

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: P179907

Luminaire Tested: **LDA6A65940D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179907  
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: LDA6A65940D010TE LARH40FL 6LA1LI 30°  
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 40° Flood, 30° Tilt  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6033.8 lumens  
Efficiency: N/A  
Efficacy: 77.4 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

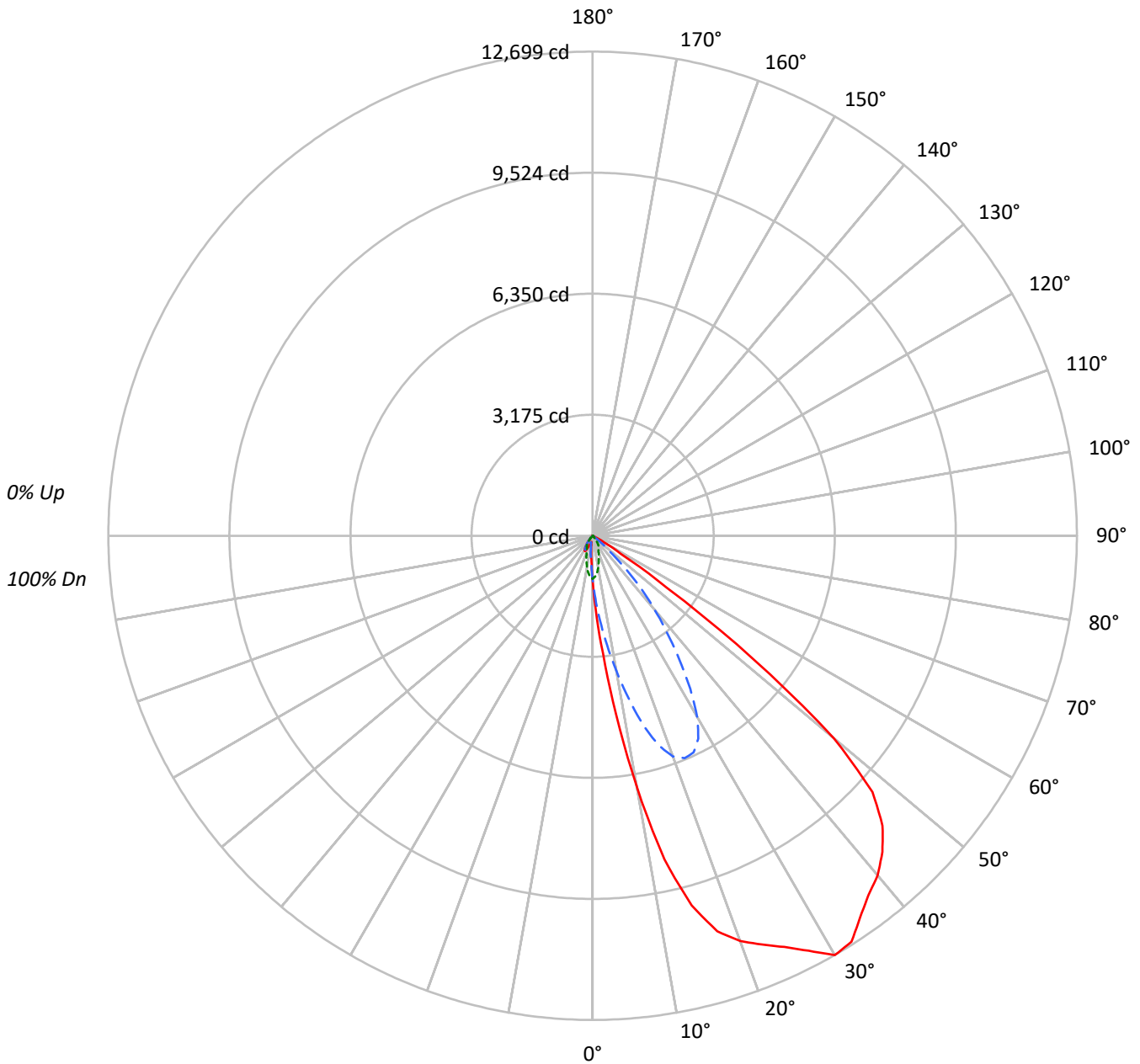
Input Watts (W): 78  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	61991	61991	61991
5°	170151	57121	23305
10°	372872	46748	8884
15°	569561	35585	10420
20°	659889	26474	16189
25°	719848	21769	26124
30°	803852	19744	26681
35°	817874	13545	18290
40°	832245	6419	9260
45°	833598	2667	4047
50°	704727	1160	1245
55°	226926	793	201
60°	45062	910	0
65°	4605	1077	0
70°	497	1507	0
75°	0	1991	0
80°	0	3283	316
85°	0	6542	629



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.5	2.5
10°-20°	793.9	13.2
20°-30°	1520.1	25.2
30°-40°	1790.9	29.7
40°-50°	1406.7	23.3
50°-60°	342.8	5.7
60°-70°	14.7	0.2
70°-80°	5.5	0.1
80°-90°	5.5	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°	2467.5	40.9
0°-40°	4258.5	70.6
0°-60°	6008.0	99.6
0°-90°	6033.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6033.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1131	1131	1131	1131	1131	
5°	3092	2238	1038	544	424	409
15°	10036	5154	627	179	184	2802
25°	11901	6268	360	377	432	5547
35°	12221	3962	202	261	273	7663
45°	10752	1225	34	48	52	8079
55°	2374	45	8	5	2	2826
65°	36	5	8	5	0	94
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°	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8
2.5°	1938.3	1934.1	1905.9	1932.0	1852.7	1849.6	1814.1	1798.5	1752.6	1708.8	1646.2
5°	3092.0	3024.2	2969.0	2971.0	2818.7	2790.6	2711.3	2631.0	2507.9	2393.1	2237.7
7.5°	4713.2	4632.9	4516.0	4467.0	4175.9	4090.4	3926.6	3712.8	3444.6	3177.6	2889.7
10°	6698.4	6710.9	6559.6	6419.9	5979.6	5806.5	5541.5	5120.0	4612.0	4110.2	3600.1
12.5°	8696.1	8687.8	8507.3	8295.5	7753.1	7509.0	7156.4	6630.6	5957.7	5179.5	4381.4
15°	10035.6	10095.1	10018.9	9849.9	9386.7	9107.1	8709.7	7996.1	7176.2	6231.0	5154.5
17.5°	10876.4	10932.7	10905.6	10773.1	10364.2	10065.8	9734.1	9149.9	8201.6	7013.4	5763.7
20°	11311.4	11400.1	11387.6	11243.6	10934.8	10687.6	10321.4	9780.0	8959.0	7556.9	6158.0
22.5°	11601.4	11669.2	11688.0	11525.3	11206.1	10971.3	10703.2	10154.5	9382.5	7888.7	6314.5
25°	11900.8	12020.8	11902.9	11702.6	11409.5	11184.2	10898.3	10372.5	9584.9	8024.3	6267.6
27.5°	12268.0	12325.4	12058.4	11875.8	11550.3	11306.2	11002.6	10498.8	9620.4	7915.8	5999.4
30°	12698.9	12461.0	12274.3	11912.3	11543.0	11305.2	10996.4	10419.5	9433.7	7555.9	5479.9
32.5°	12627.9	12409.9	12198.1	11815.3	11450.2	11214.4	10870.2	10155.6	8992.4	6954.0	4763.3
35°	12221.1	12268.0	12039.6	11722.4	11309.3	11066.3	10690.7	9780.0	8243.4	6123.6	3962.1
37.5°	11877.9	11981.2	11832.0	11538.8	11119.5	10790.9	10283.9	9177.0	7265.9	5070.0	3202.6
40°	11629.6	11663.0	11582.7	11254.1	10750.2	10275.5	9689.3	8094.2	6078.7	3979.8	2527.7
42.5°	11244.7	11333.3	11191.5	10832.6	10069.0	9531.7	8682.6	6843.4	4721.5	3039.9	1902.8
45°	10752.3	10836.8	10661.5	10064.8	9002.8	8215.2	7179.3	5336.0	3492.6	2240.8	1224.7
47.5°	9949.0	10001.2	9662.1	8837.0	7293.0	6551.3	5489.3	3720.1	2250.2	1252.9	595.7
50°	8263.2	8238.2	7539.2	6524.2	4878.0	4099.8	3267.3	2016.5	1010.9	593.6	372.4
52.5°	5325.5	5268.2	4576.5	3653.3	2470.3	1885.1	1416.7	870.0	526.8	331.7	147.1
55°	2374.3	2352.4	1925.7	1496.0	1010.9	870.0	664.5	426.7	280.6	115.8	44.9
57.5°	880.5	860.6	758.4	636.4	488.2	405.8	322.3	204.5	72.0	38.6	24.0
60°	411.0	410.0	360.9	297.3	206.6	156.5	90.8	48.0	30.3	20.9	13.6
62.5°	131.4	128.3	89.7	65.7	46.9	40.7	32.3	24.0	15.6	11.5	8.3
65°	35.5	35.5	32.3	27.1	21.9	18.8	15.6	11.5	7.3	6.3	5.2
67.5°	13.6	13.6	12.5	11.5	8.3	7.3	6.3	5.2	4.2	5.2	5.2
70°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	4.2	4.2	5.2
72.5°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	5.2
75°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	5.2
77.5°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	5.2
80°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	5.2
82.5°	0.0	0.0	1.0	2.1	2.1	2.1	3.1	4.2	4.2	5.2	6.3
85°	0.0	0.0	1.0	2.1	2.1	3.1	3.1	4.2	4.2	5.2	6.3
87.5°	0.0	0.0	1.0	2.1	2.1	3.1	3.1	4.2	4.2	5.2	6.3
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°	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8
2.5°	1600.3	1531.4	1436.5	1381.2	1367.6	1338.4	1287.3	1211.2	1148.6	1088.1	1052.6
5°	2106.2	1943.5	1760.9	1632.6	1580.4	1510.6	1386.4	1258.1	1140.2	1038.0	957.7
7.5°	2642.4	2374.3	2079.1	1841.2	1755.7	1645.1	1442.7	1251.8	1090.1	948.3	840.8
10°	3175.5	2743.6	2343.0	1998.8	1859.0	1708.8	1441.7	1194.5	1004.6	839.8	720.9
12.5°	3708.6	3087.9	2537.1	2093.7	1912.2	1722.3	1398.9	1106.8	896.1	728.2	614.4
15°	4201.0	3362.2	2668.5	2126.0	1907.0	1682.7	1312.3	1000.4	782.4	627.0	521.6
17.5°	4568.2	3506.2	2698.8	2077.0	1824.6	1576.3	1179.9	875.2	673.9	537.2	429.8
20°	4748.7	3529.1	2626.8	1937.2	1682.7	1425.0	1034.9	755.3	581.1	453.8	363.0
22.5°	4748.7	3420.7	2470.3	1762.0	1505.3	1250.8	895.1	656.2	508.0	395.4	319.2
25°	4568.2	3204.7	2260.6	1559.6	1310.3	1078.7	774.1	582.1	451.7	359.9	296.3
27.5°	4217.7	2906.4	1991.5	1334.3	1118.3	925.3	678.1	514.3	408.9	324.4	325.5
30°	3735.7	2540.2	1682.7	1096.4	921.1	760.5	570.6	430.8	327.6	311.9	321.3
32.5°	3178.6	2102.1	1333.2	850.2	713.5	598.8	434.0	304.6	260.8	262.9	273.3
35°	2607.0	1654.5	1003.6	630.1	531.0	434.0	284.8	200.3	198.2	202.4	209.7
37.5°	2058.2	1238.3	726.1	461.1	356.8	267.1	153.4	137.7	137.7	141.9	146.0
40°	1541.9	878.4	499.7	273.3	173.2	122.1	97.0	89.7	88.7	89.7	94.9
42.5°	1058.8	556.0	297.3	109.5	83.5	70.9	61.5	56.3	55.3	56.3	59.5
45°	594.6	342.2	115.8	58.4	50.1	44.9	38.6	35.5	34.4	34.4	36.5
47.5°	372.4	135.6	52.2	36.5	31.3	29.2	25.0	23.0	21.9	21.9	23.0
50°	142.9	53.2	32.3	24.0	20.9	18.8	16.7	14.6	13.6	13.6	14.6
52.5°	49.0	31.3	20.9	15.6	13.6	12.5	10.4	9.4	9.4	9.4	9.4
55°	27.1	18.8	12.5	9.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3
57.5°	16.7	11.5	8.3	7.3	7.3	7.3	7.3	7.3	7.3	8.3	8.3
60°	9.4	7.3	6.3	6.3	6.3	6.3	7.3	7.3	7.3	8.3	8.3
62.5°	6.3	6.3	6.3	6.3	6.3	6.3	7.3	7.3	8.3	8.3	8.3
65°	5.2	5.2	5.2	6.3	6.3	6.3	7.3	7.3	8.3	8.3	8.3
67.5°	5.2	5.2	6.3	6.3	6.3	7.3	7.3	8.3	8.3	8.3	8.3
70°	5.2	6.3	6.3	7.3	7.3	7.3	8.3	8.3	8.3	9.4	9.4
72.5°	5.2	6.3	6.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	9.4
75°	6.3	6.3	6.3	7.3	7.3	7.3	8.3	9.4	9.4	9.4	9.4
77.5°	6.3	6.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	9.4	9.4
80°	6.3	6.3	7.3	7.3	8.3	8.3	9.4	9.4	9.4	10.4	10.4
82.5°	6.3	6.3	7.3	8.3	8.3	8.3	9.4	9.4	10.4	10.4	10.4
85°	6.3	7.3	7.3	8.3	8.3	8.3	9.4	9.4	10.4	10.4	10.4
87.5°	6.3	7.3	7.3	8.3	8.3	8.3	9.4	9.4	10.4	10.4	10.4
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°	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8
2.5°	1005.6	961.8	918.0	885.7	870.0	854.4	820.0	775.1	756.3	729.2	713.5
5°	876.3	802.2	743.8	705.2	682.3	652.0	612.4	568.5	543.5	515.3	496.6
7.5°	742.8	656.2	599.8	564.4	541.4	503.9	453.8	401.6	371.4	340.1	318.2
10°	625.9	543.5	479.9	439.2	410.0	366.2	316.1	279.6	253.5	226.4	204.5
12.5°	522.6	434.0	366.2	331.7	311.9	270.2	228.5	187.8	172.1	166.9	166.9
15°	423.5	343.2	285.8	256.6	235.8	190.9	182.6	180.5	179.4	178.4	180.5
17.5°	345.3	277.5	217.0	202.4	200.3	199.3	200.3	200.3	201.3	204.5	209.7
20°	290.0	227.4	223.2	224.3	224.3	228.5	233.7	237.8	242.0	247.2	256.6
22.5°	257.7	256.6	263.9	265.0	270.2	276.4	285.8	292.1	302.5	307.7	321.3
25°	297.3	304.6	318.2	322.3	330.7	341.1	355.7	364.1	376.6	382.9	398.5
27.5°	337.0	348.4	365.1	370.3	377.6	394.3	404.8	412.1	418.3	422.5	431.9
30°	333.8	344.3	360.9	362.0	372.4	383.9	390.2	396.4	400.6	399.5	404.8
32.5°	282.7	292.1	307.7	307.7	319.2	328.6	331.7	337.0	337.0	337.0	339.0
35°	217.0	223.2	233.7	236.8	246.2	252.5	254.5	260.8	260.8	258.7	258.7
37.5°	150.2	158.6	165.9	168.0	174.2	178.4	183.6	184.6	182.6	183.6	183.6
40°	98.1	103.3	108.5	109.5	114.8	117.9	123.1	123.1	124.1	123.1	125.2
42.5°	60.5	64.7	67.8	69.9	72.0	74.1	77.2	78.2	79.3	78.2	80.3
45°	37.6	39.6	41.7	42.8	43.8	44.9	48.0	48.0	48.0	48.0	49.0
47.5°	23.0	24.0	25.0	25.0	26.1	27.1	28.2	28.2	28.2	28.2	29.2
50°	13.6	14.6	14.6	14.6	15.6	15.6	16.7	16.7	16.7	15.6	16.7
52.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	8.3	9.4
55°	8.3	8.3	7.3	7.3	7.3	7.3	7.3	6.3	5.2	5.2	4.2
57.5°	7.3	7.3	7.3	7.3	7.3	6.3	6.3	5.2	5.2	4.2	3.1
60°	7.3	7.3	7.3	7.3	7.3	6.3	6.3	5.2	4.2	4.2	3.1
62.5°	8.3	7.3	7.3	7.3	7.3	6.3	6.3	5.2	4.2	4.2	3.1
65°	8.3	8.3	7.3	7.3	7.3	6.3	6.3	5.2	5.2	4.2	3.1
67.5°	8.3	8.3	8.3	7.3	8.3	7.3	6.3	6.3	5.2	4.2	4.2
70°	9.4	8.3	8.3	8.3	8.3	7.3	7.3	6.3	5.2	4.2	4.2
72.5°	9.4	9.4	8.3	8.3	8.3	7.3	7.3	6.3	5.2	5.2	4.2
75°	9.4	9.4	8.3	8.3	8.3	7.3	7.3	6.3	6.3	5.2	4.2
77.5°	9.4	9.4	9.4	8.3	8.3	8.3	7.3	7.3	6.3	5.2	4.2
80°	9.4	9.4	9.4	9.4	9.4	8.3	8.3	7.3	6.3	5.2	4.2
82.5°	10.4	9.4	9.4	9.4	9.4	8.3	8.3	7.3	6.3	5.2	5.2
85°	10.4	10.4	9.4	9.4	9.4	8.3	8.3	7.3	6.3	6.3	5.2
87.5°	10.4	9.4	9.4	9.4	9.4	8.3	8.3	7.3	6.3	5.2	5.2
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: P179907

CATALOG NUMBER: LDA6A65940D010TE LARH40FL 6LA1LI 30°

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8	1130.8
2.5°	697.9	689.6	689.6	675.0	672.9	661.4	670.8	664.5
5°	475.7	462.1	458.0	443.4	438.1	424.6	428.8	423.5
7.5°	299.4	285.8	281.7	271.2	265.0	254.5	255.6	252.5
10°	182.6	170.0	166.9	163.8	160.7	159.6	160.7	159.6
12.5°	165.9	164.8	162.7	163.8	161.7	162.7	163.8	162.7
15°	180.5	182.6	180.5	181.5	180.5	182.6	183.6	183.6
17.5°	211.8	215.9	213.9	217.0	215.9	221.2	221.2	221.2
20°	259.8	267.1	265.0	269.1	269.1	275.4	275.4	277.5
22.5°	326.5	335.9	334.9	344.3	342.2	349.5	349.5	351.6
25°	406.8	416.2	417.3	423.5	422.5	429.8	429.8	431.9
27.5°	440.2	445.4	444.4	447.5	448.6	452.7	455.9	453.8
30°	413.1	417.3	416.2	418.3	418.3	421.5	424.6	421.5
32.5°	347.4	350.5	350.5	354.7	351.6	352.6	357.8	354.7
35°	266.0	268.1	266.0	268.1	269.1	269.1	274.4	273.3
37.5°	189.9	190.9	190.9	194.0	190.9	190.9	196.1	197.2
40°	127.3	128.3	127.3	131.4	129.4	129.4	132.5	129.4
42.5°	81.4	82.4	81.4	84.5	82.4	84.5	85.5	86.6
45°	50.1	50.1	49.0	51.1	50.1	51.1	52.2	52.2
47.5°	29.2	29.2	28.2	30.3	29.2	29.2	29.2	30.3
50°	15.6	15.6	15.6	16.7	15.6	15.6	15.6	14.6
52.5°	8.3	8.3	7.3	8.3	7.3	7.3	7.3	7.3
55°	4.2	3.1	3.1	3.1	2.1	2.1	2.1	2.1
57.5°	3.1	2.1	2.1	1.0	1.0	1.0	0.0	0.0
60°	2.1	2.1	1.0	1.0	0.0	0.0	0.0	0.0
62.5°	2.1	2.1	1.0	1.0	0.0	0.0	0.0	0.0
65°	2.1	2.1	1.0	1.0	0.0	0.0	0.0	0.0
67.5°	3.1	2.1	2.1	1.0	1.0	0.0	0.0	0.0
70°	3.1	2.1	2.1	1.0	1.0	0.0	0.0	0.0
72.5°	3.1	2.1	2.1	2.1	1.0	1.0	0.0	0.0
75°	3.1	3.1	2.1	2.1	1.0	1.0	0.0	0.0
77.5°	4.2	3.1	2.1	2.1	1.0	1.0	0.0	0.0
80°	4.2	3.1	2.1	2.1	2.1	1.0	1.0	1.0
82.5°	4.2	3.1	3.1	2.1	2.1	1.0	1.0	1.0
85°	4.2	3.1	3.1	2.1	2.1	1.0	1.0	1.0
87.5°	4.2	3.1	3.1	2.1	2.1	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)