

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: P179648

Luminaire Tested: **LDA6A45927D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179648
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: LDA6A45927D010TE 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: 3741.3 lumens
Efficiency: N/A
Efficacy: 70.6 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

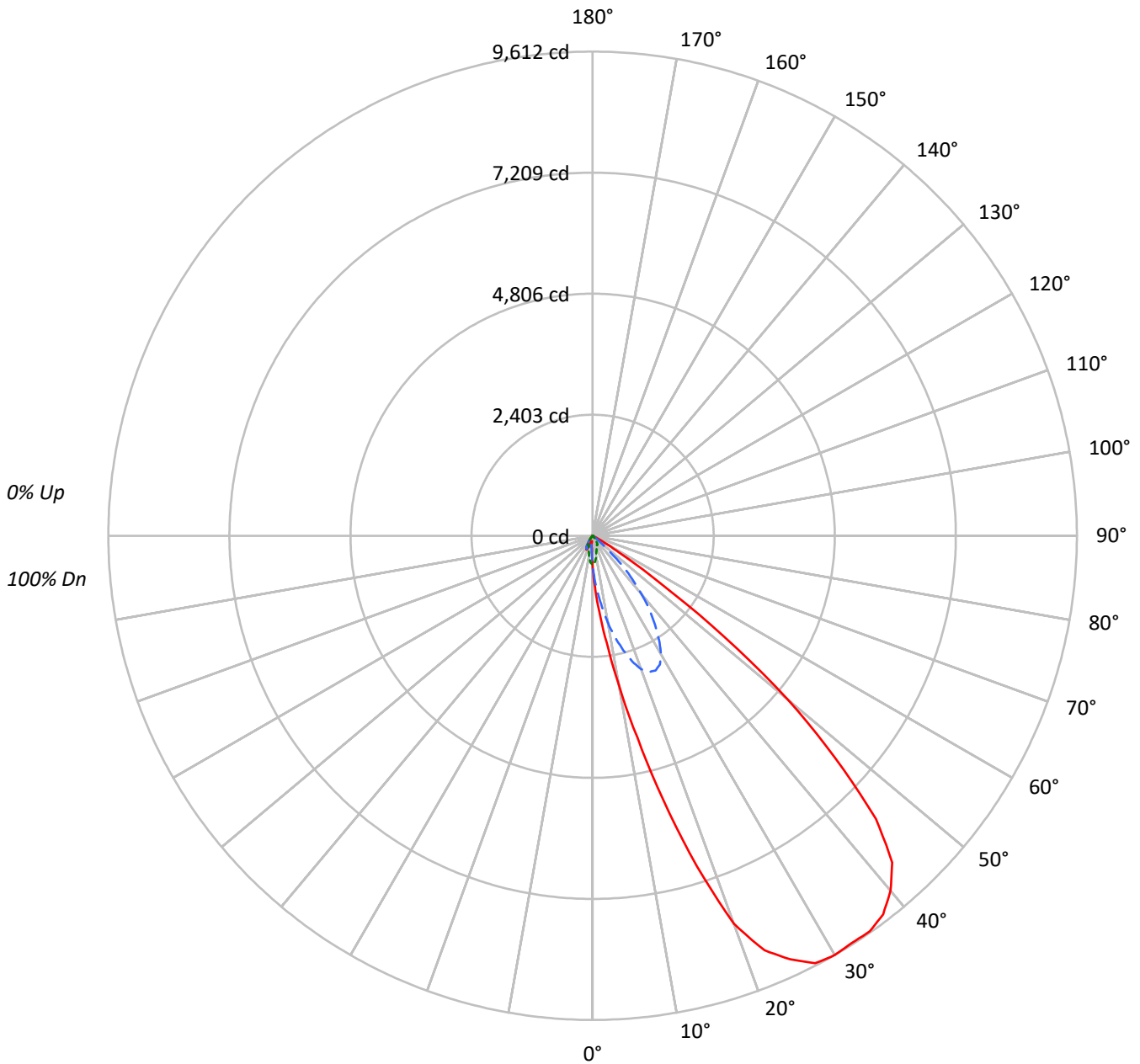
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	31434	31434	31434
5°	82858	28632	9856
10°	167415	22289	5990
15°	308271	16708	8638
20°	477932	13359	14392
25°	561135	11856	18273
30°	608448	11920	14160
35°	641571	7101	7616
40°	658054	3027	3299
45°	616490	1194	1132
50°	431056	520	264
55°	151249	516	0
60°	30502	592	0
65°	1894	700	0
70°	369	978	0
75°	0	1292	0
80°	0	1926	253
85°	0	4340	503



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.5	2.0
10°-20°	410.2	11.0
20°-30°	969.6	25.9
30°-40°	1181.2	31.6
40°-50°	878.6	23.5
50°-60°	212.7	5.7
60°-70°	7.9	0.2
70°-80°	3.8	0.1
80°-90°	3.7	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°	1453.3	38.8
0°-40°	2634.5	70.4
0°-60°	3725.9	99.6
0°-90°	3741.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3741.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	573	573	573	573	573	
5°	1506	1126	520	243	179	189
15°	5432	2354	294	135	152	1637
25°	9277	2952	196	284	302	4260
35°	9587	2156	106	115	114	5971
45°	7952	822	15	17	15	5841
55°	1582	18	5	4	0	1790
65°	15	4	5	4	0	49
75°	0	4	6	5	0	0
85°	0	4	7	5	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°	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4
2.5°	999.9	983.0	981.5	964.6	958.4	956.1	932.3	923.9	892.3	886.2	841.6
5°	1505.7	1479.5	1474.2	1435.7	1407.3	1368.1	1347.3	1312.0	1237.4	1198.2	1126.0
7.5°	2142.1	2107.5	2099.8	2039.8	1980.7	1929.2	1886.1	1803.9	1667.1	1573.3	1425.7
10°	3007.5	2910.7	2875.3	2748.5	2626.3	2530.2	2480.3	2299.6	2093.7	1967.6	1761.6
12.5°	4106.6	3945.2	3879.1	3683.1	3467.9	3310.3	3213.5	2929.9	2594.8	2353.4	2059.1
15°	5431.7	5244.1	5125.8	4879.0	4487.8	4263.4	4092.0	3637.8	3148.9	2783.8	2354.2
17.5°	6874.3	6727.5	6550.7	6164.1	5533.9	5264.1	4952.8	4357.2	3686.9	3178.9	2617.8
20°	8192.4	7946.5	7813.5	7383.1	6652.9	6297.1	5913.6	5021.2	4162.7	3500.9	2820.0
22.5°	8906.5	8668.2	8588.3	8214.7	7545.3	7149.5	6661.4	5606.1	4527.8	3721.5	2927.6
25°	9276.9	9059.4	9064.8	8727.4	8123.3	7751.3	7254.8	6048.1	4776.8	3837.6	2952.2
27.5°	9566.7	9299.2	9252.3	9000.2	8463.0	8082.5	7603.7	6288.6	4868.3	3825.3	2885.3
30°	9612.0	9393.0	9426.8	9076.3	8586.0	8190.1	7692.1	6275.6	4774.5	3670.8	2711.6
32.5°	9581.3	9363.8	9441.4	9061.0	8532.9	8098.7	7544.5	6020.4	4499.3	3384.9	2456.4
35°	9586.7	9336.9	9279.2	8957.2	8328.5	7818.9	7150.2	5554.6	4092.8	3012.9	2155.9
37.5°	9472.2	9135.5	9145.5	8721.2	7933.4	7257.8	6500.8	4933.6	3611.6	2615.5	1853.8
40°	9195.5	8943.4	8863.4	8233.2	7181.7	6390.1	5659.9	4258.8	3055.2	2200.5	1499.5
42.5°	8801.2	8497.6	8263.2	7390.0	6116.5	5390.1	4759.1	3555.5	2529.4	1803.9	1164.4
45°	7951.9	7623.7	7169.4	6121.9	5043.5	4413.3	3886.8	2886.1	2046.0	1394.2	821.6
47.5°	6523.8	6215.6	5748.3	4868.3	4026.7	3501.7	3091.3	2260.4	1495.7	879.3	407.4
50°	5054.3	4819.9	4463.2	3699.2	2996.0	2504.8	2139.0	1419.6	763.2	401.2	170.6
52.5°	3294.2	3128.2	2810.7	2229.7	1693.2	1327.4	1079.1	604.1	359.7	169.1	50.0
55°	1582.5	1496.5	1266.6	918.5	664.8	545.7	461.2	292.8	136.0	40.7	17.7
57.5°	631.0	612.6	545.7	411.2	315.1	267.5	207.5	80.7	26.9	16.9	10.8
60°	278.2	269.8	226.0	149.9	80.7	46.1	33.8	20.0	13.1	10.0	6.9
62.5°	40.0	36.9	31.5	24.6	20.0	16.9	14.6	10.8	6.9	5.4	4.6
65°	14.6	14.6	13.1	10.8	9.2	8.5	7.7	5.4	3.8	3.8	3.8
67.5°	6.1	6.1	6.1	4.6	4.6	3.8	3.1	3.1	3.1	3.1	3.8
70°	2.3	2.3	2.3	1.5	1.5	1.5	2.3	2.3	2.3	3.1	3.8
72.5°	0.0	0.8	0.8	0.8	1.5	1.5	1.5	2.3	2.3	3.1	3.8
75°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	2.3	3.1	3.8
77.5°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.1	3.8
80°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.1	3.8
82.5°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.8	3.8
85°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.1	3.8
87.5°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	3.1	3.8	3.8
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4
2.5°	803.9	793.2	757.1	720.9	715.6	700.2	668.7	631.8	584.1	554.2	524.2
5°	1032.2	978.4	917.7	847.8	826.2	795.5	729.4	658.7	579.5	520.3	465.0
7.5°	1298.9	1179.0	1064.5	952.3	910.0	862.4	761.7	660.2	551.9	465.8	396.6
10°	1548.7	1364.3	1186.7	1027.6	964.6	900.0	764.8	634.1	499.6	400.4	329.7
12.5°	1797.7	1533.3	1290.5	1082.2	996.9	913.9	747.8	587.2	435.0	340.5	283.6
15°	1993.7	1686.3	1365.8	1109.8	1003.8	902.3	706.3	522.6	372.0	294.4	243.6
17.5°	2129.8	1773.9	1394.2	1098.3	976.9	862.4	641.0	447.3	321.3	258.2	209.1
20°	2223.5	1801.6	1374.2	1050.7	919.2	793.2	558.8	379.7	285.1	229.0	179.9
22.5°	2249.7	1774.7	1317.4	979.2	843.9	714.0	473.5	335.1	259.0	206.0	174.5
25°	2224.3	1706.3	1232.1	893.9	751.7	615.6	402.0	308.2	239.0	196.0	202.9
27.5°	2132.1	1585.6	1113.7	784.0	637.9	509.6	353.6	275.9	210.6	206.8	215.2
30°	1979.9	1412.7	973.0	643.3	504.2	406.6	296.7	217.5	184.5	188.3	193.7
32.5°	1760.8	1200.5	792.4	476.5	369.7	305.9	212.1	150.6	146.0	149.1	153.0
35°	1484.2	976.9	593.4	329.0	262.1	210.6	124.5	106.8	104.5	106.1	107.6
37.5°	1204.4	754.8	403.5	221.4	159.1	106.8	74.6	69.9	68.4	69.2	69.9
40°	934.6	524.9	253.6	106.1	62.3	53.0	46.1	43.8	42.3	42.3	43.0
42.5°	682.5	311.3	126.0	41.5	33.8	31.5	27.7	26.1	24.6	25.4	26.1
45°	382.0	138.3	43.0	23.1	20.8	19.2	16.9	16.1	15.4	15.4	15.4
47.5°	162.9	48.4	20.8	14.6	13.1	12.3	10.8	10.0	9.2	9.2	9.2
50°	53.8	19.2	13.1	10.0	8.5	7.7	6.9	6.1	6.1	6.1	6.9
52.5°	19.2	12.3	8.5	6.9	6.1	6.1	5.4	5.4	5.4	5.4	5.4
55°	11.5	8.5	6.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
57.5°	7.7	5.4	5.4	4.6	4.6	4.6	4.6	4.6	4.6	5.4	5.4
60°	5.4	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.4	5.4
62.5°	4.6	3.8	3.8	4.6	4.6	4.6	4.6	5.4	5.4	5.4	5.4
65°	3.8	3.8	3.8	4.6	4.6	4.6	4.6	5.4	5.4	5.4	5.4
67.5°	3.8	3.8	4.6	4.6	4.6	4.6	5.4	5.4	5.4	5.4	6.1
70°	3.8	3.8	4.6	4.6	4.6	5.4	5.4	5.4	5.4	6.1	6.1
72.5°	3.8	4.6	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1	6.1
75°	3.8	4.6	4.6	5.4	5.4	5.4	5.4	6.1	6.1	6.1	6.1
77.5°	3.8	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1	6.1	6.1
80°	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1	6.1	6.1	6.9
82.5°	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1	6.1	6.1	6.9
85°	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1	6.1	6.9	6.9
87.5°	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.1	6.1	6.9	6.9
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4
2.5°	493.4	470.4	438.1	427.3	405.0	388.9	371.2	351.2	347.4	327.4	325.1
5°	411.2	374.3	337.4	323.6	304.4	288.2	270.5	251.3	242.9	223.7	212.1
7.5°	338.9	303.6	270.5	256.7	238.3	217.5	196.8	176.8	165.2	146.8	137.6
10°	284.4	249.0	213.7	199.8	182.9	159.9	137.6	116.8	109.1	104.5	105.3
12.5°	237.5	202.1	166.8	151.4	133.7	115.3	114.5	113.0	116.1	115.3	116.1
15°	199.1	161.4	127.6	123.0	123.0	126.0	129.1	129.9	135.3	135.3	136.8
17.5°	163.7	137.6	139.1	139.1	142.2	147.6	153.7	156.8	165.2	166.0	169.1
20°	152.2	158.3	165.2	166.8	172.2	180.6	189.1	195.2	206.0	209.1	215.2
22.5°	180.6	191.4	202.1	205.2	212.1	224.4	239.8	245.2	258.2	258.2	266.7
25°	212.9	229.0	239.8	243.6	251.3	262.1	272.1	275.2	284.4	281.3	284.4
27.5°	226.0	237.5	244.4	248.3	249.8	259.0	263.6	262.1	268.2	263.6	263.6
30°	200.6	209.1	212.9	215.2	215.2	222.1	222.1	219.8	223.7	219.8	217.5
32.5°	157.6	163.7	166.8	166.8	166.0	170.6	169.1	166.0	167.6	165.2	159.9
35°	109.9	114.5	116.8	116.1	115.3	119.1	116.8	114.5	115.3	113.8	109.9
37.5°	72.2	73.0	74.6	76.1	75.3	78.4	76.9	75.3	76.1	74.6	72.2
40°	43.8	45.3	46.9	46.9	46.9	47.7	47.7	46.9	48.4	46.9	45.3
42.5°	26.1	27.7	27.7	27.7	28.4	28.4	29.2	27.7	29.2	27.7	26.9
45°	16.1	16.1	16.1	16.9	16.1	16.9	16.9	16.1	16.9	16.1	15.4
47.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.2	10.0	9.2	8.5
50°	6.1	6.9	6.1	6.1	6.1	6.1	6.1	5.4	5.4	4.6	4.6
52.5°	5.4	5.4	5.4	5.4	5.4	5.4	4.6	4.6	3.8	3.1	3.1
55°	5.4	5.4	5.4	4.6	4.6	4.6	4.6	3.8	3.8	3.1	2.3
57.5°	5.4	5.4	4.6	4.6	4.6	4.6	3.8	3.8	3.1	2.3	2.3
60°	5.4	5.4	5.4	4.6	4.6	4.6	3.8	3.8	3.1	2.3	2.3
62.5°	5.4	5.4	5.4	4.6	4.6	4.6	4.6	3.8	3.1	2.3	2.3
65°	5.4	5.4	5.4	5.4	5.4	4.6	4.6	3.8	3.8	3.1	2.3
67.5°	6.1	5.4	5.4	5.4	5.4	5.4	4.6	3.8	3.8	3.1	2.3
70°	6.1	6.1	5.4	5.4	5.4	5.4	4.6	4.6	3.8	3.1	2.3
72.5°	6.1	6.1	6.1	6.1	5.4	5.4	5.4	4.6	3.8	3.1	3.1
75°	6.1	6.1	6.1	6.1	6.1	5.4	5.4	4.6	4.6	3.8	3.1
77.5°	6.9	6.1	6.1	6.1	6.1	6.1	5.4	4.6	4.6	3.8	3.1
80°	6.9	6.9	6.1	6.1	6.1	6.1	5.4	4.6	4.6	3.8	3.1
82.5°	6.9	6.9	6.1	6.1	6.1	6.1	5.4	5.4	4.6	3.8	3.1
85°	6.9	6.9	6.1	6.1	6.1	6.1	5.4	4.6	4.6	3.8	3.1
87.5°	6.9	6.9	6.1	6.1	6.1	6.1	5.4	4.6	4.6	3.8	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



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CATALOG NUMBER: LDA6A45927D010TE LARH30NF 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4
2.5°	311.3	309.7	304.4	305.9	302.1	293.6	294.4	291.3
5°	204.4	199.8	194.5	194.5	189.1	181.4	181.4	179.1
7.5°	124.5	117.6	112.2	111.4	106.1	102.2	102.2	101.5
10°	105.3	106.1	106.1	106.8	106.1	106.1	106.8	107.6
12.5°	118.4	120.7	120.7	121.4	120.7	122.2	122.2	123.7
15°	141.4	145.3	146.0	147.6	146.8	149.1	150.6	152.2
17.5°	177.5	182.2	183.7	188.3	187.5	189.8	191.4	194.5
20°	223.7	230.6	232.9	239.0	238.3	240.6	244.4	246.7
22.5°	275.2	283.6	284.4	289.8	289.0	291.3	292.8	293.6
25°	289.0	294.4	293.6	296.7	296.7	297.4	297.4	302.1
27.5°	264.4	268.2	268.2	268.2	269.0	269.8	269.8	273.6
30°	217.5	219.0	219.8	217.5	219.0	219.8	219.8	223.7
32.5°	161.4	162.2	162.9	159.9	162.2	162.2	162.2	165.2
35°	111.4	111.4	112.2	109.9	111.4	112.2	111.4	113.8
37.5°	73.0	73.0	73.0	73.0	73.0	73.0	72.2	74.6
40°	45.3	46.1	45.3	45.3	44.6	44.6	44.6	46.1
42.5°	26.9	26.9	26.1	26.1	26.1	26.1	26.9	26.9
45°	15.4	15.4	14.6	14.6	13.8	14.6	14.6	14.6
47.5°	8.5	7.7	7.7	7.7	6.9	6.9	6.9	7.7
50°	3.8	3.8	3.8	3.1	3.1	3.1	2.3	3.1
52.5°	2.3	1.5	1.5	1.5	0.8	0.8	0.0	0.8
55°	1.5	1.5	0.8	0.8	0.0	0.0	0.0	0.0
57.5°	1.5	0.8	0.8	0.8	0.0	0.0	0.0	0.0
60°	1.5	0.8	0.8	0.8	0.0	0.0	0.0	0.0
62.5°	1.5	0.8	0.8	0.8	0.0	0.0	0.0	0.0
65°	1.5	0.8	0.8	0.8	0.0	0.0	0.0	0.0
67.5°	1.5	1.5	0.8	0.8	0.8	0.0	0.0	0.0
70°	2.3	1.5	1.5	0.8	0.8	0.0	0.0	0.0
72.5°	2.3	1.5	1.5	1.5	0.8	0.8	0.0	0.0
75°	2.3	1.5	1.5	1.5	0.8	0.8	0.0	0.0
77.5°	2.3	2.3	1.5	1.5	0.8	0.8	0.8	0.8
80°	2.3	2.3	1.5	1.5	1.5	0.8	0.8	0.8
82.5°	2.3	2.3	1.5	1.5	1.5	0.8	0.8	0.8
85°	2.3	2.3	1.5	1.5	1.5	0.8	0.8	0.8
87.5°	2.3	2.3	1.5	1.5	1.5	0.8	0.8	0.8
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)