

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: P179900

Luminaire Tested: **LDA6A65827D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179900
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26688)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A65827D010TE 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: 6494.3 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Spacing Criteria (0/90/45): 2.63 / 0.54 / 1.37
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

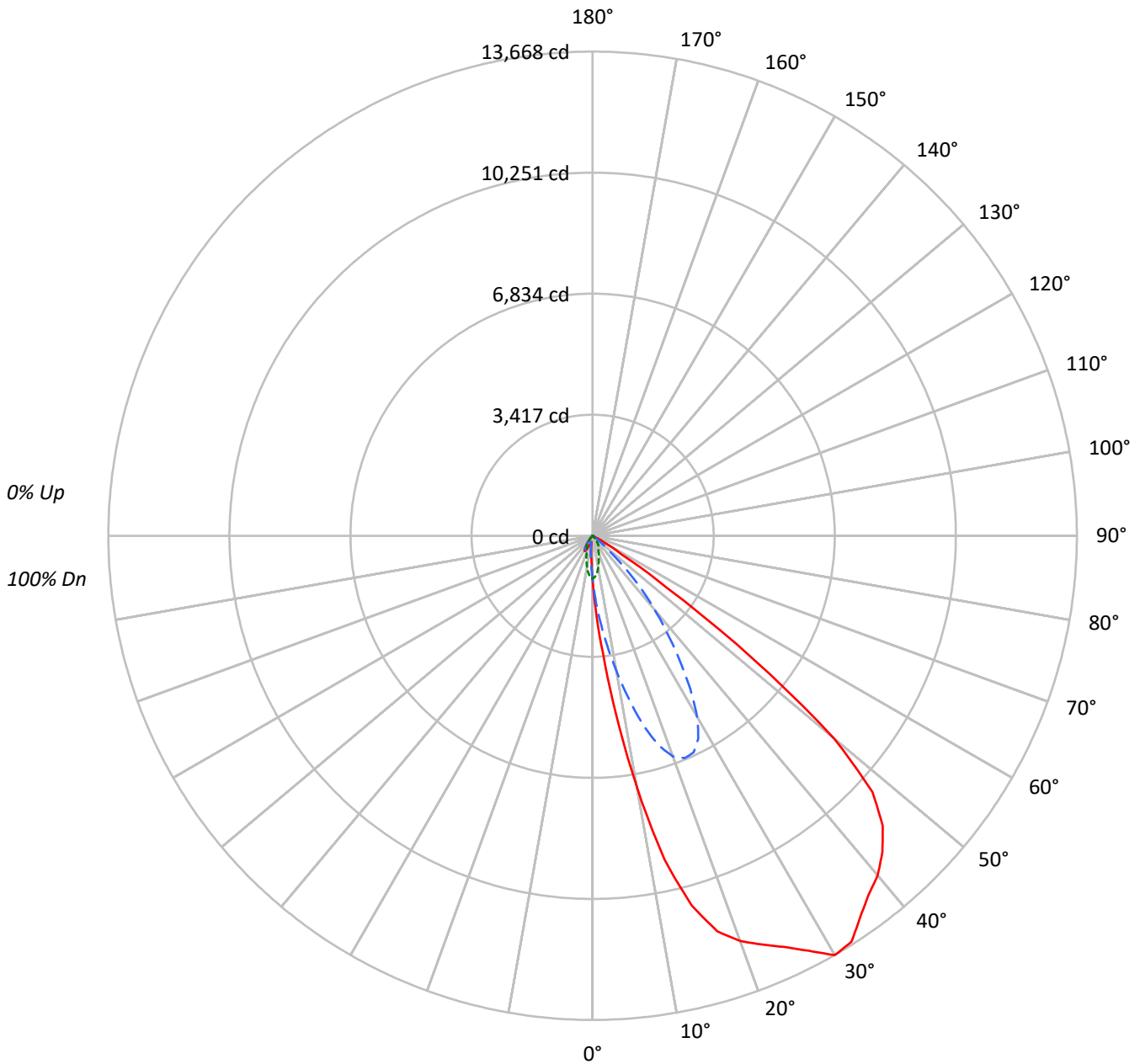
Input Watts (W): 78
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	66	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	53	49	59	53	49	57	52	48	46																			
8	69	57	49	44	67	56	49	44	55	49	44	54	48	44	53	47	44	42																			
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	43	39	38																			
10	60	48	41	36	59	48	41	36	47	41	36	46	40	36	45	40	36	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	66722	66722	66722
5°	183138	61479	25088
10°	401329	50316	9563
15°	613028	38298	11215
20°	710253	28492	17426
25°	774789	23433	28115
30°	865196	21250	28713
35°	880293	14576	19689
40°	895757	6913	9962
45°	897217	2876	4349
50°	758508	1245	1339
55°	244245	860	210
60°	48505	987	0
65°	4955	1167	0
70°	545	1619	0
75°	0	2139	0
80°	0	3536	347
85°	0	7045	692



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.2	2.5
10°-20°	854.5	13.2
20°-30°	1636.1	25.2
30°-40°	1927.6	29.7
40°-50°	1514.1	23.3
50°-60°	369.0	5.7
60°-70°	15.8	0.2
70°-80°	6.0	0.1
80°-90°	5.9	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°	2655.8	40.9
0°-40°	4583.5	70.6
0°-60°	6466.5	99.6
0°-90°	6494.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6494.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1217	1217	1217	1217	1217	
5°	3328	2408	1117	585	456	440
15°	10802	5548	675	193	198	3015
25°	12809	6746	387	405	465	5970
35°	13154	4264	218	281	294	8248
45°	11573	1318	37	52	56	8695
55°	2556	48	9	6	2	3042
65°	38	6	9	6	0	101
75°	0	6	10	7	0	0
85°	0	7	11	7	1	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°	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1
2.5°	2086.2	2081.7	2051.4	2079.5	1994.1	1990.8	1952.6	1935.7	1886.3	1839.2	1771.8
5°	3328.0	3255.0	3195.5	3197.8	3033.8	3003.5	2918.2	2831.7	2699.2	2575.7	2408.4
7.5°	5072.9	4986.4	4860.7	4807.9	4494.6	4402.6	4226.3	3996.1	3707.5	3420.1	3110.2
10°	7209.6	7223.1	7060.3	6909.8	6436.0	6249.6	5964.4	5510.8	4964.0	4423.9	3874.8
12.5°	9359.8	9350.8	9156.6	8928.6	8344.8	8082.0	7702.5	7136.6	6412.4	5574.8	4715.8
15°	10801.5	10865.5	10783.5	10601.6	10103.1	9802.2	9374.4	8606.4	7723.8	6706.6	5547.8
17.5°	11706.5	11767.1	11737.9	11595.3	11155.2	10834.0	10477.0	9848.2	8827.6	7548.7	6203.6
20°	12174.7	12270.1	12256.6	12101.7	11769.3	11503.2	11109.1	10526.4	9642.7	8133.7	6628.0
22.5°	12486.8	12559.8	12580.0	12404.9	12061.3	11808.6	11520.1	10929.5	10098.6	8490.7	6796.4
25°	12809.1	12938.2	12811.3	12595.7	12280.2	12037.7	11730.0	11164.1	10316.4	8636.7	6745.9
27.5°	13204.3	13266.1	12978.6	12782.1	12431.8	12169.1	11842.3	11300.0	10354.6	8519.9	6457.3
30°	13668.0	13412.0	13211.0	12821.4	12423.9	12167.9	11835.6	11214.7	10153.6	8132.5	5898.1
32.5°	13591.7	13357.0	13129.1	12717.0	12324.0	12070.3	11699.7	10930.6	9678.7	7484.7	5126.8
35°	13153.8	13204.3	12958.4	12617.1	12172.4	11910.8	11506.6	10526.4	8872.5	6590.9	4264.5
37.5°	12784.4	12895.5	12735.0	12419.5	11968.1	11614.4	11068.7	9877.4	7820.4	5456.9	3447.0
40°	12517.1	12553.1	12466.6	12112.9	11570.6	11059.7	10428.7	8711.9	6542.6	4283.5	2720.6
42.5°	12102.8	12198.3	12045.6	11659.3	10837.4	10259.2	9345.2	7365.7	5081.9	3271.9	2048.0
45°	11572.9	11663.8	11475.2	10832.9	9689.9	8842.2	7727.2	5743.2	3759.2	2411.8	1318.2
47.5°	10708.3	10764.4	10399.5	9511.4	7849.6	7051.3	5908.3	4004.0	2421.9	1348.5	641.1
50°	8893.8	8866.9	8114.6	7022.1	5250.3	4412.7	3516.7	2170.4	1088.0	638.9	400.8
52.5°	5732.0	5670.2	4925.8	3932.1	2658.8	2028.9	1524.8	936.4	567.0	357.1	158.3
55°	2555.5	2531.9	2072.7	1610.1	1088.0	936.4	715.2	459.2	302.0	124.6	48.3
57.5°	947.7	926.3	816.3	684.9	525.5	436.8	346.9	220.1	77.5	41.5	25.8
60°	442.4	441.3	388.5	320.0	222.3	168.4	97.7	51.6	32.6	22.5	14.6
62.5°	141.5	138.1	96.6	70.7	50.5	43.8	34.8	25.8	16.8	12.4	9.0
65°	38.2	38.2	34.8	29.2	23.6	20.2	16.8	12.4	7.9	6.7	5.6
67.5°	14.6	14.6	13.5	12.4	9.0	7.9	6.7	5.6	4.5	5.6	5.6
70°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	4.5	4.5	5.6
72.5°	0.0	0.0	1.1	1.1	2.2	2.2	3.4	3.4	4.5	5.6	5.6
75°	0.0	0.0	1.1	1.1	2.2	2.2	3.4	3.4	4.5	5.6	5.6
77.5°	0.0	0.0	1.1	1.1	2.2	2.2	3.4	3.4	4.5	5.6	5.6
80°	0.0	0.0	1.1	1.1	2.2	2.2	3.4	3.4	4.5	5.6	5.6
82.5°	0.0	0.0	1.1	2.2	2.2	2.2	3.4	4.5	4.5	5.6	6.7
85°	0.0	0.0	1.1	2.2	2.2	3.4	3.4	4.5	4.5	5.6	6.7
87.5°	0.0	0.0	1.1	2.2	2.2	3.4	3.4	4.5	4.5	5.6	6.7
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°	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1
2.5°	1722.4	1648.3	1546.1	1486.6	1472.0	1440.6	1385.6	1303.6	1236.2	1171.1	1132.9
5°	2267.0	2091.8	1895.3	1757.2	1701.1	1625.8	1492.2	1354.1	1227.2	1117.2	1030.7
7.5°	2844.1	2555.5	2237.8	1981.8	1889.7	1770.7	1552.9	1347.4	1173.3	1020.6	905.0
10°	3417.8	2953.0	2521.8	2151.3	2000.9	1839.2	1551.7	1285.6	1081.3	903.9	775.9
12.5°	3991.6	3323.5	2730.7	2253.5	2058.1	1853.8	1505.7	1191.3	964.5	783.7	661.3
15°	4521.6	3618.8	2872.2	2288.3	2052.5	1811.1	1412.5	1076.8	842.1	674.8	561.4
17.5°	4916.8	3773.8	2904.7	2235.5	1963.8	1696.6	1269.9	942.0	725.3	578.2	462.6
20°	5111.1	3798.5	2827.2	2085.1	1811.1	1533.8	1113.8	812.9	625.4	488.4	390.7
22.5°	5111.1	3681.7	2658.8	1896.4	1620.2	1346.3	963.4	706.3	546.8	425.5	343.6
25°	4916.8	3449.3	2433.1	1678.6	1410.3	1161.0	833.1	626.5	486.2	387.4	318.9
27.5°	4539.5	3128.2	2143.5	1436.1	1203.7	995.9	729.8	553.5	440.1	349.2	350.3
30°	4020.8	2734.1	1811.1	1180.1	991.4	818.5	614.2	463.7	352.6	335.7	345.8
32.5°	3421.2	2262.5	1435.0	915.1	768.0	644.5	467.1	327.9	280.7	282.9	294.2
35°	2805.9	1780.8	1080.1	678.2	571.5	467.1	306.5	215.6	213.3	217.8	225.7
37.5°	2215.3	1332.8	781.5	496.3	384.0	287.4	165.1	148.2	148.2	152.7	157.2
40°	1659.5	945.4	537.8	294.2	186.4	131.4	104.4	96.6	95.4	96.6	102.2
42.5°	1139.7	598.5	320.0	117.9	89.8	76.4	66.2	60.6	59.5	60.6	64.0
45°	640.0	368.3	124.6	62.9	53.9	48.3	41.5	38.2	37.1	37.1	39.3
47.5°	400.8	146.0	56.1	39.3	33.7	31.4	26.9	24.7	23.6	23.6	24.7
50°	153.8	57.3	34.8	25.8	22.5	20.2	18.0	15.7	14.6	14.6	15.7
52.5°	52.8	33.7	22.5	16.8	14.6	13.5	11.2	10.1	10.1	10.1	10.1
55°	29.2	20.2	13.5	10.1	9.0	9.0	9.0	9.0	9.0	9.0	9.0
57.5°	18.0	12.4	9.0	7.9	7.9	7.9	7.9	7.9	7.9	9.0	9.0
60°	10.1	7.9	6.7	6.7	6.7	6.7	7.9	7.9	7.9	9.0	9.0
62.5°	6.7	6.7	6.7	6.7	6.7	6.7	7.9	7.9	9.0	9.0	9.0
65°	5.6	5.6	5.6	6.7	6.7	6.7	7.9	7.9	9.0	9.0	9.0
67.5°	5.6	5.6	6.7	6.7	6.7	7.9	7.9	9.0	9.0	9.0	9.0
70°	5.6	6.7	6.7	7.9	7.9	7.9	9.0	9.0	9.0	10.1	10.1
72.5°	5.6	6.7	6.7	7.9	7.9	7.9	9.0	9.0	10.1	10.1	10.1
75°	6.7	6.7	6.7	7.9	7.9	7.9	9.0	10.1	10.1	10.1	10.1
77.5°	6.7	6.7	7.9	7.9	7.9	9.0	9.0	10.1	10.1	10.1	10.1
80°	6.7	6.7	7.9	7.9	9.0	9.0	10.1	10.1	10.1	11.2	11.2
82.5°	6.7	6.7	7.9	9.0	9.0	9.0	10.1	10.1	11.2	11.2	11.2
85°	6.7	7.9	7.9	9.0	9.0	9.0	10.1	10.1	11.2	11.2	11.2
87.5°	6.7	7.9	7.9	9.0	9.0	9.0	10.1	10.1	11.2	11.2	11.2
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1
2.5°	1082.4	1035.2	988.1	953.3	936.4	919.6	882.5	834.3	814.0	784.8	768.0
5°	943.2	863.4	800.6	759.0	734.3	701.8	659.1	611.9	585.0	554.7	534.5
7.5°	799.4	706.3	645.6	607.4	582.7	542.3	488.4	432.3	399.7	366.0	342.5
10°	673.7	585.0	516.5	472.7	441.3	394.1	340.2	300.9	272.8	243.7	220.1
12.5°	562.5	467.1	394.1	357.1	335.7	290.8	245.9	202.1	185.3	179.7	179.7
15°	455.9	369.4	307.7	276.2	253.8	205.5	196.5	194.2	193.1	192.0	194.2
17.5°	371.7	298.7	233.5	217.8	215.6	214.5	215.6	215.6	216.7	220.1	225.7
20°	312.1	244.8	240.3	241.4	241.4	245.9	251.5	256.0	260.5	266.1	276.2
22.5°	277.3	276.2	284.1	285.2	290.8	297.5	307.7	314.4	325.6	331.2	345.8
25°	320.0	327.9	342.5	346.9	355.9	367.2	382.9	391.9	405.3	412.1	428.9
27.5°	362.7	375.0	393.0	398.6	406.5	424.4	435.7	443.5	450.2	454.7	464.8
30°	359.3	370.5	388.5	389.6	400.8	413.2	419.9	426.7	431.2	430.0	435.7
32.5°	304.3	314.4	331.2	331.2	343.6	353.7	357.1	362.7	362.7	362.7	364.9
35°	233.5	240.3	251.5	254.9	265.0	271.7	274.0	280.7	280.7	278.5	278.5
37.5°	161.7	170.7	178.5	180.8	187.5	192.0	197.6	198.7	196.5	197.6	197.6
40°	105.5	111.2	116.8	117.9	123.5	126.9	132.5	132.5	133.6	132.5	134.7
42.5°	65.1	69.6	73.0	75.2	77.5	79.7	83.1	84.2	85.3	84.2	86.5
45°	40.4	42.7	44.9	46.0	47.2	48.3	51.6	51.6	51.6	51.6	52.8
47.5°	24.7	25.8	26.9	26.9	28.1	29.2	30.3	30.3	30.3	30.3	31.4
50°	14.6	15.7	15.7	15.7	16.8	16.8	18.0	18.0	18.0	16.8	18.0
52.5°	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	9.0	10.1
55°	9.0	9.0	7.9	7.9	7.9	7.9	7.9	6.7	5.6	5.6	4.5
57.5°	7.9	7.9	7.9	7.9	7.9	6.7	6.7	5.6	5.6	4.5	3.4
60°	7.9	7.9	7.9	7.9	7.9	6.7	6.7	5.6	4.5	4.5	3.4
62.5°	9.0	7.9	7.9	7.9	7.9	6.7	6.7	5.6	4.5	4.5	3.4
65°	9.0	9.0	7.9	7.9	7.9	6.7	6.7	5.6	5.6	4.5	3.4
67.5°	9.0	9.0	9.0	7.9	9.0	7.9	6.7	6.7	5.6	4.5	4.5
70°	10.1	9.0	9.0	9.0	9.0	7.9	7.9	6.7	5.6	4.5	4.5
72.5°	10.1	10.1	9.0	9.0	9.0	7.9	7.9	6.7	5.6	5.6	4.5
75°	10.1	10.1	9.0	9.0	9.0	7.9	7.9	6.7	6.7	5.6	4.5
77.5°	10.1	10.1	10.1	9.0	9.0	9.0	7.9	7.9	6.7	5.6	4.5
80°	10.1	10.1	10.1	10.1	10.1	9.0	9.0	7.9	6.7	5.6	4.5
82.5°	11.2	10.1	10.1	10.1	10.1	9.0	9.0	7.9	6.7	5.6	5.6
85°	11.2	11.2	10.1	10.1	10.1	9.0	9.0	7.9	6.7	6.7	5.6
87.5°	11.2	10.1	10.1	10.1	10.1	9.0	9.0	7.9	6.7	5.6	5.6
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: P179900

CATALOG NUMBER: LDA6A65827D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1	1217.1
2.5°	751.2	742.2	742.2	726.5	724.2	711.9	722.0	715.2
5°	512.0	497.4	492.9	477.2	471.6	457.0	461.5	455.9
7.5°	322.2	307.7	303.2	291.9	285.2	274.0	275.1	271.7
10°	196.5	183.0	179.7	176.3	172.9	171.8	172.9	171.8
12.5°	178.5	177.4	175.2	176.3	174.0	175.2	176.3	175.2
15°	194.2	196.5	194.2	195.4	194.2	196.5	197.6	197.6
17.5°	227.9	232.4	230.2	233.5	232.4	238.0	238.0	238.0
20°	279.6	287.4	285.2	289.7	289.7	296.4	296.4	298.7
22.5°	351.4	361.5	360.4	370.5	368.3	376.1	376.1	378.4
25°	437.9	448.0	449.1	455.9	454.7	462.6	462.6	464.8
27.5°	473.8	479.4	478.3	481.7	482.8	487.3	490.7	488.4
30°	444.6	449.1	448.0	450.2	450.2	453.6	457.0	453.6
32.5°	373.9	377.3	377.3	381.8	378.4	379.5	385.1	381.8
35°	286.3	288.6	286.3	288.6	289.7	289.7	295.3	294.2
37.5°	204.4	205.5	205.5	208.8	205.5	205.5	211.1	212.2
40°	137.0	138.1	137.0	141.5	139.2	139.2	142.6	139.2
42.5°	87.6	88.7	87.6	90.9	88.7	90.9	92.1	93.2
45°	53.9	53.9	52.8	55.0	53.9	55.0	56.1	56.1
47.5°	31.4	31.4	30.3	32.6	31.4	31.4	31.4	32.6
50°	16.8	16.8	16.8	18.0	16.8	16.8	16.8	15.7
52.5°	9.0	9.0	7.9	9.0	7.9	7.9	7.9	7.9
55°	4.5	3.4	3.4	3.4	2.2	2.2	2.2	2.2
57.5°	3.4	2.2	2.2	1.1	1.1	1.1	0.0	0.0
60°	2.2	2.2	1.1	1.1	0.0	0.0	0.0	0.0
62.5°	2.2	2.2	1.1	1.1	0.0	0.0	0.0	0.0
65°	2.2	2.2	1.1	1.1	0.0	0.0	0.0	0.0
67.5°	3.4	2.2	2.2	1.1	1.1	0.0	0.0	0.0
70°	3.4	2.2	2.2	1.1	1.1	0.0	0.0	0.0
72.5°	3.4	2.2	2.2	2.2	1.1	1.1	0.0	0.0
75°	3.4	3.4	2.2	2.2	1.1	1.1	0.0	0.0
77.5°	4.5	3.4	2.2	2.2	1.1	1.1	0.0	0.0
80°	4.5	3.4	2.2	2.2	2.2	1.1	1.1	1.1
82.5°	4.5	3.4	3.4	2.2	2.2	1.1	1.1	1.1
85°	4.5	3.4	3.4	2.2	2.2	1.1	1.1	1.1
87.5°	4.5	3.4	3.4	2.2	2.2	1.1	1.1	1.1
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)