

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: P179867

Luminaire Tested: **LDA6A55940D010TE LARH20SP 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179867
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26686)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A55940D010TE LARH20SP 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 20° Spot, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4401.4 lumens
Efficiency: N/A
Efficacy: 72.2 lumens/watt
Spacing Criteria (0/90/45): 2.35 / 0.6 / 1.31
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

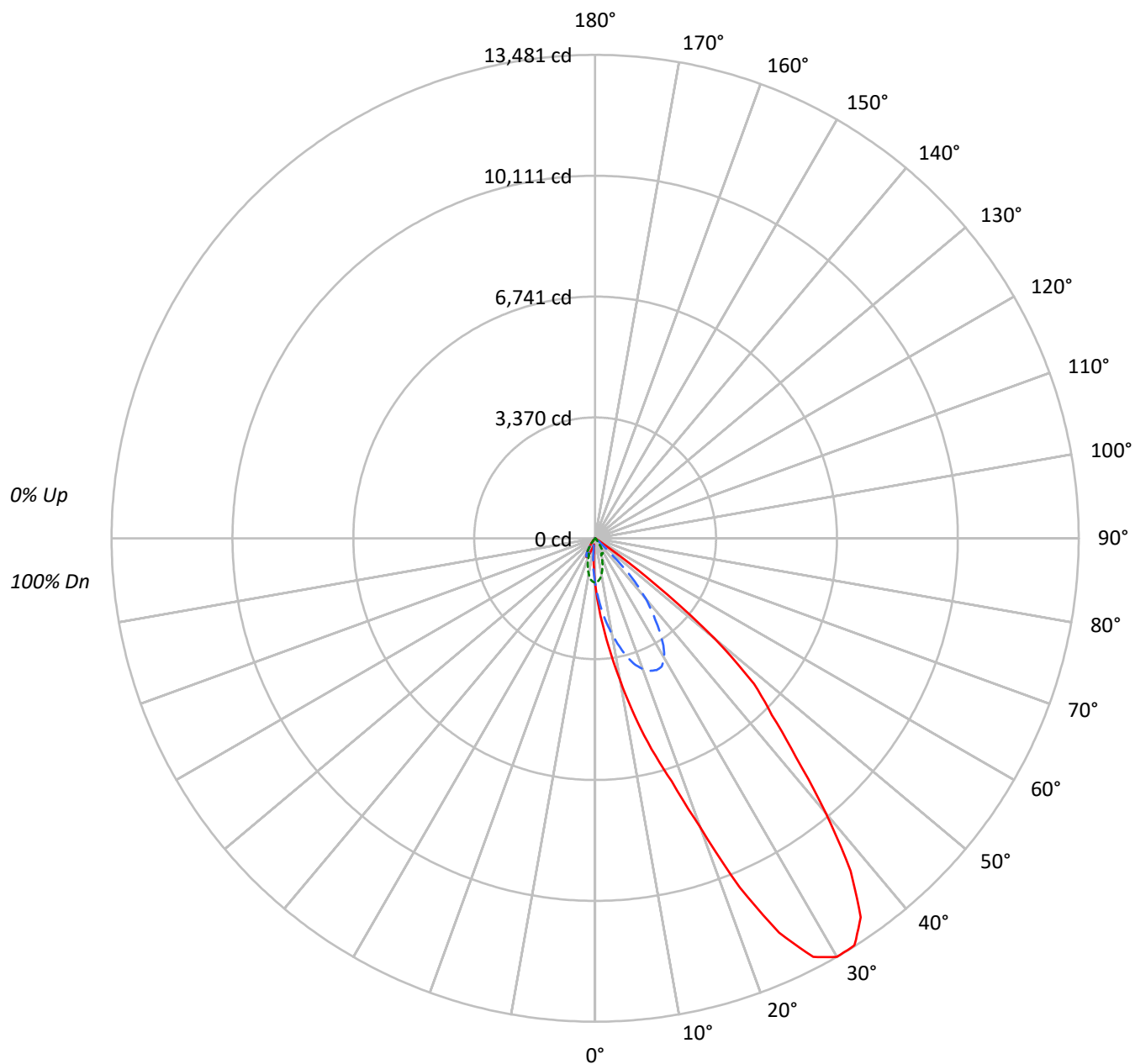
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	110	107	104	102	103	101	99		99	97	96		96
2	105	100	95	91	103	98	94	90	95	91	88		92	89	86		89
3	99	91	85	80	96	89	84	80	87	82	78		84	80	77		82
4	92	83	76	71	90	82	76	71	79	74	70		77	73	69		75
5	86	76	69	64	84	75	68	63	73	67	63		71	66	62		69
6	80	69	62	57	79	69	62	57	67	61	56		65	60	56		64
7	75	64	56	51	73	63	56	51	62	55	51		60	55	50		59
8	70	59	51	46	69	58	51	46	57	50	46		56	50	46		54
9	66	54	47	42	64	53	47	42	52	46	42		51	46	42		50
10	61	50	43	38	60	49	43	38	48	42	38		48	42	38		47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	68120	68120	68120
5°	131988	64913	21896
10°	224250	56807	9831
15°	345552	45307	15630
20°	500228	29484	27192
25°	733923	28453	34962
30°	853359	26954	26789
35°	863743	14281	14161
40°	715118	5382	5947
45°	540095	1830	2171
50°	369523	674	674
55°	51401	583	86
60°	1338	570	0
65°	337	791	0
70°	144	978	0
75°	0	1292	0
80°	0	2210	284
85°	0	4403	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.4	3.0
10°-20°	551.0	12.5
20°-30°	1257.0	28.6
30°-40°	1454.7	33.1
40°-50°	877.3	19.9
50°-60°	119.2	2.7
60°-70°	3.8	0.1
70°-80°	4.2	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°	1938.4	44.0
0°-40°	3393.1	77.1
0°-60°	4389.5	99.7
0°-90°	4401.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4401.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1243	1243	1243	1243	1243	
5°	2398	1964	1180	645	398	279
15°	6089	3422	798	246	275	1802
25°	12134	4056	470	566	578	5491
35°	12906	3092	213	218	212	7778
45°	6966	842	24	29	28	5447
55°	538	6	6	4	1	1054
65°	3	4	6	4	0	4
75°	0	4	6	4	0	0
85°	0	4	7	4	0	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°	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6
2.5°	1796.9	1780.3	1787.3	1769.0	1722.6	1713.0	1712.1	1699.9	1660.5	1629.9	1593.2
5°	2398.5	2397.7	2402.0	2362.7	2281.4	2256.0	2243.8	2214.0	2118.7	2045.3	1964.0
7.5°	3149.7	3144.4	3139.2	3067.5	2939.8	2890.8	2859.4	2751.8	2620.7	2490.4	2345.2
10°	4028.5	4025.9	4005.7	3879.8	3675.2	3585.1	3523.9	3353.4	3142.7	2957.3	2710.7
12.5°	5048.9	5025.3	4989.5	4805.0	4524.3	4426.3	4291.7	4021.5	3697.9	3413.8	3069.2
15°	6088.6	6054.5	5990.7	5753.7	5405.7	5238.7	5071.7	4715.8	4276.8	3864.1	3422.5
17.5°	7105.6	7068.0	6918.4	6516.2	6176.1	5972.3	5786.9	5298.1	4782.2	4251.5	3691.8
20°	8574.6	8438.2	8177.6	7543.7	6911.5	6544.2	6327.3	5810.6	5172.2	4554.0	3883.3
22.5°	10536.8	10234.3	9679.0	8648.9	7745.7	7215.8	6860.7	6173.4	5452.9	4751.6	4001.4
25°	12133.5	11996.2	11364.9	9899.4	8489.8	7865.4	7371.4	6462.0	5657.5	4883.7	4055.6
27.5°	13162.7	13128.6	12407.2	10934.7	9097.5	8278.2	7726.4	6652.6	5756.3	4911.6	4029.3
30°	13481.0	13534.3	12841.8	11286.2	9273.3	8361.2	7757.9	6655.2	5680.3	4784.9	3861.5
32.5°	13457.4	13460.0	12611.0	10982.8	8987.3	8119.9	7495.6	6434.0	5399.6	4467.4	3542.3
35°	12906.5	12771.0	11810.9	10050.6	8321.9	7556.8	6976.2	6005.5	4937.0	3990.0	3092.0
37.5°	11697.2	11519.7	10400.4	8857.0	7534.0	6826.6	6357.9	5443.3	4386.1	3480.2	2626.8
40°	9992.9	9741.1	8817.7	7747.4	6671.9	6140.2	5746.7	4814.6	3796.8	2980.0	2190.4
42.5°	8286.9	8163.6	7553.3	6683.2	5947.0	5446.8	5035.8	4156.1	3230.1	2486.9	1638.7
45°	6966.5	6860.7	6450.6	5877.0	5154.7	4698.3	4302.2	3469.7	2509.6	1668.4	842.1
47.5°	6004.7	5919.0	5526.4	4923.9	4131.7	3632.4	3224.0	2275.3	1421.8	720.5	210.7
50°	4332.8	4245.3	3860.6	3162.8	2447.5	2029.5	1735.7	1016.1	403.1	146.0	21.9
52.5°	2124.0	2052.3	1790.8	1340.5	899.8	647.1	473.1	190.6	46.3	15.7	10.5
55°	537.8	494.0	411.9	258.8	126.8	76.1	49.0	17.5	11.4	8.7	6.1
57.5°	30.6	29.7	27.1	20.1	14.9	13.1	11.4	8.7	6.1	5.2	4.4
60°	12.2	11.4	10.5	8.7	7.0	6.1	6.1	4.4	3.5	3.5	3.5
62.5°	5.2	5.2	5.2	4.4	3.5	3.5	3.5	2.6	3.5	3.5	3.5
65°	2.6	2.6	2.6	1.7	1.7	1.7	2.6	2.6	2.6	3.5	3.5
67.5°	1.7	0.9	0.9	0.9	1.7	1.7	1.7	2.6	2.6	3.5	3.5
70°	0.9	0.9	0.9	0.9	1.7	1.7	1.7	2.6	2.6	3.5	4.4
72.5°	0.0	0.9	0.9	0.9	1.7	1.7	1.7	2.6	2.6	3.5	4.4
75°	0.0	0.9	0.9	0.9	1.7	1.7	1.7	2.6	3.5	3.5	4.4
77.5°	0.0	0.9	0.9	0.9	1.7	1.7	1.7	2.6	3.5	3.5	4.4
80°	0.0	0.9	0.9	0.9	1.7	1.7	1.7	2.6	3.5	3.5	4.4
82.5°	0.0	0.0	0.9	0.9	1.7	1.7	1.7	2.6	3.5	3.5	4.4
85°	0.0	0.0	0.9	0.9	1.7	1.7	1.7	2.6	3.5	3.5	4.4
87.5°	0.0	0.0	0.9	0.9	1.7	1.7	1.7	2.6	2.6	3.5	4.4
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6
2.5°	1546.0	1514.5	1468.2	1437.6	1407.8	1379.8	1333.5	1307.3	1260.0	1216.3	1178.7
5°	1866.0	1787.3	1692.0	1610.7	1558.2	1506.6	1413.1	1344.0	1257.4	1179.6	1107.9
7.5°	2189.6	2050.5	1894.0	1760.2	1678.9	1599.3	1459.4	1347.5	1225.1	1114.0	1008.2
10°	2483.4	2274.4	2053.1	1861.7	1751.5	1648.3	1463.8	1315.1	1157.7	1020.5	887.5
12.5°	2756.2	2470.2	2181.7	1931.6	1795.2	1671.0	1445.4	1263.5	1076.4	913.8	759.0
15°	2999.3	2632.0	2275.3	1971.8	1811.8	1664.9	1402.6	1191.0	980.2	798.3	602.5
17.5°	3183.8	2732.6	2316.4	1965.7	1782.1	1618.6	1329.1	1100.0	877.9	657.6	436.3
20°	3295.7	2775.4	2307.6	1918.5	1718.2	1545.1	1241.7	1001.2	754.6	505.4	384.7
22.5°	3342.9	2771.9	2266.5	1847.7	1639.5	1464.7	1157.7	905.0	625.2	457.3	401.4
25°	3350.8	2736.1	2208.8	1769.8	1561.7	1387.7	1072.9	795.7	543.0	470.4	449.5
27.5°	3290.5	2652.1	2100.4	1657.9	1452.4	1272.3	946.1	632.2	509.8	468.7	482.7
30°	3112.1	2460.6	1908.9	1461.2	1262.7	1082.5	675.9	495.8	423.2	425.8	429.3
32.5°	2798.2	2142.3	1601.1	1173.5	956.6	713.5	420.6	331.4	321.8	321.8	320.0
35°	2379.3	1753.2	1256.5	742.4	475.7	342.8	217.7	218.6	214.2	213.4	212.5
37.5°	1946.5	1383.3	795.7	306.9	206.4	143.4	128.5	130.3	128.5	131.2	129.4
40°	1534.6	854.3	290.3	97.9	72.6	70.0	71.7	73.5	73.5	75.2	75.2
42.5°	891.9	283.3	76.1	39.3	39.3	37.6	38.5	40.2	41.1	42.0	41.1
45°	265.0	58.6	24.5	21.9	21.9	21.0	21.0	21.9	22.7	23.6	23.6
47.5°	42.0	16.6	14.0	12.2	12.2	12.2	12.2	12.2	13.1	13.1	14.0
50°	13.1	10.5	8.7	7.9	7.9	7.0	7.0	7.9	7.9	7.9	8.7
52.5°	7.9	6.1	6.1	5.2	6.1	6.1	5.2	6.1	6.1	6.1	7.0
55°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	6.1	6.1	6.1
57.5°	4.4	4.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
60°	4.4	4.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	6.1
62.5°	4.4	4.4	5.2	5.2	5.2	5.2	5.2	5.2	6.1	6.1	6.1
65°	4.4	4.4	5.2	5.2	5.2	5.2	5.2	6.1	6.1	6.1	6.1
67.5°	4.4	5.2	5.2	5.2	5.2	6.1	6.1	6.1	6.1	6.1	6.1
70°	4.4	5.2	5.2	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
72.5°	4.4	5.2	5.2	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
75°	5.2	5.2	5.2	6.1	6.1	6.1	6.1	6.1	6.1	6.1	7.0
77.5°	5.2	5.2	6.1	6.1	6.1	6.1	6.1	6.1	7.0	7.0	7.0
80°	5.2	5.2	6.1	6.1	6.1	6.1	6.1	7.0	7.0	7.0	7.0
82.5°	5.2	5.2	6.1	6.1	6.1	6.1	6.1	7.0	7.0	7.0	7.0
85°	5.2	5.2	6.1	6.1	6.1	6.1	6.1	7.0	7.0	7.0	7.0
87.5°	5.2	5.2	6.1	6.1	6.1	6.1	6.1	7.0	7.0	7.0	7.0
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°	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6
2.5°	1146.4	1106.1	1086.9	1059.8	1040.6	997.7	980.2	950.5	926.0	885.8	888.4
5°	1046.7	970.6	919.0	878.8	850.8	782.6	737.1	689.0	645.3	591.1	571.0
7.5°	908.5	815.0	736.3	688.2	652.3	561.4	460.8	382.1	322.7	279.8	263.2
10°	770.4	648.8	523.8	449.5	397.9	310.4	265.8	244.8	225.6	202.0	186.3
12.5°	609.5	436.3	322.7	292.9	271.9	243.1	214.2	191.5	195.9	196.7	202.9
15°	416.2	313.9	278.1	258.0	235.2	218.6	228.2	234.3	245.7	246.6	254.5
17.5°	338.4	294.7	265.8	265.0	266.7	276.3	291.2	299.1	313.9	317.4	328.8
20°	338.4	313.0	337.5	337.5	341.9	355.0	374.3	385.6	402.2	408.4	422.3
22.5°	385.6	403.1	433.7	437.2	439.0	453.0	477.4	488.8	508.0	511.5	526.4
25°	470.4	486.2	514.2	516.8	517.7	528.2	546.5	552.6	565.8	558.8	567.5
27.5°	497.5	504.5	522.0	523.8	519.4	523.8	530.8	530.8	535.1	521.2	523.8
30°	437.2	439.0	447.7	448.6	439.0	440.7	441.6	440.7	439.8	425.0	425.0
32.5°	324.4	324.4	335.8	333.2	322.7	325.3	325.3	325.3	324.4	312.2	310.4
35°	215.1	216.0	225.6	223.9	216.0	217.7	217.7	220.4	217.7	210.7	209.0
37.5°	131.2	132.0	136.4	137.3	134.7	135.5	136.4	135.5	137.3	133.8	132.0
40°	76.1	77.8	81.3	82.2	81.3	81.3	82.2	83.1	86.6	82.2	80.4
42.5°	44.6	45.5	47.2	47.2	47.2	47.2	48.1	49.0	49.8	49.0	48.1
45°	25.4	26.2	27.1	27.1	28.0	27.1	28.0	28.0	28.9	28.0	28.0
47.5°	14.9	14.9	15.7	15.7	16.6	15.7	16.6	16.6	16.6	15.7	15.7
50°	8.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	8.7	8.7
52.5°	7.0	7.0	7.0	7.0	7.0	6.1	6.1	6.1	6.1	5.2	5.2
55°	6.1	6.1	6.1	6.1	6.1	6.1	5.2	4.4	4.4	3.5	3.5
57.5°	5.2	6.1	6.1	6.1	6.1	5.2	5.2	4.4	3.5	2.6	2.6
60°	6.1	6.1	6.1	6.1	5.2	5.2	5.2	4.4	3.5	2.6	2.6
62.5°	6.1	6.1	6.1	6.1	6.1	5.2	5.2	4.4	3.5	2.6	2.6
65°	6.1	6.1	6.1	6.1	6.1	5.2	5.2	4.4	3.5	2.6	2.6
67.5°	6.1	6.1	6.1	6.1	6.1	5.2	5.2	4.4	3.5	3.5	2.6
70°	6.1	7.0	7.0	6.1	6.1	6.1	5.2	4.4	4.4	3.5	2.6
72.5°	6.1	7.0	7.0	6.1	6.1	6.1	5.2	4.4	4.4	3.5	2.6
75°	7.0	7.0	7.0	7.0	6.1	6.1	5.2	5.2	4.4	3.5	2.6
77.5°	7.0	7.0	7.0	7.0	6.1	6.1	5.2	5.2	4.4	3.5	2.6
80°	7.0	7.0	7.0	7.0	7.0	6.1	6.1	5.2	4.4	3.5	3.5
82.5°	7.0	7.0	7.0	7.0	7.0	6.1	6.1	5.2	4.4	3.5	3.5
85°	7.0	7.0	7.0	7.0	7.0	6.1	6.1	5.2	4.4	3.5	2.6
87.5°	7.0	7.0	7.0	7.0	6.1	6.1	5.2	5.2	4.4	3.5	2.6
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: P179867

CATALOG NUMBER: LDA6A55940D010TE LARH20SP 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6	1242.6
2.5°	856.1	835.9	827.2	841.2	834.2	813.2	817.6	804.5
5°	510.7	480.1	460.8	469.6	441.6	416.2	416.2	397.9
7.5°	246.6	237.0	231.7	233.5	227.4	219.5	215.1	215.1
10°	173.1	169.6	170.5	170.5	175.8	174.9	177.5	176.6
12.5°	205.5	207.2	208.1	211.6	216.0	216.0	218.6	216.9
15°	263.2	261.5	266.7	267.6	274.6	275.4	278.9	275.4
17.5°	334.9	338.4	343.6	342.8	356.8	357.6	357.6	356.8
20°	431.1	433.7	439.0	440.7	457.3	459.1	465.2	466.1
22.5°	536.0	536.0	538.6	542.1	557.9	558.8	561.4	561.4
25°	571.9	566.6	567.5	571.9	580.6	577.1	579.7	578.0
27.5°	525.5	517.7	515.9	522.0	528.2	518.5	522.0	522.0
30°	426.7	419.7	418.0	424.1	428.5	418.0	421.5	423.2
32.5°	312.2	307.8	306.9	311.3	314.8	306.0	309.5	312.2
35°	210.7	209.0	207.2	208.1	213.4	206.4	209.9	211.6
37.5°	133.8	130.3	131.2	132.9	136.4	132.0	135.5	135.5
40°	82.2	80.4	80.4	82.2	83.9	80.4	82.2	83.1
42.5°	48.1	48.1	48.1	49.0	49.8	48.1	48.1	49.0
45°	28.0	27.1	27.1	28.0	28.9	27.1	28.0	28.0
47.5°	15.7	14.9	14.9	15.7	15.7	14.9	15.7	15.7
50°	8.7	7.9	7.9	8.7	8.7	7.9	7.9	7.9
52.5°	4.4	4.4	4.4	4.4	4.4	4.4	3.5	3.5
55°	2.6	2.6	1.7	1.7	1.7	1.7	1.7	0.9
57.5°	1.7	1.7	0.9	0.9	0.9	0.9	0.0	0.0
60°	1.7	1.7	0.9	0.9	0.9	0.0	0.0	0.0
62.5°	1.7	1.7	0.9	0.9	0.9	0.0	0.0	0.0
65°	1.7	1.7	0.9	0.9	0.9	0.0	0.0	0.0
67.5°	1.7	1.7	0.9	0.9	0.9	0.0	0.0	0.0
70°	2.6	1.7	1.7	0.9	0.9	0.9	0.0	0.0
72.5°	2.6	1.7	1.7	1.7	0.9	0.9	0.0	0.0
75°	2.6	1.7	1.7	1.7	0.9	0.9	0.0	0.0
77.5°	2.6	1.7	1.7	1.7	0.9	0.9	0.9	0.0
80°	2.6	1.7	1.7	1.7	0.9	0.9	0.9	0.9
82.5°	2.6	1.7	1.7	1.7	0.9	0.9	0.9	0.9
85°	2.6	1.7	1.7	1.7	0.9	0.9	0.9	0.0
87.5°	2.6	1.7	1.7	1.7	0.9	0.9	0.9	0.0
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)