

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: P179672

Luminaire Tested: **LDA6A45927D010TE LARH30NF 6LAL1LI 30°**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179672  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26674)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA6A45927D010TE LARH30NF 6LAL1LI 30°  
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 30° Narrow Flood, 30° Tilt  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3477.7 lumens  
Efficiency: N/A  
Efficacy: 65.6 lumens/watt  
Spacing Criteria (0/90/45): 2.68 / 0.47 / 1.42  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

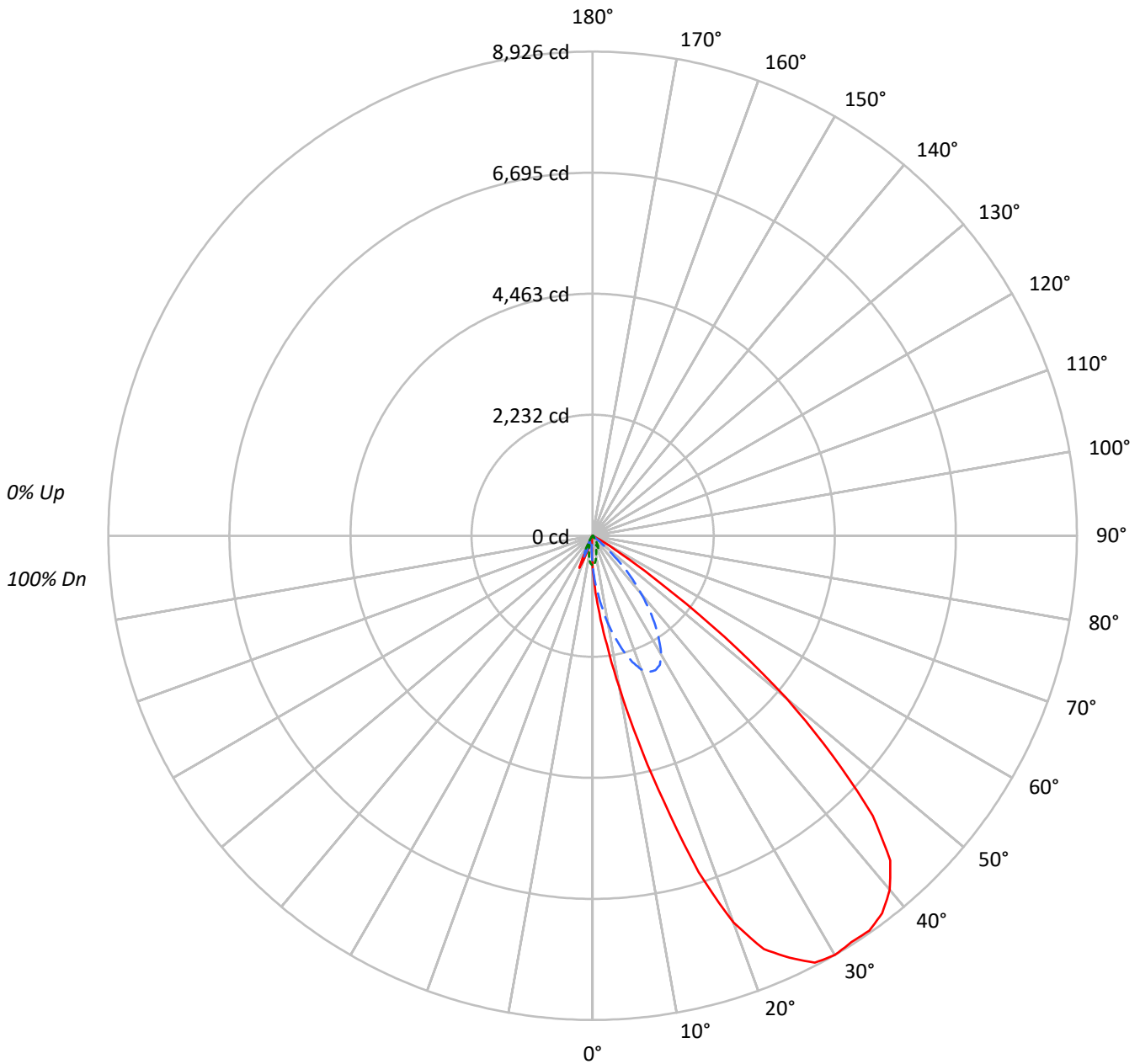
Input Watts (W): 53  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P179672

CATALOG NUMBER: LDA6A45927D010TE LARH30NF 6LAL1LI 30°

### Luminous Intensity Polar Plot





TEST NUMBER: P179672

CATALOG NUMBER: LDA6A45927D010TE LARH30NF 6LAL1LI 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	101	102	100	98	99	97	95	95	94	92	91																			
2	105	99	94	89	102	97	92	88	94	90	86	90	87	85	88	85	83	81																			
3	98	89	83	78	95	88	82	78	85	80	76	83	79	75	80	77	74	72																			
4	91	81	74	69	89	80	73	68	78	72	67	75	71	67	73	69	66	64																			
5	84	74	66	61	82	73	66	61	71	65	60	69	64	59	67	63	59	57																			
6	78	67	59	54	77	66	59	54	65	58	53	63	57	53	61	57	53	51																			
7	73	61	54	48	71	60	53	48	59	53	48	58	52	47	56	51	47	45																			
8	68	56	48	43	66	55	48	43	54	48	43	53	47	43	52	46	42	41																			
9	63	51	44	39	62	51	44	39	50	43	39	49	43	39	48	42	38	37																			
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	30041	30041	30041
5°	79171	27405	8838
10°	158074	21003	3507
15°	287783	14745	3837
20°	442514	10583	24210
25°	518969	15805	20033
30°	565049	9926	5836
35°	594705	4116	2416
40°	609814	1818	1374
45°	566082	1194	1016
50°	397062	921	461
55°	145218	659	296
60°	30666	669	164
65°	2594	791	195
70°	866	978	369
75°	169	1292	657
80°	253	1926	979
85°	0	3837	943



TEST NUMBER: P179672

CATALOG NUMBER: LDA6A45927D010TE LARH30NF 6LAL1LI 30°

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.0	2.0
10°-20°	379.1	10.9
20°-30°	916.2	26.3
30°-40°	1077.1	31.0
40°-50°	813.7	23.4
50°-60°	204.1	5.9
60°-70°	9.9	0.3
70°-80°	4.7	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°	1364.3	39.2
0°-40°	2441.4	70.2
0°-60°	3459.3	99.5
0°-90°	3477.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3477.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	548	548	548	548	548	
5°	1439	1044	498	211	161	179
15°	5071	2200	260	70	68	1535
25°	8580	2737	261	363	331	3947
35°	8886	2017	62	44	36	5533
45°	7302	792	15	16	13	5380
55°	1519	22	7	6	3	1681
65°	20	5	6	5	2	54
75°	1	4	6	5	3	2
85°	0	4	6	5	2	0
90°	0	0	0	0	0	



TEST NUMBER: P179672

CATALOG NUMBER: LDA6A45927D010TE LARH30NF 6LAL1LI 30°

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0
2.5°	956.0	940.7	929.9	911.5	902.2	906.1	886.9	860.7	853.1	830.0	790.0
5°	1438.7	1422.5	1397.2	1358.0	1328.8	1324.2	1286.5	1223.5	1183.5	1124.3	1044.4
7.5°	2031.2	2017.4	1975.1	1916.7	1867.5	1849.1	1793.7	1683.1	1594.7	1476.3	1338.8
10°	2839.7	2785.9	2706.7	2588.4	2475.4	2423.1	2325.5	2142.6	1998.9	1836.8	1650.0
12.5°	3853.4	3758.1	3629.7	3452.2	3257.8	3160.2	3004.9	2725.2	2473.9	2195.7	1923.6
15°	5070.7	4974.6	4788.7	4513.5	4200.7	4044.0	3814.9	3373.8	2999.5	2591.5	2199.5
17.5°	6507.1	6350.3	6102.8	5704.0	5219.8	4973.9	4649.6	4038.6	3480.6	2948.0	2440.8
20°	7585.3	7470.8	7236.4	6819.1	6241.9	5925.3	5489.6	4648.0	3927.9	3233.2	2623.7
22.5°	8247.0	8144.0	7928.8	7579.9	7049.6	6698.4	6207.3	5182.9	4275.3	3430.7	2715.2
25°	8579.8	8506.0	8356.1	8051.8	7588.4	7235.6	6739.2	5578.7	4510.5	3537.5	2736.7
27.5°	8872.6	8748.9	8505.2	8297.7	7887.3	7528.4	7058.1	5775.4	4592.7	3525.2	2682.1
30°	8926.4	8855.7	8663.5	8366.9	7984.9	7622.2	7126.5	5747.0	4499.7	3382.3	2533.8
32.5°	8880.3	8818.8	8673.5	8350.0	7922.7	7522.3	6978.2	5513.4	4226.9	3117.1	2283.3
35°	8886.4	8788.8	8534.4	8257.8	7724.4	7254.1	6615.4	5086.1	3844.9	2772.8	2016.6
37.5°	8768.8	8608.2	8398.4	8041.8	7321.7	6738.4	6008.3	4535.0	3385.3	2421.6	1705.3
40°	8521.4	8399.2	8120.2	7572.2	6635.4	5902.2	5227.5	3902.6	2883.5	2038.1	1390.3
42.5°	8117.1	7971.1	7581.5	6755.3	5641.7	5002.3	4395.2	3255.5	2390.1	1666.9	1091.3
45°	7301.7	7078.9	6569.3	5584.1	4634.2	4091.6	3596.7	2654.5	1937.4	1304.2	792.3
47.5°	5999.1	5809.3	5270.5	4448.2	3700.4	3280.8	2858.9	2093.5	1441.7	838.5	407.3
50°	4655.7	4505.8	4094.7	3373.0	2749.0	2341.7	2009.7	1336.5	768.5	385.8	182.9
52.5°	3063.3	2968.8	2616.0	2105.7	1578.5	1288.0	1046.0	580.2	358.1	171.4	63.0
55°	1519.4	1397.9	1229.6	911.5	659.4	533.4	452.7	285.9	148.3	49.2	22.3
57.5°	619.4	592.5	533.4	411.9	316.6	267.4	213.6	89.1	33.0	20.0	13.8
60°	279.7	267.4	232.1	162.9	88.4	54.6	38.4	24.6	16.9	12.3	9.2
62.5°	49.2	45.3	40.0	30.7	24.6	21.5	18.4	13.8	10.8	8.5	6.9
65°	20.0	20.0	18.4	16.1	13.1	12.3	10.8	8.5	6.9	6.1	5.4
67.5°	10.8	10.0	10.0	8.5	7.7	6.9	6.1	5.4	5.4	4.6	4.6
70°	5.4	5.4	5.4	4.6	3.8	3.8	3.8	3.8	3.8	3.8	3.8
72.5°	3.1	3.1	3.1	3.1	3.1	3.1	2.3	2.3	2.3	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	3.8
77.5°	0.8	0.8	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.1	3.8
80°	0.8	0.8	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.1	3.8
82.5°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	2.3	3.1	3.8
85°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	2.3	3.1	3.8
87.5°	0.0	0.0	0.8	0.8	0.8	1.5	1.5	2.3	2.3	3.1	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: P179672

CATALOG NUMBER: LDA6A45927D010TE LARH30NF 6LAL1LI 30°

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0
2.5°	788.5	748.5	717.8	688.6	681.7	657.9	635.6	597.1	562.6	530.3	493.4
5°	1013.7	935.3	870.0	806.2	785.4	745.5	691.7	622.5	557.9	498.0	435.0
7.5°	1258.8	1125.9	1009.8	902.2	864.6	807.7	720.9	622.5	529.5	443.4	366.6
10°	1499.4	1301.1	1125.9	970.6	913.8	840.0	720.9	595.6	477.3	377.3	301.3
12.5°	1731.5	1459.4	1222.7	1017.5	943.0	850.8	701.7	548.7	411.2	312.8	249.0
15°	1912.9	1593.1	1291.1	1036.0	943.0	836.2	657.1	483.4	344.3	259.8	202.9
17.5°	2048.9	1672.3	1314.2	1018.3	910.7	790.8	589.5	406.5	283.6	215.2	160.6
20°	2128.0	1692.3	1290.3	966.8	849.2	722.4	505.7	335.1	240.5	181.4	129.9
22.5°	2146.5	1664.6	1235.0	900.7	779.3	650.9	431.9	299.7	232.1	185.2	162.2
25°	2125.7	1608.5	1162.0	833.8	713.2	586.4	405.0	322.8	278.2	261.3	279.7
27.5°	2043.5	1504.0	1072.1	759.3	637.9	519.5	384.3	325.1	279.7	272.1	263.6
30°	1896.7	1346.4	933.8	621.0	492.6	394.3	272.8	193.7	154.5	156.8	155.2
32.5°	1666.9	1117.4	730.9	434.2	338.9	266.7	180.6	114.5	107.6	107.6	106.1
35°	1414.1	907.6	549.5	305.1	235.9	187.5	107.6	83.8	70.7	61.5	55.3
37.5°	1156.6	706.3	378.9	206.0	149.9	96.1	51.5	42.3	37.7	35.4	34.6
40°	895.3	497.2	242.1	113.0	66.1	42.3	33.0	28.4	26.1	25.4	25.4
42.5°	662.5	320.5	130.6	44.6	35.4	29.2	23.8	20.8	20.0	20.0	19.2
45°	398.9	160.6	49.2	27.7	23.1	20.8	17.7	16.1	15.4	15.4	16.1
47.5°	184.4	59.9	26.9	18.4	16.9	15.4	13.8	13.1	13.1	13.1	13.8
50°	66.9	26.1	16.9	13.1	12.3	11.5	10.8	10.0	10.0	10.8	10.8
52.5°	25.4	16.1	12.3	10.0	9.2	9.2	8.5	8.5	8.5	8.5	8.5
55°	15.4	11.5	9.2	7.7	7.7	6.9	6.9	6.9	6.9	6.9	6.9
57.5°	10.0	8.5	6.9	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
60°	7.7	6.1	5.4	5.4	5.4	5.4	5.4	6.1	6.1	6.1	6.1
62.5°	6.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	6.1	6.1	6.1
65°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	6.1	6.1	6.1	6.9
67.5°	4.6	4.6	4.6	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1
70°	3.8	3.8	4.6	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1
72.5°	3.8	4.6	4.6	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1
75°	3.8	4.6	4.6	4.6	5.4	5.4	5.4	5.4	6.1	6.1	6.1
77.5°	3.8	4.6	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1	6.9
80°	3.8	4.6	4.6	5.4	5.4	5.4	5.4	6.1	6.1	6.1	6.9
82.5°	3.8	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1	6.9	6.9
85°	3.8	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1	6.1	6.9
87.5°	3.8	4.6	4.6	5.4	5.4	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



TEST NUMBER: P179672

CATALOG NUMBER: LDA6A45927D010TE LARH30NF 6LAL1LI 30°

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0
2.5°	473.4	441.9	419.6	399.6	391.9	374.3	355.1	332.8	314.3	312.8	297.4
5°	392.7	348.9	317.4	297.4	287.4	269.0	246.7	232.1	211.3	205.2	189.8
7.5°	317.4	276.7	247.5	229.0	217.5	195.2	169.8	153.7	136.8	123.7	106.8
10°	258.2	219.0	187.5	169.1	157.5	133.7	107.6	89.1	73.8	70.7	69.2
12.5°	207.5	167.5	136.0	116.0	103.8	81.5	74.5	71.5	69.2	66.9	66.9
15°	161.4	120.7	86.8	79.2	76.9	74.5	73.0	71.5	69.9	69.2	69.9
17.5°	117.6	85.3	81.5	80.7	79.2	79.2	80.7	81.5	83.0	84.5	86.8
20°	103.8	104.5	113.0	119.1	116.8	128.3	144.5	157.5	189.1	208.3	234.4
22.5°	186.0	213.6	252.8	276.7	289.7	328.2	370.4	434.2	466.5	512.6	554.1
25°	318.2	350.4	384.3	393.5	400.4	404.2	398.9	369.7	362.7	349.7	345.8
27.5°	238.2	222.9	228.3	230.6	228.3	225.2	216.0	199.8	196.0	189.8	191.4
30°	140.6	136.0	142.2	141.4	141.4	141.4	138.3	125.3	119.1	112.2	107.6
32.5°	103.8	95.3	88.4	82.2	79.9	76.1	73.8	68.4	66.1	63.0	63.0
35°	51.5	49.2	49.2	47.6	46.9	47.6	47.6	45.3	43.8	43.0	43.0
37.5°	33.8	33.8	34.6	33.8	33.8	33.8	33.8	33.0	32.3	31.5	31.5
40°	25.4	25.4	26.1	26.1	25.4	25.4	25.4	24.6	24.6	24.6	24.6
42.5°	20.0	20.0	20.0	20.0	19.2	20.0	20.0	20.0	19.2	19.2	18.4
45°	16.9	16.1	16.1	16.1	16.1	16.1	16.9	16.1	16.1	15.4	15.4
47.5°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.1	13.1
50°	10.8	10.8	10.8	10.8	10.8	10.0	10.0	9.2	9.2	8.5	8.5
52.5°	8.5	8.5	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.9	6.9
55°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.1	5.4	5.4
57.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.4	5.4	4.6
60°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.4	4.6	4.6	4.6
62.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.4	4.6	4.6	3.8
65°	6.9	6.9	6.9	6.9	6.1	6.1	6.1	5.4	5.4	4.6	4.6
67.5°	6.9	6.9	6.9	6.9	6.9	6.1	6.1	6.1	5.4	5.4	4.6
70°	6.9	6.9	6.9	6.9	6.9	6.1	6.1	6.1	5.4	5.4	4.6
72.5°	6.9	6.9	6.9	6.9	6.9	6.1	6.1	6.1	5.4	5.4	4.6
75°	6.9	6.9	6.9	6.9	6.9	6.1	6.1	6.1	5.4	5.4	4.6
77.5°	6.9	6.9	6.9	6.9	6.9	6.1	6.1	6.1	5.4	5.4	4.6
80°	6.9	6.9	6.9	6.9	6.9	6.1	6.1	6.1	5.4	5.4	4.6
82.5°	6.9	6.9	6.9	6.9	6.9	6.1	6.1	6.1	5.4	5.4	4.6
85°	6.9	6.9	6.1	6.1	6.1	6.1	6.1	5.4	4.6	4.6	3.8
87.5°	6.1	6.1	6.1	6.1	6.1	5.4	5.4	4.6	3.8	3.8	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





TEST NUMBER: P179672

CATALOG NUMBER: LDA6A45927D010TE LARH30NF 6LAL1LI 30°

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	548.0	548.0	548.0	548.0	548.0	548.0	548.0	548.0
2.5°	294.3	283.6	281.3	284.4	272.1	272.1	272.1	277.4
5°	183.7	172.9	169.8	170.6	160.6	153.7	157.5	160.6
7.5°	99.9	88.4	84.5	84.5	74.5	70.7	71.5	73.0
10°	66.9	65.3	65.3	64.6	63.0	62.3	63.0	63.0
12.5°	64.6	63.8	63.8	63.0	63.0	62.3	62.3	63.0
15°	67.6	67.6	67.6	66.9	66.9	66.1	67.6	67.6
17.5°	86.1	87.6	90.7	92.2	95.3	92.2	97.6	96.8
20°	252.8	278.2	325.1	342.8	393.5	368.9	421.9	415.0
22.5°	572.5	591.0	598.7	602.5	603.3	627.9	631.7	640.2
25°	338.1	333.5	329.7	329.7	315.9	332.0	328.9	331.2
27.5°	180.6	179.1	175.2	176.8	169.8	175.2	176.8	176.8
30°	102.2	99.1	96.1	96.1	89.9	93.0	92.2	92.2
32.5°	59.2	57.6	56.1	55.3	53.8	53.8	53.0	53.0
35°	40.7	40.0	39.2	38.4	36.9	36.1	36.1	36.1
37.5°	30.0	29.2	28.4	28.4	27.7	26.1	26.1	26.1
40°	23.1	22.3	21.5	21.5	20.8	19.2	19.2	19.2
42.5°	17.7	16.9	16.1	15.4	15.4	14.6	13.8	13.8
45°	14.6	14.6	13.8	13.8	13.1	13.1	13.1	13.1
47.5°	12.3	12.3	11.5	11.5	11.5	10.8	10.8	10.0
50°	7.7	6.9	6.9	6.1	6.1	5.4	5.4	5.4
52.5°	6.1	5.4	5.4	4.6	4.6	3.8	3.8	3.8
55°	4.6	4.6	3.8	3.8	3.8	3.1	3.1	3.1
57.5°	3.8	3.8	3.1	3.1	3.1	2.3	2.3	2.3
60°	3.8	3.1	3.1	2.3	2.3	2.3	1.5	1.5
62.5°	3.8	3.1	3.1	2.3	2.3	1.5	1.5	1.5
65°	3.8	3.1	3.1	2.3	2.3	2.3	2.3	1.5
67.5°	3.8	3.8	3.1	3.1	3.1	2.3	2.3	2.3
70°	4.6	3.8	3.8	3.1	3.1	3.1	3.1	2.3
72.5°	4.6	3.8	3.8	3.8	3.1	3.1	3.1	3.1
75°	4.6	3.8	3.8	3.8	3.1	3.1	3.1	3.1
77.5°	4.6	3.8	3.8	3.8	3.1	3.1	3.1	3.1
80°	4.6	3.8	3.8	3.8	3.1	3.1	3.1	3.1
82.5°	3.8	3.8	3.8	3.1	3.1	3.1	3.1	3.1
85°	3.1	3.1	3.1	2.3	2.3	2.3	2.3	1.5
87.5°	2.3	2.3	1.5	1.5	0.8	0.8	0.8	0.8
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)