

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: P179645

Luminaire Tested: **LDA6A45830D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179645
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26671)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A45830D010TE LARH30NF 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 30°
Narrow Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4771.1 lumens
Efficiency: N/A
Efficacy: 90.0 lumens/watt
Spacing Criteria (0/90/45): 2.69 / 0.5 / 1.42
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

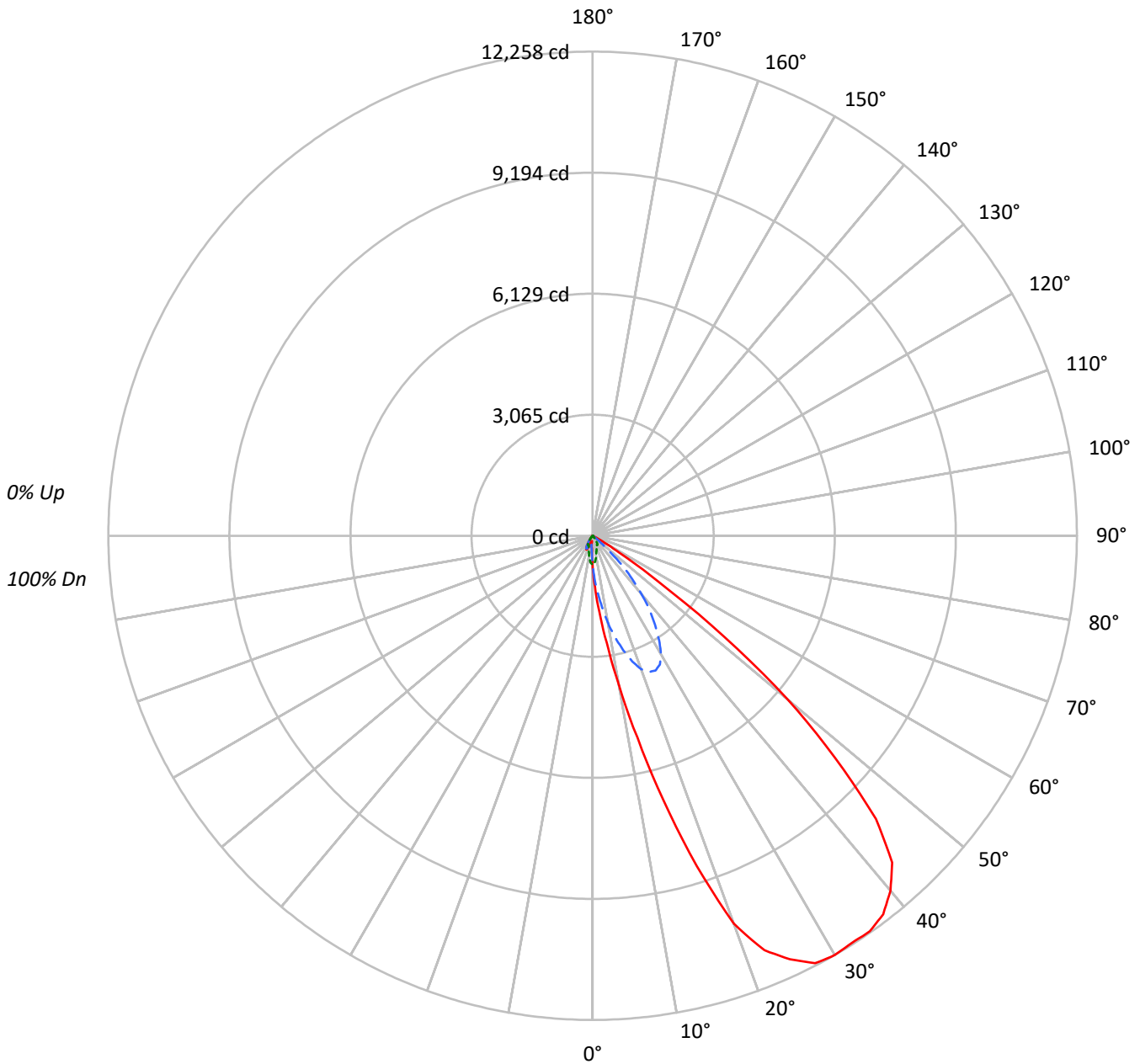
Input Watts (W): 53
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	102	100	98	99	97	95	95	94	93	91																			
2	105	99	94	89	102	97	92	88	94	90	86	91	87	85	88	85	83	81																			
3	98	89	83	78	95	88	82	78	85	80	76	83	79	75	80	77	74	72																			
4	91	81	74	69	89	80	73	68	78	72	68	75	71	67	73	69	66	64																			
5	84	74	66	61	82	73	66	61	71	65	60	69	64	59	67	63	59	57																			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51																			
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45																			
8	68	56	48	43	66	55	48	43	54	48	43	53	47	43	52	46	42	41																			
9	63	51	44	39	62	51	44	39	50	43	39	49	43	39	48	42	38	37																			
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	40085	40085	40085
5°	105662	36518	12569
10°	213495	28429	7637
15°	393112	21305	11016
20°	609479	17041	18353
25°	715578	15116	23300
30°	775917	15199	18053
35°	818148	9055	9711
40°	839165	3857	4208
45°	786167	1520	1442
50°	549696	665	333
55°	192882	659	0
60°	38900	757	0
65°	2413	895	0
70°	465	1250	0
75°	0	1652	0
80°	0	2462	316
85°	0	5535	629



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.7	2.0
10°-20°	523.1	11.0
20°-30°	1236.5	25.9
30°-40°	1506.3	31.6
40°-50°	1120.5	23.5
50°-60°	271.3	5.7
60°-70°	10.1	0.2
70°-80°	4.9	0.1
80°-90°	4.7	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°	1853.3	38.8
0°-40°	3359.7	70.4
0°-60°	4751.4	99.6
0°-90°	4771.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4771.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	731	731	731	731	731	
5°	1920	1436	664	310	228	241
15°	6927	3002	375	172	194	2087
25°	11830	3765	250	363	385	5432
35°	12225	2749	135	147	145	7614
45°	10140	1048	20	22	19	7448
55°	2018	22	7	5	0	2283
65°	19	5	7	5	0	62
75°	0	5	8	6	0	0
85°	0	5	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°	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2
2.5°	1275.2	1253.6	1251.6	1230.1	1222.2	1219.3	1188.9	1178.1	1137.9	1130.1	1073.2
5°	1920.1	1886.8	1879.9	1830.9	1794.6	1744.6	1718.2	1673.1	1578.0	1528.0	1435.9
7.5°	2731.6	2687.5	2677.7	2601.3	2525.8	2460.1	2405.3	2300.4	2125.9	2006.3	1818.2
10°	3835.3	3711.8	3666.7	3505.0	3349.1	3226.6	3162.9	2932.6	2669.9	2509.1	2246.5
12.5°	5236.9	5031.0	4946.7	4696.8	4422.4	4221.4	4097.9	3736.3	3308.9	3001.2	2625.8
15°	6926.6	6687.5	6536.5	6221.9	5723.0	5436.8	5218.2	4639.0	4015.6	3550.1	3002.2
17.5°	8766.3	8579.1	8353.7	7860.7	7057.0	6712.9	6316.0	5556.4	4701.7	4053.8	3338.3
20°	10447.3	10133.6	9964.1	9415.2	8484.1	8030.3	7541.2	6403.2	5308.4	4464.5	3596.1
22.5°	11357.8	11054.0	10952.0	10475.7	9622.0	9117.2	8494.8	7149.1	5774.0	4745.8	3733.3
25°	11830.2	11552.9	11559.7	11129.4	10359.1	9884.7	9251.5	7712.7	6091.5	4893.8	3764.7
27.5°	12199.7	11858.7	11798.9	11477.4	10792.3	10307.1	9696.5	8019.5	6208.2	4878.1	3679.4
30°	12257.6	11978.2	12021.4	11574.4	10949.1	10444.3	9809.2	8002.8	6088.6	4681.1	3457.9
32.5°	12218.4	11941.0	12040.0	11554.8	10881.5	10327.7	9621.0	7677.4	5737.7	4316.5	3132.5
35°	12225.2	11906.7	11833.2	11422.5	10620.7	9970.9	9118.2	7083.4	5219.2	3842.1	2749.3
37.5°	12079.2	11649.9	11662.6	11121.6	10117.0	9255.4	8290.0	6291.5	4605.7	3335.4	2364.1
40°	11726.3	11404.9	11302.9	10499.2	9158.4	8148.8	7217.7	5430.9	3896.0	2806.1	1912.2
42.5°	11223.5	10836.4	10537.4	9424.0	7799.9	6873.7	6069.0	4534.1	3225.6	2300.4	1484.9
45°	10140.5	9722.0	9142.7	7806.8	6431.6	5627.9	4956.5	3680.4	2609.1	1778.0	1047.8
47.5°	8319.4	7926.4	7330.4	6208.2	5134.9	4465.5	3942.1	2882.6	1907.3	1121.3	519.5
50°	6445.4	6146.4	5691.6	4717.4	3820.6	3194.3	2727.7	1810.3	973.3	511.6	217.6
52.5°	4200.9	3989.2	3584.4	2843.4	2159.2	1692.7	1376.1	770.4	458.7	215.6	63.7
55°	2018.1	1908.3	1615.3	1171.3	847.8	695.9	588.1	373.4	173.5	51.9	22.5
57.5°	804.7	781.2	695.9	524.4	401.9	341.1	264.6	102.9	34.3	21.6	13.7
60°	354.8	344.0	288.2	191.1	102.9	58.8	43.1	25.5	16.7	12.7	8.8
62.5°	51.0	47.0	40.2	31.4	25.5	21.6	18.6	13.7	8.8	6.9	5.9
65°	18.6	18.6	16.7	13.7	11.8	10.8	9.8	6.9	4.9	4.9	4.9
67.5°	7.8	7.8	7.8	5.9	5.9	4.9	3.9	3.9	3.9	3.9	4.9
70°	2.9	2.9	2.9	2.0	2.0	2.0	2.9	2.9	2.9	3.9	4.9
72.5°	0.0	1.0	1.0	1.0	2.0	2.0	2.0	2.9	2.9	3.9	4.9
75°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	2.9	3.9	4.9
77.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	3.9	3.9	4.9
80°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	3.9	3.9	4.9
82.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	3.9	4.9	4.9
85°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	3.9	3.9	4.9
87.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	2.9	3.9	4.9	4.9
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°	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2
2.5°	1025.2	1011.5	965.4	919.4	912.5	892.9	852.7	805.7	744.9	706.7	668.5
5°	1316.3	1247.7	1170.3	1081.1	1053.6	1014.4	930.1	840.0	739.0	663.6	593.0
7.5°	1656.4	1503.5	1357.5	1214.4	1160.5	1099.7	971.3	841.9	703.7	594.0	505.7
10°	1975.0	1739.7	1513.3	1310.4	1230.1	1147.7	975.2	808.6	637.1	510.7	420.5
12.5°	2292.5	1955.4	1645.6	1380.0	1271.2	1165.4	953.7	748.8	554.8	434.2	361.7
15°	2542.5	2150.4	1741.7	1415.3	1280.1	1150.7	900.7	666.5	474.4	375.4	310.7
17.5°	2716.0	2262.2	1778.0	1400.6	1245.8	1099.7	817.4	570.4	409.7	329.3	266.6
20°	2835.5	2297.4	1752.5	1339.8	1172.2	1011.5	712.6	484.2	363.6	292.1	229.4
22.5°	2868.9	2263.1	1680.0	1248.7	1076.2	910.5	603.8	427.3	330.3	262.7	222.5
25°	2836.5	2175.9	1571.2	1139.9	958.6	785.1	512.6	393.0	304.8	249.9	258.8
27.5°	2718.9	2022.0	1420.2	999.7	813.5	649.8	450.9	351.9	268.6	263.7	274.4
30°	2524.8	1801.5	1240.9	820.4	643.0	518.5	378.3	277.4	235.2	240.1	247.0
32.5°	2245.5	1531.0	1010.5	607.7	471.4	390.1	270.5	192.1	186.2	190.1	195.0
35°	1892.6	1245.8	756.7	419.5	334.2	268.6	158.8	136.2	133.3	135.3	137.2
37.5°	1535.9	962.5	514.6	282.3	202.9	136.2	95.1	89.2	87.2	88.2	89.2
40°	1191.8	669.4	323.4	135.3	79.4	67.6	58.8	55.9	53.9	53.9	54.9
42.5°	870.4	397.0	160.7	52.9	43.1	40.2	35.3	33.3	31.4	32.3	33.3
45°	487.1	176.4	54.9	29.4	26.5	24.5	21.6	20.6	19.6	19.6	19.6
47.5°	207.8	61.7	26.5	18.6	16.7	15.7	13.7	12.7	11.8	11.8	11.8
50°	68.6	24.5	16.7	12.7	10.8	9.8	8.8	7.8	7.8	7.8	8.8
52.5°	24.5	15.7	10.8	8.8	7.8	7.8	6.9	6.9	6.9	6.9	6.9
55°	14.7	10.8	7.8	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
57.5°	9.8	6.9	6.9	5.9	5.9	5.9	5.9	5.9	5.9	6.9	6.9
60°	6.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	6.9	6.9
62.5°	5.9	4.9	4.9	5.9	5.9	5.9	5.9	6.9	6.9	6.9	6.9
65°	4.9	4.9	4.9	5.9	5.9	5.9	5.9	6.9	6.9	6.9	6.9
67.5°	4.9	4.9	5.9	5.9	5.9	5.9	6.9	6.9	6.9	6.9	7.8
70°	4.9	4.9	5.9	5.9	5.9	6.9	6.9	6.9	6.9	7.8	7.8
72.5°	4.9	5.9	5.9	5.9	6.9	6.9	6.9	7.8	7.8	7.8	7.8
75°	4.9	5.9	5.9	6.9	6.9	6.9	6.9	7.8	7.8	7.8	7.8
77.5°	4.9	5.9	5.9	6.9	6.9	6.9	7.8	7.8	7.8	7.8	7.8
80°	5.9	5.9	6.9	6.9	6.9	7.8	7.8	7.8	7.8	7.8	8.8
82.5°	5.9	5.9	6.9	6.9	6.9	7.8	7.8	7.8	7.8	7.8	8.8
85°	5.9	5.9	6.9	6.9	6.9	7.8	7.8	7.8	7.8	8.8	8.8
87.5°	5.9	5.9	6.9	6.9	6.9	7.8	7.8	7.8	7.8	8.8	8.8
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°	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2
2.5°	629.2	599.8	558.7	545.0	516.5	495.9	473.4	447.9	443.0	417.5	414.6
5°	524.4	477.3	430.3	412.6	388.1	367.6	345.0	320.5	309.7	285.2	270.5
7.5°	432.2	387.2	345.0	327.4	303.8	277.4	250.9	225.4	210.7	187.2	175.4
10°	362.7	317.6	272.5	254.8	233.3	203.9	175.4	149.0	139.2	133.3	134.3
12.5°	302.9	257.8	212.7	193.1	170.5	147.0	146.0	144.1	148.0	147.0	148.0
15°	253.9	205.8	162.7	156.8	156.8	160.7	164.7	165.6	172.5	172.5	174.5
17.5°	208.8	175.4	177.4	177.4	181.3	188.2	196.0	199.9	210.7	211.7	215.6
20°	194.1	201.9	210.7	212.7	219.6	230.3	241.1	249.0	262.7	266.6	274.4
22.5°	230.3	244.1	257.8	261.7	270.5	286.2	305.8	312.7	329.3	329.3	340.1
25°	271.5	292.1	305.8	310.7	320.5	334.2	347.0	350.9	362.7	358.7	362.7
27.5°	288.2	302.9	311.7	316.6	318.5	330.3	336.2	334.2	342.1	336.2	336.2
30°	255.8	266.6	271.5	274.4	274.4	283.3	283.3	280.3	285.2	280.3	277.4
32.5°	200.9	208.8	212.7	212.7	211.7	217.6	215.6	211.7	213.7	210.7	203.9
35°	140.2	146.0	149.0	148.0	147.0	151.9	149.0	146.0	147.0	145.1	140.2
37.5°	92.1	93.1	95.1	97.0	96.1	100.0	98.0	96.1	97.0	95.1	92.1
40°	55.9	57.8	59.8	59.8	59.8	60.8	60.8	59.8	61.7	59.8	57.8
42.5°	33.3	35.3	35.3	35.3	36.3	36.3	37.2	35.3	37.2	35.3	34.3
45°	20.6	20.6	20.6	21.6	20.6	21.6	21.6	20.6	21.6	20.6	19.6
47.5°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	11.8	12.7	11.8	10.8
50°	7.8	8.8	7.8	7.8	7.8	7.8	7.8	6.9	6.9	5.9	5.9
52.5°	6.9	6.9	6.9	6.9	6.9	6.9	5.9	5.9	4.9	3.9	3.9
55°	6.9	6.9	6.9	5.9	5.9	5.9	5.9	4.9	4.9	3.9	2.9
57.5°	6.9	6.9	5.9	5.9	5.9	5.9	4.9	4.9	3.9	2.9	2.9
60°	6.9	6.9	6.9	5.9	5.9	5.9	4.9	4.9	3.9	2.9	2.9
62.5°	6.9	6.9	6.9	5.9	5.9	5.9	5.9	4.9	3.9	2.9	2.9
65°	6.9	6.9	6.9	6.9	6.9	5.9	5.9	4.9	4.9	3.9	2.9
67.5°	7.8	6.9	6.9	6.9	6.9	6.9	5.9	4.9	4.9	3.9	2.9
70°	7.8	7.8	6.9	6.9	6.9	6.9	5.9	5.9	4.9	3.9	2.9
72.5°	7.8	7.8	7.8	7.8	6.9	6.9	6.9	5.9	4.9	3.9	3.9
75°	7.8	7.8	7.8	7.8	7.8	6.9	6.9	5.9	5.9	4.9	3.9
77.5°	8.8	7.8	7.8	7.8	7.8	7.8	6.9	5.9	5.9	4.9	3.9
80°	8.8	8.8	7.8	7.8	7.8	7.8	6.9	5.9	5.9	4.9	3.9
82.5°	8.8	8.8	7.8	7.8	7.8	7.8	6.9	6.9	5.9	4.9	3.9
85°	8.8	8.8	7.8	7.8	7.8	7.8	6.9	5.9	5.9	4.9	3.9
87.5°	8.8	8.8	7.8	7.8	7.8	7.8	6.9	5.9	5.9	4.9	3.9
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: P179645

CATALOG NUMBER: LDA6A45830D010TE LARH30NF 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	731.2	731.2	731.2	731.2	731.2	731.2	731.2	731.2
2.5°	397.0	395.0	388.1	390.1	385.2	374.4	375.4	371.5
5°	260.7	254.8	248.0	248.0	241.1	231.3	231.3	228.4
7.5°	158.8	150.0	143.1	142.1	135.3	130.4	130.4	129.4
10°	134.3	135.3	135.3	136.2	135.3	135.3	136.2	137.2
12.5°	150.9	153.9	153.9	154.9	153.9	155.8	155.8	157.8
15°	180.3	185.2	186.2	188.2	187.2	190.1	192.1	194.1
17.5°	226.4	232.3	234.3	240.1	239.2	242.1	244.1	248.0
20°	285.2	294.0	297.0	304.8	303.8	306.8	311.7	314.6
22.5°	350.9	361.7	362.7	369.5	368.5	371.5	373.4	374.4
25°	368.5	375.4	374.4	378.3	378.3	379.3	379.3	385.2
27.5°	337.2	342.1	342.1	342.1	343.0	344.0	344.0	348.9
30°	277.4	279.3	280.3	277.4	279.3	280.3	280.3	285.2
32.5°	205.8	206.8	207.8	203.9	206.8	206.8	206.8	210.7
35°	142.1	142.1	143.1	140.2	142.1	143.1	142.1	145.1
37.5°	93.1	93.1	93.1	93.1	93.1	93.1	92.1	95.1
40°	57.8	58.8	57.8	57.8	56.8	56.8	56.8	58.8
42.5°	34.3	34.3	33.3	33.3	33.3	33.3	34.3	34.3
45°	19.6	19.6	18.6	18.6	17.6	18.6	18.6	18.6
47.5°	10.8	9.8	9.8	9.8	8.8	8.8	8.8	9.8
50°	4.9	4.9	4.9	3.9	3.9	3.9	2.9	3.9
52.5°	2.9	2.0	2.0	2.0	1.0	1.0	0.0	1.0
55°	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0
57.5°	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
60°	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
62.5°	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
65°	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
67.5°	2.0	2.0	1.0	1.0	1.0	0.0	0.0	0.0
70°	2.9	2.0	2.0	1.0	1.0	0.0	0.0	0.0
72.5°	2.9	2.0	2.0	2.0	1.0	1.0	0.0	0.0
75°	2.9	2.0	2.0	2.0	1.0	1.0	0.0	0.0
77.5°	2.9	2.9	2.0	2.0	1.0	1.0	1.0	1.0
80°	2.9	2.9	2.0	2.0	2.0	1.0	1.0	1.0
82.5°	2.9	2.9	2.0	2.0	2.0	1.0	1.0	1.0
85°	2.9	2.9	2.0	2.0	2.0	1.0	1.0	1.0
87.5°	2.9	2.9	2.0	2.0	2.0	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)