

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: P179679

Luminaire Tested: **LDA6A45840D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179679
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: LDA6A45840D010TE LARH40FL 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4926.7 lumens
Efficiency: N/A
Efficacy: 93.0 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

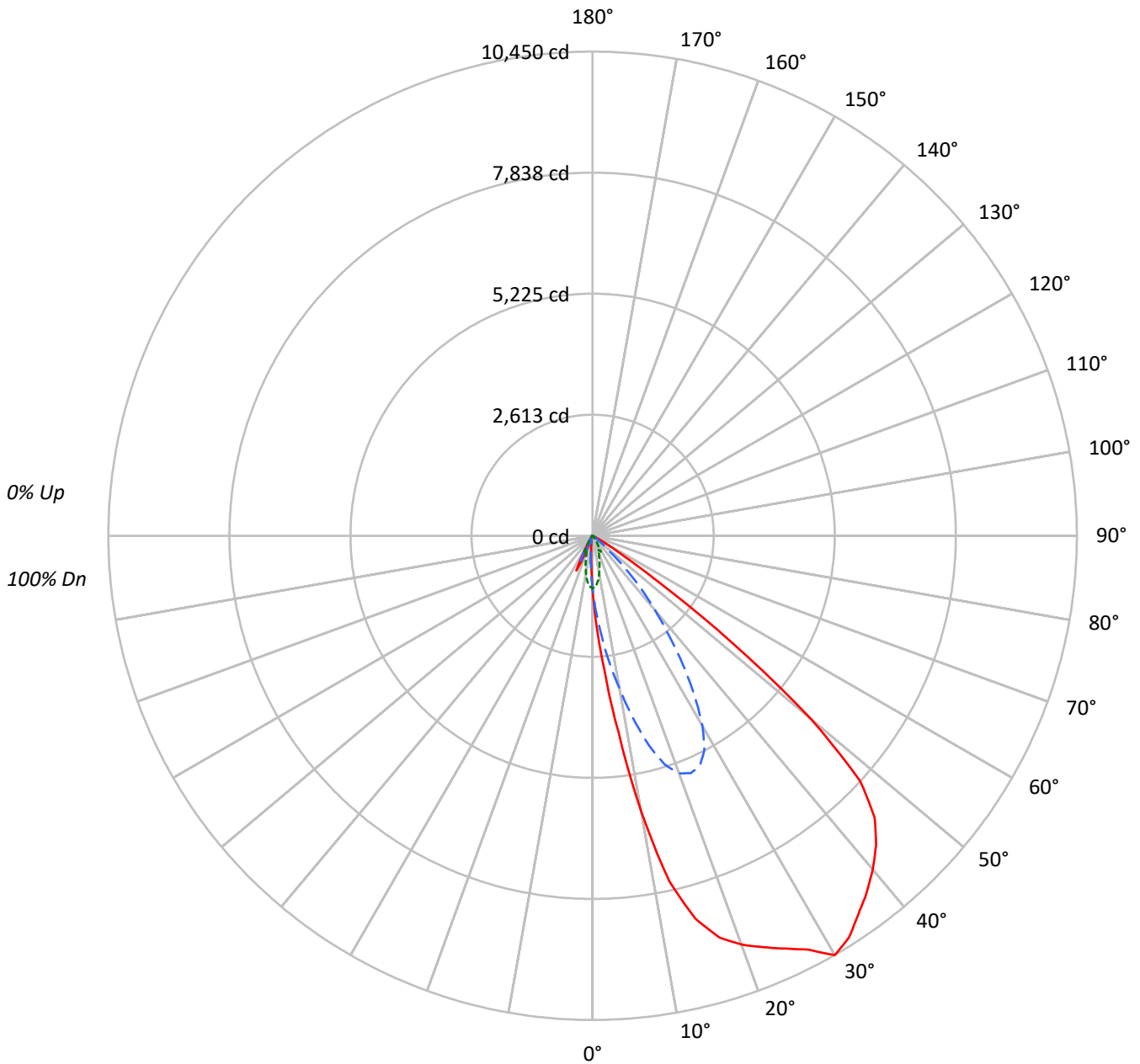
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	62303	62303	62303
5°	159586	57451	21054
10°	336522	45841	5962
15°	485321	32514	4955
20°	547757	21597	6977
25°	594730	21763	50253
30°	661488	14350	17572
35°	668307	8145	6753
40°	672746	3349	3049
45°	667232	2093	1775
50°	523735	1416	1245
55°	157614	994	593
60°	33287	910	460
65°	3775	1077	402
70°	994	1330	673
75°	212	1758	890
80°	0	2968	1326
85°	0	5221	2642



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.9	2.9
10°-20°	686.9	13.9
20°-30°	1295.0	26.3
30°-40°	1436.4	29.2
40°-50°	1094.7	22.2
50°-60°	244.3	5.0
60°-70°	13.3	0.3
70°-80°	6.1	0.1
80°-90°	5.1	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°	2126.7	43.2
0°-40°	3563.2	72.3
0°-60°	4902.1	99.5
0°-90°	4926.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4926.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1136	1136	1136	1136	1136	
5°	2900	2148	1044	501	383	375
15°	8551	4681	573	102	87	2384
25°	9832	5474	360	601	831	4576
35°	9986	3405	122	107	101	6255
45°	8606	1002	27	28	23	6409
55°	1649	44	10	9	6	2036
65°	29	7	8	7	3	68
75°	1	4	8	7	4	2
85°	0	4	8	6	4	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°	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5
2.5°	1950.7	1916.3	1912.2	1900.7	1811.3	1810.3	1809.2	1762.5	1719.8	1698.0	1605.4
5°	2900.0	2875.0	2843.8	2804.3	2656.7	2635.9	2618.2	2548.5	2398.8	2311.5	2148.2
7.5°	4284.0	4270.4	4113.4	4092.6	3821.2	3754.7	3689.2	3510.3	3221.3	3034.1	2745.1
10°	6045.4	5980.9	5861.3	5699.1	5345.6	5219.8	5098.1	4732.1	4239.2	3847.2	3355.4
12.5°	7637.3	7555.2	7409.6	7220.3	6775.3	6603.7	6411.4	5962.2	5360.1	4722.7	4027.1
15°	8551.3	8537.8	8369.3	8292.4	7933.6	7759.0	7599.9	7083.1	6331.3	5581.6	4681.2
17.5°	9092.0	9093.0	8969.3	8923.5	8589.7	8423.4	8289.2	7912.8	7125.7	6215.9	5177.1
20°	9389.3	9419.5	9304.1	9232.3	8999.4	8851.8	8727.0	8339.2	7653.9	6644.3	5457.9
22.5°	9610.8	9625.4	9485.0	9425.7	9164.8	9022.3	8943.3	8572.1	7902.4	6873.0	5543.1
25°	9832.3	9825.0	9667.0	9548.4	9291.6	9153.3	9056.6	8735.3	8006.4	6926.1	5473.5
27.5°	10066.3	10099.5	9806.3	9617.1	9387.3	9225.1	9116.9	8785.2	7999.1	6787.8	5220.8
30°	10449.9	10180.6	9887.4	9626.4	9362.3	9190.7	9067.0	8644.9	7798.5	6420.7	4740.4
32.5°	10288.8	10098.5	9810.5	9542.2	9259.4	9070.1	8919.4	8418.2	7377.3	5816.6	4095.8
35°	9986.2	9935.2	9650.3	9432.0	9110.7	8906.9	8731.2	8068.8	6724.4	5089.8	3405.3
37.5°	9713.8	9660.7	9491.2	9265.6	8900.6	8687.5	8365.2	7513.6	5874.8	4180.0	2678.5
40°	9400.8	9388.3	9199.1	8990.1	8551.3	8158.2	7824.5	6534.1	4863.1	3286.8	2083.7
42.5°	9054.5	9047.3	8893.4	8584.5	7939.9	7452.2	6893.8	5428.8	3739.1	2494.5	1548.3
45°	8606.4	8563.8	8298.6	7848.4	6923.0	6218.0	5556.7	4147.7	2741.9	1782.2	1002.4
47.5°	7829.7	7754.8	7368.0	6597.5	5488.0	4767.5	4159.2	2852.2	1710.5	1007.6	497.0
50°	6141.0	5942.4	5391.3	4581.3	3443.8	2817.8	2339.5	1415.2	759.1	500.1	318.2
52.5°	3793.2	3579.0	3058.0	2446.6	1571.1	1217.6	1004.4	682.1	420.1	288.0	122.7
55°	1649.1	1548.3	1277.9	1016.9	726.8	578.1	499.1	345.2	218.4	105.0	43.7
57.5°	643.6	623.9	543.8	458.5	344.2	280.7	248.5	156.0	60.3	37.4	25.0
60°	303.6	283.9	244.4	202.8	126.9	91.5	70.7	43.7	30.2	22.9	16.6
62.5°	83.2	71.7	58.2	49.9	38.5	34.3	30.2	23.9	18.7	14.6	11.4
65°	29.1	29.1	26.0	23.9	19.8	17.7	16.6	13.5	11.4	9.4	7.3
67.5°	13.5	13.5	12.5	11.4	9.4	9.4	8.3	7.3	6.2	5.2	5.2
70°	6.2	5.2	5.2	5.2	5.2	4.2	4.2	4.2	4.2	4.2	4.2
72.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	4.2	4.2	4.2
75°	1.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1	4.2	4.2	4.2
77.5°	0.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1	4.2	4.2	4.2
80°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	4.2	4.2	4.2
82.5°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	3.1	4.2	4.2
85°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	4.2	4.2	4.2
87.5°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	3.1	4.2	4.2
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°	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5
2.5°	1565.9	1526.4	1474.4	1388.1	1349.7	1341.3	1270.6	1206.2	1149.0	1107.4	1041.9
5°	2042.2	1927.8	1788.4	1621.0	1557.6	1512.9	1377.7	1248.8	1138.6	1044.0	944.1
7.5°	2514.2	2287.5	2078.6	1834.2	1715.7	1626.2	1425.6	1242.6	1076.2	947.3	815.2
10°	2968.6	2646.3	2292.7	1971.5	1812.4	1677.2	1414.1	1182.2	974.3	823.5	684.2
12.5°	3400.1	2937.4	2467.4	2040.1	1849.8	1680.3	1358.0	1085.5	862.0	699.8	554.2
15°	3828.5	3148.5	2569.3	2054.6	1824.8	1621.0	1256.1	956.6	736.2	572.9	445.0
17.5°	4095.8	3266.0	2570.4	1990.2	1731.3	1508.7	1116.7	822.5	608.3	461.7	349.4
20°	4227.8	3251.4	2472.6	1841.5	1572.2	1347.6	952.5	685.2	491.8	370.2	275.5
22.5°	4189.3	3122.5	2301.1	1645.0	1395.4	1182.2	811.0	575.0	424.2	321.3	249.6
25°	4008.4	2913.5	2098.3	1459.9	1220.7	1019.0	712.3	529.3	418.0	359.8	309.9
27.5°	3695.4	2639.0	1849.8	1265.4	1050.2	889.0	645.7	513.7	432.6	387.8	392.0
30°	3233.8	2275.1	1528.5	1005.5	822.5	691.5	484.5	357.7	264.1	226.7	226.7
32.5°	2717.0	1860.2	1181.2	743.5	594.8	502.2	341.1	244.4	195.5	177.8	169.5
35°	2232.4	1455.7	876.5	538.6	429.4	357.7	223.6	137.3	125.8	121.7	119.6
37.5°	1756.2	1092.8	635.3	391.0	298.4	237.1	114.4	88.4	76.9	71.7	67.6
40°	1316.4	767.4	439.8	239.2	165.3	109.2	66.5	54.1	47.8	46.8	44.7
42.5°	921.3	514.7	272.4	105.0	76.9	61.3	45.8	38.5	35.4	34.3	33.3
45°	539.7	321.3	111.3	58.2	47.8	42.6	33.3	29.1	27.0	27.0	26.0
47.5°	339.0	130.0	59.3	37.4	32.2	30.2	25.0	21.8	20.8	20.8	20.8
50°	139.3	57.2	35.4	26.0	22.9	21.8	18.7	16.6	16.6	16.6	16.6
52.5°	50.9	32.2	23.9	18.7	16.6	15.6	13.5	12.5	12.5	13.5	12.5
55°	29.1	21.8	16.6	13.5	11.4	11.4	10.4	10.4	10.4	10.4	10.4
57.5°	18.7	14.6	11.4	9.4	8.3	8.3	8.3	8.3	8.3	9.4	8.3
60°	12.5	10.4	8.3	7.3	7.3	7.3	7.3	7.3	8.3	8.3	8.3
62.5°	9.4	7.3	7.3	7.3	7.3	7.3	7.3	7.3	8.3	8.3	8.3
65°	7.3	6.2	7.3	7.3	7.3	7.3	7.3	8.3	8.3	8.3	9.4
67.5°	5.2	5.2	6.2	6.2	6.2	6.2	7.3	7.3	8.3	8.3	9.4
70°	5.2	5.2	6.2	6.2	6.2	6.2	7.3	7.3	8.3	8.3	9.4
72.5°	5.2	5.2	6.2	6.2	6.2	6.2	7.3	7.3	8.3	8.3	9.4
75°	5.2	5.2	6.2	6.2	6.2	7.3	7.3	7.3	8.3	8.3	9.4
77.5°	5.2	5.2	6.2	6.2	6.2	7.3	7.3	8.3	8.3	8.3	9.4
80°	5.2	5.2	6.2	6.2	6.2	7.3	7.3	8.3	8.3	9.4	9.4
82.5°	5.2	5.2	6.2	6.2	6.2	7.3	7.3	8.3	8.3	9.4	9.4
85°	5.2	6.2	6.2	6.2	6.2	7.3	7.3	8.3	8.3	8.3	9.4
87.5°	5.2	5.2	6.2	6.2	6.2	7.3	7.3	8.3	8.3	8.3	8.3
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°	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5
2.5°	997.2	951.4	914.0	894.2	872.4	835.0	799.6	767.4	753.9	710.2	718.5
5°	866.1	788.2	725.8	697.7	665.5	613.5	567.7	524.1	501.2	463.7	450.2
7.5°	720.6	629.1	554.2	522.0	493.9	445.0	402.4	361.8	332.7	294.3	278.7
10°	577.1	489.7	421.1	393.0	361.8	313.0	270.3	235.0	211.1	182.0	167.4
12.5°	456.5	378.5	308.8	280.7	254.7	214.2	180.9	148.7	122.7	107.1	102.9
15°	355.6	280.7	223.6	200.7	178.8	139.3	114.4	106.1	101.9	97.7	96.7
17.5°	267.2	206.9	156.0	133.1	120.6	110.2	106.1	101.9	99.8	96.7	97.7
20°	205.9	147.7	126.9	123.7	121.7	116.5	115.4	114.4	113.3	114.4	116.5
22.5°	195.5	184.0	190.3	194.4	203.8	204.8	221.5	235.0	247.5	281.8	298.4
25°	329.6	349.4	380.6	400.3	427.4	455.4	507.4	553.2	601.0	644.7	683.1
27.5°	412.8	422.2	422.2	432.6	421.1	419.0	412.8	407.6	429.4	422.2	445.0
30°	228.8	239.2	256.8	266.2	277.6	285.9	282.8	272.4	278.7	270.3	278.7
32.5°	163.2	163.2	167.4	168.4	170.5	171.6	172.6	173.6	174.7	169.5	172.6
35°	116.5	112.3	110.2	110.2	109.2	107.1	106.1	106.1	107.1	101.9	104.0
37.5°	65.5	63.4	63.4	63.4	63.4	63.4	64.5	65.5	65.5	65.5	67.6
40°	43.7	43.7	43.7	44.7	44.7	44.7	45.8	45.8	46.8	46.8	47.8
42.5°	33.3	32.2	33.3	33.3	33.3	34.3	34.3	35.4	35.4	35.4	36.4
45°	26.0	26.0	26.0	26.0	27.0	27.0	27.0	27.0	28.1	27.0	28.1
47.5°	20.8	20.8	20.8	21.8	21.8	20.8	21.8	21.8	21.8	21.8	21.8
50°	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	17.7	16.6	17.7
52.5°	13.5	12.5	12.5	12.5	12.5	11.4	11.4	12.5	12.5	11.4	11.4
55°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
57.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.3
60°	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	7.3	7.3	6.2
62.5°	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	7.3	6.2	6.2
65°	9.4	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	6.2	6.2
67.5°	9.4	9.4	8.3	8.3	8.3	8.3	8.3	7.3	7.3	6.2	6.2
70°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	6.2
72.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	7.3
75°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	7.3
77.5°	8.3	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	7.3	6.2
80°	9.4	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	7.3	6.2
82.5°	8.3	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	6.2	6.2
85°	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	6.2	6.2	6.2
87.5°	8.3	8.3	8.3	7.3	7.3	7.3	7.3	6.2	6.2	5.2	5.2
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: P179679

CATALOG NUMBER: LDA6A45840D010TE LARH40FL 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5	1136.5
2.5°	674.8	660.3	672.7	657.2	652.0	640.5	635.3	640.5
5°	425.3	409.7	412.8	402.4	385.8	385.8	380.6	382.6
7.5°	256.8	241.2	242.3	232.9	220.4	218.4	213.2	215.2
10°	148.7	132.1	132.1	121.7	111.3	110.2	107.1	107.1
12.5°	98.8	96.7	94.6	93.6	91.5	91.5	91.5	89.4
15°	92.5	91.5	90.5	90.5	88.4	88.4	89.4	87.3
17.5°	94.6	93.6	92.5	92.5	92.5	92.5	93.6	91.5
20°	113.3	114.4	114.4	117.5	119.6	120.6	123.7	119.6
22.5°	297.4	306.7	314.0	352.5	385.8	373.3	396.2	357.7
25°	711.2	737.2	759.1	763.2	784.0	813.1	831.8	830.8
27.5°	445.0	446.1	458.5	458.5	454.4	471.0	482.5	480.4
30°	274.5	273.5	277.6	267.2	266.2	273.5	277.6	277.6
32.5°	169.5	168.4	171.6	169.5	164.3	172.6	170.5	170.5
35°	101.9	102.9	100.9	100.9	96.7	100.9	99.8	100.9
37.5°	66.5	65.5	64.5	64.5	62.4	63.4	62.4	60.3
40°	46.8	46.8	45.8	45.8	44.7	43.7	43.7	42.6
42.5°	35.4	35.4	34.3	34.3	33.3	32.2	32.2	31.2
45°	27.0	26.0	25.0	25.0	25.0	23.9	23.9	22.9
47.5°	20.8	20.8	20.8	19.8	19.8	18.7	18.7	17.7
50°	16.6	16.6	16.6	16.6	15.6	15.6	15.6	14.6
52.5°	11.4	11.4	10.4	10.4	9.4	9.4	9.4	8.3
55°	8.3	8.3	8.3	7.3	7.3	7.3	6.2	6.2
57.5°	7.3	7.3	6.2	6.2	6.2	5.2	5.2	5.2
60°	6.2	5.2	5.2	5.2	4.2	4.2	4.2	4.2
62.5°	5.2	5.2	5.2	4.2	4.2	4.2	4.2	3.1
65°	5.2	5.2	4.2	4.2	4.2	3.1	3.1	3.1
67.5°	5.2	5.2	5.2	4.2	4.2	4.2	4.2	3.1
70°	6.2	5.2	5.2	5.2	4.2	4.2	4.2	4.2
72.5°	6.2	5.2	5.2	5.2	5.2	4.2	4.2	4.2
75°	6.2	6.2	5.2	5.2	5.2	5.2	5.2	4.2
77.5°	6.2	5.2	5.2	5.2	5.2	5.2	4.2	4.2
80°	6.2	5.2	5.2	5.2	5.2	4.2	4.2	4.2
82.5°	6.2	5.2	5.2	5.2	4.2	4.2	4.2	4.2
85°	5.2	5.2	4.2	4.2	4.2	4.2	4.2	4.2
87.5°	4.2	4.2	3.1	3.1	3.1	2.1	2.1	2.1
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)