

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: P179904

Luminaire Tested: **LDA6A65927D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179904
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: LDA6A65927D010TE LARH40FL 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, 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: 5164.1 lumens
Efficiency: N/A
Efficacy: 66.2 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

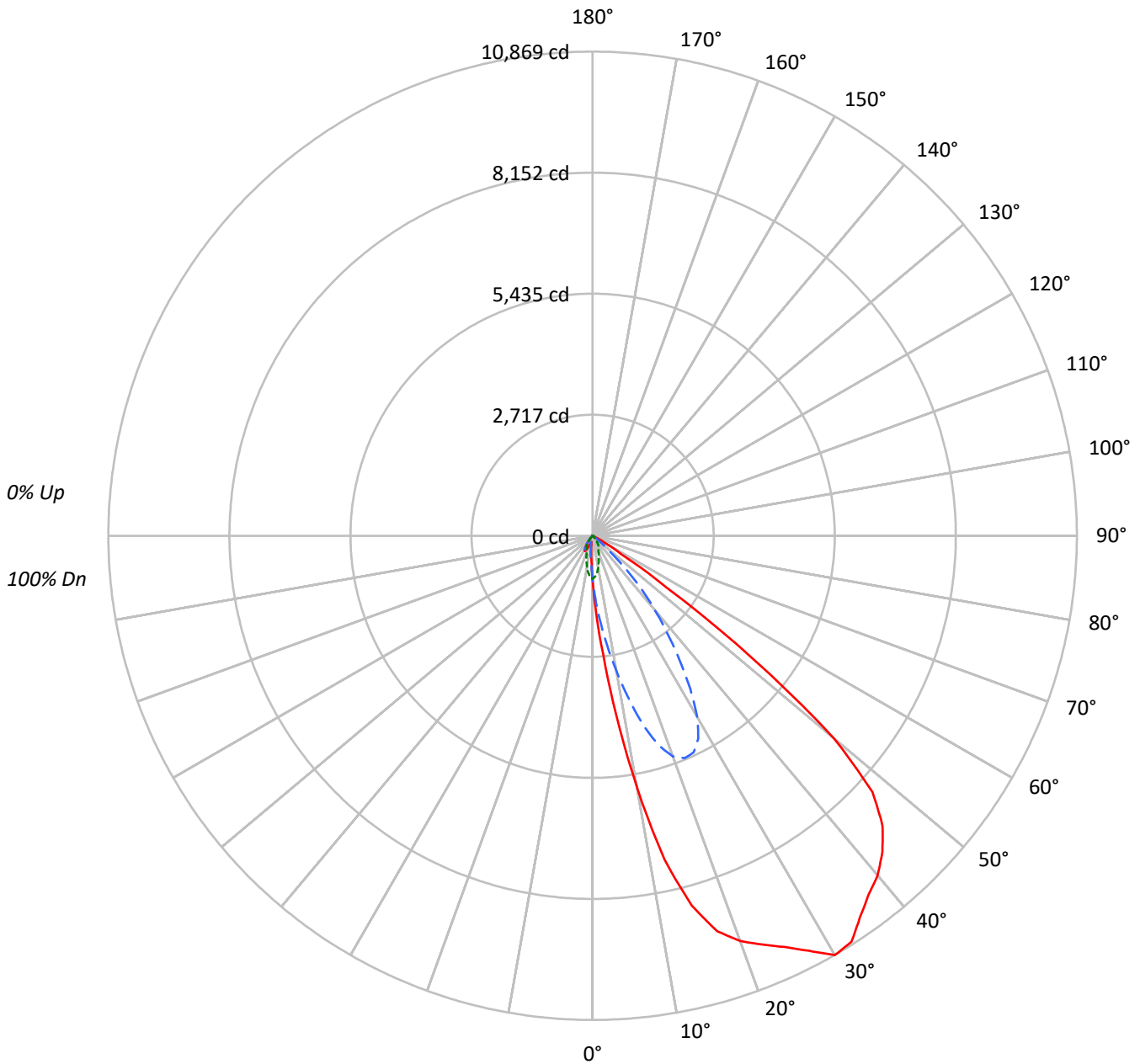
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	53055	53055	53055
5°	145630	48888	19948
10°	319127	40007	7604
15°	487472	30454	8916
20°	564780	22659	13855
25°	616100	18630	22356
30°	687992	16901	22833
35°	699995	11591	15653
40°	712292	5496	7922
45°	713446	2287	3458
50°	603153	989	1066
55°	194220	679	172
60°	38571	778	0
65°	3943	921	0
70°	433	1282	0
75°	0	1694	0
80°	0	2810	284
85°	0	5598	566



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.4	2.5
10°-20°	679.5	13.2
20°-30°	1301.0	25.2
30°-40°	1532.8	29.7
40°-50°	1204.0	23.3
50°-60°	293.4	5.7
60°-70°	12.6	0.2
70°-80°	4.7	0.1
80°-90°	4.7	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°	2111.9	40.9
0°-40°	3644.7	70.6
0°-60°	5142.1	99.6
0°-90°	5164.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5164.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	968	968	968	968	968	
5°	2646	1915	888	465	362	350
15°	8589	4412	537	154	157	2398
25°	10186	5364	308	322	370	4747
35°	10460	3391	173	223	234	6559
45°	9202	1048	30	41	45	6914
55°	2032	38	7	4	2	2419
65°	30	4	7	4	0	80
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°	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8
2.5°	1658.9	1655.3	1631.2	1653.5	1585.7	1583.0	1552.7	1539.3	1500.0	1462.5	1408.9
5°	2646.4	2588.4	2541.0	2542.8	2412.5	2388.4	2320.5	2251.8	2146.4	2048.2	1915.1
7.5°	4033.9	3965.1	3865.1	3823.2	3574.1	3500.8	3360.7	3177.6	2948.2	2719.6	2473.2
10°	5732.9	5743.7	5614.2	5494.6	5117.8	4969.6	4742.8	4382.1	3947.3	3517.8	3081.2
12.5°	7442.7	7435.6	7281.1	7099.9	6635.6	6426.7	6124.9	5674.9	5099.0	4433.0	3749.9
15°	8589.2	8640.0	8574.9	8430.2	8033.8	7794.5	7454.3	6843.6	6141.9	5333.0	4411.5
17.5°	9308.8	9357.0	9333.8	9220.4	8870.4	8615.0	8331.1	7831.1	7019.5	6002.6	4933.0
20°	9681.1	9757.0	9746.3	9623.1	9358.8	9147.2	8833.8	8370.4	7667.7	6467.8	5270.5
22.5°	9929.3	9987.3	10003.4	9864.1	9590.9	9390.0	9160.6	8690.9	8030.2	6751.7	5404.4
25°	10185.6	10288.2	10187.3	10015.9	9765.0	9572.2	9327.5	8877.5	8203.4	6867.8	5364.2
27.5°	10499.8	10548.9	10320.4	10164.1	9885.6	9676.6	9416.8	8985.6	8233.8	6774.9	5134.7
30°	10868.6	10665.0	10505.2	10195.4	9879.3	9675.7	9411.5	8917.7	8074.0	6466.9	4690.1
32.5°	10807.9	10621.3	10440.0	10112.3	9799.8	9598.1	9303.4	8691.8	7696.3	5951.7	4076.7
35°	10459.7	10499.8	10304.3	10032.9	9679.3	9471.3	9149.9	8370.4	7055.2	5241.0	3391.0
37.5°	10165.9	10254.3	10126.6	9875.7	9516.8	9235.6	8801.6	7854.3	6218.7	4339.2	2741.0
40°	9953.4	9982.0	9913.2	9632.0	9200.8	8794.5	8292.7	6927.6	5202.6	3406.2	2163.4
42.5°	9624.0	9699.8	9578.4	9271.3	8617.7	8157.9	7431.1	5857.1	4041.0	2601.7	1628.5
45°	9202.5	9274.9	9124.9	8614.2	7705.2	7031.1	6144.5	4566.9	2989.2	1917.8	1048.2
47.5°	8515.0	8559.7	8269.5	7563.3	6241.9	5607.1	4698.1	3183.9	1925.9	1072.3	509.8
50°	7072.2	7050.8	6452.6	5583.8	4174.9	3508.9	2796.4	1725.9	865.2	508.0	318.7
52.5°	4558.0	4508.9	3916.9	3126.7	2114.3	1613.4	1212.5	744.6	450.9	283.9	125.9
55°	2032.1	2013.4	1648.2	1280.3	865.2	744.6	568.7	365.2	240.2	99.1	38.4
57.5°	753.6	736.6	649.1	544.6	417.9	347.3	275.9	175.0	61.6	33.0	20.5
60°	351.8	350.9	308.9	254.5	176.8	133.9	77.7	41.1	25.9	17.9	11.6
62.5°	112.5	109.8	76.8	56.2	40.2	34.8	27.7	20.5	13.4	9.8	7.1
65°	30.4	30.4	27.7	23.2	18.7	16.1	13.4	9.8	6.2	5.4	4.5
67.5°	11.6	11.6	10.7	9.8	7.1	6.2	5.4	4.5	3.6	4.5	4.5
70°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	3.6	3.6	4.5
72.5°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	4.5
75°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	4.5
77.5°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	4.5
80°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	4.5
82.5°	0.0	0.0	0.9	1.8	1.8	1.8	2.7	3.6	3.6	4.5	5.4
85°	0.0	0.0	0.9	1.8	1.8	2.7	2.7	3.6	3.6	4.5	5.4
87.5°	0.0	0.0	0.9	1.8	1.8	2.7	2.7	3.6	3.6	4.5	5.4
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8
2.5°	1369.6	1310.7	1229.4	1182.1	1170.5	1145.5	1101.8	1036.6	983.0	931.2	900.9
5°	1802.7	1663.4	1507.1	1397.3	1352.7	1292.8	1186.6	1076.8	975.9	888.4	819.6
7.5°	2261.6	2032.1	1779.4	1575.9	1502.7	1408.0	1234.8	1071.4	933.0	811.6	719.6
10°	2717.8	2348.2	2005.3	1710.7	1591.0	1462.5	1233.9	1022.3	859.8	718.7	617.0
12.5°	3174.1	2642.8	2171.4	1791.9	1636.6	1474.1	1197.3	947.3	767.0	623.2	525.9
15°	3595.5	2877.6	2283.9	1819.6	1632.1	1440.2	1123.2	856.2	669.6	536.6	446.4
17.5°	3909.8	3000.8	2309.8	1777.7	1561.6	1349.1	1009.8	749.1	576.8	459.8	367.9
20°	4064.2	3020.5	2248.2	1658.0	1440.2	1219.6	885.7	646.4	497.3	388.4	310.7
22.5°	4064.2	2927.6	2114.3	1508.0	1288.4	1070.5	766.1	561.6	434.8	338.4	273.2
25°	3909.8	2742.8	1934.8	1334.8	1121.4	923.2	662.5	498.2	386.6	308.0	253.6
27.5°	3609.8	2487.5	1704.4	1141.9	957.1	792.0	580.3	440.2	350.0	277.7	278.6
30°	3197.3	2174.1	1440.2	938.4	788.4	650.9	488.4	368.7	280.4	267.0	275.0
32.5°	2720.5	1799.1	1141.1	727.7	610.7	512.5	371.4	260.7	223.2	225.0	233.9
35°	2231.2	1416.0	858.9	539.3	454.5	371.4	243.7	171.4	169.6	173.2	179.5
37.5°	1761.6	1059.8	621.4	394.6	305.4	228.6	131.2	117.9	117.9	121.4	125.0
40°	1319.6	751.8	427.7	233.9	148.2	104.5	83.0	76.8	75.9	76.8	81.2
42.5°	906.2	475.9	254.5	93.7	71.4	60.7	52.7	48.2	47.3	48.2	50.9
45°	508.9	292.9	99.1	50.0	42.9	38.4	33.0	30.4	29.5	29.5	31.2
47.5°	318.7	116.1	44.6	31.2	26.8	25.0	21.4	19.6	18.7	18.7	19.6
50°	122.3	45.5	27.7	20.5	17.9	16.1	14.3	12.5	11.6	11.6	12.5
52.5°	42.0	26.8	17.9	13.4	11.6	10.7	8.9	8.0	8.0	8.0	8.0
55°	23.2	16.1	10.7	8.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1
57.5°	14.3	9.8	7.1	6.2	6.2	6.2	6.2	6.2	6.2	7.1	7.1
60°	8.0	6.2	5.4	5.4	5.4	5.4	6.2	6.2	6.2	7.1	7.1
62.5°	5.4	5.4	5.4	5.4	5.4	5.4	6.2	6.2	7.1	7.1	7.1
65°	4.5	4.5	4.5	5.4	5.4	5.4	6.2	6.2	7.1	7.1	7.1
67.5°	4.5	4.5	5.4	5.4	5.4	6.2	6.2	7.1	7.1	7.1	7.1
70°	4.5	5.4	5.4	6.2	6.2	6.2	7.1	7.1	7.1	8.0	8.0
72.5°	4.5	5.4	5.4	6.2	6.2	6.2	7.1	7.1	8.0	8.0	8.0
75°	5.4	5.4	5.4	6.2	6.2	6.2	7.1	8.0	8.0	8.0	8.0
77.5°	5.4	5.4	6.2	6.2	6.2	7.1	7.1	8.0	8.0	8.0	8.0
80°	5.4	5.4	6.2	6.2	7.1	7.1	8.0	8.0	8.0	8.9	8.9
82.5°	5.4	5.4	6.2	7.1	7.1	7.1	8.0	8.0	8.9	8.9	8.9
85°	5.4	6.2	6.2	7.1	7.1	7.1	8.0	8.0	8.9	8.9	8.9
87.5°	5.4	6.2	6.2	7.1	7.1	7.1	8.0	8.0	8.9	8.9	8.9
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°	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8
2.5°	860.7	823.2	785.7	758.0	744.6	731.2	701.8	663.4	647.3	624.1	610.7
5°	750.0	686.6	636.6	603.6	583.9	558.0	524.1	486.6	465.2	441.1	425.0
7.5°	635.7	561.6	513.4	483.0	463.4	431.2	388.4	343.7	317.9	291.1	272.3
10°	535.7	465.2	410.7	375.9	350.9	313.4	270.5	239.3	217.0	193.7	175.0
12.5°	447.3	371.4	313.4	283.9	267.0	231.2	195.5	160.7	147.3	142.9	142.9
15°	362.5	293.7	244.6	219.6	201.8	163.4	156.2	154.5	153.6	152.7	154.5
17.5°	295.5	237.5	185.7	173.2	171.4	170.5	171.4	171.4	172.3	175.0	179.5
20°	248.2	194.6	191.1	192.0	192.0	195.5	200.0	203.6	207.1	211.6	219.6
22.5°	220.5	219.6	225.9	226.8	231.2	236.6	244.6	250.0	258.9	263.4	275.0
25°	254.5	260.7	272.3	275.9	283.0	292.0	304.5	311.6	322.3	327.7	341.1
27.5°	288.4	298.2	312.5	317.0	323.2	337.5	346.4	352.7	358.0	361.6	369.6
30°	285.7	294.6	308.9	309.8	318.7	328.6	333.9	339.3	342.9	342.0	346.4
32.5°	242.0	250.0	263.4	263.4	273.2	281.2	283.9	288.4	288.4	288.4	290.2
35°	185.7	191.1	200.0	202.7	210.7	216.1	217.9	223.2	223.2	221.4	221.4
37.5°	128.6	135.7	142.0	143.7	149.1	152.7	157.1	158.0	156.2	157.1	157.1
40°	83.9	88.4	92.9	93.7	98.2	100.9	105.4	105.4	106.2	105.4	107.1
42.5°	51.8	55.4	58.0	59.8	61.6	63.4	66.1	67.0	67.9	67.0	68.7
45°	32.1	33.9	35.7	36.6	37.5	38.4	41.1	41.1	41.1	41.1	42.0
47.5°	19.6	20.5	21.4	21.4	22.3	23.2	24.1	24.1	24.1	24.1	25.0
50°	11.6	12.5	12.5	12.5	13.4	13.4	14.3	14.3	14.3	13.4	14.3
52.5°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.1	8.0
55°	7.1	7.1	6.2	6.2	6.2	6.2	6.2	5.4	4.5	4.5	3.6
57.5°	6.2	6.2	6.2	6.2	6.2	5.4	5.4	4.5	4.5	3.6	2.7
60°	6.2	6.2	6.2	6.2	6.2	5.4	5.4	4.5	3.6	3.6	2.7
62.5°	7.1	6.2	6.2	6.2	6.2	5.4	5.4	4.5	3.6	3.6	2.7
65°	7.1	7.1	6.2	6.2	6.2	5.4	5.4	4.5	4.5	3.6	2.7
67.5°	7.1	7.1	7.1	6.2	7.1	6.2	5.4	5.4	4.5	3.6	3.6
70°	8.0	7.1	7.1	7.1	7.1	6.2	6.2	5.4	4.5	3.6	3.6
72.5°	8.0	8.0	7.1	7.1	7.1	6.2	6.2	5.4	4.5	4.5	3.6
75°	8.0	8.0	7.1	7.1	7.1	6.2	6.2	5.4	5.4	4.5	3.6
77.5°	8.0	8.0	8.0	7.1	7.1	7.1	6.2	6.2	5.4	4.5	3.6
80°	8.0	8.0	8.0	8.0	8.0	7.1	7.1	6.2	5.4	4.5	3.6
82.5°	8.9	8.0	8.0	8.0	8.0	7.1	7.1	6.2	5.4	4.5	4.5
85°	8.9	8.9	8.0	8.0	8.0	7.1	7.1	6.2	5.4	5.4	4.5
87.5°	8.9	8.0	8.0	8.0	8.0	7.1	7.1	6.2	5.4	4.5	4.5
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: P179904

CATALOG NUMBER: LDA6A65927D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	967.8	967.8	967.8	967.8	967.8	967.8	967.8	967.8
2.5°	597.3	590.2	590.2	577.7	575.9	566.1	574.1	568.7
5°	407.1	395.5	392.0	379.5	375.0	363.4	367.0	362.5
7.5°	256.2	244.6	241.1	232.1	226.8	217.9	218.7	216.1
10°	156.2	145.5	142.9	140.2	137.5	136.6	137.5	136.6
12.5°	142.0	141.1	139.3	140.2	138.4	139.3	140.2	139.3
15°	154.5	156.2	154.5	155.4	154.5	156.2	157.1	157.1
17.5°	181.2	184.8	183.0	185.7	184.8	189.3	189.3	189.3
20°	222.3	228.6	226.8	230.4	230.4	235.7	235.7	237.5
22.5°	279.5	287.5	286.6	294.6	292.9	299.1	299.1	300.9
25°	348.2	356.2	357.1	362.5	361.6	367.9	367.9	369.6
27.5°	376.8	381.2	380.4	383.0	383.9	387.5	390.2	388.4
30°	353.6	357.1	356.2	358.0	358.0	360.7	363.4	360.7
32.5°	297.3	300.0	300.0	303.6	300.9	301.8	306.2	303.6
35°	227.7	229.5	227.7	229.5	230.4	230.4	234.8	233.9
37.5°	162.5	163.4	163.4	166.1	163.4	163.4	167.9	168.7
40°	108.9	109.8	108.9	112.5	110.7	110.7	113.4	110.7
42.5°	69.6	70.5	69.6	72.3	70.5	72.3	73.2	74.1
45°	42.9	42.9	42.0	43.7	42.9	43.7	44.6	44.6
47.5°	25.0	25.0	24.1	25.9	25.0	25.0	25.0	25.9
50°	13.4	13.4	13.4	14.3	13.4	13.4	13.4	12.5
52.5°	7.1	7.1	6.2	7.1	6.2	6.2	6.2	6.2
55°	3.6	2.7	2.7	2.7	1.8	1.8	1.8	1.8
57.5°	2.7	1.8	1.8	0.9	0.9	0.9	0.0	0.0
60°	1.8	1.8	0.9	0.9	0.0	0.0	0.0	0.0
62.5°	1.8	1.8	0.9	0.9	0.0	0.0	0.0	0.0
65°	1.8	1.8	0.9	0.9	0.0	0.0	0.0	0.0
67.5°	2.7	1.8	1.8	0.9	0.9	0.0	0.0	0.0
70°	2.7	1.8	1.8	0.9	0.9	0.0	0.0	0.0
72.5°	2.7	1.8	1.8	1.8	0.9	0.9	0.0	0.0
75°	2.7	2.7	1.8	1.8	0.9	0.9	0.0	0.0
77.5°	3.6	2.7	1.8	1.8	0.9	0.9	0.0	0.0
80°	3.6	2.7	1.8	1.8	1.8	0.9	0.9	0.9
82.5°	3.6	2.7	2.7	1.8	1.8	0.9	0.9	0.9
85°	3.6	2.7	2.7	1.8	1.8	0.9	0.9	0.9
87.5°	3.6	2.7	2.7	1.8	1.8	0.9	0.9	0.9
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)