

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: P179863

Luminaire Tested: **LDA6A55840D010TE LARH20SP 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179863
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: LDA6A55840D010TE LARH20SP 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 20° Spot, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5166.4 lumens
Efficiency: N/A
Efficacy: 84.7 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

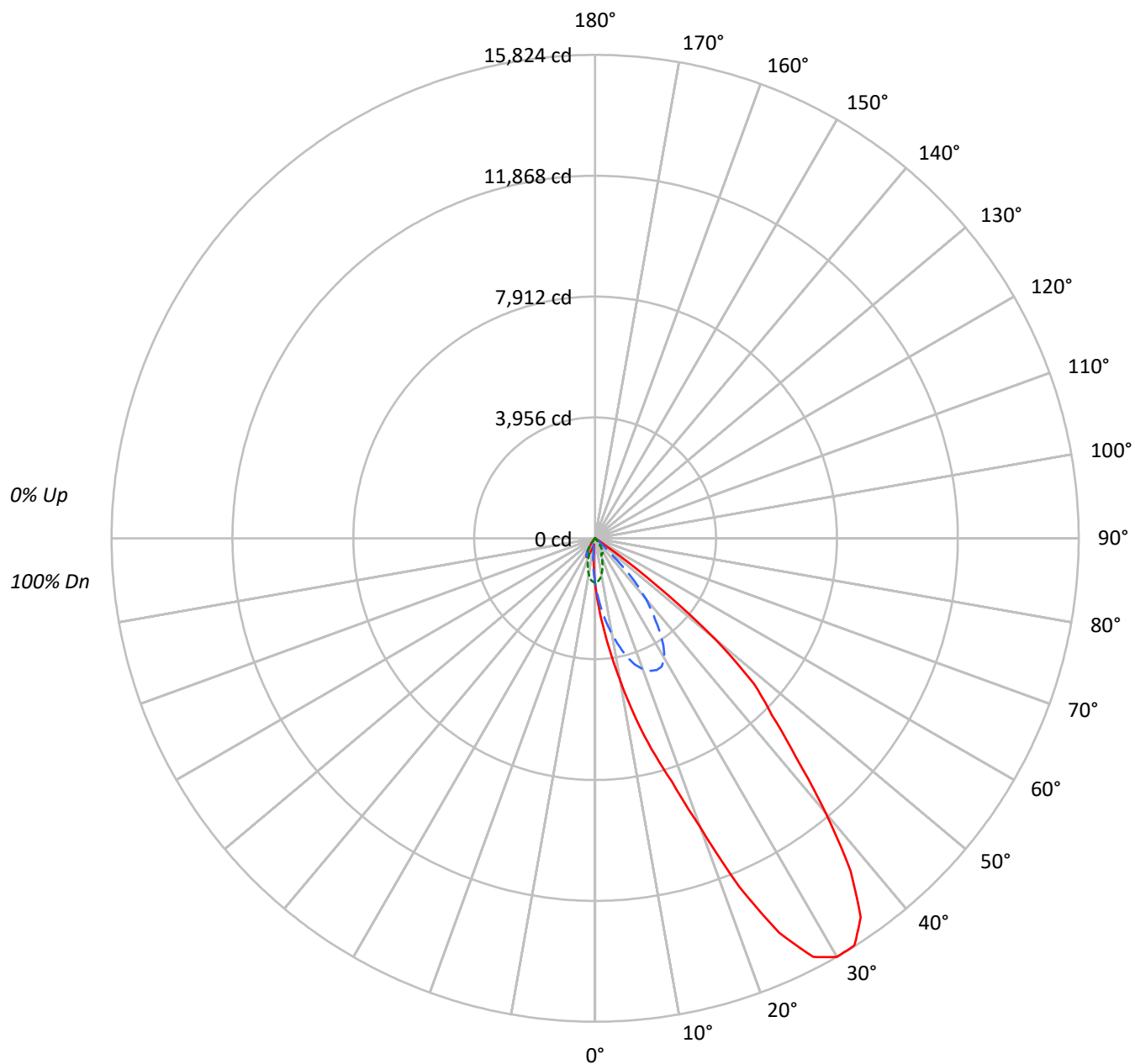
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	79955	79955	79955
5°	154930	76194	25699
10°	263222	66677	11540
15°	405604	53184	18349
20°	587164	34612	31917
25°	861473	33401	41035
30°	1001660	31644	31448
35°	1013851	16758	16624
40°	839401	6319	6977
45°	633957	2148	2543
50°	433743	785	785
55°	60328	688	96
60°	1579	680	0
65°	402	934	0
70°	160	1154	0
75°	0	1525	0
80°	0	2589	316
85°	0	5158	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.0	3.0
10°-20°	646.8	12.5
20°-30°	1475.5	28.6
30°-40°	1707.5	33.0
40°-50°	1029.7	19.9
50°-60°	139.9	2.7
60°-70°	4.5	0.1
70°-80°	4.9	0.1
80°-90°	4.6	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°	2275.3	44.0
0°-40°	3982.7	77.1
0°-60°	5152.4	99.7
0°-90°	5166.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5166.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1458	1458	1458	1458	1458	
5°	2815	2305	1385	758	467	328
15°	7147	4017	937	288	323	2116
25°	14242	4760	552	664	678	6445
35°	15150	3629	250	256	248	9130
45°	8177	988	28	34	33	6394
55°	631	7	7	5	1	1237
65°	3	4	7	4	0	5
75°	0	5	7	5	0	0
85°	0	5	8	5	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°	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5
2.5°	2109.2	2089.7	2097.9	2076.4	2022.0	2010.7	2009.7	1995.3	1949.1	1913.2	1870.1
5°	2815.4	2814.4	2819.5	2773.3	2677.8	2648.1	2633.7	2598.8	2486.9	2400.7	2305.3
7.5°	3697.1	3690.9	3684.7	3600.6	3450.7	3393.2	3356.3	3230.0	3076.1	2923.2	2752.8
10°	4728.6	4725.5	4701.9	4554.1	4313.9	4208.2	4136.3	3936.2	3688.8	3471.2	3181.8
12.5°	5926.4	5898.7	5856.6	5640.0	5310.5	5195.6	5037.5	4720.4	4340.6	4007.0	3602.6
15°	7146.7	7106.7	7031.8	6753.6	6345.1	6149.1	5953.1	5535.3	5020.1	4535.6	4017.3
17.5°	8340.4	8296.3	8120.8	7648.6	7249.4	7010.2	6792.6	6218.9	5613.3	4990.3	4333.4
20°	10064.8	9904.6	9598.8	8854.7	8112.6	7681.5	7426.9	6820.3	6071.1	5345.4	4558.2
22.5°	12368.0	12012.8	11361.1	10152.0	9091.7	8469.8	8053.0	7246.3	6400.6	5577.4	4696.8
25°	14242.2	14081.0	13340.0	11619.7	9965.2	9232.4	8652.5	7585.0	6640.7	5732.4	4760.4
27.5°	15450.2	15410.2	14563.4	12835.0	10678.5	9716.8	9069.2	7808.8	6756.7	5765.2	4729.6
30°	15823.8	15886.4	15073.5	13247.6	10884.8	9814.3	9106.1	7811.8	6667.4	5616.4	4532.5
32.5°	15796.1	15799.2	14802.6	12891.4	10549.2	9531.0	8798.2	7552.2	6337.9	5243.8	4157.9
35°	15149.5	14990.4	13863.4	11797.3	9768.1	8870.0	8188.5	7049.2	5795.0	4683.4	3629.3
37.5°	13730.0	13521.6	12207.9	10396.3	8843.4	8013.0	7462.9	6389.3	5148.4	4085.0	3083.3
40°	11729.6	11434.0	10350.1	9093.8	7831.3	7207.3	6745.4	5651.3	4456.6	3497.9	2571.1
42.5°	9727.1	9582.4	8865.9	7844.7	6980.5	6393.4	5911.0	4878.4	3791.5	2919.0	1923.5
45°	8177.2	8053.0	7571.7	6898.4	6050.6	5514.8	5049.8	4072.7	2945.7	1958.3	988.4
47.5°	7048.2	6947.6	6486.8	5779.6	4849.7	4263.6	3784.3	2670.7	1668.9	845.7	247.4
50°	5085.8	4983.1	4531.5	3712.4	2872.9	2382.2	2037.4	1192.7	473.2	171.4	25.7
52.5°	2493.1	2408.9	2102.0	1573.5	1056.2	759.5	555.3	223.8	54.4	18.5	12.3
55°	631.2	579.9	483.4	303.8	148.8	89.3	57.5	20.5	13.3	10.3	7.2
57.5°	35.9	34.9	31.8	23.6	17.4	15.4	13.3	10.3	7.2	6.2	5.1
60°	14.4	13.3	12.3	10.3	8.2	7.2	7.2	5.1	4.1	4.1	4.1
62.5°	6.2	6.2	6.2	5.1	4.1	4.1	4.1	3.1	4.1	4.1	4.1
65°	3.1	3.1	3.1	2.1	2.1	2.1	3.1	3.1	3.1	4.1	4.1
67.5°	2.1	1.0	1.0	1.0	2.1	2.1	2.1	3.1	3.1	4.1	4.1
70°	1.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1	3.1	4.1	5.1
72.5°	0.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1	3.1	4.1	5.1
75°	0.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	4.1	5.1
77.5°	0.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	4.1	5.1
80°	0.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	4.1	5.1
82.5°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	4.1	5.1
85°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	4.1	4.1	5.1
87.5°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	3.1	4.1	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5
2.5°	1814.7	1777.7	1723.3	1687.4	1652.5	1619.6	1565.2	1534.5	1479.0	1427.7	1383.6
5°	2190.3	2097.9	1986.1	1890.6	1829.0	1768.5	1658.6	1577.6	1475.9	1384.6	1300.4
7.5°	2570.1	2406.9	2223.2	2066.1	1970.7	1877.3	1713.0	1581.7	1438.0	1307.6	1183.4
10°	2914.9	2669.6	2410.0	2185.2	2055.9	1934.7	1718.2	1543.7	1358.9	1197.8	1041.8
12.5°	3235.2	2899.5	2560.8	2267.3	2107.2	1961.4	1696.6	1483.1	1263.5	1072.6	890.9
15°	3520.5	3089.4	2670.7	2314.5	2126.7	1954.2	1646.3	1397.9	1150.6	937.1	707.2
17.5°	3737.1	3207.5	2718.9	2307.3	2091.8	1899.8	1560.1	1291.2	1030.5	771.8	512.2
20°	3868.5	3257.8	2708.6	2251.9	2016.9	1813.6	1457.5	1175.2	885.8	593.3	451.6
22.5°	3923.9	3253.7	2660.4	2168.8	1924.5	1719.2	1358.9	1062.3	733.9	536.8	471.1
25°	3933.1	3211.6	2592.7	2077.4	1833.1	1628.9	1259.4	934.0	637.4	552.2	527.6
27.5°	3862.3	3113.0	2465.4	1946.0	1704.8	1493.4	1110.6	742.1	598.4	550.1	566.6
30°	3652.9	2888.3	2240.6	1715.1	1482.1	1270.7	793.4	582.0	496.8	499.9	504.0
32.5°	3284.4	2514.7	1879.3	1377.4	1122.9	837.5	493.7	389.0	377.7	377.7	375.7
35°	2792.8	2057.9	1474.9	871.4	558.4	402.3	255.6	256.6	251.5	250.4	249.4
37.5°	2284.7	1623.7	934.0	360.3	242.2	168.3	150.9	152.9	150.9	154.0	151.9
40°	1801.3	1002.8	340.8	115.0	85.2	82.1	84.2	86.2	86.2	88.3	88.3
42.5°	1046.9	332.5	89.3	46.2	46.2	44.1	45.2	47.2	48.2	49.3	48.2
45°	311.0	68.8	28.7	25.7	25.7	24.6	24.6	25.7	26.7	27.7	27.7
47.5°	49.3	19.5	16.4	14.4	14.4	14.4	14.4	14.4	15.4	15.4	16.4
50°	15.4	12.3	10.3	9.2	9.2	8.2	8.2	9.2	9.2	9.2	10.3
52.5°	9.2	7.2	7.2	6.2	7.2	7.2	6.2	7.2	7.2	7.2	8.2
55°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	7.2	7.2	7.2
57.5°	5.1	5.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
60°	5.1	5.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	7.2
62.5°	5.1	5.1	6.2	6.2	6.2	6.2	6.2	6.2	7.2	7.2	7.2
65°	5.1	5.1	6.2	6.2	6.2	6.2	6.2	7.2	7.2	7.2	7.2
67.5°	5.1	6.2	6.2	6.2	6.2	7.2	7.2	7.2	7.2	7.2	7.2
70°	5.1	6.2	6.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
72.5°	5.1	6.2	6.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
75°	6.2	6.2	6.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	8.2
77.5°	6.2	6.2	7.2	7.2	7.2	7.2	7.2	7.2	8.2	8.2	8.2
80°	6.2	6.2	7.2	7.2	7.2	7.2	7.2	8.2	8.2	8.2	8.2
82.5°	6.2	6.2	7.2	7.2	7.2	7.2	7.2	8.2	8.2	8.2	8.2
85°	6.2	6.2	7.2	7.2	7.2	7.2	7.2	8.2	8.2	8.2	8.2
87.5°	6.2	6.2	7.2	7.2	7.2	7.2	7.2	8.2	8.2	8.2	8.2
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°	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5
2.5°	1345.6	1298.4	1275.8	1244.0	1221.4	1171.1	1150.6	1115.7	1086.9	1039.7	1042.8
5°	1228.6	1139.3	1078.7	1031.5	998.7	918.6	865.2	808.8	757.5	693.8	670.2
7.5°	1066.4	956.6	864.2	807.8	765.7	658.9	540.9	448.5	378.7	328.4	308.9
10°	904.2	761.6	614.8	527.6	467.0	364.4	312.0	287.4	264.8	237.1	218.6
12.5°	715.4	512.2	378.7	343.8	319.2	285.3	251.5	224.8	229.9	230.9	238.1
15°	488.6	368.5	326.4	302.8	276.1	256.6	267.9	275.1	288.4	289.4	298.7
17.5°	397.2	345.9	312.0	311.0	313.0	324.3	341.8	351.0	368.5	372.6	385.9
20°	397.2	367.4	396.2	396.2	401.3	416.7	439.3	452.6	472.1	479.3	495.7
22.5°	452.6	473.2	509.1	513.2	515.2	531.7	560.4	573.8	596.3	600.4	617.9
25°	552.2	570.7	603.5	606.6	607.6	619.9	641.5	648.7	664.1	655.9	666.1
27.5°	584.0	592.2	612.8	614.8	609.7	614.8	623.0	623.0	628.1	611.7	614.8
30°	513.2	515.2	525.5	526.5	515.2	517.3	518.3	517.3	516.3	498.8	498.8
32.5°	380.8	380.8	394.1	391.1	378.7	381.8	381.8	381.8	380.8	366.4	364.4
35°	252.5	253.5	264.8	262.8	253.5	255.6	255.6	258.6	255.6	247.4	245.3
37.5°	154.0	155.0	160.1	161.1	158.1	159.1	160.1	159.1	161.1	157.0	155.0
40°	89.3	91.3	95.5	96.5	95.5	95.5	96.5	97.5	101.6	96.5	94.4
42.5°	52.3	53.4	55.4	55.4	55.4	55.4	56.5	57.5	58.5	57.5	56.5
45°	29.8	30.8	31.8	31.8	32.8	31.8	32.8	32.8	33.9	32.8	32.8
47.5°	17.4	17.4	18.5	18.5	19.5	18.5	19.5	19.5	19.5	18.5	18.5
50°	10.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	10.3	10.3
52.5°	8.2	8.2	8.2	8.2	8.2	7.2	7.2	7.2	7.2	6.2	6.2
55°	7.2	7.2	7.2	7.2	7.2	7.2	6.2	5.1	5.1	4.1	4.1
57.5°	6.2	7.2	7.2	7.2	7.2	6.2	6.2	5.1	4.1	3.1	3.1
60°	7.2	7.2	7.2	7.2	6.2	6.2	6.2	5.1	4.1	3.1	3.1
62.5°	7.2	7.2	7.2	7.2	7.2	6.2	6.2	5.1	4.1	3.1	3.1
65°	7.2	7.2	7.2	7.2	7.2	6.2	6.2	5.1	4.1	3.1	3.1
67.5°	7.2	7.2	7.2	7.2	7.2	6.2	6.2	5.1	4.1	4.1	3.1
70°	7.2	8.2	8.2	7.2	7.2	7.2	6.2	5.1	5.1	4.1	3.1
72.5°	7.2	8.2	8.2	7.2	7.2	7.2	6.2	5.1	5.1	4.1	3.1
75°	8.2	8.2	8.2	8.2	7.2	7.2	6.2	6.2	5.1	4.1	3.1
77.5°	8.2	8.2	8.2	8.2	7.2	7.2	6.2	6.2	5.1	4.1	3.1
80°	8.2	8.2	8.2	8.2	8.2	7.2	7.2	6.2	5.1	4.1	4.1
82.5°	8.2	8.2	8.2	8.2	8.2	7.2	7.2	6.2	5.1	4.1	4.1
85°	8.2	8.2	8.2	8.2	8.2	7.2	7.2	6.2	5.1	4.1	3.1
87.5°	8.2	8.2	8.2	8.2	7.2	7.2	6.2	6.2	5.1	4.1	3.1
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: P179863

CATALOG NUMBER: LDA6A55840D010TE LARH20SP 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5	1458.5
2.5°	1004.8	981.2	971.0	987.4	979.2	954.5	959.7	944.3
5°	599.4	563.5	540.9	551.2	518.3	488.6	488.6	467.0
7.5°	289.4	278.2	272.0	274.0	266.9	257.6	252.5	252.5
10°	203.2	199.1	200.1	200.1	206.3	205.3	208.4	207.3
12.5°	241.2	243.3	244.3	248.4	253.5	253.5	256.6	254.5
15°	308.9	306.9	313.0	314.1	322.3	323.3	327.4	323.3
17.5°	393.1	397.2	403.4	402.3	418.8	419.8	419.8	418.8
20°	506.0	509.1	515.2	517.3	536.8	538.9	546.0	547.1
22.5°	629.2	629.2	632.3	636.4	654.8	655.9	658.9	658.9
25°	671.3	665.1	666.1	671.3	681.5	677.4	680.5	678.4
27.5°	616.9	607.6	605.6	612.8	619.9	608.6	612.8	612.8
30°	500.9	492.7	490.6	497.8	502.9	490.6	494.7	496.8
32.5°	366.4	361.3	360.3	365.4	369.5	359.2	363.3	366.4
35°	247.4	245.3	243.3	244.3	250.4	242.2	246.3	248.4
37.5°	157.0	152.9	154.0	156.0	160.1	155.0	159.1	159.1
40°	96.5	94.4	94.4	96.5	98.5	94.4	96.5	97.5
42.5°	56.5	56.5	56.5	57.5	58.5	56.5	56.5	57.5
45°	32.8	31.8	31.8	32.8	33.9	31.8	32.8	32.8
47.5°	18.5	17.4	17.4	18.5	18.5	17.4	18.5	18.5
50°	10.3	9.2	9.2	10.3	10.3	9.2	9.2	9.2
52.5°	5.1	5.1	5.1	5.1	5.1	5.1	4.1	4.1
55°	3.1	3.1	2.1	2.1	2.1	2.1	2.1	1.0
57.5°	2.1	2.1	1.0	1.0	1.0	1.0	0.0	0.0
60°	2.1	2.1	1.0	1.0	1.0	0.0	0.0	0.0
62.5°	2.1	2.1	1.0	1.0	1.0	0.0	0.0	0.0
65°	2.1	2.1	1.0	1.0	1.0	0.0	0.0	0.0
67.5°	2.1	2.1	1.0	1.0	1.0	0.0	0.0	0.0
70°	3.1	2.1	2.1	1.0	1.0	1.0	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	2.1	2.1	2.1	1.0	1.0	0.0	0.0
77.5°	3.1	2.1	2.1	2.1	1.0	1.0	1.0	0.0
80°	3.1	2.1	2.1	2.1	1.0	1.0	1.0	1.0
82.5°	3.1	2.1	2.1	2.1	1.0	1.0	1.0	1.0
85°	3.1	2.1	2.1	2.1	1.0	1.0	1.0	0.0
87.5°	3.1	2.1	2.1	2.1	1.0	1.0	1.0	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)