

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: P179905

Luminaire Tested: **LDA6A65930D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179905
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: LDA6A65930D010TE LARH40FL 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5527.0 lumens
Efficiency: N/A
Efficacy: 70.9 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

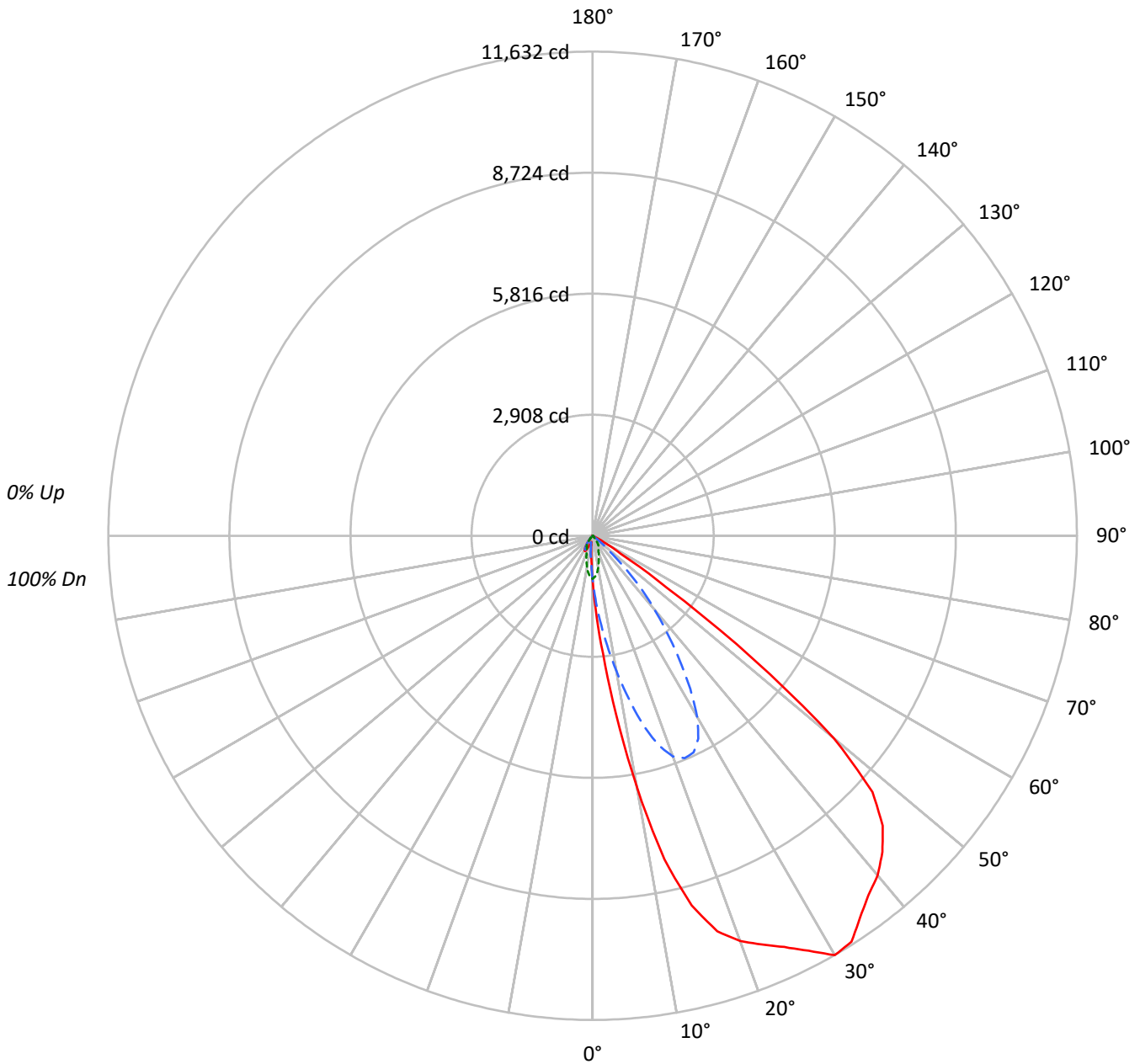
Input Watts (W): 78
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	56788	56788	56788
5°	155860	52322	21351
10°	341555	42818	8138
15°	521723	32594	9546
20°	604468	24251	14830
25°	659391	19943	23929
30°	736335	18085	24440
35°	749177	12408	16758
40°	762343	5882	8480
45°	763583	2442	3706
50°	645540	1058	1143
55°	207868	726	182
60°	41280	833	0
65°	4216	986	0
70°	465	1378	0
75°	0	1822	0
80°	0	3031	316
85°	0	6038	629



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.6	2.5
10°-20°	727.2	13.2
20°-30°	1392.4	25.2
30°-40°	1640.5	29.7
40°-50°	1288.6	23.3
50°-60°	314.0	5.7
60°-70°	13.5	0.2
70°-80°	5.1	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°	2260.3	40.9
0°-40°	3900.8	70.6
0°-60°	5503.4	99.6
0°-90°	5527.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5527.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1036	1036	1036	1036	1036	
5°	2832	2050	951	498	388	374
15°	9193	4722	574	164	168	2566
25°	10901	5741	330	345	396	5081
35°	11195	3629	185	239	250	7020
45°	9849	1122	32	44	48	7400
55°	2175	41	8	5	2	2589
65°	32	5	8	5	0	86
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°	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9
2.5°	1775.5	1771.6	1745.8	1769.7	1697.1	1694.2	1661.8	1647.4	1605.4	1565.2	1507.9
5°	2832.3	2770.2	2719.6	2721.5	2582.0	2556.2	2483.6	2410.0	2297.2	2192.1	2049.7
7.5°	4317.3	4243.7	4136.7	4091.8	3825.2	3746.8	3596.8	3400.9	3155.3	2910.7	2647.0
10°	6135.8	6147.3	6008.7	5880.7	5477.4	5318.8	5076.1	4690.0	4224.6	3765.0	3297.7
12.5°	7965.7	7958.1	7792.8	7598.8	7101.9	6878.3	6555.3	6073.7	5457.3	4744.5	4013.4
15°	9192.7	9247.2	9177.4	9022.6	8598.3	8342.2	7978.2	7324.5	6573.5	5707.7	4721.5
17.5°	9962.9	10014.5	9989.7	9868.3	9493.7	9220.4	8916.5	8381.4	7512.8	6424.4	5279.6
20°	10361.4	10442.6	10431.1	10299.3	10016.4	9789.9	9454.5	8958.6	8206.5	6922.2	5640.8
22.5°	10627.0	10689.1	10706.3	10557.3	10264.9	10049.9	9804.3	9301.6	8594.5	7226.1	5784.1
25°	10901.3	11011.2	10903.2	10719.7	10451.2	10244.8	9983.0	9501.4	8779.9	7350.3	5741.1
27.5°	11237.7	11290.2	11045.6	10878.4	10580.2	10356.6	10078.5	9617.0	8812.4	7251.0	5495.6
30°	11632.3	11414.4	11243.4	10911.8	10573.5	10355.6	10072.8	9544.4	8641.3	6921.3	5019.7
32.5°	11567.3	11367.6	11173.6	10822.9	10488.5	10272.5	9957.2	9302.6	8237.1	6369.9	4363.2
35°	11194.6	11237.7	11028.4	10737.9	10359.5	10136.8	9792.8	8958.6	7551.0	5609.3	3629.3
37.5°	10880.3	10974.9	10838.2	10569.7	10185.6	9884.5	9420.1	8406.3	6655.6	4644.1	2933.6
40°	10652.8	10683.4	10609.8	10308.8	9847.3	9412.5	8875.5	7414.4	5568.2	3645.5	2315.4
42.5°	10300.2	10381.4	10251.5	9922.8	9223.3	8731.2	7953.3	6268.6	4325.0	2784.6	1743.0
45°	9849.2	9926.6	9766.1	9219.5	8246.7	7525.2	6576.3	4887.8	3199.3	2052.6	1121.9
47.5°	9113.4	9161.2	8850.6	8094.7	6680.5	6001.1	5028.3	3407.6	2061.2	1147.7	545.6
50°	7569.2	7546.2	6906.0	5976.2	4468.3	3755.4	2992.9	1847.1	926.0	543.7	341.1
52.5°	4878.2	4825.7	4192.1	3346.4	2262.8	1726.7	1297.7	797.0	482.6	303.9	134.7
55°	2174.9	2154.8	1764.0	1370.3	926.0	797.0	608.7	390.8	257.1	106.1	41.1
57.5°	806.5	788.4	694.7	582.9	447.2	371.7	295.3	187.3	65.9	35.4	22.0
60°	376.5	375.5	330.6	272.3	189.2	143.3	83.1	44.0	27.7	19.1	12.4
62.5°	120.4	117.5	82.2	60.2	43.0	37.3	29.6	22.0	14.3	10.5	7.6
65°	32.5	32.5	29.6	24.8	20.1	17.2	14.3	10.5	6.7	5.7	4.8
67.5°	12.4	12.4	11.5	10.5	7.6	6.7	5.7	4.8	3.8	4.8	4.8
70°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.8	3.8	4.8
72.5°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.8	4.8	4.8
75°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.8	4.8	4.8
77.5°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.8	4.8	4.8
80°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.8	4.8	4.8
82.5°	0.0	0.0	1.0	1.9	1.9	1.9	2.9	3.8	3.8	4.8	5.7
85°	0.0	0.0	1.0	1.9	1.9	2.9	2.9	3.8	3.8	4.8	5.7
87.5°	0.0	0.0	1.0	1.9	1.9	2.9	2.9	3.8	3.8	4.8	5.7
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°	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9
2.5°	1465.9	1402.8	1315.8	1265.2	1252.8	1226.0	1179.2	1109.4	1052.1	996.7	964.2
5°	1929.3	1780.3	1613.0	1495.5	1447.7	1383.7	1270.0	1152.4	1044.5	950.8	877.2
7.5°	2420.5	2174.9	1904.5	1686.6	1608.2	1507.0	1321.6	1146.7	998.6	868.6	770.2
10°	2908.8	2513.2	2146.2	1830.9	1702.8	1565.2	1320.6	1094.1	920.2	769.2	660.3
12.5°	3397.1	2828.5	2324.0	1917.9	1751.6	1577.7	1281.4	1013.9	820.8	667.0	562.8
15°	3848.1	3079.8	2444.4	1947.5	1746.8	1541.4	1202.1	916.4	716.7	574.3	477.8
17.5°	4184.5	3211.7	2472.1	1902.6	1671.3	1443.9	1080.8	801.7	617.3	492.1	393.7
20°	4349.8	3232.7	2406.2	1774.5	1541.4	1305.3	947.9	691.8	532.3	415.7	332.5
22.5°	4349.8	3133.4	2262.8	1614.0	1378.9	1145.7	819.9	601.1	465.4	362.2	292.4
25°	4184.5	2935.5	2070.7	1428.6	1200.2	988.1	709.0	533.2	413.8	329.7	271.4
27.5°	3863.4	2662.3	1824.2	1222.2	1024.4	847.6	621.1	471.1	374.6	297.2	298.1
30°	3421.9	2326.8	1541.4	1004.3	843.8	696.6	522.7	394.7	300.1	285.7	294.3
32.5°	2911.7	1925.5	1221.2	778.8	653.6	548.5	397.5	279.0	238.9	240.8	250.4
35°	2388.0	1515.6	919.3	577.2	486.4	397.5	260.9	183.5	181.6	185.4	192.1
37.5°	1885.4	1134.3	665.1	422.4	326.8	244.6	140.5	126.1	126.1	130.0	133.8
40°	1412.4	804.6	457.7	250.4	158.6	111.8	88.9	82.2	81.2	82.2	87.0
42.5°	969.9	509.3	272.3	100.3	76.4	65.0	56.4	51.6	50.6	51.6	54.5
45°	544.7	313.4	106.1	53.5	45.9	41.1	35.4	32.5	31.5	31.5	33.4
47.5°	341.1	124.2	47.8	33.4	28.7	26.8	22.9	21.0	20.1	20.1	21.0
50°	130.9	48.7	29.6	22.0	19.1	17.2	15.3	13.4	12.4	12.4	13.4
52.5°	44.9	28.7	19.1	14.3	12.4	11.5	9.6	8.6	8.6	8.6	8.6
55°	24.8	17.2	11.5	8.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
57.5°	15.3	10.5	7.6	6.7	6.7	6.7	6.7	6.7	6.7	7.6	7.6
60°	8.6	6.7	5.7	5.7	5.7	5.7	6.7	6.7	6.7	7.6	7.6
62.5°	5.7	5.7	5.7	5.7	5.7	5.7	6.7	6.7	7.6	7.6	7.6
65°	4.8	4.8	4.8	5.7	5.7	5.7	6.7	6.7	7.6	7.6	7.6
67.5°	4.8	4.8	5.7	5.7	5.7	6.7	6.7	7.6	7.6	7.6	7.6
70°	4.8	5.7	5.7	6.7	6.7	6.7	7.6	7.6	7.6	8.6	8.6
72.5°	4.8	5.7	5.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	8.6
75°	5.7	5.7	5.7	6.7	6.7	6.7	7.6	8.6	8.6	8.6	8.6
77.5°	5.7	5.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	8.6	8.6
80°	5.7	5.7	6.7	6.7	7.6	7.6	8.6	8.6	8.6	9.6	9.6
82.5°	5.7	5.7	6.7	7.6	7.6	7.6	8.6	8.6	9.6	9.6	9.6
85°	5.7	6.7	6.7	7.6	7.6	7.6	8.6	8.6	9.6	9.6	9.6
87.5°	5.7	6.7	6.7	7.6	7.6	7.6	8.6	8.6	9.6	9.6	9.6
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°	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9
2.5°	921.2	881.0	840.9	811.3	797.0	782.6	751.1	710.0	692.8	668.0	653.6
5°	802.7	734.8	681.3	646.0	625.0	597.2	560.9	520.8	497.9	472.1	454.9
7.5°	680.4	601.1	549.5	517.0	495.9	461.5	415.7	367.9	340.2	311.5	291.5
10°	573.3	497.9	439.6	402.3	375.5	335.4	289.5	256.1	232.2	207.4	187.3
12.5°	478.7	397.5	335.4	303.9	285.7	247.5	209.3	172.0	157.7	152.9	152.9
15°	388.0	314.4	261.8	235.1	216.0	174.9	167.2	165.3	164.4	163.4	165.3
17.5°	316.3	254.2	198.8	185.4	183.5	182.5	183.5	183.5	184.4	187.3	192.1
20°	265.7	208.3	204.5	205.5	205.5	209.3	214.1	217.9	221.7	226.5	235.1
22.5°	236.0	235.1	241.8	242.7	247.5	253.2	261.8	267.6	277.1	281.9	294.3
25°	272.3	279.0	291.5	295.3	302.9	312.5	325.9	333.5	345.0	350.7	365.0
27.5°	308.7	319.2	334.5	339.2	345.9	361.2	370.8	377.5	383.2	387.0	395.6
30°	305.8	315.3	330.6	331.6	341.1	351.7	357.4	363.1	366.9	366.0	370.8
32.5°	259.0	267.6	281.9	281.9	292.4	301.0	303.9	308.7	308.7	308.7	310.6
35°	198.8	204.5	214.1	216.9	225.5	231.3	233.2	238.9	238.9	237.0	237.0
37.5°	137.6	145.2	151.9	153.8	159.6	163.4	168.2	169.1	167.2	168.2	168.2
40°	89.8	94.6	99.4	100.3	105.1	108.0	112.8	112.8	113.7	112.8	114.7
42.5°	55.4	59.2	62.1	64.0	65.9	67.8	70.7	71.7	72.6	71.7	73.6
45°	34.4	36.3	38.2	39.2	40.1	41.1	44.0	44.0	44.0	44.0	44.9
47.5°	21.0	22.0	22.9	22.9	23.9	24.8	25.8	25.8	25.8	25.8	26.8
50°	12.4	13.4	13.4	13.4	14.3	14.3	15.3	15.3	15.3	14.3	15.3
52.5°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	7.6	8.6
55°	7.6	7.6	6.7	6.7	6.7	6.7	6.7	5.7	4.8	4.8	3.8
57.5°	6.7	6.7	6.7	6.7	6.7	5.7	5.7	4.8	4.8	3.8	2.9
60°	6.7	6.7	6.7	6.7	6.7	5.7	5.7	4.8	3.8	3.8	2.9
62.5°	7.6	6.7	6.7	6.7	6.7	5.7	5.7	4.8	3.8	3.8	2.9
65°	7.6	7.6	6.7	6.7	6.7	5.7	5.7	4.8	4.8	3.8	2.9
67.5°	7.6	7.6	7.6	6.7	7.6	6.7	5.7	5.7	4.8	3.8	3.8
70°	8.6	7.6	7.6	7.6	7.6	6.7	6.7	5.7	4.8	3.8	3.8
72.5°	8.6	8.6	7.6	7.6	7.6	6.7	6.7	5.7	4.8	4.8	3.8
75°	8.6	8.6	7.6	7.6	7.6	6.7	6.7	5.7	5.7	4.8	3.8
77.5°	8.6	8.6	8.6	7.6	7.6	7.6	6.7	6.7	5.7	4.8	3.8
80°	8.6	8.6	8.6	8.6	8.6	7.6	7.6	6.7	5.7	4.8	3.8
82.5°	9.6	8.6	8.6	8.6	8.6	7.6	7.6	6.7	5.7	4.8	4.8
85°	9.6	9.6	8.6	8.6	8.6	7.6	7.6	6.7	5.7	5.7	4.8
87.5°	9.6	8.6	8.6	8.6	8.6	7.6	7.6	6.7	5.7	4.8	4.8
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: P179905

CATALOG NUMBER: LDA6A65930D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9	1035.9
2.5°	639.3	631.6	631.6	618.3	616.4	605.8	614.4	608.7
5°	435.7	423.3	419.5	406.1	401.3	388.9	392.7	388.0
7.5°	274.3	261.8	258.0	248.5	242.7	233.2	234.1	231.3
10°	167.2	155.8	152.9	150.0	147.2	146.2	147.2	146.2
12.5°	151.9	151.0	149.1	150.0	148.1	149.1	150.0	149.1
15°	165.3	167.2	165.3	166.3	165.3	167.2	168.2	168.2
17.5°	194.0	197.8	195.9	198.8	197.8	202.6	202.6	202.6
20°	237.9	244.6	242.7	246.5	246.5	252.3	252.3	254.2
22.5°	299.1	307.7	306.7	315.3	313.4	320.1	320.1	322.0
25°	372.7	381.3	382.2	388.0	387.0	393.7	393.7	395.6
27.5°	403.3	408.0	407.1	409.9	410.9	414.7	417.6	415.7
30°	378.4	382.2	381.3	383.2	383.2	386.1	388.9	386.1
32.5°	318.2	321.1	321.1	324.9	322.0	323.0	327.8	324.9
35°	243.7	245.6	243.7	245.6	246.5	246.5	251.3	250.4
37.5°	173.9	174.9	174.9	177.7	174.9	174.9	179.6	180.6
40°	116.6	117.5	116.6	120.4	118.5	118.5	121.4	118.5
42.5°	74.5	75.5	74.5	77.4	75.5	77.4	78.4	79.3
45°	45.9	45.9	44.9	46.8	45.9	46.8	47.8	47.8
47.5°	26.8	26.8	25.8	27.7	26.8	26.8	26.8	27.7
50°	14.3	14.3	14.3	15.3	14.3	14.3	14.3	13.4
52.5°	7.6	7.6	6.7	7.6	6.7	6.7	6.7	6.7
55°	3.8	2.9	2.9	2.9	1.9	1.9	1.9	1.9
57.5°	2.9	1.9	1.9	1.0	1.0	1.0	0.0	0.0
60°	1.9	1.9	1.0	1.0	0.0	0.0	0.0	0.0
62.5°	1.9	1.9	1.0	1.0	0.0	0.0	0.0	0.0
65°	1.9	1.9	1.0	1.0	0.0	0.0	0.0	0.0
67.5°	2.9	1.9	1.9	1.0	1.0	0.0	0.0	0.0
70°	2.9	1.9	1.9	1.0	1.0	0.0	0.0	0.0
72.5°	2.9	1.9	1.9	1.9	1.0	1.0	0.0	0.0
75°	2.9	2.9	1.9	1.9	1.0	1.0	0.0	0.0
77.5°	3.8	2.9	1.9	1.9	1.0	1.0	0.0	0.0
80°	3.8	2.9	1.9	1.9	1.9	1.0	1.0	1.0
82.5°	3.8	2.9	2.9	1.9	1.9	1.0	1.0	1.0
85°	3.8	2.9	2.9	1.9	1.9	1.0	1.0	1.0
87.5°	3.8	2.9	2.9	1.9	1.9	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)