

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: P179680

Luminaire Tested: **LDA6A45927D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179680
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26675)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A45927D010TE LARH40FL 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3641.4 lumens
Efficiency: N/A
Efficacy: 68.7 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 0.5 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

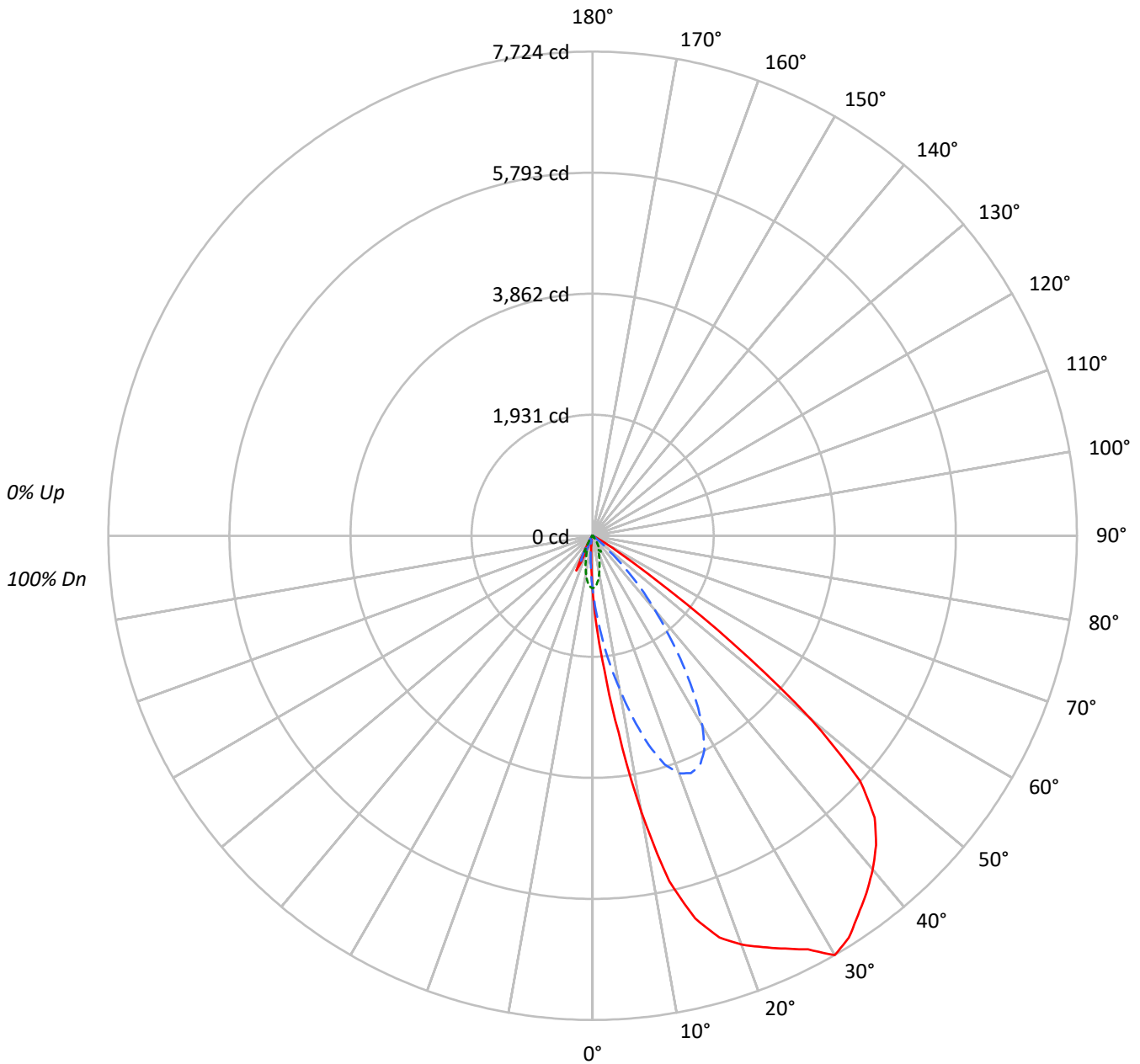
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	63	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	65	59	55	63	58	54	53																			
7	74	63	55	50	73	62	55	50	61	54	50	59	54	50	58	53	49	48																			
8	69	58	50	45	68	57	50	45	56	50	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	41	39																			
10	61	49	42	37	60	49	42	37	48	42	37	47	41	37	46	41	37	35																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	46049	46049	46049
5°	117950	42461	15562
10°	248726	33884	4409
15°	358708	24035	3666
20°	404857	15961	5157
25°	439574	16084	37145
30°	488917	10603	12989
35°	493952	6016	4986
40°	497232	2476	2254
45°	493160	1551	1310
50°	387100	1049	921
55°	116498	736	440
60°	24603	669	340
65°	2789	791	298
70°	737	978	497
75°	169	1292	657
80°	0	2178	979
85°	0	3837	1950



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.1	2.9
10°-20°	507.7	13.9
20°-30°	957.2	26.3
30°-40°	1061.7	29.2
40°-50°	809.1	22.2
50°-60°	180.5	5.0
60°-70°	9.8	0.3
70°-80°	4.5	0.1
80°-90°	3.8	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°	1571.9	43.2
0°-40°	2633.6	72.3
0°-60°	3623.2	99.5
0°-90°	3641.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3641.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	840	840	840	840	840	
5°	2143	1588	772	370	283	277
15°	6320	3460	424	75	65	1762
25°	7267	4046	266	444	614	3382
35°	7381	2517	90	79	74	4623
45°	6361	741	20	21	17	4737
55°	1219	32	8	7	5	1505
65°	22	5	6	5	2	50
75°	1	3	6	5	3	1
85°	0	3	6	5	3	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°	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0
2.5°	1441.8	1416.4	1413.3	1404.9	1338.8	1338.0	1337.2	1302.7	1271.1	1255.0	1186.6
5°	2143.4	2125.0	2101.9	2072.7	1963.6	1948.2	1935.1	1883.7	1773.0	1708.4	1587.8
7.5°	3166.3	3156.3	3040.3	3024.9	2824.3	2775.1	2726.7	2594.5	2380.9	2242.6	2028.9
10°	4468.2	4420.6	4332.2	4212.3	3951.0	3858.0	3768.1	3497.6	3133.3	2843.5	2480.0
12.5°	5644.8	5584.1	5476.5	5336.6	5007.7	4880.9	4738.7	4406.7	3961.8	3490.6	2976.5
15°	6320.4	6310.4	6185.9	6129.0	5863.9	5734.7	5617.2	5235.2	4679.6	4125.4	3459.9
17.5°	6720.0	6720.8	6629.3	6595.5	6348.8	6225.8	6126.7	5848.5	5266.7	4594.2	3826.5
20°	6939.8	6962.1	6876.8	6823.7	6651.6	6542.5	6450.2	6163.6	5657.1	4910.9	4034.0
22.5°	7103.5	7114.2	7010.5	6966.7	6773.8	6668.5	6610.1	6335.7	5840.8	5080.0	4097.0
25°	7267.2	7261.8	7145.0	7057.4	6867.5	6765.3	6693.9	6456.4	5917.6	5119.2	4045.5
27.5°	7440.1	7464.7	7248.0	7108.1	6938.3	6818.4	6738.4	6493.3	5912.3	5016.9	3858.8
30°	7723.7	7524.6	7307.9	7115.0	6919.8	6793.0	6701.5	6389.5	5763.9	4745.6	3503.7
32.5°	7604.6	7463.9	7251.0	7052.8	6843.7	6703.9	6592.4	6222.0	5452.7	4299.1	3027.2
35°	7380.9	7343.3	7132.7	6971.3	6733.8	6583.2	6453.3	5963.8	4970.1	3761.9	2516.9
37.5°	7179.6	7140.4	7015.1	6848.3	6578.6	6421.0	6182.8	5553.4	4342.2	3089.5	1979.7
40°	6948.2	6939.0	6799.1	6644.7	6320.4	6029.9	5783.2	4829.4	3594.4	2429.3	1540.1
42.5°	6692.3	6686.9	6573.2	6344.9	5868.5	5508.0	5095.3	4012.5	2763.6	1843.7	1144.3
45°	6361.1	6329.6	6133.6	5800.8	5116.8	4595.8	4107.0	3065.6	2026.6	1317.3	740.9
47.5°	5787.0	5731.7	5445.8	4876.3	4056.3	3523.7	3074.1	2108.1	1264.2	744.7	367.4
50°	4538.9	4392.1	3984.8	3386.1	2545.4	2082.7	1729.2	1046.0	561.0	369.7	235.2
52.5°	2803.6	2645.3	2260.2	1808.3	1161.2	899.9	742.4	504.2	310.5	212.9	90.7
55°	1218.9	1144.3	944.5	751.6	537.2	427.3	368.9	255.2	161.4	77.6	32.3
57.5°	475.7	461.1	401.9	338.9	254.4	207.5	183.7	115.3	44.6	27.7	18.4
60°	224.4	209.8	180.6	149.9	93.8	67.6	52.3	32.3	22.3	16.9	12.3
62.5°	61.5	53.0	43.0	36.9	28.4	25.4	22.3	17.7	13.8	10.8	8.5
65°	21.5	21.5	19.2	17.7	14.6	13.1	12.3	10.0	8.5	6.9	5.4
67.5°	10.0	10.0	9.2	8.5	6.9	6.9	6.1	5.4	4.6	3.8	3.8
70°	4.6	3.8	3.8	3.8	3.8	3.1	3.1	3.1	3.1	3.1	3.1
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.3	3.1	3.1	3.1
75°	0.8	0.8	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.1	3.1
77.5°	0.0	0.8	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.1	3.1
80°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.1	3.1
82.5°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	2.3	3.1	3.1
85°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.1	3.1
87.5°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	2.3	3.1	3.1
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°	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0
2.5°	1157.4	1128.2	1089.8	1026.0	997.5	991.4	939.1	891.5	849.2	818.5	770.1
5°	1509.4	1424.8	1321.9	1198.1	1151.3	1118.2	1018.3	923.0	841.5	771.6	697.8
7.5°	1858.3	1690.8	1536.3	1355.7	1268.1	1202.0	1053.6	918.4	795.4	700.1	602.5
10°	2194.1	1955.9	1694.6	1457.1	1339.5	1239.6	1045.2	873.8	720.1	608.7	505.7
12.5°	2513.1	2171.1	1823.7	1507.8	1367.2	1241.9	1003.7	802.3	637.1	517.2	409.6
15°	2829.7	2327.1	1899.0	1518.6	1348.8	1198.1	928.4	707.0	544.1	423.5	328.9
17.5°	3027.2	2413.9	1899.8	1471.0	1279.6	1115.1	825.4	607.9	449.6	341.2	258.2
20°	3124.8	2403.2	1827.6	1361.1	1162.0	996.0	704.0	506.5	363.5	273.6	203.7
22.5°	3096.4	2307.9	1700.7	1215.8	1031.4	873.8	599.5	425.0	313.6	237.5	184.4
25°	2962.7	2153.4	1550.9	1079.0	902.2	753.2	526.4	391.2	308.9	265.9	229.0
27.5°	2731.3	1950.5	1367.2	935.3	776.2	657.1	477.3	379.7	319.7	286.7	289.7
30°	2390.1	1681.5	1129.7	743.2	607.9	511.1	358.1	264.4	195.2	167.5	167.5
32.5°	2008.2	1374.9	873.0	549.5	439.6	371.2	252.1	180.6	144.5	131.4	125.3
35°	1650.0	1075.9	647.9	398.1	317.4	264.4	165.2	101.4	93.0	89.9	88.4
37.5°	1298.0	807.7	469.6	289.0	220.6	175.2	84.5	65.3	56.9	53.0	50.0
40°	973.0	567.2	325.1	176.8	122.2	80.7	49.2	40.0	35.4	34.6	33.0
42.5°	680.9	380.4	201.4	77.6	56.9	45.3	33.8	28.4	26.1	25.4	24.6
45°	398.9	237.5	82.2	43.0	35.4	31.5	24.6	21.5	20.0	20.0	19.2
47.5°	250.5	96.1	43.8	27.7	23.8	22.3	18.4	16.1	15.4	15.4	15.4
50°	103.0	42.3	26.1	19.2	16.9	16.1	13.8	12.3	12.3	12.3	12.3
52.5°	37.7	23.8	17.7	13.8	12.3	11.5	10.0	9.2	9.2	10.0	9.2
55°	21.5	16.1	12.3	10.0	8.5	8.5	7.7	7.7	7.7	7.7	7.7
57.5°	13.8	10.8	8.5	6.9	6.1	6.1	6.1	6.1	6.1	6.9	6.1
60°	9.2	7.7	6.1	5.4	5.4	5.4	5.4	5.4	6.1	6.1	6.1
62.5°	6.9	5.4	5.4	5.4	5.4	5.4	5.4	5.4	6.1	6.1	6.1
65°	5.4	4.6	5.4	5.4	5.4	5.4	5.4	6.1	6.1	6.1	6.9
67.5°	3.8	3.8	4.6	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.9
70°	3.8	3.8	4.6	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.9
72.5°	3.8	3.8	4.6	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.9
75°	3.8	3.8	4.6	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.9
77.5°	3.8	3.8	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.1	6.9
80°	3.8	3.8	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.9	6.9
82.5°	3.8	3.8	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.9	6.9
85°	3.8	4.6	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.1	6.9
87.5°	3.8	3.8	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.1	6.1
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0
2.5°	737.0	703.2	675.5	660.9	644.8	617.1	591.0	567.2	557.2	524.9	531.1
5°	640.2	582.5	536.4	515.7	491.9	453.4	419.6	387.3	370.4	342.8	332.8
7.5°	532.6	465.0	409.6	385.8	365.0	328.9	297.4	267.4	245.9	217.5	206.0
10°	426.5	362.0	311.3	290.5	267.4	231.3	199.8	173.7	156.0	134.5	123.7
12.5°	337.4	279.7	228.3	207.5	188.3	158.3	133.7	109.9	90.7	79.2	76.1
15°	262.8	207.5	165.2	148.3	132.2	103.0	84.5	78.4	75.3	72.2	71.5
17.5°	197.5	152.9	115.3	98.4	89.1	81.5	78.4	75.3	73.8	71.5	72.2
20°	152.2	109.1	93.8	91.5	89.9	86.1	85.3	84.5	83.8	84.5	86.1
22.5°	144.5	136.0	140.6	143.7	150.6	151.4	163.7	173.7	182.9	208.3	220.6
25°	243.6	258.2	281.3	295.9	315.9	336.6	375.0	408.9	444.2	476.5	504.9
27.5°	305.1	312.0	312.0	319.7	311.3	309.7	305.1	301.3	317.4	312.0	328.9
30°	169.1	176.8	189.8	196.7	205.2	211.3	209.0	201.4	206.0	199.8	206.0
32.5°	120.7	120.7	123.7	124.5	126.0	126.8	127.6	128.3	129.1	125.3	127.6
35°	86.1	83.0	81.5	81.5	80.7	79.2	78.4	78.4	79.2	75.3	76.9
37.5°	48.4	46.9	46.9	46.9	46.9	46.9	47.6	48.4	48.4	48.4	50.0
40°	32.3	32.3	32.3	33.0	33.0	33.0	33.8	33.8	34.6	34.6	35.4
42.5°	24.6	23.8	24.6	24.6	24.6	25.4	25.4	26.1	26.1	26.1	26.9
45°	19.2	19.2	19.2	19.2	20.0	20.0	20.0	20.0	20.8	20.0	20.8
47.5°	15.4	15.4	15.4	16.1	16.1	15.4	16.1	16.1	16.1	16.1	16.1
50°	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	13.1	12.3	13.1
52.5°	10.0	9.2	9.2	9.2	9.2	8.5	8.5	9.2	9.2	8.5	8.5
55°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
57.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.4
60°	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	5.4	5.4	4.6
62.5°	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	5.4	4.6	4.6
65°	6.9	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	4.6	4.6
67.5°	6.9	6.9	6.1	6.1	6.1	6.1	6.1	5.4	5.4	4.6	4.6
70°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	4.6
72.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	5.4
75°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	5.4
77.5°	6.1	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	5.4	4.6
80°	6.9	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	5.4	4.6
82.5°	6.1	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	4.6	4.6
85°	6.1	6.1	6.1	6.1	6.1	5.4	5.4	5.4	4.6	4.6	4.6
87.5°	6.1	6.1	6.1	5.4	5.4	5.4	5.4	4.6	4.6	3.8	3.8
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: P179680

CATALOG NUMBER: LDA6A45927D010TE LARH40FL 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	840.0	840.0	840.0	840.0	840.0	840.0	840.0	840.0
2.5°	498.8	488.0	497.2	485.7	481.9	473.4	469.6	473.4
5°	314.3	302.8	305.1	297.4	285.1	285.1	281.3	282.8
7.5°	189.8	178.3	179.1	172.1	162.9	161.4	157.5	159.1
10°	109.9	97.6	97.6	89.9	82.2	81.5	79.2	79.2
12.5°	73.0	71.5	69.9	69.2	67.6	67.6	67.6	66.1
15°	68.4	67.6	66.9	66.9	65.3	65.3	66.1	64.6
17.5°	69.9	69.2	68.4	68.4	68.4	68.4	69.2	67.6
20°	83.8	84.5	84.5	86.8	88.4	89.1	91.5	88.4
22.5°	219.8	226.7	232.1	260.5	285.1	275.9	292.8	264.4
25°	525.7	544.9	561.0	564.1	579.5	601.0	614.8	614.1
27.5°	328.9	329.7	338.9	338.9	335.8	348.1	356.6	355.1
30°	202.9	202.1	205.2	197.5	196.7	202.1	205.2	205.2
32.5°	125.3	124.5	126.8	125.3	121.4	127.6	126.0	126.0
35°	75.3	76.1	74.5	74.5	71.5	74.5	73.8	74.5
37.5°	49.2	48.4	47.6	47.6	46.1	46.9	46.1	44.6
40°	34.6	34.6	33.8	33.8	33.0	32.3	32.3	31.5
42.5°	26.1	26.1	25.4	25.4	24.6	23.8	23.8	23.1
45°	20.0	19.2	18.4	18.4	18.4	17.7	17.7	16.9
47.5°	15.4	15.4	15.4	14.6	14.6	13.8	13.8	13.1
50°	12.3	12.3	12.3	12.3	11.5	11.5	11.5	10.8
52.5°	8.5	8.5	7.7	7.7	6.9	6.9	6.9	6.1
55°	6.1	6.1	6.1	5.4	5.4	5.4	4.6	4.6
57.5°	5.4	5.4	4.6	4.6	4.6	3.8	3.8	3.8
60°	4.6	3.8	3.8	3.8	3.1	3.1	3.1	3.1
62.5°	3.8	3.8	3.8	3.1	3.1	3.1	3.1	2.3
65°	3.8	3.8	3.1	3.1	3.1	2.3	2.3	2.3
67.5°	3.8	3.8	3.8	3.1	3.1	3.1	3.1	2.3
70°	4.6	3.8	3.8	3.8	3.1	3.1	3.1	3.1
72.5°	4.6	3.8	3.8	3.8	3.8	3.1	3.1	3.1
75°	4.6	4.6	3.8	3.8	3.8	3.8	3.8	3.1
77.5°	4.6	3.8	3.8	3.8	3.8	3.8	3.1	3.1
80°	4.6	3.8	3.8	3.8	3.8	3.1	3.1	3.1
82.5°	4.6	3.8	3.8	3.8	3.1	3.1	3.1	3.1
85°	3.8	3.8	3.1	3.1	3.1	3.1	3.1	3.1
87.5°	3.1	3.1	2.3	2.3	2.3	1.5	1.5	1.5
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)