

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: P179646

Luminaire Tested: **LDA6A45835D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179646
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: LDA6A45835D010TE 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 / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4868.0 lumens
Efficiency: N/A
Efficacy: 91.8 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

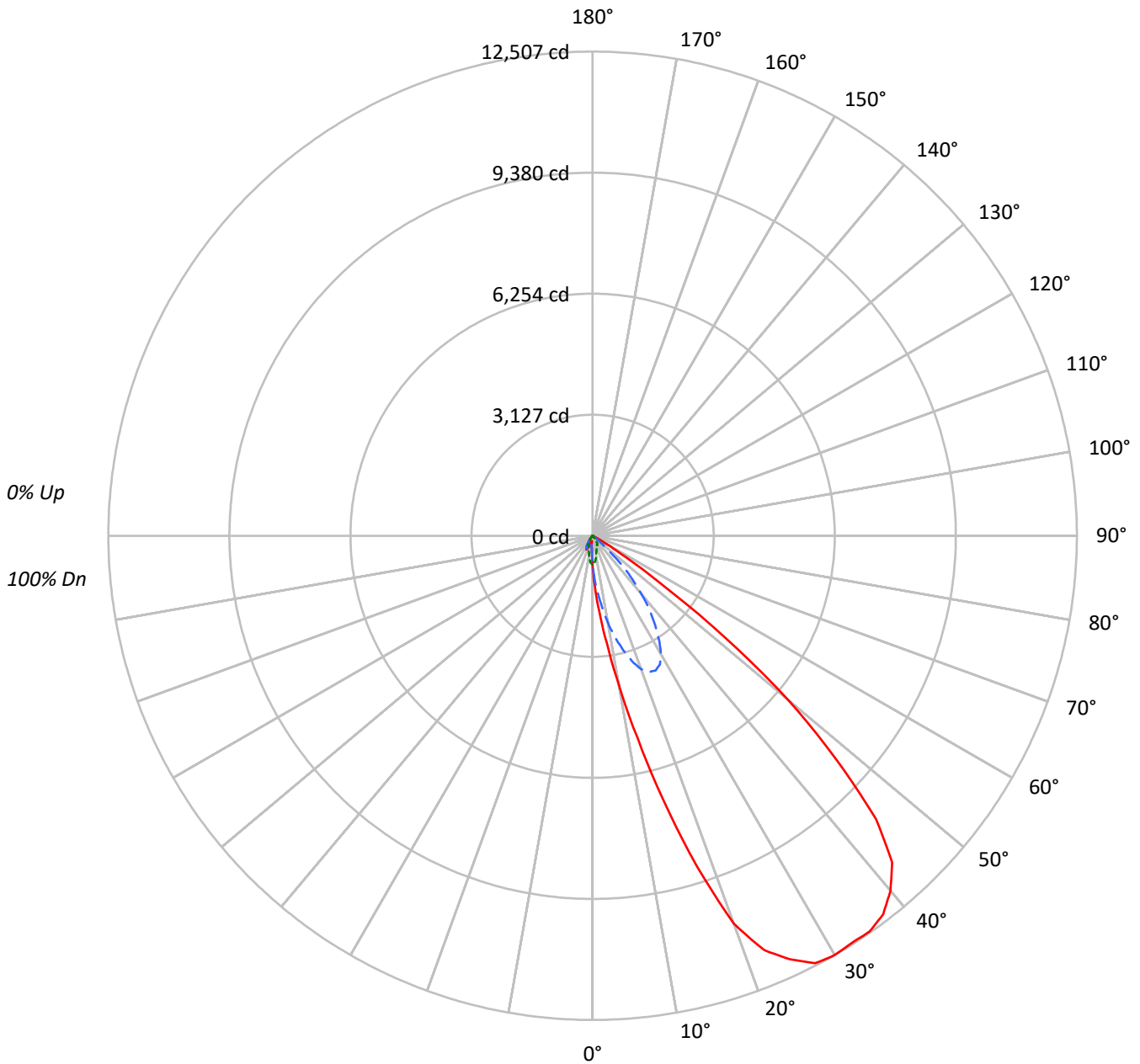
Input Watts (W): 53
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	40896	40896	40896
5°	107808	37255	12822
10°	217832	29002	7793
15°	401103	21737	11237
20°	621864	17385	18727
25°	730119	15424	23772
30°	791685	15509	18421
35°	834778	9235	9905
40°	856218	3936	4294
45°	802138	1551	1473
50°	560860	682	341
55°	196801	669	0
60°	39690	767	0
65°	2465	908	0
70°	481	1282	0
75°	0	1694	0
80°	0	2526	316
85°	0	5661	629



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.6	2.0
10°-20°	533.7	11.0
20°-30°	1261.6	25.9
30°-40°	1536.9	31.6
40°-50°	1143.2	23.5
50°-60°	276.8	5.7
60°-70°	10.3	0.2
70°-80°	5.0	0.1
80°-90°	4.8	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°	1891.0	38.8
0°-40°	3427.9	70.4
0°-60°	4848.0	99.6
0°-90°	4868.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4868.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	746	746	746	746	746	
5°	1959	1465	677	316	233	246
15°	7067	3063	383	176	198	2130
25°	12071	3841	255	370	393	5543
35°	12474	2805	138	150	148	7769
45°	10346	1069	20	22	19	7600
55°	2059	23	7	5	0	2329
65°	19	5	7	5	0	63
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°	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0
2.5°	1301.1	1279.1	1277.1	1255.1	1247.1	1244.1	1213.1	1202.1	1161.1	1153.1	1095.1
5°	1959.1	1925.1	1918.1	1868.1	1831.1	1780.1	1753.1	1707.1	1610.1	1559.1	1465.1
7.5°	2787.1	2742.1	2732.1	2654.1	2577.1	2510.1	2454.1	2347.1	2169.1	2047.1	1855.1
10°	3913.2	3787.2	3741.2	3576.2	3417.2	3292.2	3227.2	2992.2	2724.1	2560.1	2292.1
12.5°	5343.3	5133.3	5047.3	4792.3	4512.2	4307.2	4181.2	3812.2	3376.2	3062.2	2679.1
15°	7067.4	6823.4	6669.4	6348.3	5839.3	5547.3	5324.3	4733.2	4097.2	3622.2	3063.2
17.5°	8944.5	8753.5	8523.4	8020.4	7200.4	6849.4	6444.3	5669.3	4797.3	4136.2	3406.2
20°	10659.6	10339.5	10166.5	9606.5	8656.5	8193.4	7694.4	6533.3	5416.3	4555.2	3669.2
22.5°	11588.6	11278.6	11174.6	10688.6	9817.5	9302.5	8667.5	7294.4	5891.3	4842.3	3809.2
25°	12070.6	11787.6	11794.6	11355.6	10569.6	10085.5	9439.5	7869.4	6215.3	4993.3	3841.2
27.5°	12447.7	12099.6	12038.6	11710.6	11011.6	10516.6	9893.5	8182.4	6334.3	4977.3	3754.2
30°	12506.7	12221.6	12265.6	11809.6	11171.6	10656.6	10008.5	8165.4	6212.3	4776.3	3528.2
32.5°	12466.7	12183.6	12284.6	11789.6	11102.6	10537.6	9816.5	7833.4	5854.3	4404.2	3196.2
35°	12473.7	12148.6	12073.6	11654.6	10836.6	10173.5	9303.5	7227.4	5325.3	3920.2	2805.1
37.5°	12324.7	11886.6	11899.6	11347.6	10322.5	9443.5	8458.4	6419.3	4699.2	3403.2	2412.1
40°	11964.6	11636.6	11532.6	10712.6	9344.5	8314.4	7364.4	5541.3	3975.2	2863.2	1951.1
42.5°	11451.6	11056.6	10751.6	9615.5	7958.4	7013.4	6192.3	4626.2	3291.2	2347.1	1515.1
45°	10346.5	9919.5	9328.5	7965.4	6562.3	5742.3	5057.3	3755.2	2662.1	1814.1	1069.1
47.5°	8488.4	8087.4	7479.4	6334.3	5239.3	4556.2	4022.2	2941.2	1946.1	1144.1	530.0
50°	6576.3	6271.3	5807.3	4813.3	3898.2	3259.2	2783.1	1847.1	993.1	522.0	222.0
52.5°	4286.2	4070.2	3657.2	2901.2	2203.1	1727.1	1404.1	786.0	468.0	220.0	65.0
55°	2059.1	1947.1	1648.1	1195.1	865.0	710.0	600.0	381.0	177.0	53.0	23.0
57.5°	821.0	797.0	710.0	535.0	410.0	348.0	270.0	105.0	35.0	22.0	14.0
60°	362.0	351.0	294.0	195.0	105.0	60.0	44.0	26.0	17.0	13.0	9.0
62.5°	52.0	48.0	41.0	32.0	26.0	22.0	19.0	14.0	9.0	7.0	6.0
65°	19.0	19.0	17.0	14.0	12.0	11.0	10.0	7.0	5.0	5.0	5.0
67.5°	8.0	8.0	8.0	6.0	6.0	5.0	4.0	4.0	4.0	4.0	5.0
70°	3.0	3.0	3.0	2.0	2.0	2.0	3.0	3.0	3.0	4.0	5.0
72.5°	0.0	1.0	1.0	1.0	2.0	2.0	2.0	3.0	3.0	4.0	5.0
75°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	3.0	4.0	5.0
77.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	4.0	5.0
80°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	4.0	5.0
82.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	5.0	5.0
85°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	4.0	5.0
87.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	5.0	5.0
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°	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0
2.5°	1046.1	1032.1	985.1	938.0	931.0	911.0	870.0	822.0	760.0	721.0	682.0
5°	1343.1	1273.1	1194.1	1103.1	1075.1	1035.1	949.1	857.0	754.0	677.0	605.0
7.5°	1690.1	1534.1	1385.1	1239.1	1184.1	1122.1	991.1	859.0	718.0	606.0	516.0
10°	2015.1	1775.1	1544.1	1337.1	1255.1	1171.1	995.1	825.0	650.0	521.0	429.0
12.5°	2339.1	1995.1	1679.1	1408.1	1297.1	1189.1	973.1	764.0	566.0	443.0	369.0
15°	2594.1	2194.1	1777.1	1444.1	1306.1	1174.1	919.0	680.0	484.0	383.0	317.0
17.5°	2771.1	2308.1	1814.1	1429.1	1271.1	1122.1	834.0	582.0	418.0	336.0	272.0
20°	2893.2	2344.1	1788.1	1367.1	1196.1	1032.1	727.0	494.0	371.0	298.0	234.0
22.5°	2927.2	2309.1	1714.1	1274.1	1098.1	929.0	616.0	436.0	337.0	268.0	227.0
25°	2894.2	2220.1	1603.1	1163.1	978.1	801.0	523.0	401.0	311.0	255.0	264.0
27.5°	2774.1	2063.1	1449.1	1020.1	830.0	663.0	460.0	359.0	274.0	269.0	280.0
30°	2576.1	1838.1	1266.1	837.0	656.0	529.0	386.0	283.0	240.0	245.0	252.0
32.5°	2291.1	1562.1	1031.1	620.0	481.0	398.0	276.0	196.0	190.0	194.0	199.0
35°	1931.1	1271.1	772.0	428.0	341.0	274.0	162.0	139.0	136.0	138.0	140.0
37.5°	1567.1	982.1	525.0	288.0	207.0	139.0	97.0	91.0	89.0	90.0	91.0
40°	1216.1	683.0	330.0	138.0	81.0	69.0	60.0	57.0	55.0	55.0	56.0
42.5°	888.0	405.0	164.0	54.0	44.0	41.0	36.0	34.0	32.0	33.0	34.0
45°	497.0	180.0	56.0	30.0	27.0	25.0	22.0	21.0	20.0	20.0	20.0
47.5°	212.0	63.0	27.0	19.0	17.0	16.0	14.0	13.0	12.0	12.0	12.0
50°	70.0	25.0	17.0	13.0	11.0	10.0	9.0	8.0	8.0	8.0	9.0
52.5°	25.0	16.0	11.0	9.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0
55°	15.0	11.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
57.5°	10.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0
60°	7.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0
62.5°	6.0	5.0	5.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0
65°	5.0	5.0	5.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0
67.5°	5.0	5.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	8.0
70°	5.0	5.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	8.0	8.0
72.5°	5.0	6.0	6.0	6.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0
75°	5.0	6.0	6.0	7.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0
77.5°	5.0	6.0	6.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0	8.0
80°	6.0	6.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0	8.0	9.0
82.5°	6.0	6.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0	8.0	9.0
85°	6.0	6.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0	9.0	9.0
87.5°	6.0	6.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0	9.0	9.0
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°	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0
2.5°	642.0	612.0	570.0	556.0	527.0	506.0	483.0	457.0	452.0	426.0	423.0
5°	535.0	487.0	439.0	421.0	396.0	375.0	352.0	327.0	316.0	291.0	276.0
7.5°	441.0	395.0	352.0	334.0	310.0	283.0	256.0	230.0	215.0	191.0	179.0
10°	370.0	324.0	278.0	260.0	238.0	208.0	179.0	152.0	142.0	136.0	137.0
12.5°	309.0	263.0	217.0	197.0	174.0	150.0	149.0	147.0	151.0	150.0	151.0
15°	259.0	210.0	166.0	160.0	160.0	164.0	168.0	169.0	176.0	176.0	178.0
17.5°	213.0	179.0	181.0	181.0	185.0	192.0	200.0	204.0	215.0	216.0	220.0
20°	198.0	206.0	215.0	217.0	224.0	235.0	246.0	254.0	268.0	272.0	280.0
22.5°	235.0	249.0	263.0	267.0	276.0	292.0	312.0	319.0	336.0	336.0	347.0
25°	277.0	298.0	312.0	317.0	327.0	341.0	354.0	358.0	370.0	366.0	370.0
27.5°	294.0	309.0	318.0	323.0	325.0	337.0	343.0	341.0	349.0	343.0	343.0
30°	261.0	272.0	277.0	280.0	280.0	289.0	289.0	286.0	291.0	286.0	283.0
32.5°	205.0	213.0	217.0	217.0	216.0	222.0	220.0	216.0	218.0	215.0	208.0
35°	143.0	149.0	152.0	151.0	150.0	155.0	152.0	149.0	150.0	148.0	143.0
37.5°	94.0	95.0	97.0	99.0	98.0	102.0	100.0	98.0	99.0	97.0	94.0
40°	57.0	59.0	61.0	61.0	61.0	62.0	62.0	61.0	63.0	61.0	59.0
42.5°	34.0	36.0	36.0	36.0	37.0	37.0	38.0	36.0	38.0	36.0	35.0
45°	21.0	21.0	21.0	22.0	21.0	22.0	22.0	21.0	22.0	21.0	20.0
47.5°	13.0	13.0	13.0	13.0	13.0	13.0	13.0	12.0	13.0	12.0	11.0
50°	8.0	9.0	8.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	6.0
52.5°	7.0	7.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0	4.0	4.0
55°	7.0	7.0	7.0	6.0	6.0	6.0	6.0	5.0	5.0	4.0	3.0
57.5°	7.0	7.0	6.0	6.0	6.0	6.0	5.0	5.0	4.0	3.0	3.0
60°	7.0	7.0	7.0	6.0	6.0	6.0	5.0	5.0	4.0	3.0	3.0
62.5°	7.0	7.0	7.0	6.0	6.0	6.0	6.0	5.0	4.0	3.0	3.0
65°	7.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0	5.0	4.0	3.0
67.5°	8.0	7.0	7.0	7.0	7.0	7.0	6.0	5.0	5.0	4.0	3.0
70°	8.0	8.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0	4.0	3.0
72.5°	8.0	8.0	8.0	8.0	7.0	7.0	7.0	6.0	5.0	4.0	4.0
75°	8.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	6.0	5.0	4.0
77.5°	9.0	8.0	8.0	8.0	8.0	8.0	7.0	6.0	6.0	5.0	4.0
80°	9.0	9.0	8.0	8.0	8.0	8.0	7.0	6.0	6.0	5.0	4.0
82.5°	9.0	9.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	5.0	4.0
85°	9.0	9.0	8.0	8.0	8.0	8.0	7.0	6.0	6.0	5.0	4.0
87.5°	9.0	9.0	8.0	8.0	8.0	8.0	7.0	6.0	6.0	5.0	4.0
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: P179646

CATALOG NUMBER: LDA6A45835D010TE LARH30NF 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	746.0	746.0	746.0	746.0	746.0	746.0	746.0	746.0
2.5°	405.0	403.0	396.0	398.0	393.0	382.0	383.0	379.0
5°	266.0	260.0	253.0	253.0	246.0	236.0	236.0	233.0
7.5°	162.0	153.0	146.0	145.0	138.0	133.0	133.0	132.0
10°	137.0	138.0	138.0	139.0	138.0	138.0	139.0	140.0
12.5°	154.0	157.0	157.0	158.0	157.0	159.0	159.0	161.0
15°	184.0	189.0	190.0	192.0	191.0	194.0	196.0	198.0
17.5°	231.0	237.0	239.0	245.0	244.0	247.0	249.0	253.0
20°	291.0	300.0	303.0	311.0	310.0	313.0	318.0	321.0
22.5°	358.0	369.0	370.0	377.0	376.0	379.0	381.0	382.0
25°	376.0	383.0	382.0	386.0	386.0	387.0	387.0	393.0
27.5°	344.0	349.0	349.0	349.0	350.0	351.0	351.0	356.0
30°	283.0	285.0	286.0	283.0	285.0	286.0	286.0	291.0
32.5°	210.0	211.0	212.0	208.0	211.0	211.0	211.0	215.0
35°	145.0	145.0	146.0	143.0	145.0	146.0	145.0	148.0
37.5°	95.0	95.0	95.0	95.0	95.0	95.0	94.0	97.0
40°	59.0	60.0	59.0	59.0	58.0	58.0	58.0	60.0
42.5°	35.0	35.0	34.0	34.0	34.0	34.0	35.0	35.0
45°	20.0	20.0	19.0	19.0	18.0	19.0	19.0	19.0
47.5°	11.0	10.0	10.0	10.0	9.0	9.0	9.0	10.0
50°	5.0	5.0	5.0	4.0	4.0	4.0	3.0	4.0
52.5°	3.0	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°	3.0	2.0	2.0	1.0	1.0	0.0	0.0	0.0
72.5°	3.0	2.0	2.0	2.0	1.0	1.0	0.0	0.0
75°	3.0	2.0	2.0	2.0	1.0	1.0	0.0	0.0
77.5°	3.0	3.0	2.0	2.0	1.0	1.0	1.0	1.0
80°	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
82.5°	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
85°	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
87.5°	3.0	3.0	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)