

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: P179654

Luminaire Tested: **LDA6A45835D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179654
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26672)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A45835D010TE 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: 5078.0 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Spacing Criteria (0/90/45): 2.54 / 0.51 / 1.33
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

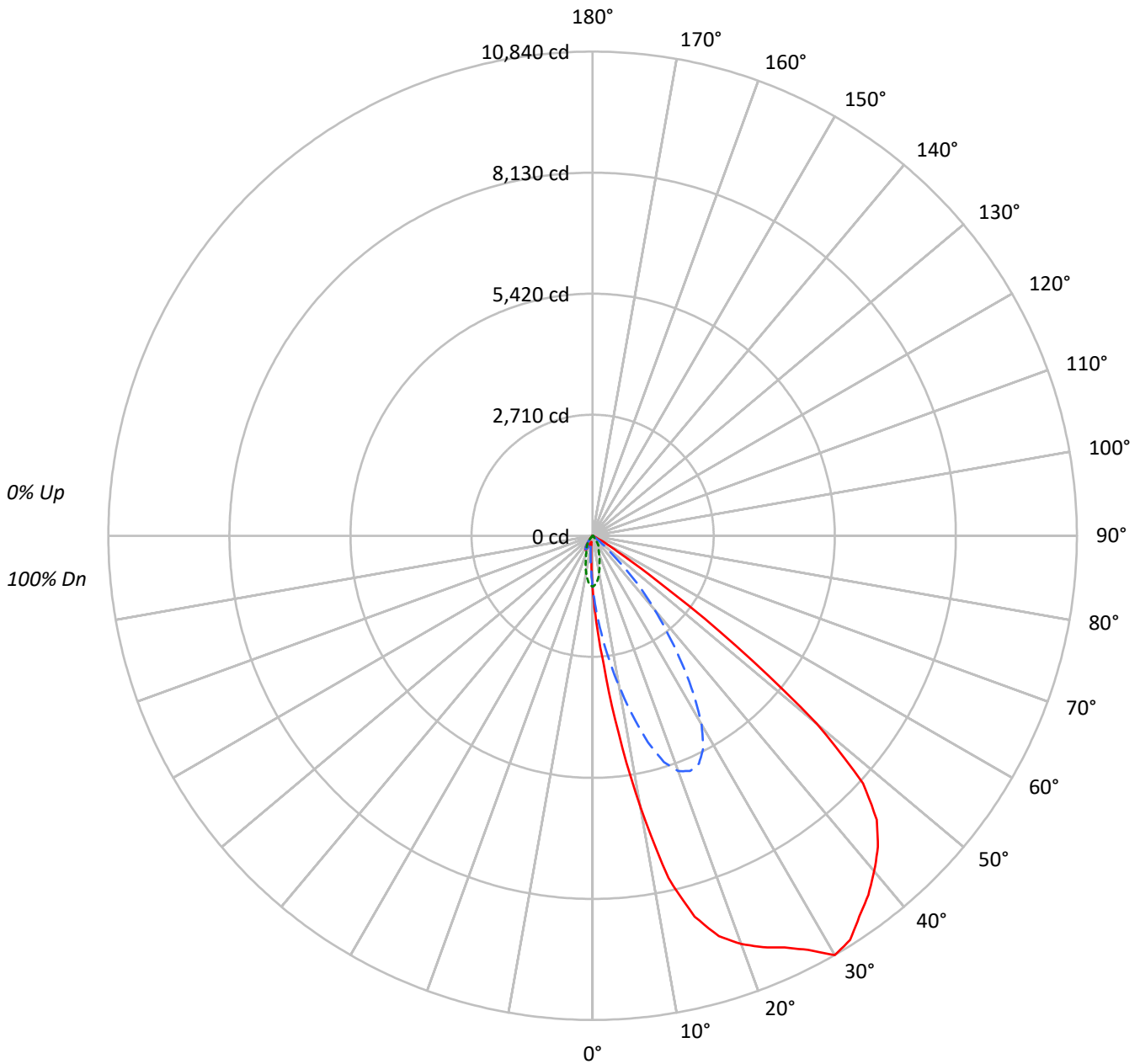
Input Watts (W): 53
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	99	99	97	96	95	94	93	91																			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82																			
3	98	90	84	79	96	89	83	79	86	81	77	84	80	76	81	78	75	73																			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65																			
5	85	75	68	62	83	74	67	62	72	66	62	70	65	61	69	64	60	59																			
6	80	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53																			
7	74	63	55	50	73	62	55	50	61	54	50	59	54	49	58	53	49	47																			
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	54	48	45	43																			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	44	40	39																			
10	61	49	42	37	60	49	42	37	48	41	37	47	41	37	46	41	37	35																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	62490	62490	62490
5°	159795	57610	21021
10°	343431	46475	7738
15°	500985	33996	8854
20°	567294	24444	13651
25°	614987	19658	21171
30°	686194	16142	20383
35°	696482	10440	13585
40°	701615	5009	6870
45°	697227	2093	2869
50°	558233	938	938
55°	166484	669	96
60°	33989	767	0
65°	3243	908	0
70°	321	1282	0
75°	0	1694	0
80°	0	2841	316
85°	0	5661	629



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.2	2.9
10°-20°	712.2	14.0
20°-30°	1309.0	25.8
30°-40°	1501.7	29.6
40°-50°	1136.2	22.4
50°-60°	251.8	5.0
60°-70°	10.7	0.2
70°-80°	4.7	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°	2168.4	42.7
0°-40°	3670.1	72.3
0°-60°	5058.1	99.6
0°-90°	5078.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5078.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1140	1140	1140	1140	1140	
5°	2904	2169	1047	512	382	384
15°	8827	4788	599	155	156	2460
25°	10167	5630	325	315	350	4744
35°	10407	3475	156	195	203	6519
45°	8993	983	27	35	37	6712
55°	1742	37	7	5	1	2156
65°	25	5	7	4	0	67
75°	0	4	8	5	0	0
85°	0	5	9	5	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°	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9
2.5°	1930.9	1911.9	1916.9	1940.8	1841.9	1838.9	1792.9	1786.9	1740.9	1656.9	1614.9
5°	2903.8	2891.8	2870.8	2878.8	2765.8	2689.8	2609.8	2551.8	2433.8	2274.8	2168.8
7.5°	4455.7	4325.7	4262.7	4141.7	3997.7	3850.7	3702.7	3530.7	3282.7	3005.8	2781.8
10°	6169.5	6112.5	5983.5	5906.5	5587.6	5371.6	5141.6	4789.6	4335.7	3833.7	3415.7
12.5°	7849.4	7782.4	7587.4	7423.4	6998.5	6805.5	6506.5	6062.5	5486.6	4771.6	4110.7
15°	8827.3	8842.3	8621.3	8613.3	8247.4	7996.4	7737.4	7212.4	6481.5	5660.6	4787.6
17.5°	9400.3	9437.3	9218.3	9280.3	8915.3	8655.3	8462.3	8078.4	7301.4	6316.5	5310.6
20°	9724.2	9783.2	9550.3	9598.3	9286.3	9110.3	8914.3	8534.3	7848.4	6761.5	5607.6
22.5°	9971.2	9994.2	9735.2	9799.2	9458.3	9282.3	9143.3	8787.3	8110.4	6996.5	5700.6
25°	10167.2	10225.2	9929.2	9934.2	9595.3	9419.3	9265.3	8941.3	8222.4	7058.5	5629.6
27.5°	10449.2	10496.2	10061.2	10023.2	9695.2	9501.3	9334.3	9015.3	8217.4	6920.5	5361.6
30°	10840.2	10578.2	10133.2	10035.2	9666.3	9469.3	9290.3	8876.3	8033.4	6548.5	4874.6
32.5°	10728.2	10516.2	10077.2	9921.2	9555.3	9344.3	9139.3	8635.3	7606.4	5972.5	4210.7
35°	10407.2	10339.2	9878.2	9829.2	9386.3	9165.3	8959.3	8270.4	6951.5	5219.6	3474.7
37.5°	10136.2	10020.2	9723.2	9646.3	9181.3	8937.3	8609.3	7725.4	6085.5	4259.7	2774.8
40°	9804.2	9726.2	9439.3	9357.3	8819.3	8447.3	8046.4	6737.5	5039.6	3315.7	2142.8
42.5°	9451.3	9381.3	9110.3	8938.3	8221.4	7729.4	7106.4	5541.6	3879.7	2498.8	1605.9
45°	8993.3	8894.3	8555.3	8235.4	7207.4	6503.5	5802.6	4228.7	2839.8	1778.9	982.9
47.5°	8206.4	8049.4	7638.4	6995.5	5732.6	5056.6	4326.7	2867.8	1753.9	915.9	495.0
50°	6545.5	6271.5	5724.6	4959.6	3671.7	3023.8	2451.8	1457.9	752.9	472.0	291.0
52.5°	4033.7	3782.7	3316.7	2578.8	1692.9	1303.9	1026.9	678.9	415.0	267.0	108.0
55°	1741.9	1584.9	1361.9	1038.9	737.9	607.0	488.0	339.0	214.0	82.0	37.0
57.5°	657.9	611.0	554.0	455.0	340.0	284.0	239.0	150.0	52.0	31.0	21.0
60°	310.0	281.0	248.0	197.0	130.0	94.0	59.0	38.0	25.0	17.0	12.0
62.5°	85.0	64.0	53.0	43.0	33.0	29.0	25.0	19.0	14.0	9.0	7.0
65°	25.0	22.0	21.0	18.0	15.0	13.0	11.0	9.0	7.0	5.0	5.0
67.5°	9.0	9.0	8.0	7.0	6.0	5.0	5.0	4.0	4.0	4.0	4.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	4.0	4.0
72.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	3.0	4.0	4.0
75°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	3.0	4.0	4.0
77.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	4.0	5.0
80°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	4.0	5.0
82.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	4.0	5.0
85°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	4.0	5.0
87.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	4.0	5.0
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°	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9
2.5°	1579.9	1521.9	1439.9	1397.9	1360.9	1350.9	1274.9	1225.9	1167.9	1107.9	1044.9
5°	2069.8	1921.9	1764.9	1632.9	1565.9	1526.9	1378.9	1267.9	1160.9	1046.9	949.9
7.5°	2555.8	2290.8	2061.8	1848.9	1731.9	1643.9	1431.9	1264.9	1102.9	954.9	823.9
10°	3025.8	2643.8	2278.8	1990.8	1829.9	1698.9	1424.9	1207.9	1004.9	834.9	697.9
12.5°	3501.7	2944.8	2459.8	2066.8	1874.9	1706.9	1376.9	1112.9	897.9	717.9	576.0
15°	3926.7	3178.8	2572.8	2084.8	1852.9	1654.9	1282.9	991.9	777.9	599.0	475.0
17.5°	4221.7	3304.7	2579.8	2018.8	1760.9	1547.9	1151.9	864.9	656.9	499.0	390.0
20°	4355.7	3300.7	2484.8	1881.9	1611.9	1389.9	996.9	734.9	548.0	419.0	326.0
22.5°	4315.7	3174.8	2316.8	1687.9	1429.9	1207.9	852.9	620.0	471.0	360.0	286.0
25°	4115.7	2954.8	2119.8	1493.9	1233.9	1026.9	722.9	530.0	409.0	325.0	260.0
27.5°	3788.7	2654.8	1854.9	1266.9	1028.9	867.9	609.0	458.0	360.0	287.0	271.0
30°	3310.7	2290.8	1543.9	1021.9	830.9	686.9	494.0	369.0	288.0	255.0	256.0
32.5°	2783.8	1889.9	1213.9	780.9	626.0	530.0	365.0	258.0	211.0	209.0	210.0
35°	2258.8	1471.9	902.9	571.0	459.0	382.0	235.0	162.0	157.0	156.0	158.0
37.5°	1792.9	1094.9	650.9	399.0	304.0	233.0	127.0	110.0	106.0	108.0	109.0
40°	1338.9	767.9	440.0	236.0	148.0	107.0	77.0	71.0	69.0	70.0	70.0
42.5°	920.9	480.0	262.0	98.0	71.0	59.0	49.0	46.0	44.0	43.0	44.0
45°	496.0	299.0	102.0	50.0	42.0	38.0	31.0	29.0	28.0	27.0	27.0
47.5°	317.0	111.0	46.0	31.0	27.0	25.0	21.0	19.0	18.0	17.0	17.0
50°	119.0	43.0	28.0	20.0	17.0	16.0	13.0	12.0	11.0	11.0	11.0
52.5°	41.0	26.0	18.0	13.0	11.0	10.0	9.0	8.0	8.0	8.0	8.0
55°	23.0	16.0	11.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0
57.5°	14.0	9.0	7.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0
60°	8.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0
62.5°	5.0	5.0	5.0	5.0	5.0	6.0	6.0	7.0	7.0	7.0	7.0
65°	5.0	5.0	5.0	5.0	5.0	6.0	6.0	7.0	7.0	7.0	7.0
67.5°	4.0	5.0	5.0	6.0	6.0	6.0	6.0	7.0	7.0	8.0	7.0
70°	5.0	5.0	5.0	6.0	6.0	6.0	7.0	7.0	8.0	8.0	8.0
72.5°	5.0	5.0	5.0	6.0	6.0	6.0	7.0	7.0	8.0	8.0	8.0
75°	5.0	5.0	6.0	6.0	6.0	7.0	7.0	8.0	8.0	8.0	8.0
77.5°	5.0	5.0	6.0	6.0	6.0	7.0	7.0	8.0	8.0	9.0	8.0
80°	5.0	5.0	6.0	7.0	7.0	7.0	7.0	8.0	8.0	9.0	9.0
82.5°	5.0	6.0	6.0	7.0	7.0	7.0	8.0	8.0	9.0	9.0	9.0
85°	5.0	6.0	6.0	7.0	7.0	7.0	8.0	8.0	9.0	9.0	9.0
87.5°	5.0	6.0	6.0	7.0	7.0	7.0	8.0	8.0	9.0	9.0	9.0
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°	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9
2.5°	1010.9	952.9	905.9	906.9	867.9	837.9	799.9	778.9	761.9	733.9	707.9
5°	878.9	789.9	722.9	709.9	664.9	619.0	572.0	537.0	512.0	485.0	460.0
7.5°	735.9	634.0	557.0	539.0	501.0	458.0	415.0	380.0	350.0	321.0	291.0
10°	597.0	504.0	434.0	416.0	378.0	333.0	292.0	261.0	238.0	215.0	192.0
12.5°	483.0	401.0	335.0	312.0	281.0	246.0	213.0	183.0	158.0	148.0	145.0
15°	391.0	313.0	261.0	242.0	216.0	180.0	161.0	156.0	155.0	155.0	155.0
17.5°	316.0	255.0	208.0	188.0	175.0	173.0	173.0	173.0	174.0	176.0	180.0
20°	265.0	211.0	193.0	195.0	195.0	197.0	201.0	204.0	208.0	213.0	219.0
22.5°	235.0	224.0	222.0	228.0	229.0	235.0	243.0	249.0	256.0	264.0	269.0
25°	257.0	261.0	264.0	273.0	276.0	286.0	298.0	307.0	315.0	324.0	330.0
27.5°	280.0	287.0	293.0	302.0	304.0	317.0	327.0	333.0	339.0	343.0	347.0
30°	264.0	271.0	277.0	285.0	285.0	299.0	304.0	309.0	314.0	316.0	320.0
32.5°	217.0	224.0	230.0	236.0	237.0	247.0	253.0	255.0	259.0	260.0	263.0
35°	163.0	166.0	172.0	177.0	178.0	185.0	190.0	192.0	195.0	195.0	197.0
37.5°	112.0	114.0	119.0	122.0	124.0	129.0	132.0	134.0	136.0	137.0	138.0
40°	73.0	74.0	77.0	80.0	82.0	85.0	87.0	89.0	90.0	92.0	92.0
42.5°	45.0	46.0	48.0	50.0	50.0	53.0	54.0	56.0	57.0	58.0	58.0
45°	28.0	29.0	29.0	30.0	31.0	32.0	34.0	34.0	35.0	35.0	35.0
47.5°	17.0	18.0	17.0	18.0	18.0	19.0	20.0	20.0	20.0	20.0	20.0
50°	11.0	11.0	11.0	11.0	11.0	11.0	12.0	12.0	12.0	12.0	11.0
52.5°	8.0	8.0	7.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0
55°	7.0	7.0	7.0	7.0	6.0	6.0	6.0	5.0	5.0	4.0	4.0
57.5°	7.0	7.0	6.0	6.0	6.0	5.0	5.0	5.0	4.0	4.0	3.0
60°	7.0	7.0	6.0	6.0	6.0	5.0	5.0	4.0	4.0	3.0	3.0
62.5°	7.0	7.0	6.0	6.0	6.0	6.0	5.0	5.0	4.0	4.0	3.0
65°	7.0	7.0	7.0	6.0	6.0	6.0	5.0	5.0	4.0	4.0	3.0
67.5°	7.0	7.0	7.0	7.0	6.0	6.0	6.0	5.0	4.0	4.0	3.0
70°	7.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0	5.0	4.0	3.0
72.5°	8.0	8.0	7.0	7.0	7.0	6.0	6.0	5.0	5.0	4.0	4.0
75°	8.0	8.0	7.0	7.0	7.0	6.0	6.0	5.0	5.0	4.0	4.0
77.5°	8.0	8.0	8.0	8.0	7.0	7.0	6.0	6.0	5.0	5.0	4.0
80°	8.0	8.0	8.0	8.0	7.0	7.0	7.0	6.0	5.0	5.0	4.0
82.5°	8.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	5.0	5.0	4.0
85°	8.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	5.0	5.0	4.0
87.5°	8.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	5.0	5.0	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



TEST NUMBER: P179654

CATALOG NUMBER: LDA6A45835D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9	1139.9
2.5°	683.9	670.9	669.9	658.9	637.0	647.9	634.0	624.0
5°	438.0	424.0	410.0	412.0	396.0	399.0	388.0	382.0
7.5°	278.0	263.0	259.0	259.0	241.0	241.0	234.0	230.0
10°	175.0	163.0	159.0	152.0	144.0	143.0	140.0	139.0
12.5°	142.0	142.0	139.0	140.0	140.0	140.0	139.0	139.0
15°	155.0	156.0	153.0	154.0	156.0	155.0	156.0	156.0
17.5°	179.0	184.0	180.0	182.0	186.0	185.0	186.0	187.0
20°	219.0	227.0	222.0	226.0	231.0	230.0	233.0	234.0
22.5°	273.0	283.0	278.0	282.0	290.0	288.0	292.0	294.0
25°	333.0	343.0	337.0	342.0	347.0	349.0	349.0	350.0
27.5°	347.0	353.0	349.0	354.0	356.0	358.0	356.0	357.0
30°	318.0	323.0	319.0	324.0	324.0	326.0	324.0	322.0
32.5°	262.0	266.0	261.0	267.0	266.0	267.0	268.0	269.0
35°	198.0	200.0	197.0	198.0	199.0	200.0	203.0	203.0
37.5°	138.0	141.0	138.0	139.0	139.0	141.0	143.0	143.0
40°	92.0	95.0	92.0	94.0	93.0	94.0	96.0	96.0
42.5°	58.0	60.0	58.0	59.0	59.0	59.0	60.0	61.0
45°	35.0	36.0	35.0	36.0	36.0	36.0	37.0	37.0
47.5°	20.0	21.0	20.0	20.0	21.0	20.0	21.0	21.0
50°	11.0	11.0	11.0	11.0	11.0	10.0	10.0	11.0
52.5°	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
55°	3.0	3.0	2.0	2.0	2.0	1.0	2.0	1.0
57.5°	2.0	2.0	1.0	1.0	1.0	1.0	0.0	0.0
60°	2.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0
62.5°	2.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0
65°	2.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0
67.5°	3.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0
70°	3.0	2.0	2.0	1.0	1.0	0.0	0.0	0.0
72.5°	3.0	2.0	2.0	2.0	1.0	1.0	0.0	0.0
75°	3.0	2.0	2.0	2.0	1.0	1.0	0.0	0.0
77.5°	3.0	3.0	2.0	2.0	1.0	1.0	1.0	0.0
80°	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
82.5°	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
85°	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
87.5°	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
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)