

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: P179649

Luminaire Tested: **LDA6A45930D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179649
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: LDA6A45930D010TE 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: 3961.8 lumens
Efficiency: N/A
Efficacy: 74.8 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

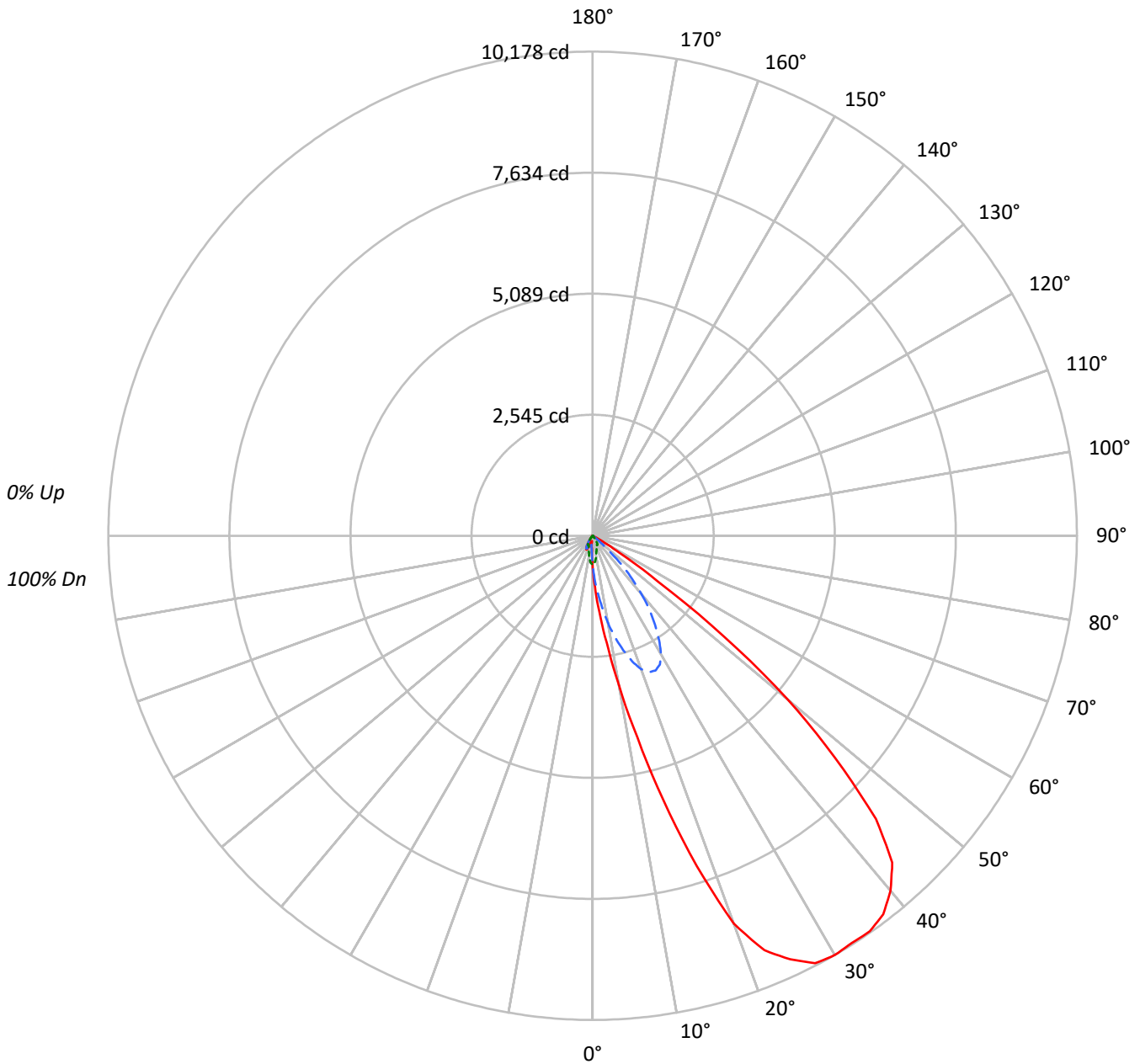
Input Watts (W): 53
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	33287	33287	33287
5°	87739	30321	10434
10°	177279	23602	6340
15°	326432	17690	9143
20°	506092	14147	15244
25°	594198	12551	19350
30°	644302	12622	14990
35°	679370	7515	8064
40°	696827	3206	3492
45°	652812	1264	1202
50°	456454	554	281
55°	160166	545	0
60°	32300	625	0
65°	2011	739	0
70°	385	1042	0
75°	0	1377	0
80°	0	2052	253
85°	0	4592	503



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.8	2.0
10°-20°	434.4	11.0
20°-30°	1026.8	25.9
30°-40°	1250.8	31.6
40°-50°	930.4	23.5
50°-60°	225.3	5.7
60°-70°	8.4	0.2
70°-80°	4.0	0.1
80°-90°	3.9	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°	1539.0	38.8
0°-40°	2789.8	70.4
0°-60°	3945.5	99.6
0°-90°	3961.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3961.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	607	607	607	607	607	
5°	1594	1192	551	257	190	200
15°	5752	2493	312	143	161	1733
25°	9824	3126	208	301	320	4511
35°	10152	2283	112	122	120	6322
45°	8420	870	16	18	16	6185
55°	1676	19	6	4	0	1896
65°	16	4	6	4	0	51
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°	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2
2.5°	1058.9	1041.0	1039.3	1021.4	1014.9	1012.5	987.2	978.3	944.9	938.4	891.2
5°	1594.4	1566.7	1561.0	1520.3	1490.2	1448.7	1426.7	1389.3	1310.3	1268.8	1192.3
7.5°	2268.3	2231.7	2223.5	2160.0	2097.4	2042.8	1997.3	1910.2	1765.3	1666.0	1509.7
10°	3184.7	3082.2	3044.7	2910.4	2781.0	2679.3	2626.4	2435.1	2217.0	2083.5	1865.4
12.5°	4348.6	4177.6	4107.6	3900.1	3672.2	3505.4	3402.8	3102.5	2747.7	2492.1	2180.4
15°	5751.7	5553.1	5427.8	5166.5	4752.2	4514.6	4333.1	3852.1	3334.5	2947.9	2492.9
17.5°	7279.3	7123.9	6936.7	6527.3	5859.9	5574.3	5244.6	4613.9	3904.2	3366.2	2772.1
20°	8675.1	8414.7	8273.9	7818.1	7044.9	6668.1	6262.0	5317.1	4408.0	3707.2	2986.1
22.5°	9431.2	9178.9	9094.3	8698.7	7989.9	7570.7	7053.9	5936.4	4794.6	3940.8	3100.1
25°	9823.5	9593.2	9598.9	9241.6	8601.9	8208.0	7682.2	6404.4	5058.3	4063.7	3126.1
27.5°	10130.4	9847.1	9797.5	9530.5	8961.6	8558.8	8051.7	6659.2	5155.1	4050.7	3055.3
30°	10178.4	9946.4	9982.2	9611.1	9091.8	8672.7	8145.3	6645.3	5055.8	3887.1	2871.4
32.5°	10145.8	9915.5	9997.7	9594.8	9035.7	8575.8	7989.0	6375.1	4764.5	3584.3	2601.2
35°	10151.5	9887.0	9826.0	9485.0	8819.2	8279.6	7571.5	5881.9	4333.9	3190.4	2282.9
37.5°	10030.3	9673.8	9684.4	9235.1	8400.9	7685.5	6883.8	5224.3	3824.4	2769.6	1963.1
40°	9737.3	9470.3	9385.7	8718.3	7604.9	6766.6	5993.4	4509.7	3235.2	2330.1	1587.9
42.5°	9319.7	8998.3	8750.0	7825.5	6476.9	5707.7	5039.5	3765.0	2678.5	1910.2	1233.0
45°	8420.4	8072.9	7591.9	6482.5	5340.7	4673.3	4115.8	3056.1	2166.5	1476.4	870.0
47.5°	6908.2	6581.8	6087.0	5155.1	4263.9	3708.0	3273.4	2393.6	1583.8	931.1	431.4
50°	5352.1	5103.8	4726.2	3917.2	3172.5	2652.4	2265.0	1503.2	808.2	424.8	180.7
52.5°	3488.3	3312.5	2976.4	2361.1	1793.0	1405.6	1142.7	639.7	380.9	179.1	52.9
55°	1675.8	1584.6	1341.3	972.6	704.0	577.9	488.3	310.1	144.1	43.1	18.7
57.5°	668.2	648.7	577.9	435.4	333.7	283.2	219.7	85.5	28.5	17.9	11.4
60°	294.6	285.7	239.3	158.7	85.5	48.8	35.8	21.2	13.8	10.6	7.3
62.5°	42.3	39.1	33.4	26.0	21.2	17.9	15.5	11.4	7.3	5.7	4.9
65°	15.5	15.5	13.8	11.4	9.8	9.0	8.1	5.7	4.1	4.1	4.1
67.5°	6.5	6.5	6.5	4.9	4.9	4.1	3.3	3.3	3.3	3.3	4.1
70°	2.4	2.4	2.4	1.6	1.6	1.6	2.4	2.4	2.4	3.3	4.1
72.5°	0.0	0.8	0.8	0.8	1.6	1.6	1.6	2.4	2.4	3.3	4.1
75°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	2.4	3.3	4.1
77.5°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	3.3	4.1
80°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	3.3	4.1
82.5°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	4.1	4.1
85°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	3.3	4.1
87.5°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	4.1	4.1
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°	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2
2.5°	851.3	839.9	801.7	763.4	757.7	741.4	708.1	669.0	618.5	586.8	555.1
5°	1093.0	1036.1	971.8	897.7	874.9	842.4	772.4	697.5	613.7	551.0	492.4
7.5°	1375.5	1248.5	1127.2	1008.4	963.6	913.2	806.6	699.1	584.4	493.2	420.0
10°	1640.0	1444.6	1256.6	1088.2	1021.4	953.1	809.8	671.5	529.0	424.0	349.2
12.5°	1903.7	1623.7	1366.5	1145.9	1055.6	967.7	791.9	621.8	460.7	360.5	300.3
15°	2111.2	1785.7	1446.3	1175.2	1062.9	955.5	748.0	553.4	393.9	311.7	258.0
17.5°	2255.3	1878.4	1476.4	1163.0	1034.4	913.2	678.8	473.7	340.2	273.5	221.4
20°	2354.6	1907.7	1455.2	1112.6	973.4	839.9	591.7	402.1	301.9	242.5	190.4
22.5°	2382.2	1879.2	1395.0	1036.9	893.6	756.1	501.3	354.9	274.3	218.1	184.8
25°	2355.4	1806.8	1304.6	946.5	796.0	651.9	425.7	326.4	253.1	207.5	214.9
27.5°	2257.7	1679.0	1179.3	830.2	675.5	539.6	374.4	292.2	223.0	218.9	227.9
30°	2096.6	1495.9	1030.4	681.2	533.9	430.5	314.2	230.3	195.3	199.4	205.1
32.5°	1864.6	1271.3	839.1	504.6	391.5	323.9	224.6	159.5	154.6	157.9	162.0
35°	1571.6	1034.4	628.3	348.3	277.5	223.0	131.8	113.1	110.7	112.3	113.9
37.5°	1275.3	799.2	427.3	234.4	168.5	113.1	78.9	74.1	72.4	73.2	74.1
40°	989.7	555.9	268.6	112.3	65.9	56.2	48.8	46.4	44.8	44.8	45.6
42.5°	722.7	329.6	133.5	43.9	35.8	33.4	29.3	27.7	26.0	26.9	27.7
45°	404.5	146.5	45.6	24.4	22.0	20.3	17.9	17.1	16.3	16.3	16.3
47.5°	172.5	51.3	22.0	15.5	13.8	13.0	11.4	10.6	9.8	9.8	9.8
50°	57.0	20.3	13.8	10.6	9.0	8.1	7.3	6.5	6.5	6.5	7.3
52.5°	20.3	13.0	9.0	7.3	6.5	6.5	5.7	5.7	5.7	5.7	5.7
55°	12.2	9.0	6.5	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
57.5°	8.1	5.7	5.7	4.9	4.9	4.9	4.9	4.9	4.9	5.7	5.7
60°	5.7	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.7	5.7
62.5°	4.9	4.1	4.1	4.9	4.9	4.9	4.9	5.7	5.7	5.7	5.7
65°	4.1	4.1	4.1	4.9	4.9	4.9	4.9	5.7	5.7	5.7	5.7
67.5°	4.1	4.1	4.9	4.9	4.9	4.9	5.7	5.7	5.7	5.7	6.5
70°	4.1	4.1	4.9	4.9	4.9	5.7	5.7	5.7	5.7	6.5	6.5
72.5°	4.1	4.9	4.9	4.9	5.7	5.7	5.7	6.5	6.5	6.5	6.5
75°	4.1	4.9	4.9	5.7	5.7	5.7	5.7	6.5	6.5	6.5	6.5
77.5°	4.1	4.9	4.9	5.7	5.7	5.7	6.5	6.5	6.5	6.5	6.5
80°	4.9	4.9	5.7	5.7	5.7	6.5	6.5	6.5	6.5	6.5	7.3
82.5°	4.9	4.9	5.7	5.7	5.7	6.5	6.5	6.5	6.5	6.5	7.3
85°	4.9	4.9	5.7	5.7	5.7	6.5	6.5	6.5	6.5	7.3	7.3
87.5°	4.9	4.9	5.7	5.7	5.7	6.5	6.5	6.5	6.5	7.3	7.3
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°	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2
2.5°	522.5	498.1	463.9	452.5	428.9	411.8	393.1	371.9	367.9	346.7	344.3
5°	435.4	396.4	357.3	342.6	322.3	305.2	286.5	266.1	257.2	236.8	224.6
7.5°	358.9	321.5	286.5	271.8	252.3	230.3	208.4	187.2	175.0	155.5	145.7
10°	301.1	263.7	226.3	211.6	193.7	169.3	145.7	123.7	115.6	110.7	111.5
12.5°	251.5	214.1	176.6	160.3	141.6	122.1	121.3	119.6	122.9	122.1	122.9
15°	210.8	170.9	135.1	130.2	130.2	133.5	136.7	137.5	143.2	143.2	144.9
17.5°	173.4	145.7	147.3	147.3	150.6	156.3	162.8	166.0	175.0	175.8	179.1
20°	161.1	167.7	175.0	176.6	182.3	191.3	200.2	206.7	218.1	221.4	227.9
22.5°	191.3	202.7	214.1	217.3	224.6	237.7	253.9	259.6	273.5	273.5	282.4
25°	225.4	242.5	253.9	258.0	266.1	277.5	288.1	291.4	301.1	297.9	301.1
27.5°	239.3	251.5	258.8	262.9	264.5	274.3	279.2	277.5	284.0	279.2	279.2
30°	212.4	221.4	225.4	227.9	227.9	235.2	235.2	232.8	236.8	232.8	230.3
32.5°	166.8	173.4	176.6	176.6	175.8	180.7	179.1	175.8	177.4	175.0	169.3
35°	116.4	121.3	123.7	122.9	122.1	126.2	123.7	121.3	122.1	120.5	116.4
37.5°	76.5	77.3	78.9	80.6	79.8	83.0	81.4	79.8	80.6	78.9	76.5
40°	46.4	48.0	49.6	49.6	49.6	50.5	50.5	49.6	51.3	49.6	48.0
42.5°	27.7	29.3	29.3	29.3	30.1	30.1	30.9	29.3	30.9	29.3	28.5
45°	17.1	17.1	17.1	17.9	17.1	17.9	17.9	17.1	17.9	17.1	16.3
47.5°	10.6	10.6	10.6	10.6	10.6	10.6	10.6	9.8	10.6	9.8	9.0
50°	6.5	7.3	6.5	6.5	6.5	6.5	6.5	5.7	5.7	4.9	4.9
52.5°	5.7	5.7	5.7	5.7	5.7	5.7	4.9	4.9	4.1	3.3	3.3
55°	5.7	5.7	5.7	4.9	4.9	4.9	4.9	4.1	4.1	3.3	2.4
57.5°	5.7	5.7	4.9	4.9	4.9	4.9	4.1	4.1	3.3	2.4	2.4
60°	5.7	5.7	5.7	4.9	4.9	4.9	4.1	4.1	3.3	2.4	2.4
62.5°	5.7	5.7	5.7	4.9	4.9	4.9	4.9	4.1	3.3	2.4	2.4
65°	5.7	5.7	5.7	5.7	5.7	4.9	4.9	4.1	4.1	3.3	2.4
67.5°	6.5	5.7	5.7	5.7	5.7	5.7	4.9	4.1	4.1	3.3	2.4
70°	6.5	6.5	5.7	5.7	5.7	5.7	4.9	4.9	4.1	3.3	2.4
72.5°	6.5	6.5	6.5	6.5	5.7	5.7	5.7	4.9	4.1	3.3	3.3
75°	6.5	6.5	6.5	6.5	6.5	5.7	5.7	4.9	4.9	4.1	3.3
77.5°	7.3	6.5	6.5	6.5	6.5	6.5	5.7	4.9	4.9	4.1	3.3
80°	7.3	7.3	6.5	6.5	6.5	6.5	5.7	4.9	4.9	4.1	3.3
82.5°	7.3	7.3	6.5	6.5	6.5	6.5	5.7	5.7	4.9	4.1	3.3
85°	7.3	7.3	6.5	6.5	6.5	6.5	5.7	4.9	4.9	4.1	3.3
87.5°	7.3	7.3	6.5	6.5	6.5	6.5	5.7	4.9	4.9	4.1	3.3
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: LDA6A45930D010TE LARH30NF 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	607.2	607.2	607.2	607.2	607.2	607.2	607.2	607.2
2.5°	329.6	328.0	322.3	323.9	319.9	310.9	311.7	308.5
5°	216.5	211.6	205.9	205.9	200.2	192.1	192.1	189.6
7.5°	131.8	124.5	118.8	118.0	112.3	108.2	108.2	107.4
10°	111.5	112.3	112.3	113.1	112.3	112.3	113.1	113.9
12.5°	125.3	127.8	127.8	128.6	127.8	129.4	129.4	131.0
15°	149.8	153.8	154.6	156.3	155.5	157.9	159.5	161.1
17.5°	188.0	192.9	194.5	199.4	198.6	201.0	202.7	205.9
20°	236.8	244.2	246.6	253.1	252.3	254.7	258.8	261.3
22.5°	291.4	300.3	301.1	306.8	306.0	308.5	310.1	310.9
25°	306.0	311.7	310.9	314.2	314.2	315.0	315.0	319.9
27.5°	280.0	284.0	284.0	284.0	284.9	285.7	285.7	289.7
30°	230.3	232.0	232.8	230.3	232.0	232.8	232.8	236.8
32.5°	170.9	171.7	172.5	169.3	171.7	171.7	171.7	175.0
35°	118.0	118.0	118.8	116.4	118.0	118.8	118.0	120.5
37.5°	77.3	77.3	77.3	77.3	77.3	77.3	76.5	78.9
40°	48.0	48.8	48.0	48.0	47.2	47.2	47.2	48.8
42.5°	28.5	28.5	27.7	27.7	27.7	27.7	28.5	28.5
45°	16.3	16.3	15.5	15.5	14.6	15.5	15.5	15.5
47.5°	9.0	8.1	8.1	8.1	7.3	7.3	7.3	8.1
50°	4.1	4.1	4.1	3.3	3.3	3.3	2.4	3.3
52.5°	2.4	1.6	1.6	1.6	0.8	0.8	0.0	0.8
55°	1.6	1.6	0.8	0.8	0.0	0.0	0.0	0.0
57.5°	1.6	0.8	0.8	0.8	0.0	0.0	0.0	0.0
60°	1.6	0.8	0.8	0.8	0.0	0.0	0.0	0.0
62.5°	1.6	0.8	0.8	0.8	0.0	0.0	0.0	0.0
65°	1.6	0.8	0.8	0.8	0.0	0.0	0.0	0.0
67.5°	1.6	1.6	0.8	0.8	0.8	0.0	0.0	0.0
70°	2.4	1.6	1.6	0.8	0.8	0.0	0.0	0.0
72.5°	2.4	1.6	1.6	1.6	0.8	0.8	0.0	0.0
75°	2.4	1.6	1.6	1.6	0.8	0.8	0.0	0.0
77.5°	2.4	2.4	1.6	1.6	0.8	0.8	0.8	0.8
80°	2.4	2.4	1.6	1.6	1.6	0.8	0.8	0.8
82.5°	2.4	2.4	1.6	1.6	1.6	0.8	0.8	0.8
85°	2.4	2.4	1.6	1.6	1.6	0.8	0.8	0.8
87.5°	2.4	2.4	1.6	1.6	1.6	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)