

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: P179880

Luminaire Tested: **LDA6A55927D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179880
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26687)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A55927D010TE LARH30NF 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 30°
Narrow Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4115.7 lumens
Efficiency: N/A
Efficacy: 67.5 lumens/watt
Spacing Criteria (0/90/45): 2.58 / 0.47 / 1.37
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

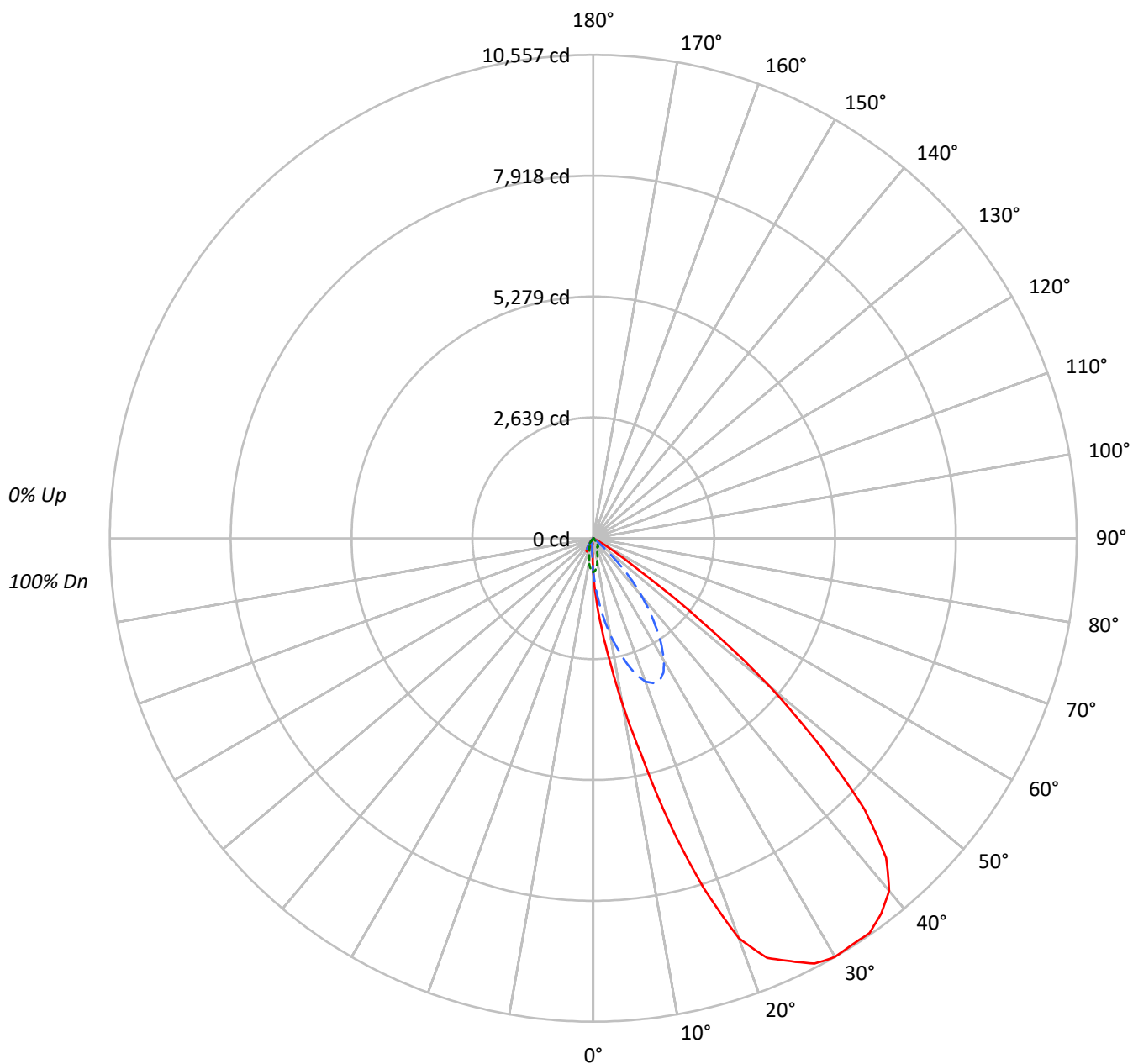
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	112	109	106	103	110	107	104	102	103	100	98		99	97	95		95
2	105	99	94	90	103	97	93	89	94	90	87		91	88	85		88
3	98	90	84	79	96	89	83	78	86	81	77		83	79	76		81
4	91	82	75	70	89	81	74	69	78	73	68		76	71	67		74
5	85	74	67	62	83	73	67	61	71	65	61		70	64	60		68
6	79	68	60	55	77	67	60	55	65	59	54		64	58	54		62
7	74	62	55	49	72	61	54	49	60	53	49		59	53	49		57
8	69	57	49	44	67	56	49	44	55	49	44		54	48	44		53
9	64	52	45	40	63	52	45	40	51	44	40		50	44	40		49
10	60	48	41	36	59	48	41	36	47	40	36		46	40	36		45

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	40698	40698	40698
5°	104402	37024	11529
10°	203503	28451	5539
15°	365314	19325	7435
20°	542384	14672	12269
25°	616499	12085	19241
30°	668293	13217	18098
35°	703930	8566	11216
40°	719155	3800	5460
45°	649533	1450	2031
50°	427568	571	571
55°	117090	497	0
60°	23386	570	0
65°	1647	778	0
70°	240	962	0
75°	0	1419	0
80°	0	2115	221
85°	0	4214	440



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.9	2.2
10°-20°	483.1	11.7
20°-30°	1095.0	26.6
30°-40°	1314.4	31.9
40°-50°	926.4	22.5
50°-60°	191.1	4.6
60°-70°	6.8	0.2
70°-80°	4.0	0.1
80°-90°	3.9	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°	1669.1	40.6
0°-40°	2983.5	72.5
0°-60°	4101.0	99.6
0°-90°	4115.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4115.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	742	742	742	742	742	
5°	1897	1382	673	280	210	233
15°	6437	2832	340	121	131	1910
25°	10192	3425	200	280	318	4704
35°	10518	2399	128	168	168	6539
45°	8378	822	19	25	26	6162
55°	1225	16	5	4	0	1614
65°	13	4	6	4	0	38
75°	0	4	7	4	0	0
85°	0	4	7	4	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°	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4
2.5°	1265.5	1227.3	1242.3	1198.2	1188.4	1180.2	1188.4	1140.5	1113.6	1079.2	1051.5
5°	1897.2	1851.5	1862.0	1784.9	1749.7	1725.8	1721.3	1622.5	1548.4	1466.8	1382.3
7.5°	2641.0	2597.6	2591.6	2471.9	2399.3	2358.2	2340.9	2199.5	2071.5	1926.3	1767.7
10°	3655.8	3557.1	3526.4	3352.8	3214.3	3126.7	3019.0	2793.0	2568.4	2349.2	2147.1
12.5°	4836.8	4782.9	4706.6	4400.5	4158.0	4033.8	3872.9	3519.6	3179.9	2817.7	2479.4
15°	6436.8	6245.3	6115.0	5672.7	5282.1	5090.5	4855.5	4315.2	3801.8	3343.0	2831.9
17.5°	8000.2	7899.9	7696.4	7122.4	6520.7	6218.3	5868.1	5133.9	4408.7	3756.1	3132.0
20°	9297.2	9202.9	8970.9	8429.8	7762.2	7316.2	6875.4	5868.1	4920.6	4085.4	3332.5
22.5°	9918.3	9858.4	9669.1	9205.9	8637.1	8212.8	7739.0	6493.0	5299.3	4301.0	3423.9
25°	10192.2	10164.5	10042.5	9677.3	9141.5	8781.5	8334.0	6935.3	5535.0	4401.2	3425.3
27.5°	10469.9	10475.1	10205.7	9916.8	9408.7	9062.9	8631.8	7131.3	5577.7	4345.1	3313.1
30°	10557.4	10502.1	10383.1	9968.5	9485.8	9118.3	8655.8	7040.8	5402.6	4114.6	3089.3
32.5°	10521.5	10499.8	10368.8	9930.3	9354.8	8949.9	8424.5	6681.6	5056.8	3785.3	2772.0
35°	10518.5	10478.1	10178.0	9801.6	9092.9	8592.9	7900.7	6100.8	4567.4	3351.3	2398.6
37.5°	10328.4	10228.1	10002.9	9495.5	8561.5	7927.6	7151.5	5391.3	3968.7	2864.1	2028.1
40°	10049.3	9914.6	9618.2	8850.4	7641.0	6910.6	6153.2	4585.3	3334.8	2383.6	1634.5
42.5°	9466.3	9262.7	8843.6	7787.7	6414.4	5755.8	5125.7	3768.9	2719.6	1942.1	1247.6
45°	8378.1	8099.7	7533.2	6374.0	5181.8	4644.5	4137.8	3032.4	2177.0	1440.6	822.5
47.5°	6733.9	6475.8	5960.1	5074.0	4063.7	3609.5	3205.3	2255.6	1475.8	834.4	392.9
50°	5013.4	4791.9	4389.3	3526.4	2727.9	2370.9	2025.1	1281.2	691.5	396.6	163.1
52.5°	2991.3	2881.3	2524.3	1955.5	1347.1	1160.7	931.7	542.6	348.7	143.7	44.2
55°	1225.1	1130.8	996.8	800.0	586.0	496.9	425.1	267.9	108.5	29.9	16.5
57.5°	553.8	532.8	472.2	371.2	269.4	226.0	152.7	50.9	23.9	15.0	9.7
60°	213.3	192.3	164.6	89.1	38.2	32.2	26.2	17.2	12.0	8.2	6.0
62.5°	30.7	29.2	26.2	21.0	16.5	15.0	12.7	9.0	6.7	5.2	4.5
65°	12.7	12.7	11.2	9.0	7.5	6.7	6.0	4.5	3.7	3.7	3.7
67.5°	5.2	5.2	4.5	3.7	3.0	3.0	3.0	2.2	3.0	3.0	3.7
70°	1.5	1.5	1.5	1.5	1.5	1.5	2.2	2.2	3.0	3.0	3.7
72.5°	0.0	0.0	0.7	0.7	1.5	1.5	1.5	2.2	3.0	3.7	3.7
75°	0.0	0.0	0.7	0.7	1.5	1.5	1.5	2.2	3.0	3.7	3.7
77.5°	0.0	0.0	0.7	0.7	1.5	1.5	2.2	2.2	3.0	3.7	3.7
80°	0.0	0.0	0.7	0.7	1.5	1.5	2.2	2.2	3.0	3.7	4.5
82.5°	0.0	0.0	0.7	0.7	1.5	1.5	2.2	2.2	3.0	3.7	4.5
85°	0.0	0.0	0.7	0.7	1.5	1.5	2.2	2.2	3.0	3.7	4.5
87.5°	0.0	0.0	0.7	0.7	1.5	1.5	2.2	2.2	3.0	3.7	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°	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4
2.5°	1027.5	979.6	966.2	924.3	889.1	871.9	850.2	801.5	764.8	716.2	687.0
5°	1323.1	1232.6	1160.7	1073.2	1015.6	978.1	919.8	830.7	758.9	672.8	611.4
7.5°	1642.7	1477.3	1347.8	1203.4	1120.3	1055.2	955.7	827.7	722.2	607.7	512.6
10°	1951.0	1704.1	1500.5	1293.2	1183.9	1093.4	956.4	795.5	655.6	511.1	410.9
12.5°	2222.7	1903.9	1617.3	1350.8	1215.4	1102.4	931.0	737.9	568.8	420.6	332.3
15°	2449.5	2058.8	1699.6	1372.5	1217.6	1082.9	877.9	655.6	472.2	340.5	278.4
17.5°	2621.6	2140.4	1725.0	1346.3	1174.2	1027.5	796.3	551.6	383.2	288.9	234.2
20°	2710.6	2156.1	1688.4	1275.2	1094.1	943.7	689.3	447.5	324.8	251.5	196.1
22.5°	2721.9	2111.9	1600.8	1173.5	993.1	841.9	571.0	373.4	289.6	222.3	172.9
25°	2655.3	2016.1	1475.8	1058.2	882.3	725.2	464.7	334.5	263.4	199.8	199.1
27.5°	2513.1	1851.5	1326.1	924.3	748.4	589.7	394.4	302.3	235.0	211.8	225.3
30°	2312.5	1640.5	1142.0	755.1	584.5	453.5	332.3	249.2	206.6	208.8	220.0
32.5°	2040.8	1378.5	925.7	553.1	418.3	341.3	249.2	169.9	171.4	172.1	181.9
35°	1699.6	1105.4	691.5	371.9	294.1	240.2	140.7	125.0	127.2	128.0	134.7
37.5°	1362.1	849.4	459.5	247.7	184.9	126.5	87.6	83.8	85.3	84.6	92.1
40°	1043.2	592.0	275.4	122.7	71.1	59.1	53.9	51.6	52.4	53.1	57.6
42.5°	738.7	321.1	136.2	46.4	37.4	34.4	32.2	30.7	31.4	31.4	34.4
45°	374.9	151.9	46.4	25.4	23.2	21.0	19.5	18.7	18.7	18.7	20.2
47.5°	162.4	50.1	21.7	15.7	14.2	13.5	12.0	11.2	11.2	11.2	12.0
50°	50.9	20.2	13.5	10.5	9.0	8.2	7.5	7.5	7.5	6.7	7.5
52.5°	18.7	12.7	9.0	6.7	6.0	6.0	6.0	5.2	6.0	5.2	6.0
55°	11.2	8.2	6.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
57.5°	7.5	6.0	5.2	5.2	4.5	4.5	5.2	5.2	5.2	5.2	5.2
60°	5.2	5.2	4.5	4.5	4.5	4.5	5.2	5.2	5.2	5.2	5.2
62.5°	4.5	4.5	4.5	4.5	4.5	4.5	5.2	5.2	5.2	5.2	6.0
65°	3.7	4.5	4.5	4.5	4.5	4.5	5.2	5.2	6.0	6.0	6.0
67.5°	3.7	4.5	4.5	5.2	5.2	5.2	5.2	6.0	6.0	6.0	6.0
70°	4.5	4.5	5.2	5.2	5.2	5.2	6.0	6.0	6.0	6.0	6.7
72.5°	4.5	4.5	5.2	5.2	5.2	5.2	6.0	6.0	6.7	6.7	6.7
75°	4.5	5.2	5.2	5.2	5.2	6.0	6.0	6.0	6.7	6.7	6.7
77.5°	4.5	5.2	5.2	6.0	6.0	6.0	6.0	6.7	6.7	6.7	6.7
80°	4.5	5.2	5.2	6.0	6.0	6.0	6.7	6.7	6.7	6.7	7.5
82.5°	4.5	5.2	5.2	6.0	6.0	6.0	6.7	6.7	6.7	6.7	7.5
85°	5.2	5.2	6.0	6.0	6.0	6.0	6.7	6.7	6.7	6.7	7.5
87.5°	5.2	5.2	6.0	6.0	6.0	6.0	6.7	6.7	7.5	6.7	7.5
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4
2.5°	648.1	604.7	574.8	563.5	541.8	507.4	487.2	468.5	433.3	425.8	406.4
5°	541.1	471.5	422.1	403.4	378.7	349.5	321.1	302.3	279.9	270.9	257.4
7.5°	426.6	357.0	314.3	299.4	282.1	258.2	232.7	214.0	190.8	178.9	167.6
10°	335.3	283.6	247.7	232.7	214.8	189.3	163.1	138.5	118.2	105.5	103.3
12.5°	272.4	229.8	191.6	175.9	154.9	129.5	110.8	110.0	108.5	107.8	109.3
15°	223.0	181.9	141.4	124.2	118.2	117.5	119.7	122.0	121.2	123.5	125.0
17.5°	183.4	139.2	130.2	131.0	131.7	134.0	137.7	143.7	144.4	148.2	151.2
20°	149.7	147.4	151.2	154.2	156.4	160.9	169.1	176.6	178.9	184.1	190.1
22.5°	169.9	176.6	184.9	188.6	191.6	199.8	208.8	220.8	225.3	232.0	240.2
25°	205.1	216.3	229.0	233.5	238.0	251.5	261.9	276.2	279.9	288.1	296.4
27.5°	234.2	246.2	259.7	265.7	269.4	282.9	291.9	300.8	300.8	305.3	311.3
30°	229.8	239.5	250.7	255.2	256.7	266.4	275.4	278.4	276.9	279.1	283.6
32.5°	190.8	198.3	207.3	211.0	212.5	219.3	226.8	226.8	226.0	226.0	229.0
35°	141.4	146.7	151.2	154.9	157.2	161.7	168.4	167.6	167.6	166.1	168.4
37.5°	95.0	98.0	103.3	104.8	105.5	108.5	113.8	113.8	112.3	113.0	114.5
40°	57.6	61.4	64.4	65.1	66.6	68.9	72.6	72.6	72.6	72.6	73.3
42.5°	34.4	36.7	38.9	38.9	39.7	42.7	44.2	44.2	44.2	44.2	44.9
45°	20.2	21.0	22.5	23.2	23.2	24.7	25.4	25.4	25.4	25.4	26.2
47.5°	12.0	12.7	12.7	13.5	13.5	14.2	15.0	15.0	14.2	14.2	14.2
50°	7.5	7.5	7.5	7.5	8.2	8.2	8.2	8.2	8.2	8.2	7.5
52.5°	6.0	6.0	6.0	6.0	5.2	5.2	5.2	5.2	4.5	4.5	3.7
55°	5.2	5.2	5.2	5.2	5.2	4.5	4.5	4.5	3.7	3.0	2.2
57.5°	5.2	5.2	5.2	5.2	5.2	4.5	4.5	3.7	3.0	3.0	2.2
60°	5.2	5.2	5.2	5.2	5.2	4.5	4.5	3.7	3.0	3.0	2.2
62.5°	6.0	6.0	5.2	5.2	5.2	4.5	4.5	3.7	3.7	3.0	2.2
65°	6.0	6.0	5.2	5.2	5.2	5.2	4.5	4.5	3.7	3.0	2.2
67.5°	6.0	6.0	6.0	6.0	5.2	5.2	5.2	4.5	3.7	3.0	2.2
70°	6.7	6.7	6.0	6.0	6.0	5.2	5.2	4.5	3.7	3.7	3.0
72.5°	6.7	6.7	6.0	6.0	6.0	6.0	5.2	4.5	4.5	3.7	3.0
75°	6.7	6.7	6.7	6.7	6.0	6.0	5.2	5.2	4.5	3.7	3.0
77.5°	6.7	6.7	6.7	6.7	6.0	6.0	6.0	5.2	4.5	3.7	3.0
80°	6.7	6.7	6.7	6.7	6.7	6.0	6.0	5.2	4.5	3.7	3.0
82.5°	7.5	7.5	6.7	6.7	6.7	6.0	6.0	5.2	4.5	3.7	3.7
85°	7.5	7.5	6.7	6.7	6.7	6.0	6.0	5.2	4.5	4.5	3.7
87.5°	7.5	7.5	6.7	6.7	6.7	6.0	6.0	5.2	4.5	4.5	3.7
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: P179880

CATALOG NUMBER: LDA6A55927D010TE LARH30NF 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	742.4	742.4	742.4	742.4	742.4	742.4	742.4	742.4
2.5°	394.4	371.9	364.5	369.7	363.7	359.2	353.2	350.2
5°	247.0	230.5	225.3	226.8	221.5	217.0	211.0	209.5
7.5°	151.9	136.2	130.2	130.2	124.2	119.0	115.3	113.0
10°	101.8	98.8	99.5	100.3	99.5	100.3	98.0	99.5
12.5°	109.3	107.8	109.3	110.0	110.0	111.5	108.5	110.8
15°	127.2	125.7	128.0	129.5	129.5	131.7	128.7	131.0
17.5°	155.7	154.9	158.7	160.2	160.9	164.6	160.9	163.9
20°	196.8	196.1	201.3	203.6	202.8	210.3	205.1	210.3
22.5°	250.0	248.5	255.9	258.2	258.9	268.7	264.2	267.9
25°	303.1	304.6	308.3	312.1	312.8	321.1	314.3	318.1
27.5°	314.3	312.1	314.3	318.8	319.6	323.3	317.3	320.3
30°	284.4	280.6	281.4	286.6	288.1	289.6	284.4	285.9
32.5°	231.3	225.3	225.3	230.5	232.0	234.2	225.3	229.0
35°	170.6	165.4	165.4	169.1	169.9	171.4	164.6	167.6
37.5°	116.7	112.3	113.8	115.3	116.0	117.5	116.7	116.0
40°	74.8	71.8	74.1	74.1	74.8	75.6	75.6	76.3
42.5°	45.7	43.4	44.9	44.9	45.7	45.7	45.7	46.4
45°	26.2	25.4	25.4	26.2	26.2	26.2	25.4	26.2
47.5°	14.2	13.5	14.2	14.2	14.2	14.2	14.2	14.2
50°	7.5	6.7	6.7	6.7	6.7	6.7	6.7	6.7
52.5°	3.7	3.0	3.0	3.0	2.2	3.0	2.2	2.2
55°	2.2	1.5	1.5	1.5	0.7	0.7	0.0	0.0
57.5°	1.5	0.7	0.7	0.7	0.0	0.0	0.0	0.0
60°	1.5	0.7	0.7	0.7	0.0	0.0	0.0	0.0
62.5°	1.5	0.7	0.7	0.7	0.0	0.0	0.0	0.0
65°	1.5	0.7	0.7	0.7	0.0	0.0	0.0	0.0
67.5°	2.2	1.5	0.7	0.7	0.7	0.0	0.0	0.0
70°	2.2	1.5	1.5	0.7	0.7	0.0	0.0	0.0
72.5°	2.2	1.5	1.5	1.5	0.7	0.7	0.0	0.0
75°	2.2	1.5	1.5	1.5	0.7	0.7	0.0	0.0
77.5°	2.2	2.2	1.5	1.5	0.7	0.7	0.7	0.0
80°	3.0	2.2	1.5	1.5	1.5	0.7	0.7	0.7
82.5°	3.0	2.2	1.5	1.5	1.5	0.7	0.7	0.7
85°	3.0	2.2	2.2	1.5	1.5	0.7	0.7	0.7
87.5°	3.0	2.2	2.2	1.5	1.5	0.7	0.7	0.7
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)