

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: P179906

Luminaire Tested: **LDA6A65935D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179906
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: LDA6A65935D010TE LARH40FL 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5899.9 lumens
Efficiency: N/A
Efficacy: 75.6 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

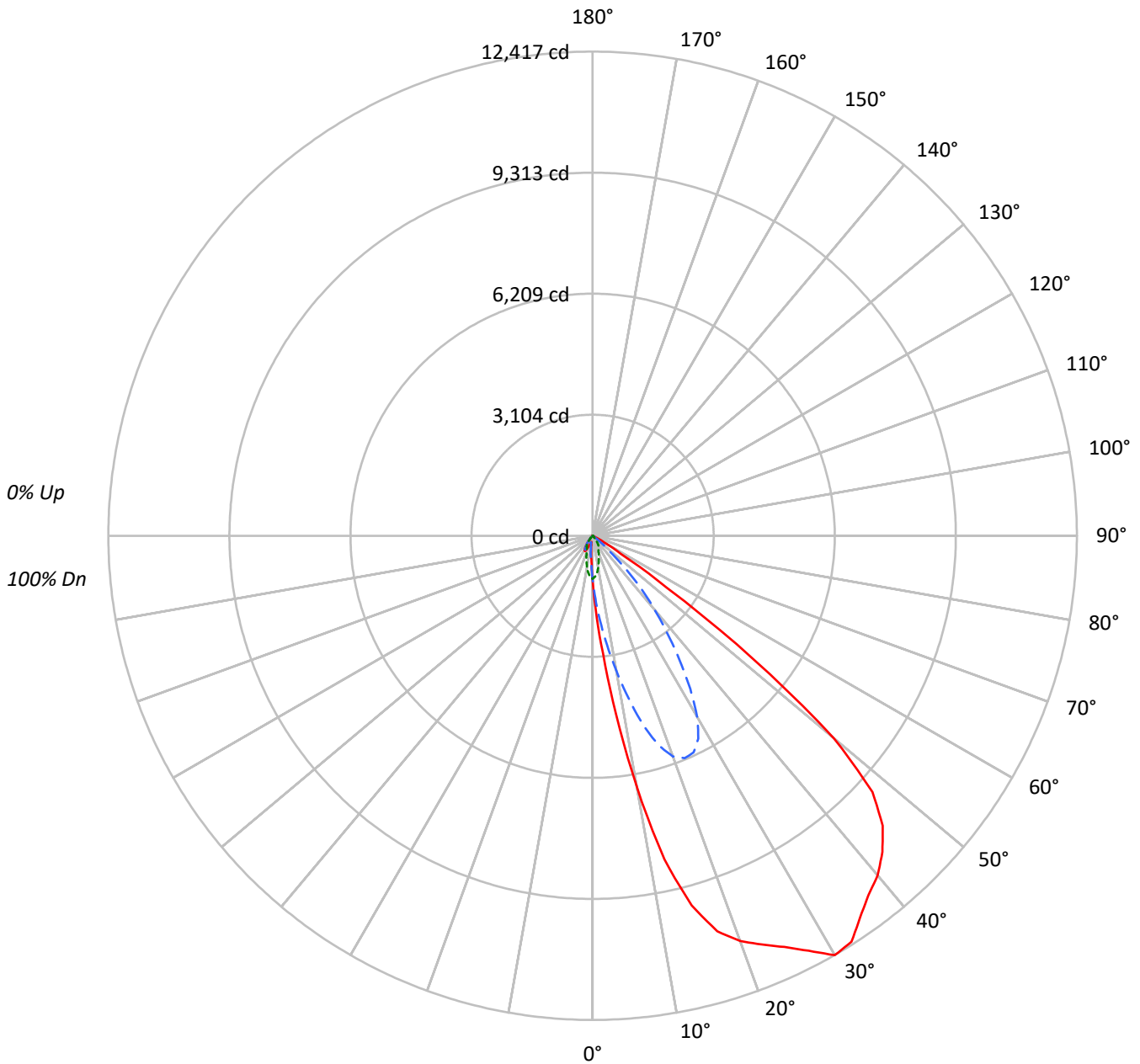
Input Watts (W): 78
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	60615	60615	60615
5°	166376	55855	22788
10°	364600	45707	8689
15°	556921	34796	10187
20°	645246	25885	15827
25°	703879	21286	25544
30°	786013	19307	26086
35°	799724	13244	17889
40°	813775	6276	9053
45°	815100	2613	3954
50°	689086	1134	1220
55°	221889	784	191
60°	44064	899	0
65°	4501	1064	0
70°	497	1475	0
75°	0	1949	0
80°	0	3220	316
85°	0	6416	629



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.1	2.5
10°-20°	776.3	13.2
20°-30°	1486.4	25.2
30°-40°	1751.2	29.7
40°-50°	1375.5	23.3
50°-60°	335.2	5.7
60°-70°	14.4	0.2
70°-80°	5.4	0.1
80°-90°	5.4	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°	2412.8	40.9
0°-40°	4164.0	70.6
0°-60°	5874.7	99.6
0°-90°	5899.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5899.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1106	1106	1106	1106	1106	
5°	3023	2188	1015	531	414	400
15°	9813	5040	613	175	180	2739
25°	11637	6128	352	368	422	5424
35°	11950	3874	198	255	267	7493
45°	10514	1198	34	47	51	7899
55°	2322	44	8	5	2	2763
65°	35	5	8	5	0	92
75°	0	5	9	6	0	0
85°	0	6	10	6	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°	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7
2.5°	1895.3	1891.2	1863.6	1889.1	1811.6	1808.6	1773.9	1758.6	1713.7	1670.8	1609.6
5°	3023.4	2957.1	2903.1	2905.1	2756.2	2728.6	2651.1	2572.6	2452.2	2340.0	2188.0
7.5°	4608.6	4530.1	4415.8	4367.9	4083.3	3999.6	3839.5	3630.4	3368.2	3107.1	2825.5
10°	6549.8	6562.0	6414.1	6277.4	5846.9	5677.6	5418.5	5006.4	4509.7	4019.0	3520.2
12.5°	8503.2	8495.0	8318.5	8111.5	7581.0	7342.3	6997.6	6483.5	5825.5	5064.6	4284.2
15°	9812.9	9871.0	9796.6	9631.3	9178.4	8905.1	8516.4	7818.7	7016.9	6092.8	5040.1
17.5°	10635.1	10690.1	10663.6	10534.1	10134.2	9842.5	9518.1	8946.9	8019.7	6857.8	5635.8
20°	11060.4	11147.1	11134.9	10994.1	10692.2	10450.4	10092.4	9563.0	8760.2	7389.3	6021.4
22.5°	11344.0	11410.3	11428.7	11269.5	10957.4	10727.9	10465.7	9929.2	9174.4	7713.6	6174.4
25°	11636.8	11754.1	11638.8	11442.9	11156.3	10936.0	10656.5	10142.4	9372.2	7846.2	6128.5
27.5°	11995.8	12051.9	11790.8	11612.3	11294.0	11055.3	10758.5	10265.8	9406.9	7740.2	5866.3
30°	12417.1	12184.5	12001.9	11648.0	11286.9	11054.3	10752.4	10188.3	9224.3	7388.2	5358.3
32.5°	12347.7	12134.5	11927.5	11553.1	11196.1	10965.6	10628.9	9930.2	8792.9	6799.7	4657.6
35°	11949.9	11995.8	11772.4	11462.3	11058.4	10820.7	10453.5	9563.0	8060.5	5987.7	3874.2
37.5°	11614.3	11715.3	11569.4	11282.8	10872.7	10551.4	10055.7	8973.4	7104.7	4957.5	3131.6
40°	11371.5	11404.2	11325.6	11004.3	10511.6	10047.5	9474.2	7914.6	5943.8	3891.5	2471.6
42.5°	10995.1	11081.8	10943.1	10592.2	9845.5	9320.2	8489.9	6691.5	4616.8	2972.4	1860.6
45°	10513.7	10596.3	10424.9	9841.5	8803.1	8032.9	7020.0	5217.6	3415.1	2191.1	1197.5
47.5°	9728.2	9779.2	9447.7	8640.9	7131.2	6405.9	5367.5	3637.5	2200.3	1225.1	582.4
50°	8079.8	8055.4	7371.9	6379.4	4769.8	4008.8	3194.8	1971.8	988.4	580.4	364.2
52.5°	5207.4	5151.3	4475.0	3572.2	2415.5	1843.2	1385.2	850.7	515.1	324.4	143.8
55°	2321.6	2300.2	1883.0	1462.8	988.4	850.7	649.8	417.2	274.4	113.2	43.9
57.5°	860.9	841.5	741.6	622.2	477.4	396.8	315.2	199.9	70.4	37.7	23.5
60°	401.9	400.9	352.9	290.7	202.0	153.0	88.7	46.9	29.6	20.4	13.3
62.5°	128.5	125.5	87.7	64.3	45.9	39.8	31.6	23.5	15.3	11.2	8.2
65°	34.7	34.7	31.6	26.5	21.4	18.4	15.3	11.2	7.1	6.1	5.1
67.5°	13.3	13.3	12.2	11.2	8.2	7.1	6.1	5.1	4.1	5.1	5.1
70°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	4.1	4.1	5.1
72.5°	0.0	0.0	1.0	1.0	2.0	2.0	3.1	3.1	4.1	5.1	5.1
75°	0.0	0.0	1.0	1.0	2.0	2.0	3.1	3.1	4.1	5.1	5.1
77.5°	0.0	0.0	1.0	1.0	2.0	2.0	3.1	3.1	4.1	5.1	5.1
80°	0.0	0.0	1.0	1.0	2.0	2.0	3.1	3.1	4.1	5.1	5.1
82.5°	0.0	0.0	1.0	2.0	2.0	2.0	3.1	4.1	4.1	5.1	6.1
85°	0.0	0.0	1.0	2.0	2.0	3.1	3.1	4.1	4.1	5.1	6.1
87.5°	0.0	0.0	1.0	2.0	2.0	3.1	3.1	4.1	4.1	5.1	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7
2.5°	1564.8	1497.4	1404.6	1350.5	1337.3	1308.7	1258.7	1184.3	1123.1	1063.9	1029.2
5°	2059.5	1900.4	1721.8	1596.4	1545.4	1477.0	1355.6	1230.2	1114.9	1015.0	936.4
7.5°	2583.8	2321.6	2033.0	1800.4	1716.7	1608.6	1410.7	1224.1	1066.0	927.2	822.2
10°	3105.0	2682.7	2291.0	1954.4	1817.7	1670.8	1409.7	1168.0	982.3	821.1	704.9
12.5°	3626.3	3019.4	2480.8	2047.2	1869.8	1684.1	1367.9	1082.3	876.2	712.0	600.8
15°	4107.8	3287.6	2609.3	2078.9	1864.7	1645.3	1283.2	978.2	765.0	613.1	510.0
17.5°	4466.8	3428.4	2638.9	2030.9	1784.1	1541.3	1153.7	855.8	659.0	525.3	420.3
20°	4643.3	3450.8	2568.5	1894.2	1645.3	1393.4	1011.9	738.5	568.2	443.7	355.0
22.5°	4643.3	3344.8	2415.5	1722.9	1471.9	1223.0	875.2	641.6	496.8	386.6	312.1
25°	4466.8	3133.6	2210.5	1525.0	1281.2	1054.7	756.9	569.2	441.7	351.9	289.7
27.5°	4124.1	2841.9	1947.3	1304.6	1093.5	904.8	663.0	502.9	399.9	317.2	318.3
30°	3652.8	2483.8	1645.3	1072.1	900.7	743.6	558.0	421.3	320.3	305.0	314.2
32.5°	3108.1	2055.4	1303.6	831.3	697.7	585.5	424.3	297.9	255.0	257.1	267.3
35°	2549.1	1617.8	981.3	616.1	519.2	424.3	278.5	195.9	193.8	197.9	205.0
37.5°	2012.6	1210.8	710.0	450.9	348.9	261.1	149.9	134.6	134.6	138.7	142.8
40°	1507.6	858.9	488.6	267.3	169.3	119.3	94.9	87.7	86.7	87.7	92.8
42.5°	1035.4	543.7	290.7	107.1	81.6	69.4	60.2	55.1	54.1	55.1	58.1
45°	581.4	334.6	113.2	57.1	49.0	43.9	37.7	34.7	33.7	33.7	35.7
47.5°	364.2	132.6	51.0	35.7	30.6	28.6	24.5	22.4	21.4	21.4	22.4
50°	139.7	52.0	31.6	23.5	20.4	18.4	16.3	14.3	13.3	13.3	14.3
52.5°	47.9	30.6	20.4	15.3	13.3	12.2	10.2	9.2	9.2	9.2	9.2
55°	26.5	18.4	12.2	9.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
57.5°	16.3	11.2	8.2	7.1	7.1	7.1	7.1	7.1	7.1	8.2	8.2
60°	9.2	7.1	6.1	6.1	6.1	6.1	7.1	7.1	7.1	8.2	8.2
62.5°	6.1	6.1	6.1	6.1	6.1	6.1	7.1	7.1	8.2	8.2	8.2
65°	5.1	5.1	5.1	6.1	6.1	6.1	7.1	7.1	8.2	8.2	8.2
67.5°	5.1	5.1	6.1	6.1	6.1	7.1	7.1	8.2	8.2	8.2	8.2
70°	5.1	6.1	6.1	7.1	7.1	7.1	8.2	8.2	8.2	9.2	9.2
72.5°	5.1	6.1	6.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	9.2
75°	6.1	6.1	6.1	7.1	7.1	7.1	8.2	9.2	9.2	9.2	9.2
77.5°	6.1	6.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	9.2	9.2
80°	6.1	6.1	7.1	7.1	8.2	8.2	9.2	9.2	9.2	10.2	10.2
82.5°	6.1	6.1	7.1	8.2	8.2	8.2	9.2	9.2	10.2	10.2	10.2
85°	6.1	7.1	7.1	8.2	8.2	8.2	9.2	9.2	10.2	10.2	10.2
87.5°	6.1	7.1	7.1	8.2	8.2	8.2	9.2	9.2	10.2	10.2	10.2
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°	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7
2.5°	983.3	940.5	897.6	866.0	850.7	835.4	801.8	757.9	739.5	713.0	697.7
5°	856.8	784.4	727.3	689.6	667.1	637.5	598.8	555.9	531.4	503.9	485.5
7.5°	726.3	641.6	586.5	551.8	529.4	492.7	443.7	392.7	363.1	332.5	311.1
10°	612.0	531.4	469.2	429.4	400.9	358.0	309.1	273.4	247.9	221.4	199.9
12.5°	511.0	424.3	358.0	324.4	305.0	264.2	223.4	183.6	168.3	163.2	163.2
15°	414.1	335.6	279.5	250.9	230.5	186.7	178.5	176.5	175.4	174.4	176.5
17.5°	337.6	271.3	212.2	197.9	195.9	194.8	195.9	195.9	196.9	199.9	205.0
20°	283.6	222.4	218.3	219.3	219.3	223.4	228.5	232.6	236.7	241.8	250.9
22.5°	252.0	250.9	258.1	259.1	264.2	270.3	279.5	285.6	295.8	300.9	314.2
25°	290.7	297.9	311.1	315.2	323.4	333.6	347.8	356.0	368.2	374.4	389.7
27.5°	329.5	340.7	357.0	362.1	369.3	385.6	395.8	402.9	409.0	413.1	422.3
30°	326.4	336.6	352.9	354.0	364.2	375.4	381.5	387.6	391.7	390.7	395.8
32.5°	276.4	285.6	300.9	300.9	312.1	321.3	324.4	329.5	329.5	329.5	331.5
35°	212.2	218.3	228.5	231.6	240.7	246.9	248.9	255.0	255.0	253.0	253.0
37.5°	146.9	155.0	162.2	164.2	170.3	174.4	179.5	180.5	178.5	179.5	179.5
40°	95.9	101.0	106.1	107.1	112.2	115.3	120.4	120.4	121.4	120.4	122.4
42.5°	59.2	63.2	66.3	68.3	70.4	72.4	75.5	76.5	77.5	76.5	78.5
45°	36.7	38.8	40.8	41.8	42.8	43.9	46.9	46.9	46.9	46.9	47.9
47.5°	22.4	23.5	24.5	24.5	25.5	26.5	27.5	27.5	27.5	27.5	28.6
50°	13.3	14.3	14.3	14.3	15.3	15.3	16.3	16.3	16.3	15.3	16.3
52.5°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.2	9.2
55°	8.2	8.2	7.1	7.1	7.1	7.1	7.1	6.1	5.1	5.1	4.1
57.5°	7.1	7.1	7.1	7.1	7.1	6.1	6.1	5.1	5.1	4.1	3.1
60°	7.1	7.1	7.1	7.1	7.1	6.1	6.1	5.1	4.1	4.1	3.1
62.5°	8.2	7.1	7.1	7.1	7.1	6.1	6.1	5.1	4.1	4.1	3.1
65°	8.2	8.2	7.1	7.1	7.1	6.1	6.1	5.1	5.1	4.1	3.1
67.5°	8.2	8.2	8.2	7.1	8.2	7.1	6.1	6.1	5.1	4.1	4.1
70°	9.2	8.2	8.2	8.2	8.2	7.1	7.1	6.1	5.1	4.1	4.1
72.5°	9.2	9.2	8.2	8.2	8.2	7.1	7.1	6.1	5.1	5.1	4.1
75°	9.2	9.2	8.2	8.2	8.2	7.1	7.1	6.1	6.1	5.1	4.1
77.5°	9.2	9.2	9.2	8.2	8.2	8.2	7.1	7.1	6.1	5.1	4.1
80°	9.2	9.2	9.2	9.2	9.2	8.2	8.2	7.1	6.1	5.1	4.1
82.5°	10.2	9.2	9.2	9.2	9.2	8.2	8.2	7.1	6.1	5.1	5.1
85°	10.2	10.2	9.2	9.2	9.2	8.2	8.2	7.1	6.1	6.1	5.1
87.5°	10.2	9.2	9.2	9.2	9.2	8.2	8.2	7.1	6.1	5.1	5.1
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: P179906

CATALOG NUMBER: LDA6A65935D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7	1105.7
2.5°	682.4	674.3	674.3	660.0	657.9	646.7	655.9	649.8
5°	465.1	451.9	447.8	433.5	428.4	415.2	419.2	414.1
7.5°	292.8	279.5	275.4	265.2	259.1	248.9	249.9	246.9
10°	178.5	166.3	163.2	160.1	157.1	156.1	157.1	156.1
12.5°	162.2	161.2	159.1	160.1	158.1	159.1	160.1	159.1
15°	176.5	178.5	176.5	177.5	176.5	178.5	179.5	179.5
17.5°	207.1	211.2	209.1	212.2	211.2	216.3	216.3	216.3
20°	254.0	261.1	259.1	263.2	263.2	269.3	269.3	271.3
22.5°	319.3	328.5	327.4	336.6	334.6	341.7	341.7	343.8
25°	397.8	407.0	408.0	414.1	413.1	420.3	420.3	422.3
27.5°	430.5	435.6	434.5	437.6	438.6	442.7	445.8	443.7
30°	403.9	408.0	407.0	409.0	409.0	412.1	415.2	412.1
32.5°	339.7	342.7	342.7	346.8	343.8	344.8	349.9	346.8
35°	260.1	262.2	260.1	262.2	263.2	263.2	268.3	267.3
37.5°	185.6	186.7	186.7	189.7	186.7	186.7	191.8	192.8
40°	124.4	125.5	124.4	128.5	126.5	126.5	129.5	126.5
42.5°	79.6	80.6	79.6	82.6	80.6	82.6	83.6	84.7
45°	49.0	49.0	47.9	50.0	49.0	50.0	51.0	51.0
47.5°	28.6	28.6	27.5	29.6	28.6	28.6	28.6	29.6
50°	15.3	15.3	15.3	16.3	15.3	15.3	15.3	14.3
52.5°	8.2	8.2	7.1	8.2	7.1	7.1	7.1	7.1
55°	4.1	3.1	3.1	3.1	2.0	2.0	2.0	2.0
57.5°	3.1	2.0	2.0	1.0	1.0	1.0	0.0	0.0
60°	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0
62.5°	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0
65°	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0
67.5°	3.1	2.0	2.0	1.0	1.0	0.0	0.0	0.0
70°	3.1	2.0	2.0	1.0	1.0	0.0	0.0	0.0
72.5°	3.1	2.0	2.0	2.0	1.0	1.0	0.0	0.0
75°	3.1	3.1	2.0	2.0	1.0	1.0	0.0	0.0
77.5°	4.1	3.1	2.0	2.0	1.0	1.0	0.0	0.0
80°	4.1	3.1	2.0	2.0	2.0	1.0	1.0	1.0
82.5°	4.1	3.1	3.1	2.0	2.0	1.0	1.0	1.0
85°	4.1	3.1	3.1	2.0	2.0	1.0	1.0	1.0
87.5°	4.1	3.1	3.1	2.0	2.0	1.0	1.0	1.0
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)