

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: P179889

Luminaire Tested: **LDA6A65930D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179889
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: LDA6A65930D010TE 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 / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5255.6 lumens
Efficiency: N/A
Efficacy: 67.4 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

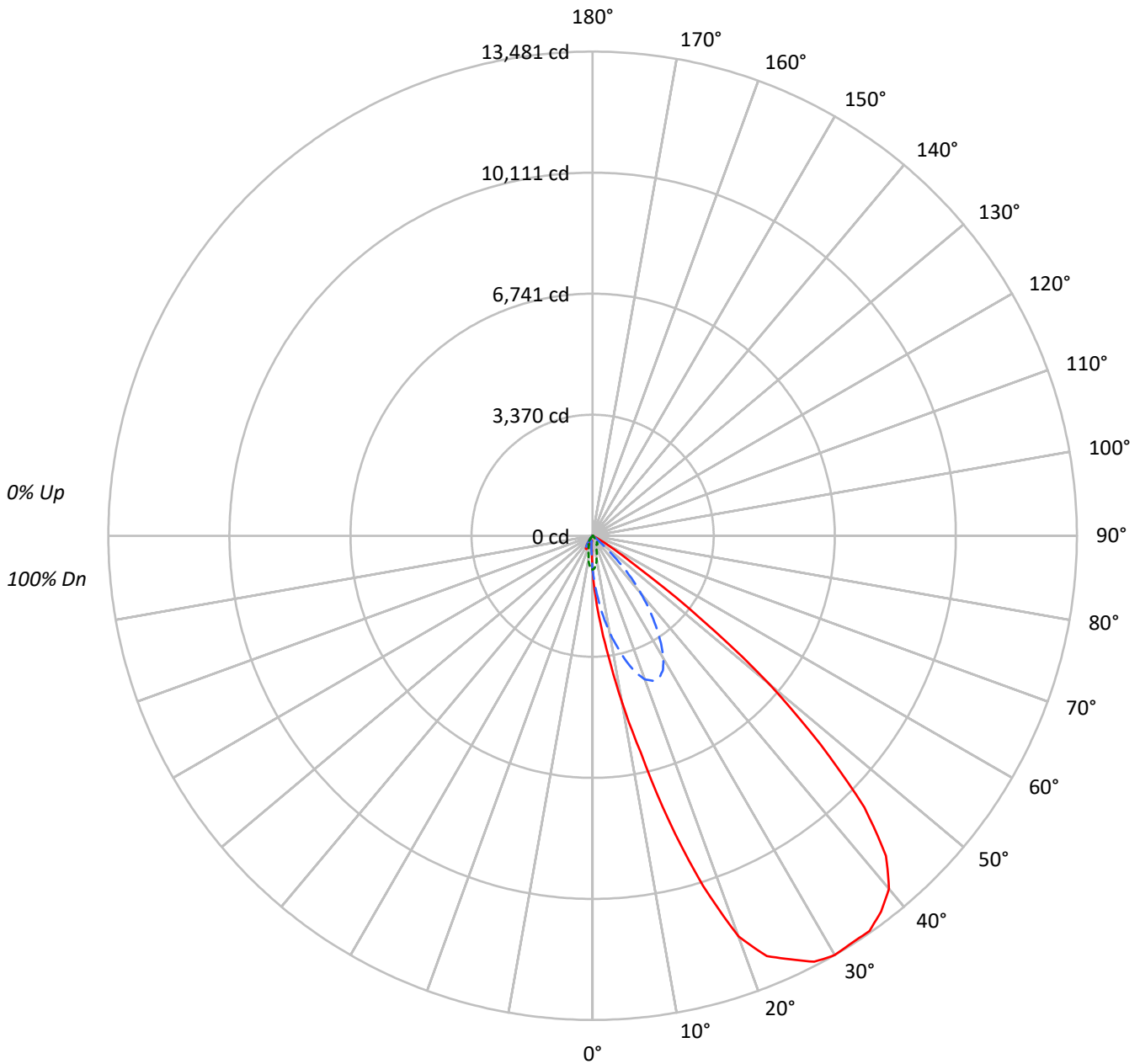
Input Watts (W): 78
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	89	83	78	86	81	77	83	79	76	81	77	74	73																			
4	91	82	75	70	89	81	74	69	78	73	68	76	71	67	74	70	67	65																			
5	85	74	67	62	83	73	67	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	43	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	40	36	46	40	36	45	40	36	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	51970	51970	51970
5°	133315	47276	14726
10°	259865	36333	7075
15°	466490	24677	9489
20°	692594	18732	15664
25°	787237	15436	24564
30°	853378	16876	23111
35°	898884	10935	14328
40°	918321	4859	6977
45°	829427	1853	2589
50°	545986	733	733
55°	149519	640	0
60°	29866	735	0
65°	2101	986	0
70°	305	1218	0
75°	0	1822	0
80°	0	2715	316
85°	0	5409	629



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.1	2.2
10°-20°	616.9	11.7
20°-30°	1398.3	26.6
30°-40°	1678.4	31.9
40°-50°	1182.9	22.5
50°-60°	244.1	4.6
60°-70°	8.6	0.2
70°-80°	5.1	0.1
80°-90°	5.0	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°	2131.4	40.6
0°-40°	3809.8	72.5
0°-60°	5236.8	99.6
0°-90°	5255.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5255.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	948	948	948	948	948	
5°	2423	1765	859	357	268	298
15°	8220	3616	435	155	167	2439
25°	13015	4374	255	357	406	6006
35°	13432	3063	163	214	214	8350
45°	10698	1050	24	32	33	7869
55°	1564	21	7	5	0	2061
65°	16	5	8	5	0	48
75°	0	5	9	6	0	0
85°	0	6	9	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°	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0
2.5°	1616.0	1567.3	1586.4	1530.0	1517.6	1507.1	1517.6	1456.4	1422.0	1378.0	1342.7
5°	2422.6	2364.3	2377.6	2279.2	2234.3	2203.7	2198.0	2071.8	1977.2	1873.1	1765.1
7.5°	3372.5	3317.0	3309.4	3156.5	3063.8	3011.2	2989.3	2808.6	2645.2	2459.8	2257.2
10°	4668.3	4542.2	4503.0	4281.3	4104.5	3992.7	3855.1	3566.5	3279.8	2999.8	2741.7
12.5°	6176.3	6107.5	6010.1	5619.2	5309.6	5150.9	4945.5	4494.4	4060.5	3598.0	3166.1
15°	8219.5	7974.9	7808.6	7243.8	6745.0	6500.3	6200.2	5510.3	4854.7	4268.9	3616.2
17.5°	10215.9	10087.8	9827.9	9094.9	8326.5	7940.5	7493.2	6555.7	5629.7	4796.4	3999.4
20°	11872.0	11751.6	11455.3	10764.4	9912.0	9342.4	8779.5	7493.2	6283.4	5216.9	4255.5
22.5°	12665.2	12588.7	12346.9	11755.4	11029.1	10487.3	9882.3	8291.2	6766.9	5492.1	4372.1
25°	13014.9	12979.6	12823.8	12357.5	11673.2	11213.6	10642.1	8856.0	7068.0	5620.2	4374.0
27.5°	13369.5	13376.2	13032.1	12663.3	12014.4	11572.9	11022.4	9106.4	7122.4	5548.5	4230.6
30°	13481.3	13410.6	13258.6	12729.2	12112.8	11643.6	11053.0	8990.7	6898.8	5254.1	3944.9
32.5°	13435.4	13407.7	13240.5	12680.5	11945.6	11428.6	10757.7	8532.0	6457.3	4833.7	3539.7
35°	13431.6	13380.0	12996.8	12516.1	11611.1	10972.7	10088.8	7790.4	5832.3	4279.4	3062.8
37.5°	13188.9	13060.8	12773.2	12125.2	10932.6	10123.2	9132.2	6884.5	5067.8	3657.3	2589.8
40°	12832.4	12660.4	12282.0	11301.5	9757.1	8824.4	7857.3	5855.2	4258.4	3043.7	2087.1
42.5°	12088.0	11828.0	11292.9	9944.5	8190.8	7349.9	6545.2	4812.6	3472.8	2479.9	1593.1
45°	10698.5	10343.0	9619.5	8139.2	6616.9	5930.7	5283.8	3872.3	2780.0	1839.6	1050.3
47.5°	8598.9	8269.2	7610.8	6479.3	5189.2	4609.1	4093.0	2880.3	1884.5	1065.5	501.7
50°	6401.9	6119.0	5604.9	4503.0	3483.3	3027.5	2586.0	1636.1	883.0	506.5	208.3
52.5°	3819.7	3679.2	3223.4	2497.1	1720.2	1482.2	1189.8	692.8	445.3	183.5	56.4
55°	1564.4	1444.0	1272.9	1021.6	748.3	634.5	542.8	342.1	138.6	38.2	21.0
57.5°	707.2	680.4	603.0	474.0	344.0	288.6	195.0	65.0	30.6	19.1	12.4
60°	272.4	245.6	210.2	113.7	48.7	41.1	33.4	22.0	15.3	10.5	7.6
62.5°	39.2	37.3	33.4	26.8	21.0	19.1	16.2	11.5	8.6	6.7	5.7
65°	16.2	16.2	14.3	11.5	9.6	8.6	7.6	5.7	4.8	4.8	4.8
67.5°	6.7	6.7	5.7	4.8	3.8	3.8	3.8	2.9	3.8	3.8	4.8
70°	1.9	1.9	1.9	1.9	1.9	1.9	2.9	2.9	3.8	3.8	4.8
72.5°	0.0	0.0	1.0	1.0	1.9	1.9	1.9	2.9	3.8	4.8	4.8
75°	0.0	0.0	1.0	1.0	1.9	1.9	1.9	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	5.7
82.5°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.8	4.8	5.7
85°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	3.8	4.8	5.7
87.5°	0.0	0.0	1.0	1.0	1.9	1.9	2.9	2.9	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°	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0
2.5°	1312.1	1250.9	1233.7	1180.2	1135.3	1113.3	1085.6	1023.5	976.7	914.6	877.3
5°	1689.6	1573.9	1482.2	1370.4	1296.8	1249.0	1174.5	1060.8	969.0	859.1	780.8
7.5°	2097.6	1886.4	1721.1	1536.7	1430.6	1347.5	1220.4	1056.9	922.2	776.0	654.6
10°	2491.4	2176.0	1916.1	1651.4	1511.8	1396.2	1221.3	1015.9	837.1	652.7	524.6
12.5°	2838.3	2431.2	2065.2	1724.9	1552.0	1407.7	1188.8	942.3	726.3	537.1	424.3
15°	3127.8	2629.0	2170.3	1752.7	1554.8	1382.8	1121.0	837.1	603.0	434.8	355.5
17.5°	3347.6	2733.1	2202.8	1719.2	1499.4	1312.1	1016.8	704.3	489.3	368.9	299.1
20°	3461.4	2753.2	2155.9	1628.4	1397.2	1205.1	880.2	571.5	414.8	321.1	250.4
22.5°	3475.7	2696.8	2044.1	1498.5	1268.1	1075.1	729.2	476.9	369.8	283.8	220.8
25°	3390.6	2574.5	1884.5	1351.3	1126.7	926.0	593.5	427.2	336.4	255.2	254.2
27.5°	3209.1	2364.3	1693.4	1180.2	955.6	753.0	503.6	386.1	300.1	270.4	287.6
30°	2952.9	2094.8	1458.3	964.2	746.4	579.1	424.3	318.2	263.8	266.6	281.0
32.5°	2606.0	1760.3	1182.1	706.2	534.2	435.8	318.2	216.9	218.8	219.8	232.2
35°	2170.3	1411.5	883.0	475.0	375.6	306.8	179.7	159.6	162.5	163.4	172.0
37.5°	1739.3	1084.7	586.8	316.3	236.0	161.5	111.8	107.0	108.9	108.0	117.5
40°	1332.2	755.9	351.7	156.7	90.8	75.5	68.8	65.9	66.9	67.9	73.6
42.5°	943.2	410.0	173.9	59.3	47.8	44.0	41.1	39.2	40.1	40.1	44.0
45°	478.8	194.0	59.3	32.5	29.6	26.8	24.8	23.9	23.9	23.9	25.8
47.5°	207.4	64.0	27.7	20.1	18.2	17.2	15.3	14.3	14.3	14.3	15.3
50°	65.0	25.8	17.2	13.4	11.5	10.5	9.6	9.6	9.6	8.6	9.6
52.5°	23.9	16.2	11.5	8.6	7.6	7.6	7.6	6.7	7.6	6.7	7.6
55°	14.3	10.5	7.6	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
57.5°	9.6	7.6	6.7	6.7	5.7	5.7	6.7	6.7	6.7	6.7	6.7
60°	6.7	6.7	5.7	5.7	5.7	5.7	6.7	6.7	6.7	6.7	6.7
62.5°	5.7	5.7	5.7	5.7	5.7	5.7	6.7	6.7	6.7	6.7	7.6
65°	4.8	5.7	5.7	5.7	5.7	5.7	6.7	6.7	7.6	7.6	7.6
67.5°	4.8	5.7	5.7	6.7	6.7	6.7	6.7	7.6	7.6	7.6	7.6
70°	5.7	5.7	6.7	6.7	6.7	6.7	7.6	7.6	7.6	7.6	8.6
72.5°	5.7	5.7	6.7	6.7	6.7	6.7	7.6	7.6	8.6	8.6	8.6
75°	5.7	6.7	6.7	6.7	6.7	7.6	7.6	7.6	8.6	8.6	8.6
77.5°	5.7	6.7	6.7	7.6	7.6	7.6	7.6	8.6	8.6	8.6	8.6
80°	5.7	6.7	6.7	7.6	7.6	7.6	8.6	8.6	8.6	8.6	9.6
82.5°	5.7	6.7	6.7	7.6	7.6	7.6	8.6	8.6	8.6	8.6	9.6
85°	6.7	6.7	7.6	7.6	7.6	7.6	8.6	8.6	8.6	8.6	9.6
87.5°	6.7	6.7	7.6	7.6	7.6	7.6	8.6	8.6	9.6	8.6	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°	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0
2.5°	827.6	772.2	733.9	719.6	691.9	647.9	622.1	598.2	553.3	543.8	518.9
5°	690.9	602.1	539.0	515.1	483.6	446.3	410.0	386.1	357.4	345.9	328.7
7.5°	544.7	455.8	401.4	382.3	360.3	329.7	297.2	273.3	243.7	228.4	214.1
10°	428.1	362.2	316.3	297.2	274.3	241.8	208.3	176.8	151.0	134.7	131.9
12.5°	347.9	293.4	244.6	224.6	197.8	165.3	141.4	140.5	138.6	137.6	139.5
15°	284.8	232.2	180.6	158.6	151.0	150.0	152.9	155.8	154.8	157.7	159.6
17.5°	234.1	177.8	166.3	167.2	168.2	171.1	175.8	183.5	184.4	189.2	193.0
20°	191.1	188.3	193.0	196.9	199.7	205.5	216.0	225.5	228.4	235.1	242.7
22.5°	216.9	225.5	236.0	240.8	244.6	255.2	266.6	281.9	287.6	296.3	306.8
25°	261.8	276.2	292.4	298.2	303.9	321.1	334.5	352.6	357.4	367.9	378.4
27.5°	299.1	314.4	331.6	339.3	344.0	361.2	372.7	384.2	384.2	389.9	397.5
30°	293.4	305.8	320.1	325.9	327.8	340.2	351.7	355.5	353.6	356.5	362.2
32.5°	243.7	253.2	264.7	269.5	271.4	280.0	289.6	289.6	288.6	288.6	292.4
35°	180.6	187.3	193.0	197.8	200.7	206.4	215.0	214.1	214.1	212.2	215.0
37.5°	121.4	125.2	131.9	133.8	134.7	138.6	145.3	145.3	143.3	144.3	146.2
40°	73.6	78.4	82.2	83.1	85.1	87.9	92.7	92.7	92.7	92.7	93.7
42.5°	44.0	46.8	49.7	49.7	50.6	54.5	56.4	56.4	56.4	56.4	57.3
45°	25.8	26.8	28.7	29.6	29.6	31.5	32.5	32.5	32.5	32.5	33.4
47.5°	15.3	16.2	16.2	17.2	17.2	18.2	19.1	19.1	18.2	18.2	18.2
50°	9.6	9.6	9.6	9.6	10.5	10.5	10.5	10.5	10.5	10.5	9.6
52.5°	7.6	7.6	7.6	7.6	6.7	6.7	6.7	6.7	5.7	5.7	4.8
55°	6.7	6.7	6.7	6.7	6.7	5.7	5.7	5.7	4.8	3.8	2.9
57.5°	6.7	6.7	6.7	6.7	6.7	5.7	5.7	4.8	3.8	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	7.6	6.7	6.7	6.7	5.7	5.7	4.8	4.8	3.8	2.9
65°	7.6	7.6	6.7	6.7	6.7	6.7	5.7	5.7	4.8	3.8	2.9
67.5°	7.6	7.6	7.6	7.6	6.7	6.7	6.7	5.7	4.8	3.8	2.9
70°	8.6	8.6	7.6	7.6	7.6	6.7	6.7	5.7	4.8	4.8	3.8
72.5°	8.6	8.6	7.6	7.6	7.6	7.6	6.7	5.7	5.7	4.8	3.8
75°	8.6	8.6	8.6	8.6	7.6	7.6	6.7	6.7	5.7	4.8	3.8
77.5°	8.6	8.6	8.6	8.6	7.6	7.6	7.6	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	9.6	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	9.6	8.6	8.6	8.6	7.6	7.6	6.7	5.7	5.7	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: P179889

CATALOG NUMBER: LDA6A65930D010TE LARH30NF 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	948.0	948.0	948.0	948.0	948.0	948.0	948.0	948.0
2.5°	503.6	475.0	465.4	472.1	464.4	458.7	451.1	447.2
5°	315.4	294.3	287.6	289.6	282.9	277.1	269.5	267.6
7.5°	194.0	173.9	166.3	166.3	158.6	151.9	147.2	144.3
10°	130.0	126.1	127.1	128.1	127.1	128.1	125.2	127.1
12.5°	139.5	137.6	139.5	140.5	140.5	142.4	138.6	141.4
15°	162.5	160.5	163.4	165.3	165.3	168.2	164.4	167.2
17.5°	198.8	197.8	202.6	204.5	205.5	210.2	205.5	209.3
20°	251.3	250.4	257.1	259.9	259.0	268.5	261.8	268.5
22.5°	319.2	317.3	326.8	329.7	330.7	343.1	337.3	342.1
25°	387.0	388.9	393.7	398.5	399.5	410.0	401.4	406.1
27.5°	401.4	398.5	401.4	407.1	408.1	412.8	405.2	409.0
30°	363.1	358.4	359.3	366.0	367.9	369.8	363.1	365.1
32.5°	295.3	287.6	287.6	294.3	296.3	299.1	287.6	292.4
35°	217.9	211.2	211.2	216.0	216.9	218.8	210.2	214.1
37.5°	149.1	143.3	145.3	147.2	148.1	150.0	149.1	148.1
40°	95.6	91.7	94.6	94.6	95.6	96.5	96.5	97.5
42.5°	58.3	55.4	57.3	57.3	58.3	58.3	58.3	59.3
45°	33.4	32.5	32.5	33.4	33.4	33.4	32.5	33.4
47.5°	18.2	17.2	18.2	18.2	18.2	18.2	18.2	18.2
50°	9.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
52.5°	4.8	3.8	3.8	3.8	2.9	3.8	2.9	2.9
55°	2.9	1.9	1.9	1.9	1.0	1.0	0.0	0.0
57.5°	1.9	1.0	1.0	1.0	0.0	0.0	0.0	0.0
60°	1.9	1.0	1.0	1.0	0.0	0.0	0.0	0.0
62.5°	1.9	1.0	1.0	1.0	0.0	0.0	0.0	0.0
65°	1.9	1.0	1.0	1.0	0.0	0.0	0.0	0.0
67.5°	2.9	1.9	1.0	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	1.9	1.9	1.9	1.0	1.0	0.0	0.0
77.5°	2.9	2.9	1.9	1.9	1.0	1.0	1.0	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	1.9	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)