

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: P179652

Luminaire Tested: **LDA6A45827D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179652
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: LDA6A45827D010TE LARH40FL 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4624.5 lumens
Efficiency: N/A
Efficacy: 87.3 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

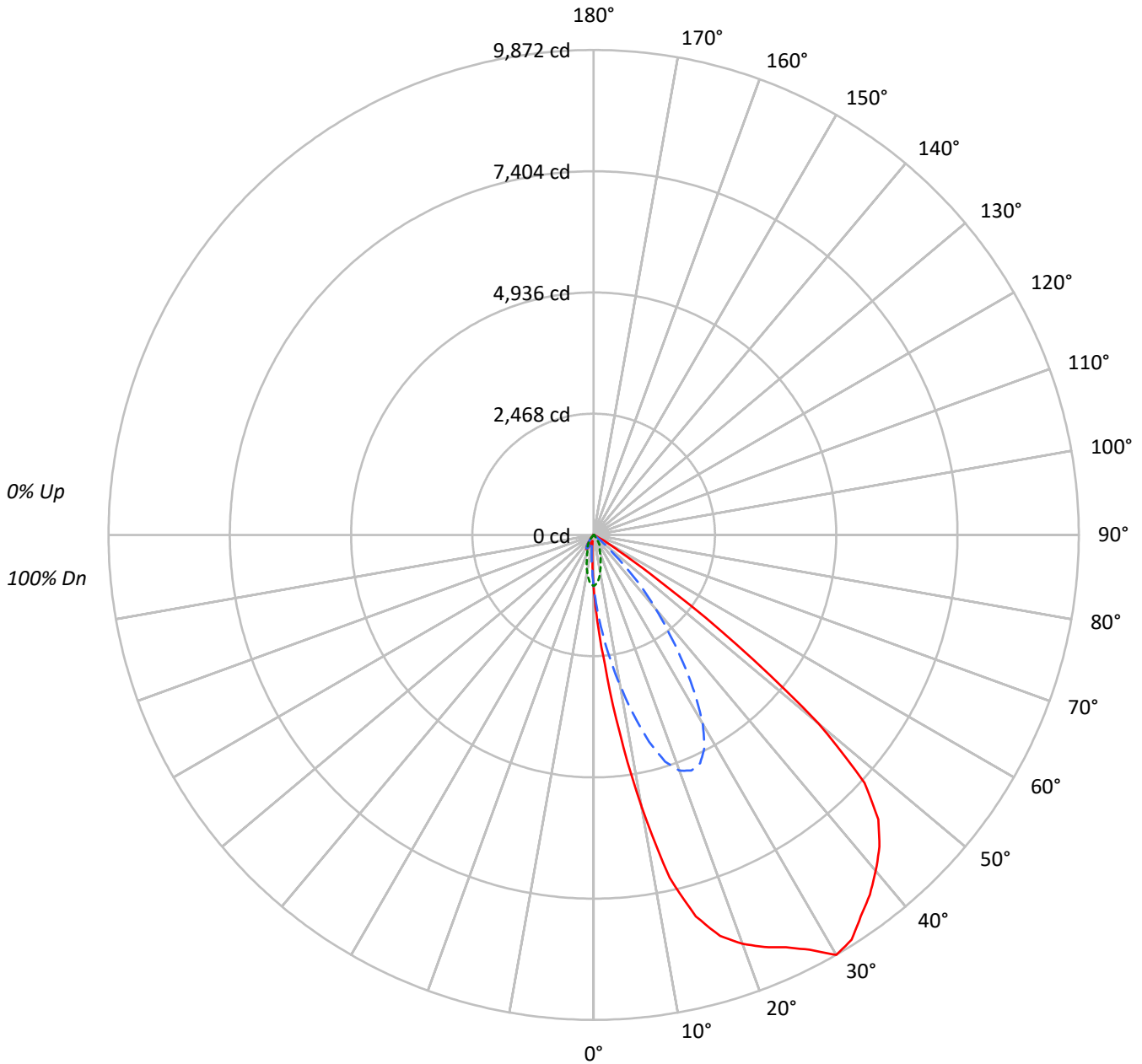
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P179652

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LA1LI 30°

Luminous Intensity Polar Plot





TEST NUMBER: P179652

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LA1LI 30°

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°	56909	56909	56909
5°	145520	52465	19145
10°	312759	42328	7047
15°	456246	30959	8065
20°	516633	22262	12432
25°	560065	17904	19277
30°	624906	14698	18560
35°	634277	9510	12374
40°	638954	4559	6255
45°	634957	1907	2613
50°	508376	853	853
55°	151612	612	86
60°	30951	702	0
65°	2958	830	0
70°	289	1170	0
75°	0	1546	0
80°	0	2589	284
85°	0	5158	566



TEST NUMBER: P179652

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LA1LI 30°

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.1	2.9
10°-20°	648.6	14.0
20°-30°	1192.0	25.8
30°-40°	1367.6	29.6
40°-50°	1034.7	22.4
50°-60°	229.3	5.0
60°-70°	9.7	0.2
70°-80°	4.3	0.1
80°-90°	4.2	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°	1974.7	42.7
0°-40°	3342.3	72.3
0°-60°	4606.3	99.6
0°-90°	4624.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4624.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1038	1038	1038	1038	1038	
5°	2644	1975	953	466	348	350
15°	8039	4360	546	141	142	2240
25°	9259	5127	296	287	319	4320
35°	9478	3164	142	178	185	5937
45°	8190	895	25	32	34	6112
55°	1586	34	6	5	1	1964
65°	23	5	6	4	0	61
75°	0	4	7	5	0	0
85°	0	5	8	5	1	0
90°	0	0	0	0	0	



TEST NUMBER: P179652

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1
2.5°	1758.4	1741.1	1745.7	1767.5	1677.4	1674.6	1632.7	1627.3	1585.4	1508.9	1470.7
5°	2644.4	2633.5	2614.4	2621.7	2518.8	2449.6	2376.7	2323.9	2216.5	2071.7	1975.1
7.5°	4057.7	3939.3	3882.0	3771.8	3640.7	3506.8	3372.0	3215.4	2989.6	2737.3	2533.3
10°	5618.5	5566.6	5449.2	5379.0	5088.6	4891.9	4682.4	4361.9	3948.5	3491.3	3110.7
12.5°	7148.4	7087.4	6909.8	6760.5	6373.4	6197.7	5925.4	5521.1	4996.6	4345.5	3743.6
15°	8039.0	8052.6	7851.4	7844.1	7510.8	7282.2	7046.4	6568.3	5902.6	5155.0	4360.1
17.5°	8560.8	8594.4	8395.0	8451.5	8119.1	7882.3	7706.6	7356.9	6649.4	5752.4	4836.3
20°	8855.8	8909.5	8697.3	8741.1	8456.9	8296.7	8118.2	7772.2	7147.5	6157.6	5106.8
22.5°	9080.7	9101.7	8865.8	8924.1	8613.6	8453.3	8326.7	8002.5	7386.0	6371.6	5191.5
25°	9259.2	9312.0	9042.5	9047.0	8738.3	8578.1	8437.8	8142.8	7488.0	6428.1	5126.8
27.5°	9516.0	9558.8	9162.7	9128.1	8829.4	8652.7	8500.6	8210.2	7483.5	6302.4	4882.8
30°	9872.0	9633.5	9228.2	9139.0	8803.0	8623.6	8460.6	8083.6	7315.9	5963.7	4439.3
32.5°	9770.1	9577.0	9177.2	9035.2	8701.9	8509.8	8323.1	7864.1	6927.1	5439.1	3834.6
35°	9477.7	9415.8	8996.0	8951.4	8548.0	8346.8	8159.2	7531.7	6330.6	4753.4	3164.4
37.5°	9231.0	9125.3	8854.9	8784.8	8361.3	8139.1	7840.4	7035.5	5542.0	3879.2	2527.0
40°	8928.6	8857.6	8596.3	8521.6	8031.7	7692.9	7327.8	6135.8	4589.5	3019.6	1951.5
42.5°	8607.2	8543.4	8296.7	8140.0	7487.1	7039.1	6471.8	5046.7	3533.2	2275.6	1462.5
45°	8190.1	8100.0	7791.3	7499.9	6563.8	5922.7	5284.3	3851.0	2586.2	1620.0	895.1
47.5°	7473.5	7330.5	6956.2	6370.7	5220.6	4605.0	3940.3	2611.7	1597.2	834.1	450.8
50°	5960.9	5711.4	5213.3	4516.7	3343.8	2753.7	2232.8	1327.7	685.7	429.8	265.0
52.5°	3673.4	3444.9	3020.5	2348.5	1541.7	1187.5	935.2	618.3	377.9	243.1	98.3
55°	1586.3	1443.3	1240.3	946.1	672.0	552.7	444.4	308.7	194.9	74.7	33.7
57.5°	599.2	556.4	504.5	414.3	309.6	258.6	217.6	136.6	47.4	28.2	19.1
60°	282.3	255.9	225.8	179.4	118.4	85.6	53.7	34.6	22.8	15.5	10.9
62.5°	77.4	58.3	48.3	39.2	30.1	26.4	22.8	17.3	12.7	8.2	6.4
65°	22.8	20.0	19.1	16.4	13.7	11.8	10.0	8.2	6.4	4.6	4.6
67.5°	8.2	8.2	7.3	6.4	5.5	4.6	4.6	3.6	3.6	3.6	3.6
70°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.7	2.7	3.6	3.6
72.5°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	2.7	2.7	3.6	3.6
75°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	2.7	2.7	3.6	3.6
77.5°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	2.7	3.6	3.6	4.6
80°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	2.7	3.6	3.6	4.6
82.5°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	2.7	3.6	3.6	4.6
85°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	2.7	3.6	3.6	4.6
87.5°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	2.7	3.6	3.6	4.6
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: P179652

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1
2.5°	1438.8	1386.0	1311.3	1273.0	1239.4	1230.2	1161.0	1116.4	1063.6	1009.0	951.6
5°	1885.0	1750.2	1607.2	1487.0	1426.0	1390.5	1255.7	1154.7	1057.2	953.4	865.1
7.5°	2327.5	2086.2	1877.7	1683.7	1577.2	1497.1	1304.0	1151.9	1004.4	869.6	750.4
10°	2755.5	2407.7	2075.3	1813.0	1666.4	1547.1	1297.6	1100.0	915.2	760.4	635.6
12.5°	3189.0	2681.8	2240.1	1882.3	1707.4	1554.4	1253.9	1013.5	817.7	653.8	524.5
15°	3576.0	2894.9	2343.0	1898.6	1687.4	1507.1	1168.3	903.3	708.5	545.5	432.5
17.5°	3844.6	3009.6	2349.4	1838.5	1603.6	1409.6	1049.0	787.7	598.3	454.4	355.1
20°	3966.7	3006.0	2262.9	1713.8	1467.9	1265.8	907.9	669.3	499.0	381.6	296.9
22.5°	3930.2	2891.2	2109.9	1537.1	1302.2	1100.0	776.8	564.6	428.9	327.8	260.4
25°	3748.1	2690.9	1930.5	1360.5	1123.7	935.2	658.4	482.6	372.4	296.0	236.8
27.5°	3450.3	2417.7	1689.2	1153.8	937.0	790.4	554.6	417.1	327.8	261.3	246.8
30°	3015.1	2086.2	1406.0	930.7	756.7	625.6	449.8	336.0	262.3	232.2	233.1
32.5°	2535.2	1721.1	1105.5	711.2	570.0	482.6	332.4	234.9	192.1	190.3	191.2
35°	2057.1	1340.4	822.3	520.0	418.0	347.9	214.0	147.5	143.0	142.1	143.9
37.5°	1632.7	997.1	592.8	363.3	276.8	212.2	115.6	100.2	96.5	98.3	99.3
40°	1219.3	699.4	400.7	214.9	134.8	97.4	70.1	64.7	62.8	63.7	63.7
42.5°	838.7	437.1	238.6	89.2	64.7	53.7	44.6	41.9	40.1	39.2	40.1
45°	451.7	272.3	92.9	45.5	38.2	34.6	28.2	26.4	25.5	24.6	24.6
47.5°	288.7	101.1	41.9	28.2	24.6	22.8	19.1	17.3	16.4	15.5	15.5
50°	108.4	39.2	25.5	18.2	15.5	14.6	11.8	10.9	10.0	10.0	10.0
52.5°	37.3	23.7	16.4	11.8	10.0	9.1	8.2	7.3	7.3	7.3	7.3
55°	20.9	14.6	10.0	7.3	7.3	6.4	6.4	6.4	6.4	6.4	6.4
57.5°	12.7	8.2	6.4	5.5	5.5	5.5	5.5	6.4	6.4	6.4	6.4
60°	7.3	5.5	5.5	5.5	5.5	5.5	5.5	5.5	6.4	6.4	6.4
62.5°	4.6	4.6	4.6	4.6	4.6	5.5	5.5	6.4	6.4	6.4	6.4
65°	4.6	4.6	4.6	4.6	4.6	5.5	5.5	6.4	6.4	6.4	6.4
67.5°	3.6	4.6	4.6	5.5	5.5	5.5	5.5	6.4	6.4	7.3	6.4
70°	4.6	4.6	4.6	5.5	5.5	5.5	6.4	6.4	7.3	7.3	7.3
72.5°	4.6	4.6	4.6	5.5	5.5	5.5	6.4	6.4	7.3	7.3	7.3
75°	4.6	4.6	5.5	5.5	5.5	6.4	6.4	7.3	7.3	7.3	7.3
77.5°	4.6	4.6	5.5	5.5	5.5	6.4	6.4	7.3	7.3	8.2	7.3
80°	4.6	4.6	5.5	6.4	6.4	6.4	6.4	7.3	7.3	8.2	8.2
82.5°	4.6	5.5	5.5	6.4	6.4	6.4	7.3	7.3	8.2	8.2	8.2
85°	4.6	5.5	5.5	6.4	6.4	6.4	7.3	7.3	8.2	8.2	8.2
87.5°	4.6	5.5	5.5	6.4	6.4	6.4	7.3	7.3	8.2	8.2	8.2
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: P179652

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1
2.5°	920.6	867.8	825.0	825.9	790.4	763.1	728.5	709.4	693.9	668.4	644.7
5°	800.4	719.4	658.4	646.5	605.6	563.7	520.9	489.0	466.2	441.7	418.9
7.5°	670.2	577.3	507.2	490.8	456.2	417.1	377.9	346.0	318.7	292.3	265.0
10°	543.6	459.0	395.2	378.8	344.2	303.2	265.9	237.7	216.7	195.8	174.8
12.5°	439.8	365.2	305.1	284.1	255.9	224.0	194.0	166.6	143.9	134.8	132.0
15°	356.1	285.0	237.7	220.4	196.7	163.9	146.6	142.1	141.1	141.1	141.1
17.5°	287.8	232.2	189.4	171.2	159.4	157.5	157.5	157.5	158.4	160.3	163.9
20°	241.3	192.1	175.7	177.6	177.6	179.4	183.0	185.8	189.4	194.0	199.4
22.5°	214.0	204.0	202.2	207.6	208.5	214.0	221.3	226.7	233.1	240.4	245.0
25°	234.0	237.7	240.4	248.6	251.3	260.4	271.4	279.6	286.8	295.0	300.5
27.5°	255.0	261.3	266.8	275.0	276.8	288.7	297.8	303.2	308.7	312.3	316.0
30°	240.4	246.8	252.2	259.5	259.5	272.3	276.8	281.4	285.9	287.8	291.4
32.5°	197.6	204.0	209.4	214.9	215.8	224.9	230.4	232.2	235.9	236.8	239.5
35°	148.4	151.2	156.6	161.2	162.1	168.5	173.0	174.8	177.6	177.6	179.4
37.5°	102.0	103.8	108.4	111.1	112.9	117.5	120.2	122.0	123.8	124.8	125.7
40°	66.5	67.4	70.1	72.8	74.7	77.4	79.2	81.0	82.0	83.8	83.8
42.5°	41.0	41.9	43.7	45.5	45.5	48.3	49.2	51.0	51.9	52.8	52.8
45°	25.5	26.4	26.4	27.3	28.2	29.1	31.0	31.0	31.9	31.9	31.9
47.5°	15.5	16.4	15.5	16.4	16.4	17.3	18.2	18.2	18.2	18.2	18.2
50°	10.0	10.0	10.0	10.0	10.0	10.0	10.9	10.9	10.9	10.9	10.0
52.5°	7.3	7.3	6.4	7.3	6.4	6.4	6.4	6.4	6.4	6.4	5.5
55°	6.4	6.4	6.4	6.4	5.5	5.5	5.5	4.6	4.6	3.6	3.6
57.5°	6.4	6.4	5.5	5.5	5.5	4.6	4.6	4.6	3.6	3.6	2.7
60°	6.4	6.4	5.5	5.5	5.5	4.6	4.6	3.6	3.6	2.7	2.7
62.5°	6.4	6.4	5.5	5.5	5.5	5.5	4.6	4.6	3.6	3.6	2.7
65°	6.4	6.4	6.4	5.5	5.5	5.5	4.6	4.6	3.6	3.6	2.7
67.5°	6.4	6.4	6.4	6.4	5.5	5.5	5.5	4.6	3.6	3.6	2.7
70°	6.4	6.4	6.4	6.4	6.4	5.5	5.5	4.6	4.6	3.6	2.7
72.5°	7.3	7.3	6.4	6.4	6.4	5.5	5.5	4.6	4.6	3.6	3.6
75°	7.3	7.3	6.4	6.4	6.4	5.5	5.5	4.6	4.6	3.6	3.6
77.5°	7.3	7.3	7.3	7.3	6.4	6.4	5.5	5.5	4.6	4.6	3.6
80°	7.3	7.3	7.3	7.3	6.4	6.4	6.4	5.5	4.6	4.6	3.6
82.5°	7.3	7.3	7.3	7.3	7.3	6.4	6.4	5.5	4.6	4.6	3.6
85°	7.3	7.3	7.3	7.3	7.3	6.4	6.4	5.5	4.6	4.6	3.6
87.5°	7.3	7.3	7.3	7.3	7.3	6.4	6.4	5.5	4.6	4.6	3.6
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: P179652

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1	1038.1
2.5°	622.9	611.0	610.1	600.1	580.1	590.1	577.3	568.2
5°	398.9	386.1	373.4	375.2	360.6	363.3	353.3	347.9
7.5°	253.2	239.5	235.9	235.9	219.5	219.5	213.1	209.4
10°	159.4	148.4	144.8	138.4	131.1	130.2	127.5	126.6
12.5°	129.3	129.3	126.6	127.5	127.5	127.5	126.6	126.6
15°	141.1	142.1	139.3	140.2	142.1	141.1	142.1	142.1
17.5°	163.0	167.6	163.9	165.7	169.4	168.5	169.4	170.3
20°	199.4	206.7	202.2	205.8	210.4	209.4	212.2	213.1
22.5°	248.6	257.7	253.2	256.8	264.1	262.3	265.9	267.7
25°	303.2	312.3	306.9	311.4	316.0	317.8	317.8	318.7
27.5°	316.0	321.4	317.8	322.4	324.2	326.0	324.2	325.1
30°	289.6	294.1	290.5	295.0	295.0	296.9	295.0	293.2
32.5°	238.6	242.2	237.7	243.1	242.2	243.1	244.0	245.0
35°	180.3	182.1	179.4	180.3	181.2	182.1	184.9	184.9
37.5°	125.7	128.4	125.7	126.6	126.6	128.4	130.2	130.2
40°	83.8	86.5	83.8	85.6	84.7	85.6	87.4	87.4
42.5°	52.8	54.6	52.8	53.7	53.7	53.7	54.6	55.5
45°	31.9	32.8	31.9	32.8	32.8	32.8	33.7	33.7
47.5°	18.2	19.1	18.2	18.2	19.1	18.2	19.1	19.1
50°	10.0	10.0	10.0	10.0	10.0	9.1	9.1	10.0
52.5°	5.5	5.5	4.6	4.6	4.6	4.6	4.6	4.6
55°	2.7	2.7	1.8	1.8	1.8	0.9	1.8	0.9
57.5°	1.8	1.8	0.9	0.9	0.9	0.9	0.0	0.0
60°	1.8	1.8	0.9	0.9	0.9	0.0	0.0	0.0
62.5°	1.8	1.8	0.9	0.9	0.9	0.0	0.0	0.0
65°	1.8	1.8	0.9	0.9	0.9	0.0	0.0	0.0
67.5°	2.7	1.8	0.9	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	1.8	1.8	1.8	0.9	0.9	0.0	0.0
77.5°	2.7	2.7	1.8	1.8	0.9	0.9	0.9	0.0
80°	2.7	2.7	1.8	1.8	1.8	0.9	0.9	0.9
82.5°	2.7	2.7	1.8	1.8	1.8	0.9	0.9	0.9
85°	2.7	2.7	1.8	1.8	1.8	0.9	0.9	0.9
87.5°	2.7	2.7	1.8	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)