

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: P179656

Luminaire Tested: **LDA6A45927D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179656
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26672)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A45927D010TE LARH40FL 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3902.7 lumens
Efficiency: N/A
Efficacy: 73.6 lumens/watt
Spacing Criteria (0/90/45): 2.54 / 0.51 / 1.33
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

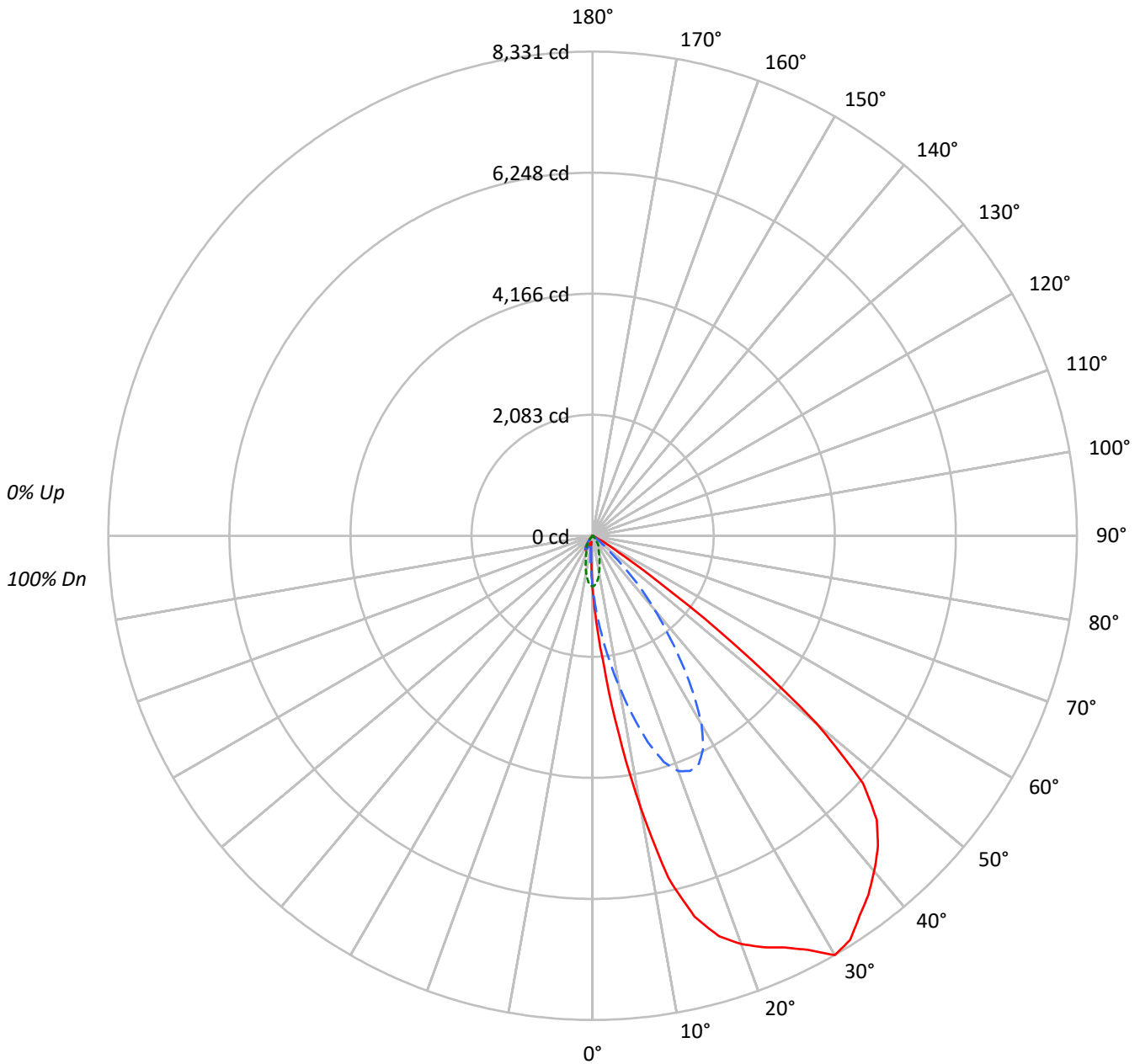
Input Watts (W): 53
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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	101	99	99	97	96	95	94	93	91								
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82								
3	98	90	84	79	96	89	83	79	86	81	77	84	80	76	81	78	75	73								
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65								
5	85	75	68	62	83	74	67	62	72	66	62	70	65	61	69	64	60	59								
6	80	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	74	63	55	50	73	62	55	50	61	54	50	59	54	49	58	53	49	47								
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	54	48	45	43								
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	44	40	39								
10	61	49	42	37	60	49	42	37	48	41	37	47	41	37	46	41	37	35								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	48028	48028	48028
5°	122809	44277	16157
10°	263945	35721	5945
15°	385036	26124	6805
20°	435998	18785	10489
25°	472648	15110	16271
30°	527372	12407	15667
35°	535284	8024	10440
40°	539232	3850	5281
45°	535854	1605	2202
50°	429035	725	725
55°	127948	516	76
60°	26116	592	0
65°	2491	700	0
70°	240	978	0
75°	0	1292	0
80°	0	2178	253
85°	0	4340	503



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.1	2.9
10°-20°	547.4	14.0
20°-30°	1006.0	25.8
30°-40°	1154.2	29.6
40°-50°	873.2	22.4
50°-60°	193.5	5.0
60°-70°	8.2	0.2
70°-80°	3.6	0.1
80°-90°	3.5	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°	1666.5	42.7
0°-40°	2820.7	72.3
0°-60°	3887.4	99.6
0°-90°	3902.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3902.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	876	876	876	876	876	
5°	2232	1667	805	394	294	295
15°	6784	3680	460	119	120	1891
25°	7814	4327	250	242	269	3646
35°	7998	2670	120	150	156	5010
45°	6912	755	21	27	28	5158
55°	1339	28	5	4	1	1657
65°	19	4	5	3	0	51
75°	0	3	6	4	0	0
85°	0	4	7	4	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°	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1
2.5°	1484.0	1469.4	1473.2	1491.6	1415.6	1413.3	1377.9	1373.3	1337.9	1273.4	1241.1
5°	2231.7	2222.5	2206.3	2212.5	2125.7	2067.2	2005.8	1961.2	1870.5	1748.3	1666.9
7.5°	3424.4	3324.5	3276.1	3183.1	3072.4	2959.5	2845.7	2713.6	2523.0	2310.1	2138.0
10°	4741.6	4697.8	4598.7	4539.5	4294.3	4128.3	3951.6	3681.1	3332.2	2946.4	2625.2
12.5°	6032.7	5981.2	5831.3	5705.3	5378.7	5230.4	5000.6	4659.4	4216.7	3667.3	3159.3
15°	6784.3	6795.8	6626.0	6619.8	6338.5	6145.6	5946.6	5543.1	4981.4	4350.4	3679.5
17.5°	7224.6	7253.0	7084.7	7132.4	6851.9	6652.1	6503.8	6208.7	5611.5	4854.6	4081.5
20°	7473.6	7518.9	7339.9	7376.8	7137.0	7001.7	6851.1	6559.1	6031.9	5196.6	4309.7
22.5°	7663.4	7681.1	7482.1	7531.2	7269.2	7133.9	7027.1	6753.5	6233.3	5377.2	4381.2
25°	7814.0	7858.6	7631.1	7635.0	7374.5	7239.2	7120.9	6871.9	6319.3	5424.8	4326.6
27.5°	8030.8	8066.9	7732.6	7703.4	7451.3	7302.2	7173.9	6928.7	6315.5	5318.7	4120.7
30°	8331.2	8129.9	7787.9	7712.6	7429.0	7277.6	7140.1	6821.9	6174.1	5032.9	3746.4
32.5°	8245.2	8082.3	7744.9	7625.0	7343.7	7181.6	7024.0	6636.7	5845.9	4590.2	3236.1
35°	7998.5	7946.2	7592.0	7554.3	7213.9	7044.0	6885.7	6356.2	5342.6	4011.5	2670.5
37.5°	7790.2	7701.1	7472.8	7413.7	7056.3	6868.8	6616.7	5937.4	4677.1	3273.8	2132.6
40°	7535.1	7475.1	7254.6	7191.6	6778.1	6492.2	6184.1	5178.1	3873.2	2548.3	1646.9
42.5°	7263.8	7210.0	7001.7	6869.6	6318.6	5940.5	5461.7	4259.0	2981.8	1920.5	1234.2
45°	6911.8	6835.8	6575.2	6329.3	5539.3	4998.3	4459.6	3250.0	2182.5	1367.2	755.4
47.5°	6307.0	6186.4	5870.5	5376.4	4405.8	3886.3	3325.3	2204.0	1347.9	703.9	380.4
50°	5030.6	4820.0	4399.6	3811.7	2821.9	2323.9	1884.3	1120.5	578.7	362.7	223.6
52.5°	3100.1	2907.2	2549.1	1981.9	1301.1	1002.1	789.2	521.8	318.9	205.2	83.0
55°	1338.7	1218.1	1046.7	798.5	567.1	466.5	375.0	260.5	164.5	63.0	28.4
57.5°	505.7	469.5	425.7	349.7	261.3	218.3	183.7	115.3	40.0	23.8	16.1
60°	238.2	215.9	190.6	151.4	99.9	72.2	45.3	29.2	19.2	13.1	9.2
62.5°	65.3	49.2	40.7	33.0	25.4	22.3	19.2	14.6	10.8	6.9	5.4
65°	19.2	16.9	16.1	13.8	11.5	10.0	8.5	6.9	5.4	3.8	3.8
67.5°	6.9	6.9	6.1	5.4	4.6	3.8	3.8	3.1	3.1	3.1	3.1
70°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.3	2.3	3.1	3.1
72.5°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	2.3	3.1	3.1
75°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.3	2.3	3.1	3.1
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	3.1	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	3.1	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°	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1
2.5°	1214.2	1169.6	1106.6	1074.4	1045.9	1038.2	979.8	942.2	897.6	851.5	803.1
5°	1590.8	1477.0	1356.4	1255.0	1203.5	1173.5	1059.8	974.5	892.2	804.6	730.1
7.5°	1964.3	1760.6	1584.6	1420.9	1331.0	1263.4	1100.5	972.1	847.6	733.9	633.2
10°	2325.5	2031.9	1751.4	1530.1	1406.3	1305.7	1095.1	928.3	772.3	641.7	536.4
12.5°	2691.3	2263.2	1890.5	1588.5	1440.9	1311.8	1058.2	855.3	690.1	551.8	442.7
15°	3017.9	2443.0	1977.3	1602.3	1424.0	1271.9	986.0	762.3	597.9	460.3	365.0
17.5°	3244.6	2539.9	1982.7	1551.6	1353.3	1189.6	885.3	664.7	504.9	383.5	299.7
20°	3347.6	2536.8	1909.7	1446.3	1238.8	1068.2	766.2	564.8	421.1	322.0	250.5
22.5°	3316.8	2440.0	1780.6	1297.2	1098.9	928.3	655.5	476.5	362.0	276.7	219.8
25°	3163.1	2270.9	1629.2	1148.1	948.3	789.2	555.6	407.3	314.3	249.8	199.8
27.5°	2911.8	2040.4	1425.6	973.7	790.8	667.1	468.0	352.0	276.7	220.6	208.3
30°	2544.5	1760.6	1186.6	785.4	638.6	528.0	379.6	283.6	221.3	196.0	196.7
32.5°	2139.5	1452.5	933.0	600.2	481.1	407.3	280.5	198.3	162.2	160.6	161.4
35°	1736.0	1131.2	694.0	438.8	352.7	293.6	180.6	124.5	120.7	119.9	121.4
37.5°	1377.9	841.5	500.3	306.6	233.6	179.1	97.6	84.5	81.5	83.0	83.8
40°	1029.0	590.2	338.1	181.4	113.7	82.2	59.2	54.6	53.0	53.8	53.8
42.5°	707.8	368.9	201.3	75.3	54.6	45.3	37.7	35.4	33.8	33.0	33.8
45°	381.2	229.8	78.4	38.4	32.3	29.2	23.8	22.3	21.5	20.7	20.7
47.5°	243.6	85.3	35.4	23.8	20.7	19.2	16.1	14.6	13.8	13.1	13.1
50°	91.5	33.0	21.5	15.4	13.1	12.3	10.0	9.2	8.5	8.5	8.5
52.5°	31.5	20.0	13.8	10.0	8.5	7.7	6.9	6.1	6.1	6.1	6.1
55°	17.7	12.3	8.5	6.1	6.1	5.4	5.4	5.4	5.4	5.4	5.4
57.5°	10.8	6.9	5.4	4.6	4.6	4.6	4.6	5.4	5.4	5.4	5.4
60°	6.1	4.6	4.6	4.6	4.6	4.6	4.6	4.6	5.4	5.4	5.4
62.5°	3.8	3.8	3.8	3.8	3.8	4.6	4.6	5.4	5.4	5.4	5.4
65°	3.8	3.8	3.8	3.8	3.8	4.6	4.6	5.4	5.4	5.4	5.4
67.5°	3.1	3.8	3.8	4.6	4.6	4.6	4.6	5.4	5.4	6.1	5.4
70°	3.8	3.8	3.8	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.1
72.5°	3.8	3.8	3.8	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.1
75°	3.8	3.8	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.1	6.1
77.5°	3.8	3.8	4.6	4.6	4.6	5.4	5.4	6.1	6.1	6.9	6.1
80°	3.8	3.8	4.6	5.4	5.4	5.4	5.4	6.1	6.1	6.9	6.9
82.5°	3.8	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.9	6.9	6.9
85°	3.8	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.9	6.9	6.9
87.5°	3.8	4.6	4.6	5.4	5.4	5.4	6.1	6.1	6.9	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°	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1
2.5°	776.9	732.4	696.3	697.0	667.1	644.0	614.8	598.7	585.6	564.1	544.1
5°	675.5	607.1	555.6	545.6	511.0	475.7	439.6	412.7	393.5	372.7	353.5
7.5°	565.6	487.2	428.1	414.2	385.0	352.0	318.9	292.0	269.0	246.7	223.6
10°	458.8	387.3	333.5	319.7	290.5	255.9	224.4	200.6	182.9	165.2	147.6
12.5°	371.2	308.2	257.4	239.8	215.9	189.0	163.7	140.6	121.4	113.7	111.4
15°	300.5	240.5	200.6	186.0	166.0	138.3	123.7	119.9	119.1	119.1	119.1
17.5°	242.8	196.0	159.8	144.5	134.5	132.9	132.9	132.9	133.7	135.3	138.3
20°	203.7	162.2	148.3	149.9	149.9	151.4	154.5	156.8	159.8	163.7	168.3
22.5°	180.6	172.1	170.6	175.2	176.0	180.6	186.7	191.4	196.7	202.9	206.7
25°	197.5	200.6	202.9	209.8	212.1	219.8	229.0	235.9	242.1	249.0	253.6
27.5°	215.2	220.6	225.2	232.1	233.6	243.6	251.3	255.9	260.5	263.6	266.7
30°	202.9	208.3	212.9	219.0	219.0	229.8	233.6	237.5	241.3	242.8	245.9
32.5°	166.8	172.1	176.8	181.4	182.1	189.8	194.4	196.0	199.0	199.8	202.1
35°	125.3	127.6	132.2	136.0	136.8	142.2	146.0	147.6	149.9	149.9	151.4
37.5°	86.1	87.6	91.5	93.8	95.3	99.1	101.4	103.0	104.5	105.3	106.1
40°	56.1	56.9	59.2	61.5	63.0	65.3	66.9	68.4	69.2	70.7	70.7
42.5°	34.6	35.4	36.9	38.4	38.4	40.7	41.5	43.0	43.8	44.6	44.6
45°	21.5	22.3	22.3	23.1	23.8	24.6	26.1	26.1	26.9	26.9	26.9
47.5°	13.1	13.8	13.1	13.8	13.8	14.6	15.4	15.4	15.4	15.4	15.4
50°	8.5	8.5	8.5	8.5	8.5	8.5	9.2	9.2	9.2	9.2	8.5
52.5°	6.1	6.1	5.4	6.1	5.4	5.4	5.4	5.4	5.4	5.4	4.6
55°	5.4	5.4	5.4	5.4	4.6	4.6	4.6	3.8	3.8	3.1	3.1
57.5°	5.4	5.4	4.6	4.6	4.6	3.8	3.8	3.8	3.1	3.1	2.3
60°	5.4	5.4	4.6	4.6	4.6	3.8	3.8	3.1	3.1	2.3	2.3
62.5°	5.4	5.4	4.6	4.6	4.6	4.6	3.8	3.8	3.1	3.1	2.3
65°	5.4	5.4	5.4	4.6	4.6	4.6	3.8	3.8	3.1	3.1	2.3
67.5°	5.4	5.4	5.4	5.4	4.6	4.6	4.6	3.8	3.1	3.1	2.3
70°	5.4	5.4	5.4	5.4	5.4	4.6	4.6	3.8	3.8	3.1	2.3
72.5°	6.1	6.1	5.4	5.4	5.4	4.6	4.6	3.8	3.8	3.1	3.1
75°	6.1	6.1	5.4	5.4	5.4	4.6	4.6	3.8	3.8	3.1	3.1
77.5°	6.1	6.1	6.1	6.1	5.4	5.4	4.6	4.6	3.8	3.8	3.1
80°	6.1	6.1	6.1	6.1	5.4	5.4	5.4	4.6	3.8	3.8	3.1
82.5°	6.1	6.1	6.1	6.1	6.1	5.4	5.4	4.6	3.8	3.8	3.1
85°	6.1	6.1	6.1	6.1	6.1	5.4	5.4	4.6	3.8	3.8	3.1
87.5°	6.1	6.1	6.1	6.1	6.1	5.4	5.4	4.6	3.8	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 LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	876.1	876.1	876.1	876.1	876.1	876.1	876.1	876.1
2.5°	525.6	515.7	514.9	506.4	489.5	498.0	487.2	479.5
5°	336.6	325.8	315.1	316.6	304.3	306.6	298.2	293.6
7.5°	213.6	202.1	199.0	199.0	185.2	185.2	179.8	176.8
10°	134.5	125.3	122.2	116.8	110.7	109.9	107.6	106.8
12.5°	109.1	109.1	106.8	107.6	107.6	107.6	106.8	106.8
15°	119.1	119.9	117.6	118.3	119.9	119.1	119.9	119.9
17.5°	137.6	141.4	138.3	139.9	142.9	142.2	142.9	143.7
20°	168.3	174.4	170.6	173.7	177.5	176.8	179.1	179.8
22.5°	209.8	217.5	213.6	216.7	222.9	221.3	224.4	225.9
25°	255.9	263.6	259.0	262.8	266.7	268.2	268.2	269.0
27.5°	266.7	271.3	268.2	272.0	273.6	275.1	273.6	274.4
30°	244.4	248.2	245.1	249.0	249.0	250.5	249.0	247.5
32.5°	201.3	204.4	200.6	205.2	204.4	205.2	206.0	206.7
35°	152.2	153.7	151.4	152.2	152.9	153.7	156.0	156.0
37.5°	106.1	108.4	106.1	106.8	106.8	108.4	109.9	109.9
40°	70.7	73.0	70.7	72.2	71.5	72.2	73.8	73.8
42.5°	44.6	46.1	44.6	45.3	45.3	45.3	46.1	46.9
45°	26.9	27.7	26.9	27.7	27.7	27.7	28.4	28.4
47.5°	15.4	16.1	15.4	15.4	16.1	15.4	16.1	16.1
50°	8.5	8.5	8.5	8.5	8.5	7.7	7.7	8.5
52.5°	4.6	4.6	3.8	3.8	3.8	3.8	3.8	3.8
55°	2.3	2.3	1.5	1.5	1.5	0.8	1.5	0.8
57.5°	1.5	1.5	0.8	0.8	0.8	0.8	0.0	0.0
60°	1.5	1.5	0.8	0.8	0.8	0.0	0.0	0.0
62.5°	1.5	1.5	0.8	0.8	0.8	0.0	0.0	0.0
65°	1.5	1.5	0.8	0.8	0.8	0.0	0.0	0.0
67.5°	2.3	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	0.0
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)