

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: P179677

Luminaire Tested: **LDA6A45830D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179677  
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: LDA6A45830D010TE LARH40FL 6LAL1LI 30°  
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 40° Flood, 30° Tilt  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4643.6 lumens  
Efficiency: N/A  
Efficacy: 87.6 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

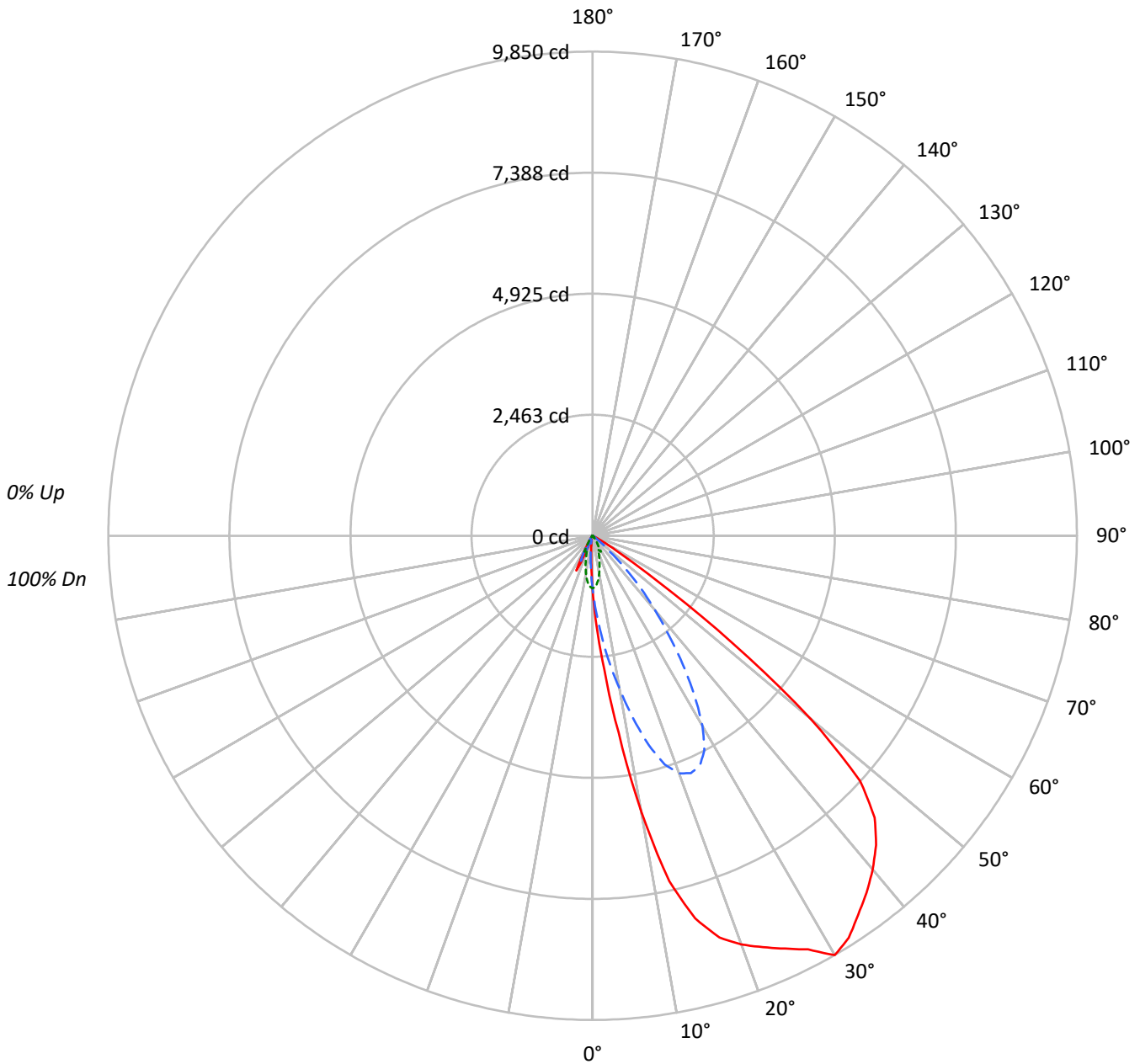
Input Watts (W): 53  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P179677

CATALOG NUMBER: LDA6A45830D010TE LARH40FL 6LAL1LI 30°

### Luminous Intensity Polar Plot





TEST NUMBER: P179677

CATALOG NUMBER: LDA6A45830D010TE LARH40FL 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	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°	58723	58723	58723
5°	150418	54149	19849
10°	317184	43208	5617
15°	457432	30647	4671
20°	516283	20354	6575
25°	560555	20511	47368
30°	623482	13527	16566
35°	629907	7676	6364
40°	634088	3156	2877
45°	628895	1977	1675
50°	493647	1339	1168
55°	148563	937	564
60°	31379	855	428
65°	3554	1012	376
70°	946	1250	625
75°	212	1652	826
80°	0	2778	1231
85°	0	4906	2453



TEST NUMBER: P179677

CATALOG NUMBER: LDA6A45830D010TE LARH40FL 6LAL1LI 30°

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.6	2.9
10°-20°	647.4	13.9
20°-30°	1220.6	26.3
30°-40°	1353.9	29.2
40°-50°	1031.8	22.2
50°-60°	230.2	5.0
60°-70°	12.6	0.3
70°-80°	5.8	0.1
80°-90°	4.8	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°	2004.5	43.2
0°-40°	3358.4	72.3
0°-60°	4620.4	99.5
0°-90°	4643.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4643.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1071	1071	1071	1071	1071	
5°	2733	2025	984	472	361	354
15°	8060	4412	540	96	82	2247
25°	9267	5159	339	566	783	4313
35°	9412	3210	115	101	95	5896
45°	8112	945	26	26	22	6041
55°	1554	41	10	9	6	1919
65°	27	7	8	7	3	64
75°	1	4	8	7	4	2
85°	0	4	8	6	4	0
90°	0	0	0	0	0	



TEST NUMBER: P179677

CATALOG NUMBER: LDA6A45830D010TE LARH40FL 6LAL1LI 30°

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2
2.5°	1838.6	1806.2	1802.3	1791.5	1707.2	1706.3	1705.3	1661.2	1621.0	1600.4	1513.2
5°	2733.4	2709.8	2680.4	2643.2	2504.0	2484.4	2467.8	2402.1	2261.0	2178.6	2024.8
7.5°	4037.8	4025.1	3877.1	3857.5	3601.7	3539.0	3477.2	3308.6	3036.2	2859.8	2587.3
10°	5698.0	5637.2	5524.5	5371.6	5038.4	4919.8	4805.2	4460.2	3995.7	3626.2	3162.6
12.5°	7198.5	7121.0	6983.8	6805.5	6386.0	6224.3	6043.0	5619.6	5052.2	4451.4	3795.7
15°	8059.9	8047.2	7888.4	7815.9	7477.8	7313.1	7163.2	6676.1	5967.5	5260.9	4412.2
17.5°	8569.5	8570.5	8453.9	8410.8	8096.2	7939.4	7812.9	7458.2	6716.3	5858.7	4879.7
20°	8849.8	8878.3	8769.5	8701.9	8482.3	8343.2	8225.5	7860.0	7214.1	6262.5	5144.3
22.5°	9058.6	9072.3	8940.0	8884.1	8638.1	8503.9	8429.4	8079.5	7448.4	6478.1	5224.6
25°	9267.3	9260.5	9111.5	8999.8	8757.7	8627.4	8536.2	8233.4	7546.4	6528.1	5159.0
27.5°	9487.9	9519.2	9242.8	9064.5	8847.9	8695.0	8593.1	8280.4	7539.5	6397.8	4920.8
30°	9849.5	9595.7	9319.3	9073.3	8824.4	8662.7	8546.0	8148.1	7350.4	6051.8	4468.0
32.5°	9697.6	9518.2	9246.8	8993.9	8727.3	8549.0	8406.9	7934.5	6953.4	5482.4	3860.4
35°	9412.4	9364.4	9095.8	8890.0	8587.2	8395.1	8229.5	7605.2	6338.0	4797.3	3209.7
37.5°	9155.6	9105.6	8945.9	8733.2	8389.2	8188.3	7884.5	7081.8	5537.3	3939.8	2524.6
40°	8860.6	8848.9	8670.5	8473.5	8059.9	7689.5	7374.9	6158.6	4583.7	3097.9	1964.0
42.5°	8534.3	8527.4	8382.4	8091.3	7483.7	7024.0	6497.7	5116.8	3524.3	2351.1	1459.3
45°	8111.9	8071.7	7821.8	7397.4	6525.2	5860.7	5237.4	3909.4	2584.4	1679.8	944.8
47.5°	7379.8	7309.2	6944.6	6218.4	5172.7	4493.5	3920.2	2688.3	1612.2	949.7	468.5
50°	5788.2	5601.0	5081.6	4318.1	3245.9	2655.9	2205.1	1333.8	715.4	471.4	299.9
52.5°	3575.2	3373.3	2882.3	2306.1	1480.9	1147.6	946.7	642.9	395.9	271.5	115.6
55°	1554.4	1459.3	1204.5	958.5	685.1	544.9	470.4	325.4	205.8	99.0	41.2
57.5°	606.7	588.0	512.6	432.2	324.4	264.6	234.2	147.0	56.8	35.3	23.5
60°	286.2	267.6	230.3	191.1	119.6	86.2	66.6	41.2	28.4	21.6	15.7
62.5°	78.4	67.6	54.9	47.0	36.3	32.3	28.4	22.5	17.6	13.7	10.8
65°	27.4	27.4	24.5	22.5	18.6	16.7	15.7	12.7	10.8	8.8	6.9
67.5°	12.7	12.7	11.8	10.8	8.8	8.8	7.8	6.9	5.9	4.9	4.9
70°	5.9	4.9	4.9	4.9	4.9	3.9	3.9	3.9	3.9	3.9	3.9
72.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	3.9	3.9	3.9
75°	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.9	3.9	3.9	3.9
77.5°	0.0	1.0	1.0	1.0	2.0	2.0	2.0	2.9	3.9	3.9	3.9
80°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	3.9	3.9	3.9
82.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	2.9	3.9	3.9
85°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	3.9	3.9	3.9
87.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	2.9	3.9	3.9
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: P179677

CATALOG NUMBER: LDA6A45830D010TE LARH40FL 6LAL1LI 30°

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2
2.5°	1476.0	1438.7	1389.7	1308.4	1272.1	1264.3	1197.6	1136.9	1083.0	1043.8	982.0
5°	1924.8	1817.0	1685.7	1527.9	1468.1	1426.0	1298.6	1177.0	1073.2	984.0	889.9
7.5°	2369.8	2156.1	1959.1	1728.8	1617.1	1532.8	1343.6	1171.2	1014.4	892.8	768.4
10°	2798.0	2494.2	2161.0	1858.2	1708.2	1580.8	1332.9	1114.3	918.3	776.2	644.9
12.5°	3204.8	2768.6	2325.7	1922.9	1743.5	1583.8	1279.9	1023.2	812.5	659.6	522.4
15°	3608.5	2967.6	2421.7	1936.6	1720.0	1527.9	1183.9	901.6	693.9	540.0	419.5
17.5°	3860.4	3078.3	2422.7	1875.8	1631.8	1422.1	1052.6	775.2	573.3	435.1	329.3
20°	3984.9	3064.6	2330.6	1735.7	1481.8	1270.1	897.7	645.9	463.6	348.9	259.7
22.5°	3948.6	2943.1	2168.8	1550.4	1315.2	1114.3	764.4	542.0	399.9	302.8	235.2
25°	3778.1	2746.1	1977.7	1376.0	1150.6	960.4	671.3	498.8	394.0	339.1	292.1
27.5°	3483.1	2487.4	1743.5	1192.7	989.8	837.9	608.6	484.1	407.7	365.6	369.5
30°	3048.0	2144.3	1440.7	947.7	775.2	651.7	456.7	337.1	248.9	213.7	213.7
32.5°	2560.9	1753.3	1113.3	700.7	560.6	473.4	321.5	230.3	184.2	167.6	159.7
35°	2104.2	1372.1	826.2	507.7	404.8	337.1	210.7	129.4	118.6	114.7	112.7
37.5°	1655.3	1030.0	598.8	368.5	281.3	223.5	107.8	83.3	72.5	67.6	63.7
40°	1240.7	723.3	414.6	225.4	155.8	102.9	62.7	51.0	45.1	44.1	42.1
42.5°	868.3	485.1	256.8	99.0	72.5	57.8	43.1	36.3	33.3	32.3	31.4
45°	508.6	302.8	104.9	54.9	45.1	40.2	31.4	27.4	25.5	25.5	24.5
47.5°	319.5	122.5	55.9	35.3	30.4	28.4	23.5	20.6	19.6	19.6	19.6
50°	131.3	53.9	33.3	24.5	21.6	20.6	17.6	15.7	15.7	15.7	15.7
52.5°	48.0	30.4	22.5	17.6	15.7	14.7	12.7	11.8	11.8	12.7	11.8
55°	27.4	20.6	15.7	12.7	10.8	10.8	9.8	9.8	9.8	9.8	9.8
57.5°	17.6	13.7	10.8	8.8	7.8	7.8	7.8	7.8	7.8	8.8	7.8
60°	11.8	9.8	7.8	6.9	6.9	6.9	6.9	6.9	7.8	7.8	7.8
62.5°	8.8	6.9	6.9	6.9	6.9	6.9	6.9	6.9	7.8	7.8	7.8
65°	6.9	5.9	6.9	6.9	6.9	6.9	6.9	7.8	7.8	7.8	8.8
67.5°	4.9	4.9	5.9	5.9	5.9	5.9	6.9	6.9	7.8	7.8	8.8
70°	4.9	4.9	5.9	5.9	5.9	5.9	6.9	6.9	7.8	7.8	8.8
72.5°	4.9	4.9	5.9	5.9	5.9	5.9	6.9	6.9	7.8	7.8	8.8
75°	4.9	4.9	5.9	5.9	5.9	6.9	6.9	6.9	7.8	7.8	8.8
77.5°	4.9	4.9	5.9	5.9	5.9	6.9	6.9	7.8	7.8	7.8	8.8
80°	4.9	4.9	5.9	5.9	5.9	6.9	6.9	7.8	7.8	8.8	8.8
82.5°	4.9	4.9	5.9	5.9	5.9	6.9	6.9	7.8	7.8	8.8	8.8
85°	4.9	5.9	5.9	5.9	5.9	6.9	6.9	7.8	7.8	7.8	8.8
87.5°	4.9	4.9	5.9	5.9	5.9	6.9	6.9	7.8	7.8	7.8	7.8
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: P179677

CATALOG NUMBER: LDA6A45830D010TE LARH40FL 6LAL1LI 30°

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2
2.5°	939.9	896.7	861.5	842.8	822.3	787.0	753.7	723.3	710.5	669.4	677.2
5°	816.4	742.9	684.1	657.6	627.2	578.2	535.1	493.9	472.4	437.1	424.4
7.5°	679.2	592.9	522.4	492.0	465.5	419.5	379.3	341.1	313.6	277.4	262.7
10°	543.9	461.6	396.9	370.5	341.1	295.0	254.8	221.5	198.9	171.5	157.8
12.5°	430.2	356.7	291.1	264.6	240.1	201.9	170.5	140.1	115.6	100.9	97.0
15°	335.2	264.6	210.7	189.1	168.6	131.3	107.8	100.0	96.0	92.1	91.1
17.5°	251.9	195.0	147.0	125.4	113.7	103.9	100.0	96.0	94.1	91.1	92.1
20°	194.0	139.2	119.6	116.6	114.7	109.8	108.8	107.8	106.8	107.8	109.8
22.5°	184.2	173.5	179.3	183.3	192.1	193.1	208.8	221.5	233.3	265.6	281.3
25°	310.7	329.3	358.7	377.3	402.8	429.3	478.3	521.4	566.5	607.6	643.9
27.5°	389.1	397.9	397.9	407.7	396.9	395.0	389.1	384.2	404.8	397.9	419.5
30°	215.6	225.4	242.1	250.9	261.7	269.5	266.6	256.8	262.7	254.8	262.7
32.5°	153.9	153.9	157.8	158.8	160.7	161.7	162.7	163.7	164.6	159.7	162.7
35°	109.8	105.8	103.9	103.9	102.9	100.9	100.0	100.0	100.9	96.0	98.0
37.5°	61.7	59.8	59.8	59.8	59.8	59.8	60.8	61.7	61.7	61.7	63.7
40°	41.2	41.2	41.2	42.1	42.1	42.1	43.1	43.1	44.1	44.1	45.1
42.5°	31.4	30.4	31.4	31.4	31.4	32.3	32.3	33.3	33.3	33.3	34.3
45°	24.5	24.5	24.5	24.5	25.5	25.5	25.5	25.5	26.5	25.5	26.5
47.5°	19.6	19.6	19.6	20.6	20.6	19.6	20.6	20.6	20.6	20.6	20.6
50°	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	16.7	15.7	16.7
52.5°	12.7	11.8	11.8	11.8	11.8	10.8	10.8	11.8	11.8	10.8	10.8
55°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
57.5°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	6.9
60°	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	6.9	6.9	5.9
62.5°	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	6.9	5.9	5.9
65°	8.8	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	5.9	5.9
67.5°	8.8	8.8	7.8	7.8	7.8	7.8	7.8	6.9	6.9	5.9	5.9
70°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	5.9
72.5°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	6.9
75°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	6.9
77.5°	7.8	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	6.9	5.9
80°	8.8	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	6.9	5.9
82.5°	7.8	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	5.9	5.9
85°	7.8	7.8	7.8	7.8	7.8	6.9	6.9	6.9	5.9	5.9	5.9
87.5°	7.8	7.8	7.8	6.9	6.9	6.9	6.9	5.9	5.9	4.9	4.9
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: P179677

CATALOG NUMBER: LDA6A45830D010TE LARH40FL 6LAL1LI 30°

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2	1071.2
2.5°	636.1	622.3	634.1	619.4	614.5	603.7	598.8	603.7
5°	400.8	386.1	389.1	379.3	363.6	363.6	358.7	360.7
7.5°	242.1	227.4	228.4	219.5	207.8	205.8	200.9	202.9
10°	140.1	124.5	124.5	114.7	104.9	103.9	100.9	100.9
12.5°	93.1	91.1	89.2	88.2	86.2	86.2	86.2	84.3
15°	87.2	86.2	85.3	85.3	83.3	83.3	84.3	82.3
17.5°	89.2	88.2	87.2	87.2	87.2	87.2	88.2	86.2
20°	106.8	107.8	107.8	110.7	112.7	113.7	116.6	112.7
22.5°	280.3	289.1	296.0	332.2	363.6	351.8	373.4	337.1
25°	670.4	694.9	715.4	719.4	739.0	766.4	784.0	783.1
27.5°	419.5	420.4	432.2	432.2	428.3	444.0	454.7	452.8
30°	258.7	257.8	261.7	251.9	250.9	257.8	261.7	261.7
32.5°	159.7	158.8	161.7	159.7	154.8	162.7	160.7	160.7
35°	96.0	97.0	95.1	95.1	91.1	95.1	94.1	95.1
37.5°	62.7	61.7	60.8	60.8	58.8	59.8	58.8	56.8
40°	44.1	44.1	43.1	43.1	42.1	41.2	41.2	40.2
42.5°	33.3	33.3	32.3	32.3	31.4	30.4	30.4	29.4
45°	25.5	24.5	23.5	23.5	23.5	22.5	22.5	21.6
47.5°	19.6	19.6	19.6	18.6	18.6	17.6	17.6	16.7
50°	15.7	15.7	15.7	15.7	14.7	14.7	14.7	13.7
52.5°	10.8	10.8	9.8	9.8	8.8	8.8	8.8	7.8
55°	7.8	7.8	7.8	6.9	6.9	6.9	5.9	5.9
57.5°	6.9	6.9	5.9	5.9	5.9	4.9	4.9	4.9
60°	5.9	4.9	4.9	4.9	3.9	3.9	3.9	3.9
62.5°	4.9	4.9	4.9	3.9	3.9	3.9	3.9	2.9
65°	4.9	4.9	3.9	3.9	3.9	2.9	2.9	2.9
67.5°	4.9	4.9	4.9	3.9	3.9	3.9	3.9	2.9
70°	5.9	4.9	4.9	4.9	3.9	3.9	3.9	3.9
72.5°	5.9	4.9	4.9	4.9	4.9	3.9	3.9	3.9
75°	5.9	5.9	4.9	4.9	4.9	4.9	4.9	3.9
77.5°	5.9	4.9	4.9	4.9	4.9	4.9	3.9	3.9
80°	5.9	4.9	4.9	4.9	4.9	3.9	3.9	3.9
82.5°	5.9	4.9	4.9	4.9	3.9	3.9	3.9	3.9
85°	4.9	4.9	3.9	3.9	3.9	3.9	3.9	3.9
87.5°	3.9	3.9	2.9	2.9	2.9	2.0	2.0	2.0
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)