

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: P179952

Luminaire Tested: **LDA6A65927D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179952
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26691)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A65927D010TE LARH40FL 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, 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: 4799.0 lumens
Efficiency: N/A
Efficacy: 61.5 lumens/watt
Spacing Criteria (0/90/45): 2.62 / 0.52 / 1.36
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

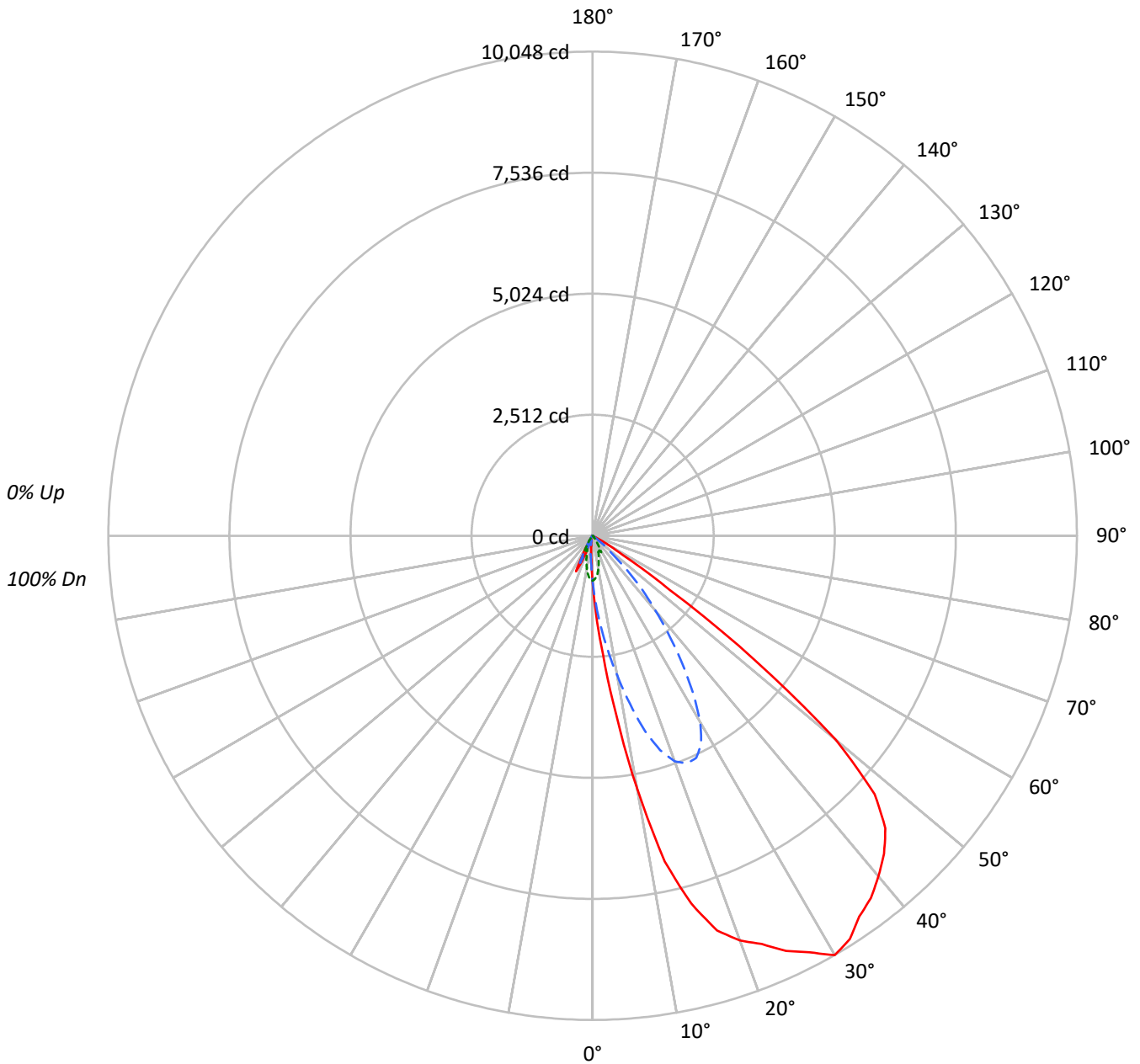
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	67	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	54	49	59	53	49	57	52	48	47																			
8	69	57	50	44	67	56	49	44	55	49	44	54	48	44	53	48	44	42																			
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38																			
10	60	48	41	37	59	48	41	36	47	41	36	46	40	36	45	40	36	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	51251	51251	51251
5°	136006	47513	18182
10°	296877	38421	5416
15°	448118	28076	4711
20°	521265	19275	7397
25°	574866	20796	49255
30°	636028	15654	15319
35°	645473	8004	5735
40°	660316	3256	2748
45°	665860	2008	1659
50°	560920	1373	1066
55°	185274	937	602
60°	36423	877	395
65°	4281	1154	467
70°	1138	1282	577
75°	191	1694	953
80°	0	2810	1421
85°	0	5598	2264



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.4	2.6
10°-20°	628.2	13.1
20°-30°	1240.0	25.8
30°-40°	1398.7	29.1
40°-50°	1110.4	23.1
50°-60°	271.5	5.7
60°-70°	14.5	0.3
70°-80°	6.2	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°	1992.6	41.5
0°-40°	3391.3	70.7
0°-60°	4773.2	99.5
0°-90°	4799.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4799.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	935	935	935	935	935	
5°	2472	1852	863	434	330	326
15°	7896	4197	495	97	83	2215
25°	9504	5087	344	622	814	4402
35°	9645	3238	120	95	86	6066
45°	8589	1009	26	27	21	6437
55°	1938	44	10	10	6	2274
65°	33	8	9	7	4	81
75°	1	4	8	7	4	2
85°	0	4	9	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°	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9
2.5°	1622.4	1591.1	1605.4	1583.1	1519.7	1500.1	1516.1	1492.0	1419.7	1392.0	1363.4
5°	2471.5	2443.8	2452.8	2401.9	2283.1	2242.0	2239.4	2166.2	2019.7	1937.6	1851.9
7.5°	3747.5	3709.1	3698.4	3576.0	3347.4	3261.7	3219.8	3039.4	2763.5	2568.0	2376.0
10°	5333.2	5370.7	5332.3	5134.1	4775.2	4614.5	4512.7	4171.6	3674.2	3301.9	2943.0
12.5°	6923.5	6946.7	6874.4	6627.9	6171.7	5978.8	5828.8	5392.2	4736.8	4104.6	3568.9
15°	7895.8	8005.7	7937.8	7765.5	7411.9	7178.0	7043.1	6503.8	5678.8	4984.1	4196.6
17.5°	8588.7	8690.5	8634.3	8493.2	8094.1	7905.7	7818.2	7374.4	6476.1	5593.1	4666.2
20°	8935.2	9059.3	9008.4	8848.5	8555.7	8398.5	8292.3	7859.2	7049.4	6045.8	4979.7
22.5°	9170.0	9307.5	9252.1	9106.6	8808.4	8625.3	8575.3	8165.5	7349.4	6317.2	5112.7
25°	9503.9	9619.1	9462.9	9283.4	8988.7	8795.9	8765.5	8346.7	7493.1	6419.9	5086.8
27.5°	9743.2	9879.8	9614.7	9432.5	9095.9	8893.2	8853.9	8460.1	7506.5	6338.6	4877.0
30°	10047.7	9959.3	9726.3	9462.0	9103.0	8886.9	8836.9	8394.1	7372.6	6039.5	4466.2
32.5°	9927.2	9905.7	9672.7	9362.0	9027.1	8809.3	8742.3	8190.5	7004.7	5523.4	3885.0
35°	9645.0	9712.9	9518.2	9325.4	8909.3	8682.5	8589.6	7890.5	6450.2	4859.1	3237.6
37.5°	9479.8	9522.7	9399.5	9163.7	8751.2	8453.0	8277.1	7386.0	5724.3	4021.6	2613.5
40°	9227.1	9336.1	9217.3	8946.8	8470.9	8061.9	7755.7	6474.4	4768.0	3170.7	2043.8
42.5°	8950.3	9047.7	8934.3	8610.1	7937.8	7389.6	6880.6	5402.9	3733.2	2422.4	1533.1
45°	8588.7	8676.2	8472.6	7968.2	7016.3	6260.1	5752.0	4243.0	2815.3	1779.5	1009.0
47.5°	7936.9	7913.7	7625.3	6841.3	5669.0	4991.3	4400.2	3039.4	1871.5	1008.1	501.8
50°	6577.0	6360.1	5935.9	5026.1	3804.6	3072.4	2668.9	1568.8	849.1	488.4	315.2
52.5°	4260.0	4018.0	3629.6	2789.4	1826.9	1466.1	1175.9	709.0	442.9	275.9	124.1
55°	1938.5	1767.0	1518.8	1126.8	784.0	651.8	551.8	358.9	237.5	102.7	43.8
57.5°	738.4	681.3	605.4	483.1	362.5	313.4	259.8	172.3	74.1	38.4	25.9
60°	332.2	308.0	283.0	221.4	155.4	111.6	84.8	46.4	31.3	22.3	17.0
62.5°	113.4	94.6	78.6	56.3	42.0	36.6	32.1	25.9	18.8	15.2	11.6
65°	33.0	32.1	30.4	26.8	21.4	19.6	18.8	15.2	11.6	9.8	8.0
67.5°	16.1	15.2	14.3	13.4	10.7	9.8	9.8	8.9	7.1	6.3	5.4
70°	7.1	7.1	6.3	6.3	5.4	5.4	5.4	4.5	4.5	4.5	4.5
72.5°	3.6	3.6	3.6	2.7	2.7	2.7	2.7	3.6	3.6	4.5	4.5
75°	0.9	1.8	1.8	1.8	1.8	2.7	2.7	3.6	3.6	4.5	4.5
77.5°	0.9	0.9	0.9	1.8	1.8	1.8	2.7	3.6	3.6	4.5	4.5
80°	0.0	0.9	0.9	1.8	1.8	1.8	2.7	2.7	3.6	4.5	4.5
82.5°	0.0	0.9	0.9	1.8	1.8	1.8	2.7	2.7	3.6	4.5	4.5
85°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	4.5
87.5°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9
2.5°	1293.8	1275.0	1200.9	1143.8	1117.0	1115.2	1055.4	1018.8	954.5	904.5	857.2
5°	1701.0	1617.9	1467.9	1349.2	1292.0	1262.5	1144.7	1059.9	949.1	863.4	778.6
7.5°	2115.3	1957.2	1746.5	1520.6	1427.7	1370.6	1188.4	1052.7	905.4	785.7	680.4
10°	2539.4	2260.8	1946.5	1648.3	1514.3	1417.9	1184.0	1000.0	830.4	690.2	575.0
12.5°	2981.4	2542.1	2104.5	1731.3	1554.5	1427.7	1143.8	923.2	738.4	589.3	479.5
15°	3353.7	2759.9	2204.5	1751.0	1542.0	1388.4	1058.1	825.9	640.2	494.7	394.7
17.5°	3641.2	2882.3	2223.3	1702.7	1472.4	1300.9	947.4	718.8	536.6	408.1	308.9
20°	3785.9	2901.0	2164.4	1588.5	1346.5	1169.7	821.5	609.8	450.0	330.4	245.5
22.5°	3796.6	2813.5	2035.8	1441.1	1208.1	1028.6	717.9	525.9	394.7	296.4	233.0
25°	3657.3	2644.7	1863.5	1290.2	1066.1	904.5	643.8	504.5	397.3	343.8	316.1
27.5°	3393.0	2410.8	1674.2	1139.3	943.8	818.8	613.4	504.5	430.4	388.4	398.2
30°	3026.9	2112.6	1410.8	934.0	767.9	659.0	482.2	377.7	296.4	247.3	238.4
32.5°	2551.9	1728.6	1093.8	690.2	559.8	475.0	325.9	236.6	191.1	186.6	181.3
35°	2100.1	1365.2	830.4	509.8	412.5	335.7	208.0	139.3	126.8	119.6	114.3
37.5°	1659.0	1021.5	596.5	370.5	283.0	213.4	107.1	90.2	78.6	71.4	65.2
40°	1247.4	734.0	420.6	224.1	148.2	92.0	64.3	55.4	49.1	45.5	43.8
42.5°	882.2	488.4	260.7	94.6	70.5	58.0	44.6	39.3	35.7	33.9	32.1
45°	512.5	303.6	105.4	55.4	44.6	40.2	33.0	29.5	27.7	25.9	25.0
47.5°	320.5	122.3	54.5	35.7	31.3	28.6	24.1	23.2	21.4	20.5	20.5
50°	129.5	54.5	33.9	25.0	22.3	21.4	18.8	17.9	16.1	16.1	16.1
52.5°	49.1	32.1	23.2	17.9	16.1	15.2	13.4	13.4	12.5	12.5	12.5
55°	28.6	21.4	16.1	12.5	11.6	11.6	10.7	10.7	9.8	9.8	9.8
57.5°	18.8	14.3	11.6	8.9	8.9	8.9	8.0	8.0	8.0	8.0	8.0
60°	12.5	9.8	8.0	7.1	7.1	7.1	7.1	8.0	8.0	8.0	8.0
62.5°	8.9	8.0	7.1	7.1	7.1	7.1	7.1	8.0	8.0	8.0	8.9
65°	7.1	6.3	6.3	6.3	6.3	7.1	7.1	8.0	8.0	8.9	8.9
67.5°	5.4	5.4	5.4	5.4	6.3	6.3	7.1	8.0	8.0	8.0	8.9
70°	4.5	5.4	5.4	6.3	6.3	6.3	7.1	7.1	8.0	8.0	8.9
72.5°	4.5	5.4	5.4	6.3	6.3	6.3	7.1	8.0	8.0	8.0	8.9
75°	4.5	5.4	5.4	6.3	6.3	6.3	7.1	8.0	8.0	8.0	8.9
77.5°	5.4	5.4	6.3	6.3	6.3	7.1	7.1	8.0	8.0	8.9	8.9
80°	5.4	5.4	6.3	6.3	6.3	7.1	7.1	8.0	8.0	8.9	8.9
82.5°	5.4	5.4	6.3	6.3	6.3	7.1	7.1	8.0	8.0	8.9	8.9
85°	5.4	5.4	6.3	6.3	6.3	7.1	7.1	8.0	8.0	8.9	8.9
87.5°	5.4	5.4	6.3	6.3	6.3	7.1	7.1	8.0	8.0	8.0	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°	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9
2.5°	834.0	792.9	748.2	734.0	719.7	692.0	675.0	644.7	622.3	600.0	582.2
5°	722.3	657.2	602.7	579.5	557.2	518.8	492.0	459.8	433.9	411.6	391.1
7.5°	606.3	531.3	476.8	453.6	431.3	389.3	355.4	315.2	284.8	259.8	239.3
10°	499.1	427.7	368.8	341.1	315.2	271.4	239.3	207.2	181.3	159.8	141.1
12.5°	406.3	329.5	269.7	249.1	224.1	188.4	158.0	123.2	108.0	101.8	97.3
15°	315.2	246.4	196.4	177.7	155.4	121.4	108.0	101.8	97.3	94.6	91.1
17.5°	240.2	183.0	133.9	121.4	114.3	107.1	103.6	99.1	96.4	95.5	92.9
20°	188.4	138.4	125.9	122.3	122.3	120.5	117.9	117.9	117.0	119.6	119.6
22.5°	193.8	193.8	204.5	203.6	217.9	232.2	242.9	277.7	297.3	339.3	367.9
25°	338.4	370.5	408.1	419.7	447.3	488.4	531.3	584.8	622.3	662.5	678.6
27.5°	422.3	427.7	422.3	435.7	417.9	407.2	410.7	417.0	417.0	419.7	430.4
30°	250.0	262.5	274.1	283.0	278.6	274.1	272.3	258.9	258.9	253.6	249.1
32.5°	169.6	167.9	166.1	169.6	166.1	166.1	163.4	164.3	158.9	155.4	153.6
35°	116.1	110.7	104.5	105.4	101.8	100.9	98.2	98.2	94.6	92.9	92.0
37.5°	64.3	64.3	61.6	62.5	61.6	61.6	61.6	62.5	61.6	61.6	62.5
40°	43.8	43.8	42.9	43.8	42.9	43.8	44.6	44.6	44.6	44.6	43.8
42.5°	33.0	33.0	32.1	33.0	32.1	33.0	33.9	33.9	33.9	33.9	33.9
45°	25.9	25.9	25.9	25.9	25.9	25.9	25.9	26.8	26.8	25.9	25.9
47.5°	20.5	21.4	20.5	20.5	20.5	20.5	21.4	21.4	20.5	20.5	20.5
50°	17.0	17.0	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
52.5°	13.4	12.5	12.5	11.6	11.6	11.6	11.6	11.6	11.6	11.6	10.7
55°	9.8	9.8	8.9	8.9	8.9	9.8	9.8	9.8	9.8	8.9	8.9
57.5°	8.9	8.9	8.9	8.0	8.0	8.9	8.9	8.0	8.0	8.0	7.1
60°	8.0	8.9	8.0	8.0	8.0	8.0	8.0	7.1	7.1	7.1	6.3
62.5°	8.9	8.9	8.0	8.0	8.0	8.0	7.1	7.1	7.1	6.3	6.3
65°	8.9	8.9	8.9	8.0	8.0	8.0	8.0	7.1	7.1	6.3	6.3
67.5°	8.9	8.9	8.9	8.9	8.0	8.0	8.0	7.1	7.1	7.1	6.3
70°	8.9	8.9	8.9	8.9	8.9	8.0	8.0	8.0	7.1	7.1	6.3
72.5°	8.9	8.9	8.9	8.0	8.0	8.0	8.0	8.0	7.1	7.1	6.3
75°	8.9	8.9	8.9	8.0	8.0	8.0	8.0	7.1	7.1	7.1	6.3
77.5°	8.9	8.9	8.9	8.0	8.0	8.0	8.0	7.1	7.1	7.1	6.3
80°	8.9	8.9	8.9	8.0	8.0	8.0	8.0	7.1	7.1	7.1	6.3
82.5°	8.9	8.9	8.9	8.0	8.0	8.0	8.0	7.1	7.1	6.3	6.3
85°	8.9	8.9	8.0	8.0	8.0	8.0	7.1	7.1	6.3	6.3	5.4
87.5°	8.0	8.0	8.0	8.0	7.1	7.1	7.1	6.3	5.4	5.4	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: P179952

CATALOG NUMBER: LDA6A65927D010TE LARH40FL 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	934.9	934.9	934.9	934.9	934.9	934.9	934.9	934.9
2.5°	560.7	557.2	554.5	559.8	558.1	535.7	538.4	537.5
5°	367.9	359.8	353.6	356.3	349.1	339.3	332.2	330.4
7.5°	218.8	209.8	204.5	199.1	197.3	184.8	179.5	183.0
10°	120.5	108.0	107.1	104.5	100.9	98.2	96.4	97.3
12.5°	92.9	92.0	90.2	89.3	87.5	86.6	85.7	84.8
15°	88.4	87.5	86.6	85.7	84.8	83.9	83.0	83.0
17.5°	91.1	91.1	90.2	89.3	89.3	90.2	89.3	88.4
20°	118.8	118.8	120.5	123.2	123.2	125.9	129.5	126.8
22.5°	385.7	405.4	429.5	436.6	478.6	512.5	575.0	547.3
25°	705.4	750.0	760.7	775.9	799.1	810.7	799.1	814.3
27.5°	428.6	443.8	445.6	446.4	451.8	450.9	439.3	446.4
30°	249.1	254.5	252.7	251.8	250.0	240.2	238.4	242.0
32.5°	156.3	154.5	153.6	152.7	152.7	147.3	150.0	148.2
35°	89.3	92.0	91.1	90.2	87.5	86.6	86.6	85.7
37.5°	59.8	60.7	59.8	58.9	57.1	56.3	55.4	54.5
40°	42.9	43.8	42.9	42.0	41.1	40.2	39.3	38.4
42.5°	32.1	33.0	32.1	32.1	30.4	29.5	28.6	27.7
45°	25.0	24.1	24.1	24.1	23.2	22.3	21.4	21.4
47.5°	20.5	20.5	20.5	19.6	18.8	18.8	18.8	17.9
50°	15.2	16.1	15.2	15.2	14.3	13.4	13.4	12.5
52.5°	10.7	10.7	9.8	9.8	8.9	8.0	8.0	8.0
55°	8.0	8.0	8.0	7.1	7.1	6.3	6.3	6.3
57.5°	7.1	6.3	6.3	6.3	5.4	5.4	4.5	4.5
60°	6.3	5.4	5.4	4.5	4.5	3.6	3.6	3.6
62.5°	5.4	4.5	4.5	4.5	3.6	3.6	3.6	3.6
65°	5.4	4.5	4.5	4.5	3.6	3.6	3.6	3.6
67.5°	5.4	5.4	4.5	4.5	4.5	3.6	3.6	3.6
70°	5.4	5.4	5.4	4.5	4.5	4.5	3.6	3.6
72.5°	6.3	5.4	5.4	5.4	4.5	4.5	4.5	4.5
75°	6.3	5.4	5.4	5.4	4.5	4.5	4.5	4.5
77.5°	6.3	5.4	5.4	5.4	4.5	4.5	4.5	4.5
80°	5.4	5.4	5.4	4.5	4.5	4.5	4.5	4.5
82.5°	5.4	5.4	5.4	5.4	4.5	4.5	4.5	4.5
85°	5.4	4.5	4.5	4.5	3.6	3.6	3.6	3.6
87.5°	4.5	3.6	3.6	2.7	2.7	2.7	1.8	1.8
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)