0	7.2
87.5°	0.0	0.0	1.2	2.4	2.4	3.6	3.6	4.8	4.8	6.0	7.2
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°	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3
2.5°	1830.3	1751.5	1642.9	1579.7	1564.2	1530.8	1472.3	1385.2	1313.6	1244.4	1203.9
5°	2408.9	2222.8	2014.0	1867.2	1807.6	1727.6	1585.7	1438.9	1304.1	1187.2	1095.3
7.5°	3022.2	2715.6	2377.9	2105.9	2008.0	1881.6	1650.1	1431.8	1246.8	1084.6	961.7
10°	3631.9	3137.9	2679.8	2286.0	2126.2	1954.3	1648.9	1366.1	1149.0	960.5	824.5
12.5°	4241.6	3531.7	2901.7	2394.6	2187.0	1969.9	1600.0	1265.9	1024.9	832.8	702.8
15°	4804.7	3845.4	3052.0	2431.6	2181.0	1924.5	1501.0	1144.2	894.8	717.1	596.6
17.5°	5224.7	4010.1	3086.6	2375.5	2086.8	1802.8	1349.4	1001.0	770.8	614.5	491.6
20°	5431.1	4036.3	3004.3	2215.6	1924.5	1629.8	1183.6	863.8	664.6	519.0	415.2
22.5°	5431.1	3912.3	2825.3	2015.2	1721.7	1430.6	1023.7	750.5	581.1	452.2	365.1
25°	5224.7	3665.3	2585.5	1783.7	1498.6	1233.7	885.3	665.8	516.6	411.6	338.8
27.5°	4823.8	3324.0	2277.7	1526.0	1279.0	1058.3	775.5	588.2	467.7	371.1	372.3
30°	4272.6	2905.3	1924.5	1254.0	1053.5	869.8	652.6	492.8	374.6	356.7	367.5
32.5°	3635.5	2404.1	1524.8	972.4	816.1	684.9	496.3	348.4	298.3	300.7	312.6
35°	2981.6	1892.3	1147.8	720.6	607.3	496.3	325.7	229.1	226.7	231.5	239.8
37.5°	2354.0	1416.2	830.4	527.4	408.0	305.4	175.4	157.5	157.5	162.3	167.0
40°	1763.4	1004.6	571.5	312.6	198.1	139.6	111.0	102.6	101.4	102.6	108.6
42.5°	1211.0	635.9	340.0	125.3	95.5	81.1	70.4	64.4	63.2	64.4	68.0
45°	680.1	391.3	132.4	66.8	57.3	51.3	44.1	40.6	39.4	39.4	41.8
47.5°	425.9	155.1	59.7	41.8	35.8	33.4	28.6	26.2	25.1	25.1	26.2
50°	163.5	60.8	37.0	27.4	23.9	21.5	19.1	16.7	15.5	15.5	16.7
52.5°	56.1	35.8	23.9	17.9	15.5	14.3	11.9	10.7	10.7	10.7	10.7
55°	31.0	21.5	14.3	10.7	9.5	9.5	9.5	9.5	9.5	9.5	9.5
57.5°	19.1	13.1	9.5	8.4	8.4	8.4	8.4	8.4	8.4	9.5	9.5
60°	10.7	8.4	7.2	7.2	7.2	7.2	8.4	8.4	8.4	9.5	9.5
62.5°	7.2	7.2	7.2	7.2	7.2	7.2	8.4	8.4	9.5	9.5	9.5
65°	6.0	6.0	6.0	7.2	7.2	7.2	8.4	8.4	9.5	9.5	9.5
67.5°	6.0	6.0	7.2	7.2	7.2	8.4	8.4	9.5	9.5	9.5	9.5
70°	6.0	7.2	7.2	8.4	8.4	8.4	9.5	9.5	9.5	10.7	10.7
72.5°	6.0	7.2	7.2	8.4	8.4	8.4	9.5	9.5	10.7	10.7	10.7
75°	7.2	7.2	7.2	8.4	8.4	8.4	9.5	10.7	10.7	10.7	10.7
77.5°	7.2	7.2	8.4	8.4	8.4	9.5	9.5	10.7	10.7	10.7	10.7
80°	7.2	7.2	8.4	8.4	9.5	9.5	10.7	10.7	10.7	11.9	11.9
82.5°	7.2	7.2	8.4	9.5	9.5	9.5	10.7	10.7	11.9	11.9	11.9
85°	7.2	8.4	8.4	9.5	9.5	9.5	10.7	10.7	11.9	11.9	11.9
87.5°	7.2	8.4	8.4	9.5	9.5	9.5	10.7	10.7	11.9	11.9	11.9
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°	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3
2.5°	1150.2	1100.1	1050.0	1013.0	995.1	977.2	937.8	886.5	865.0	834.0	816.1
5°	1002.2	917.5	850.7	806.6	780.3	745.7	700.4	650.3	621.6	589.4	567.9
7.5°	849.5	750.5	686.0	645.5	619.2	576.3	519.0	459.4	424.8	389.0	363.9
10°	715.9	621.6	548.8	502.3	468.9	418.8	361.5	319.8	289.9	258.9	233.9
12.5°	597.8	496.3	418.8	379.4	356.7	309.0	261.3	214.8	196.9	190.9	190.9
15°	484.4	392.5	326.9	293.5	269.6	218.3	208.8	206.4	205.2	204.0	206.4
17.5°	394.9	317.4	248.2	231.5	229.1	227.9	229.1	229.1	230.3	233.9	239.8
20°	331.7	260.1	255.3	256.5	256.5	261.3	267.3	272.0	276.8	282.8	293.5
22.5°	294.7	293.5	301.9	303.1	309.0	316.2	326.9	334.1	346.0	352.0	367.5
25°	340.0	348.4	363.9	368.7	378.2	390.2	406.9	416.4	430.7	437.9	455.8
27.5°	385.4	398.5	417.6	423.6	431.9	451.0	462.9	471.3	478.4	483.2	494.0
30°	381.8	393.7	412.8	414.0	425.9	439.1	446.2	453.4	458.2	457.0	462.9
32.5°	323.3	334.1	352.0	352.0	365.1	375.8	379.4	385.4	385.4	385.4	387.8
35°	248.2	255.3	267.3	270.8	281.6	288.7	291.1	298.3	298.3	295.9	295.9
37.5°	171.8	181.4	189.7	192.1	199.3	204.0	210.0	211.2	208.8	210.0	210.0
40°	112.2	118.1	124.1	125.3	131.2	134.8	140.8	140.8	142.0	140.8	143.2
42.5°	69.2	74.0	77.6	79.9	82.3	84.7	88.3	89.5	90.7	89.5	91.9
45°	43.0	45.3	47.7	48.9	50.1	51.3	54.9	54.9	54.9	54.9	56.1
47.5°	26.2	27.4	28.6	28.6	29.8	31.0	32.2	32.2	32.2	32.2	33.4
50°	15.5	16.7	16.7	16.7	17.9	17.9	19.1	19.1	19.1	17.9	19.1
52.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	9.5	10.7
55°	9.5	9.5	8.4	8.4	8.4	8.4	8.4	7.2	6.0	6.0	4.8
57.5°	8.4	8.4	8.4	8.4	8.4	7.2	7.2	6.0	6.0	4.8	3.6
60°	8.4	8.4	8.4	8.4	8.4	7.2	7.2	6.0	4.8	4.8	3.6
62.5°	9.5	8.4	8.4	8.4	8.4	7.2	7.2	6.0	4.8	4.8	3.6
65°	9.5	9.5	8.4	8.4	8.4	7.2	7.2	6.0	6.0	4.8	3.6
67.5°	9.5	9.5	9.5	8.4	9.5	8.4	7.2	7.2	6.0	4.8	4.8
70°	10.7	9.5	9.5	9.5	9.5	8.4	8.4	7.2	6.0	4.8	4.8
72.5°	10.7	10.7	9.5	9.5	9.5	8.4	8.4	7.2	6.0	6.0	4.8
75°	10.7	10.7	9.5	9.5	9.5	8.4	8.4	7.2	7.2	6.0	4.8
77.5°	10.7	10.7	10.7	9.5	9.5	9.5	8.4	8.4	7.2	6.0	4.8
80°	10.7	10.7	10.7	10.7	10.7	9.5	9.5	8.4	7.2	6.0	4.8
82.5°	11.9	10.7	10.7	10.7	10.7	9.5	9.5	8.4	7.2	6.0	6.0
85°	11.9	11.9	10.7	10.7	10.7	9.5	9.5	8.4	7.2	7.2	6.0
87.5°	11.9	10.7	10.7	10.7	10.7	9.5	9.5	8.4	7.2	6.0	6.0
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: P179902

CATALOG NUMBER: LDA6A65835D010TE LARH40FL 6LA1LI 30°

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3	1293.3
2.5°	798.2	788.7	788.7	772.0	769.6	756.4	767.2	760.0
5°	544.1	528.6	523.8	507.1	501.1	485.6	490.4	484.4
7.5°	342.4	326.9	322.1	310.2	303.1	291.1	292.3	288.7
10°	208.8	194.5	190.9	187.3	183.7	182.5	183.7	182.5
12.5°	189.7	188.5	186.1	187.3	184.9	186.1	187.3	186.1
15°	206.4	208.8	206.4	207.6	206.4	208.8	210.0	210.0
17.5°	242.2	247.0	244.6	248.2	247.0	252.9	252.9	252.9
20°	297.1	305.4	303.1	307.8	307.8	315.0	315.0	317.4
22.5°	373.4	384.2	383.0	393.7	391.3	399.7	399.7	402.1
25°	465.3	476.1	477.3	484.4	483.2	491.6	491.6	494.0
27.5°	503.5	509.5	508.3	511.9	513.0	517.8	521.4	519.0
30°	472.5	477.3	476.1	478.4	478.4	482.0	485.6	482.0
32.5°	397.3	400.9	400.9	405.7	402.1	403.3	409.2	405.7
35°	304.2	306.6	304.2	306.6	307.8	307.8	313.8	312.6
37.5°	217.1	218.3	218.3	221.9	218.3	218.3	224.3	225.5
40°	145.6	146.8	145.6	150.3	147.9	147.9	151.5	147.9
42.5°	93.1	94.3	93.1	96.6	94.3	96.6	97.8	99.0
45°	57.3	57.3	56.1	58.5	57.3	58.5	59.7	59.7
47.5°	33.4	33.4	32.2	34.6	33.4	33.4	33.4	34.6
50°	17.9	17.9	17.9	19.1	17.9	17.9	17.9	16.7
52.5°	9.5	9.5	8.4	9.5	8.4	8.4	8.4	8.4
55°	4.8	3.6	3.6	3.6	2.4	2.4	2.4	2.4
57.5°	3.6	2.4	2.4	1.2	1.2	1.2	0.0	0.0
60°	2.4	2.4	1.2	1.2	0.0	0.0	0.0	0.0
62.5°	2.4	2.4	1.2	1.2	0.0	0.0	0.0	0.0
65°	2.4	2.4	1.2	1.2	0.0	0.0	0.0	0.0
67.5°	3.6	2.4	2.4	1.2	1.2	0.0	0.0	0.0
70°	3.6	2.4	2.4	1.2	1.2	0.0	0.0	0.0
72.5°	3.6	2.4	2.4	2.4	1.2	1.2	0.0	0.0
75°	3.6	3.6	2.4	2.4	1.2	1.2	0.0	0.0
77.5°	4.8	3.6	2.4	2.4	1.2	1.2	0.0	0.0
80°	4.8	3.6	2.4	2.4	2.4	1.2	1.2	1.2
82.5°	4.8	3.6	3.6	2.4	2.4	1.2	1.2	1.2
85°	4.8	3.6	3.6	2.4	2.4	1.2	1.2	1.2
87.5°	4.8	3.6	3.6	2.4	2.4	1.2	1.2	1.2
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)