

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: P179891

Luminaire Tested: **LDA6A65940D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179891
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: LDA6A65940D010TE 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5737.5 lumens
Efficiency: N/A
Efficacy: 73.6 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

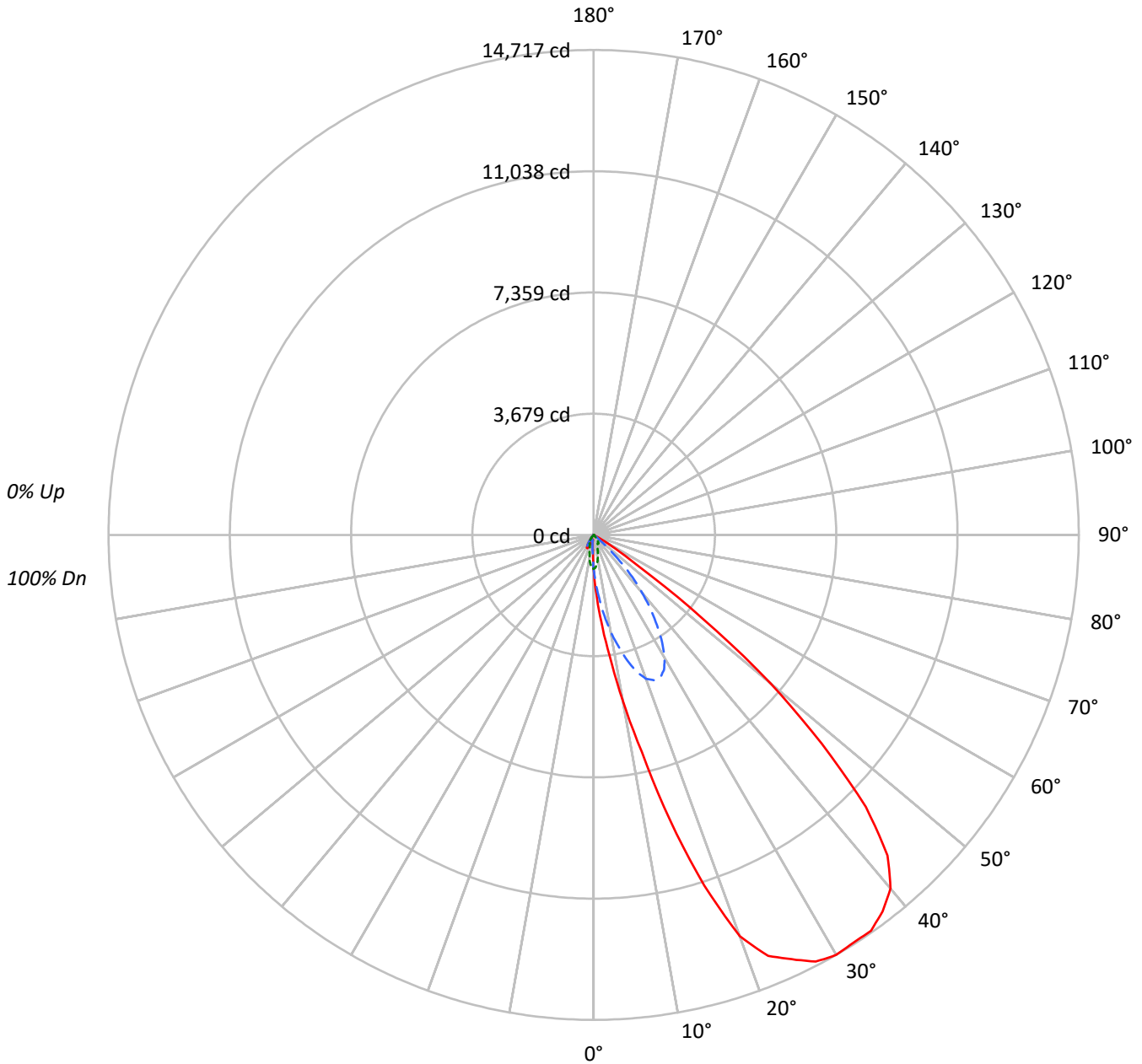
Input Watts (W): 78
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	56733	56733	56733
5°	145537	51612	16074
10°	283695	39667	7726
15°	509265	26941	10363
20°	756095	20448	17105
25°	859423	16852	26820
30°	931624	18427	25225
35°	981306	11939	15640
40°	1002521	5303	7614
45°	905474	2023	2830
50°	596049	802	802
55°	163225	698	0
60°	32596	800	0
65°	2296	1077	0
70°	337	1330	0
75°	0	1991	0
80°	0	2968	316
85°	0	5913	629



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.8	2.2
10°-20°	673.5	11.7
20°-30°	1526.5	26.6
30°-40°	1832.3	31.9
40°-50°	1291.4	22.5
50°-60°	266.5	4.6
60°-70°	9.4	0.2
70°-80°	5.6	0.1
80°-90°	5.5	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°	2326.8	40.6
0°-40°	4159.1	72.5
0°-60°	5717.0	99.6
0°-90°	5737.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5737.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1035	1035	1035	1035	1035	
5°	2645	1927	938	390	292	325
15°	8973	3948	475	169	183	2663
25°	14208	4775	279	390	443	6557
35°	14663	3344	178	234	234	9116
45°	11679	1147	26	36	36	8590
55°	1708	23	7	5	0	2250
65°	18	5	8	5	0	53
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°	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9
2.5°	1764.2	1711.0	1731.8	1670.3	1656.7	1645.2	1656.7	1589.9	1552.4	1504.4	1465.8
5°	2644.7	2581.1	2595.7	2488.2	2439.2	2405.8	2399.5	2261.8	2158.5	2044.8	1926.9
7.5°	3681.7	3621.2	3612.8	3445.9	3344.7	3287.3	3263.3	3066.2	2887.8	2685.4	2464.2
10°	5096.4	4958.7	4915.9	4673.9	4480.8	4358.8	4208.6	3893.5	3580.5	3274.8	2993.1
12.5°	6742.7	6667.5	6561.1	6134.4	5796.4	5623.2	5398.9	4906.5	4432.9	3927.9	3456.4
15°	8973.2	8706.1	8524.6	7908.0	7363.4	7096.3	6768.7	6015.5	5299.8	4660.3	3947.7
17.5°	11152.6	11012.8	10729.0	9928.8	9090.0	8668.5	8180.3	7156.8	6145.9	5236.2	4366.1
20°	12960.5	12829.1	12505.7	11751.4	10820.8	10199.0	9584.5	8180.3	6859.5	5695.2	4645.7
22.5°	13826.5	13743.0	13479.1	12833.3	12040.4	11448.8	10788.5	9051.4	7387.4	5995.7	4773.0
25°	14208.3	14169.7	13999.6	13490.5	12743.5	12241.7	11617.9	9668.0	7716.0	6135.5	4775.0
27.5°	14595.4	14602.7	14227.1	13824.4	13116.0	12634.0	12033.1	9941.3	7775.5	6057.2	4618.6
30°	14717.4	14640.2	14474.3	13896.4	13223.5	12711.2	12066.5	9815.1	7531.4	5735.9	4306.6
32.5°	14667.3	14637.1	14454.5	13843.2	13040.9	12476.5	11744.1	9314.3	7049.4	5276.9	3864.3
35°	14663.2	14606.8	14188.5	13663.7	12675.7	11978.8	11013.8	8504.7	6367.1	4671.8	3343.7
37.5°	14398.2	14258.4	13944.4	13237.0	11935.0	11051.4	9969.5	7515.7	5532.5	3992.6	2827.3
40°	14009.0	13821.2	13408.1	12337.7	10651.8	9633.6	8577.8	6392.1	4648.8	3322.8	2278.5
42.5°	13196.3	12912.6	12328.3	10856.3	8941.9	8023.8	7145.4	5253.9	3791.2	2707.3	1739.1
45°	11679.4	11291.3	10501.6	8885.5	7223.6	6474.5	5768.2	4227.3	3034.9	2008.3	1146.6
47.5°	9387.3	9027.4	8308.6	7073.4	5665.0	5031.7	4468.3	3144.4	2057.3	1163.2	547.7
50°	6988.9	6680.1	6118.8	4915.9	3802.7	3305.1	2823.1	1786.1	964.0	552.9	227.4
52.5°	4170.0	4016.6	3519.0	2726.1	1877.9	1618.1	1298.9	756.4	486.2	200.3	61.6
55°	1707.8	1576.4	1389.6	1115.3	816.9	692.7	592.6	373.5	151.3	41.7	23.0
57.5°	772.0	742.8	658.3	517.5	375.6	315.1	212.8	70.9	33.4	20.9	13.6
60°	297.3	268.1	229.5	124.1	53.2	44.9	36.5	24.0	16.7	11.5	8.3
62.5°	42.8	40.7	36.5	29.2	23.0	20.9	17.7	12.5	9.4	7.3	6.3
65°	17.7	17.7	15.6	12.5	10.4	9.4	8.3	6.3	5.2	5.2	5.2
67.5°	7.3	7.3	6.3	5.2	4.2	4.2	4.2	3.1	4.2	4.2	5.2
70°	2.1	2.1	2.1	2.1	2.1	2.1	3.1	3.1	4.2	4.2	5.2
72.5°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	4.2	5.2	5.2
75°	0.0	0.0	1.0	1.0	2.1	2.1	2.1	3.1	4.2	5.2	5.2
77.5°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	5.2
80°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	6.3
82.5°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	6.3
85°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	6.3
87.5°	0.0	0.0	1.0	1.0	2.1	2.1	3.1	3.1	4.2	5.2	6.3
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9
2.5°	1432.4	1365.6	1346.9	1288.4	1239.4	1215.4	1185.2	1117.3	1066.2	998.4	957.7
5°	1844.5	1718.3	1618.1	1496.0	1415.7	1363.6	1282.2	1158.0	1057.9	937.9	852.4
7.5°	2290.0	2059.4	1878.9	1677.6	1561.8	1471.0	1332.3	1153.9	1006.8	847.1	714.6
10°	2719.8	2375.5	2091.8	1802.8	1650.5	1524.2	1333.3	1109.0	913.9	712.6	572.8
12.5°	3098.5	2654.1	2254.5	1883.1	1694.3	1536.7	1297.8	1028.7	792.9	586.3	463.2
15°	3414.6	2870.0	2369.3	1913.4	1697.4	1509.6	1223.8	913.9	658.3	474.7	388.1
17.5°	3654.6	2983.8	2404.7	1876.8	1636.9	1432.4	1110.0	768.9	534.2	402.7	326.5
20°	3778.7	3005.7	2353.6	1777.7	1525.3	1315.6	960.9	623.9	452.8	350.5	273.3
22.5°	3794.4	2944.1	2231.6	1635.8	1384.4	1173.7	796.0	520.6	403.7	309.9	241.0
25°	3701.5	2810.6	2057.3	1475.2	1230.0	1010.9	647.9	466.3	367.2	278.6	277.5
27.5°	3503.3	2581.1	1848.7	1288.4	1043.3	822.1	549.8	421.5	327.6	295.2	314.0
30°	3223.7	2286.8	1592.0	1052.7	814.8	632.2	463.2	347.4	287.9	291.1	306.7
32.5°	2845.0	1921.7	1290.5	771.0	583.2	475.7	347.4	236.8	238.9	240.0	253.5
35°	2369.3	1540.9	964.0	518.5	410.0	334.9	196.1	174.2	177.4	178.4	187.8
37.5°	1898.8	1184.1	640.6	345.3	257.7	176.3	122.1	116.8	118.9	117.9	128.3
40°	1454.3	825.2	383.9	171.1	99.1	82.4	75.1	72.0	73.0	74.1	80.3
42.5°	1029.7	447.6	189.9	64.7	52.2	48.0	44.9	42.8	43.8	43.8	48.0
45°	522.7	211.8	64.7	35.5	32.3	29.2	27.1	26.1	26.1	26.1	28.2
47.5°	226.4	69.9	30.3	21.9	19.8	18.8	16.7	15.6	15.6	15.6	16.7
50°	70.9	28.2	18.8	14.6	12.5	11.5	10.4	10.4	10.4	9.4	10.4
52.5°	26.1	17.7	12.5	9.4	8.3	8.3	8.3	7.3	8.3	7.3	8.3
55°	15.6	11.5	8.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
57.5°	10.4	8.3	7.3	7.3	6.3	6.3	7.3	7.3	7.3	7.3	7.3
60°	7.3	7.3	6.3	6.3	6.3	6.3	7.3	7.3	7.3	7.3	7.3
62.5°	6.3	6.3	6.3	6.3	6.3	6.3	7.3	7.3	7.3	7.3	8.3
65°	5.2	6.3	6.3	6.3	6.3	6.3	7.3	7.3	8.3	8.3	8.3
67.5°	5.2	6.3	6.3	7.3	7.3	7.3	7.3	8.3	8.3	8.3	8.3
70°	6.3	6.3	7.3	7.3	7.3	7.3	8.3	8.3	8.3	8.3	9.4
72.5°	6.3	6.3	7.3	7.3	7.3	7.3	8.3	8.3	9.4	9.4	9.4
75°	6.3	7.3	7.3	7.3	7.3	8.3	8.3	8.3	9.4	9.4	9.4
77.5°	6.3	7.3	7.3	8.3	8.3	8.3	8.3	9.4	9.4	9.4	9.4
80°	6.3	7.3	7.3	8.3	8.3	8.3	9.4	9.4	9.4	9.4	10.4
82.5°	6.3	7.3	7.3	8.3	8.3	8.3	9.4	9.4	9.4	9.4	10.4
85°	7.3	7.3	8.3	8.3	8.3	8.3	9.4	9.4	9.4	9.4	10.4
87.5°	7.3	7.3	8.3	8.3	8.3	8.3	9.4	9.4	10.4	9.4	10.4
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°	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9
2.5°	903.5	843.0	801.2	785.6	755.3	707.3	679.2	653.1	604.1	593.6	566.5
5°	754.3	657.3	588.4	562.3	527.9	487.2	447.6	421.5	390.2	377.7	358.9
7.5°	594.7	497.6	438.2	417.3	393.3	359.9	324.5	298.4	266.0	249.3	233.7
10°	467.4	395.4	345.3	324.5	299.4	263.9	227.4	193.0	164.8	147.1	144.0
12.5°	379.8	320.3	267.1	245.2	216.0	180.5	154.4	153.4	151.3	150.2	152.3
15°	310.9	253.5	197.2	173.2	164.8	163.8	166.9	170.1	169.0	172.1	174.2
17.5°	255.6	194.0	181.5	182.6	183.6	186.7	192.0	200.3	201.4	206.6	210.7
20°	208.7	205.5	210.7	214.9	218.0	224.3	235.8	246.2	249.3	256.6	265.0
22.5°	236.8	246.2	257.7	262.9	267.1	278.6	291.1	307.8	314.0	323.4	334.9
25°	285.9	301.5	319.2	325.5	331.8	350.5	365.1	385.0	390.2	401.7	413.1
27.5°	326.5	343.2	362.0	370.4	375.6	394.4	406.9	419.4	419.4	425.7	434.0
30°	320.3	333.8	349.5	355.8	357.8	371.4	383.9	388.1	386.0	389.1	395.4
32.5°	266.0	276.5	289.0	294.2	296.3	305.7	316.1	316.1	315.1	315.1	319.2
35°	197.2	204.5	210.7	216.0	219.1	225.3	234.7	233.7	233.7	231.6	234.7
37.5°	132.5	136.7	144.0	146.1	147.1	151.3	158.6	158.6	156.5	157.5	159.6
40°	80.3	85.5	89.7	90.8	92.9	96.0	101.2	101.2	101.2	101.2	102.2
42.5°	48.0	51.1	54.3	54.3	55.3	59.5	61.6	61.6	61.6	61.6	62.6
45°	28.2	29.2	31.3	32.3	32.3	34.4	35.5	35.5	35.5	35.5	36.5
47.5°	16.7	17.7	17.7	18.8	18.8	19.8	20.9	20.9	19.8	19.8	19.8
50°	10.4	10.4	10.4	10.4	11.5	11.5	11.5	11.5	11.5	11.5	10.4
52.5°	8.3	8.3	8.3	8.3	7.3	7.3	7.3	7.3	6.3	6.3	5.2
55°	7.3	7.3	7.3	7.3	7.3	6.3	6.3	6.3	5.2	4.2	3.1
57.5°	7.3	7.3	7.3	7.3	7.3	6.3	6.3	5.2	4.2	4.2	3.1
60°	7.3	7.3	7.3	7.3	7.3	6.3	6.3	5.2	4.2	4.2	3.1
62.5°	8.3	8.3	7.3	7.3	7.3	6.3	6.3	5.2	5.2	4.2	3.1
65°	8.3	8.3	7.3	7.3	7.3	7.3	6.3	6.3	5.2	4.2	3.1
67.5°	8.3	8.3	8.3	8.3	7.3	7.3	7.3	6.3	5.2	4.2	3.1
70°	9.4	9.4	8.3	8.3	8.3	7.3	7.3	6.3	5.2	5.2	4.2
72.5°	9.4	9.4	8.3	8.3	8.3	8.3	7.3	6.3	6.3	5.2	4.2
75°	9.4	9.4	9.4	9.4	8.3	8.3	7.3	7.3	6.3	5.2	4.2
77.5°	9.4	9.4	9.4	9.4	8.3	8.3	8.3	7.3	6.3	5.2	4.2
80°	9.4	9.4	9.4	9.4	9.4	8.3	8.3	7.3	6.3	5.2	4.2
82.5°	10.4	10.4	9.4	9.4	9.4	8.3	8.3	7.3	6.3	5.2	5.2
85°	10.4	10.4	9.4	9.4	9.4	8.3	8.3	7.3	6.3	6.3	5.2
87.5°	10.4	10.4	9.4	9.4	9.4	8.3	8.3	7.3	6.3	6.3	5.2
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: P179891

CATALOG NUMBER: LDA6A65940D010TE LARH30NF 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9	1034.9
2.5°	549.8	518.5	508.1	515.4	507.0	500.8	492.4	488.3
5°	344.3	321.3	314.0	316.1	308.8	302.5	294.2	292.1
7.5°	211.8	189.9	181.5	181.5	173.2	165.9	160.7	157.5
10°	141.9	137.7	138.8	139.8	138.8	139.8	136.7	138.8
12.5°	152.3	150.2	152.3	153.4	153.4	155.4	151.3	154.4
15°	177.4	175.3	178.4	180.5	180.5	183.6	179.4	182.6
17.5°	217.0	216.0	221.2	223.3	224.3	229.5	224.3	228.5
20°	274.4	273.3	280.6	283.8	282.7	293.2	285.9	293.2
22.5°	348.5	346.4	356.8	359.9	361.0	374.5	368.3	373.5
25°	422.5	424.6	429.8	435.0	436.1	447.6	438.2	443.4
27.5°	438.2	435.0	438.2	444.4	445.5	450.7	442.3	446.5
30°	396.4	391.2	392.3	399.6	401.7	403.7	396.4	398.5
32.5°	322.4	314.0	314.0	321.3	323.4	326.5	314.0	319.2
35°	237.9	230.6	230.6	235.8	236.8	238.9	229.5	233.7
37.5°	162.8	156.5	158.6	160.7	161.7	163.8	162.8	161.7
40°	104.3	100.2	103.3	103.3	104.3	105.4	105.4	106.4
42.5°	63.6	60.5	62.6	62.6	63.6	63.6	63.6	64.7
45°	36.5	35.5	35.5	36.5	36.5	36.5	35.5	36.5
47.5°	19.8	18.8	19.8	19.8	19.8	19.8	19.8	19.8
50°	10.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
52.5°	5.2	4.2	4.2	4.2	3.1	4.2	3.1	3.1
55°	3.1	2.1	2.1	2.1	1.0	1.0	0.0	0.0
57.5°	2.1	1.0	1.0	1.0	0.0	0.0	0.0	0.0
60°	2.1	1.0	1.0	1.0	0.0	0.0	0.0	0.0
62.5°	2.1	1.0	1.0	1.0	0.0	0.0	0.0	0.0
65°	2.1	1.0	1.0	1.0	0.0	0.0	0.0	0.0
67.5°	3.1	2.1	1.0	1.0	1.0	0.0	0.0	0.0
70°	3.1	2.1	2.1	1.0	1.0	0.0	0.0	0.0
72.5°	3.1	2.1	2.1	2.1	1.0	1.0	0.0	0.0
75°	3.1	2.1	2.1	2.1	1.0	1.0	0.0	0.0
77.5°	3.1	3.1	2.1	2.1	1.0	1.0	1.0	0.0
80°	4.2	3.1	2.1	2.1	2.1	1.0	1.0	1.0
82.5°	4.2	3.1	2.1	2.1	2.1	1.0	1.0	1.0
85°	4.2	3.1	3.1	2.1	2.1	1.0	1.0	1.0
87.5°	4.2	3.1	3.1	2.1	2.1	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)