

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: P170860

Luminaire Tested: **LDA4A13940D010TE LAR25NF 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170860
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26102)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A13940D010TE LAR25NF 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 25° Narrow Flood Optic,
at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1091.9 lumens
Efficiency: N/A
Efficacy: 49.0 lumens/watt
Spacing Criteria (0/90/45): 2.11 / 1.09 / 1.54
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

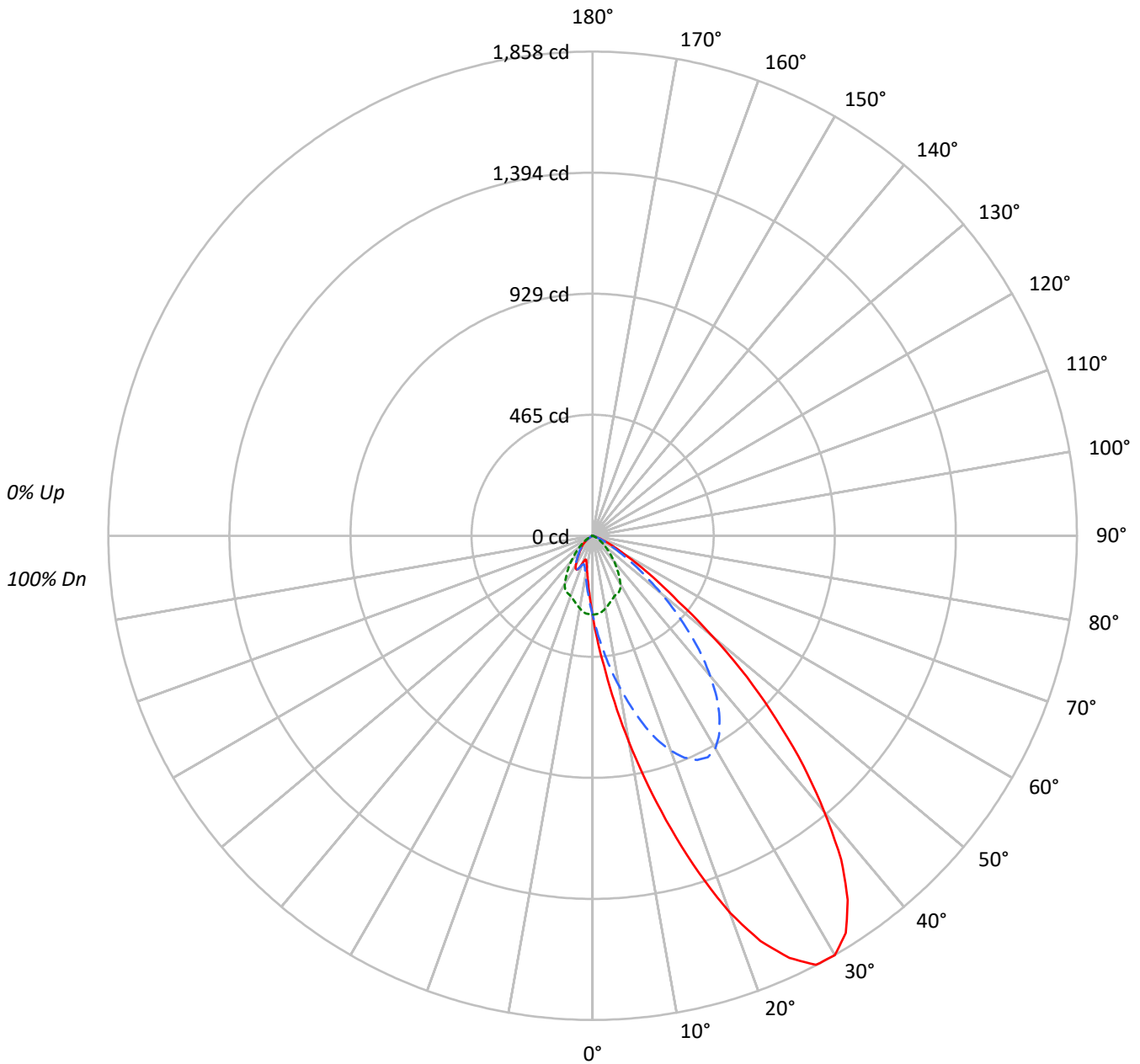
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P170860

CATALOG NUMBER: LDA4A13940D010TE LAR25NF 4LLWW1

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	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	84	87	84	82	80																			
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71																			
4	90	80	73	67	88	79	72	67	77	71	66	74	69	65	72	68	65	63																			
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56																			
6	78	66	58	53	76	65	58	53	64	57	52	62	56	52	61	55	52	50																			
7	72	60	53	47	71	60	52	47	58	52	47	57	51	47	56	50	46	45																			
8	67	55	48	43	66	55	47	42	53	47	42	52	46	42	51	46	42	40																			
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36																			
10	59	47	40	35	58	46	39	35	45	39	35	45	39	34	44	38	34	33																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	37337	37337	37337
5°	62119	37046	23315
10°	100574	35420	15756
15°	148728	33571	12246
20°	202038	32277	14452
25°	243232	32405	19639
30°	264673	30365	18316
35°	256915	25568	14666
40°	222557	20594	12012
45°	173547	15874	10292
50°	115097	11859	7906
55°	64191	8709	4731
60°	33846	5797	1924
65°	18241	2889	204
70°	8727	1010	252
75°	3050	667	334
80°	994	994	0
85°	2972	1981	0



TEST NUMBER: P170860

CATALOG NUMBER: LDA4A13940D010TE LAR25NF 4LLWW1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.3	3.0
10°-20°	127.5	11.7
20°-30°	262.1	24.0
30°-40°	313.1	28.7
40°-50°	231.2	21.2
50°-60°	97.3	8.9
60°-70°	23.9	2.2
70°-80°	3.3	0.3
80°-90°	1.3	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°	421.9	38.6
0°-40°	734.9	67.3
0°-60°	1063.4	97.4
0°-90°	1091.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1091.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	303	303	303	303	303	
5°	502	432	299	215	188	57
15°	1165	748	263	119	96	342
25°	1787	949	238	144	144	817
35°	1706	848	170	102	97	1046
45°	995	523	91	60	59	764
55°	298	194	40	26	22	285
65°	62	43	10	2	1	68
75°	6	4	1	1	1	9
85°	2	2	1	1	0	2
90°	0	0	0	0	0	



TEST NUMBER: P170860

CATALOG NUMBER: LDA4A13940D010TE LAR25NF 4LLWW1

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7
2.5°	393.7	388.7	388.7	390.1	394.4	390.8	388.0	385.2	388.0	381.6	383.7
5°	501.7	501.0	501.0	495.3	500.3	501.0	495.3	490.3	491.8	482.5	482.5
7.5°	643.8	639.6	638.1	630.3	636.0	635.3	626.1	617.5	617.5	602.6	599.1
10°	803.0	797.3	794.5	784.5	789.5	786.7	773.2	760.4	756.8	735.5	727.7
12.5°	978.5	975.0	970.7	957.9	962.2	956.5	937.3	918.8	911.0	882.6	869.1
15°	1164.7	1170.4	1163.3	1148.4	1151.2	1141.3	1116.4	1090.8	1078.7	1040.4	1020.5
17.5°	1356.6	1363.7	1355.9	1338.8	1338.1	1324.6	1290.5	1259.2	1241.5	1192.4	1166.1
20°	1539.2	1541.3	1531.4	1512.9	1508.7	1490.2	1449.0	1404.9	1387.8	1327.4	1294.0
22.5°	1682.8	1690.6	1678.5	1665.0	1651.5	1628.0	1579.7	1531.4	1507.2	1438.3	1397.8
25°	1787.2	1805.0	1790.8	1775.1	1760.2	1732.5	1678.5	1626.6	1596.8	1520.0	1473.8
27.5°	1856.1	1873.2	1857.6	1839.8	1824.2	1792.2	1733.2	1683.5	1647.2	1563.4	1513.6
30°	1858.3	1878.9	1862.5	1843.4	1828.4	1796.5	1736.1	1684.9	1644.4	1560.5	1508.7
32.5°	1807.1	1823.5	1807.1	1790.8	1773.7	1743.2	1682.8	1633.7	1591.1	1510.8	1458.9
35°	1706.2	1720.4	1704.1	1684.9	1672.8	1645.8	1588.2	1541.3	1498.7	1424.8	1379.3
37.5°	1566.9	1579.7	1564.8	1554.1	1536.4	1512.2	1459.6	1417.7	1377.2	1310.4	1269.9
40°	1382.2	1409.2	1395.0	1387.8	1371.5	1350.9	1304.7	1267.8	1230.8	1172.5	1139.1
42.5°	1197.4	1223.0	1210.2	1205.2	1191.0	1173.2	1134.9	1103.6	1069.5	1021.2	992.7
45°	994.9	1021.9	1009.8	1007.7	995.6	982.1	940.9	924.5	894.7	849.2	835.7
47.5°	804.4	809.4	798.0	798.7	790.2	781.0	747.6	737.6	722.7	687.9	672.2
50°	599.8	603.3	594.1	596.9	591.2	585.6	562.8	557.8	548.6	525.2	515.9
52.5°	412.9	429.2	422.8	425.7	422.8	420.7	411.5	402.9	398.7	383.7	379.5
55°	298.5	299.9	294.9	297.8	295.6	294.9	289.2	284.2	282.1	272.9	271.5
57.5°	206.8	208.2	208.2	206.8	206.1	204.7	201.1	198.3	196.8	194.7	190.4
60°	137.2	142.8	140.7	142.1	141.4	141.4	138.6	136.4	135.7	131.5	131.5
62.5°	93.8	97.4	95.9	96.6	95.9	95.9	93.8	92.4	92.4	91.7	89.5
65°	62.5	64.7	63.2	64.0	64.0	64.0	62.5	61.1	61.1	60.4	59.0
67.5°	39.8	41.2	40.5	41.2	40.5	41.2	39.8	39.1	38.4	38.4	37.7
70°	24.2	24.9	24.2	24.9	24.2	24.2	23.5	23.5	22.7	22.0	22.0
72.5°	12.8	13.5	13.5	13.5	13.5	13.5	12.8	12.1	12.1	12.1	11.4
75°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	5.7	5.7	5.7
77.5°	2.8	2.8	2.8	2.8	3.6	2.8	2.8	2.8	2.8	2.8	2.8
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
85°	2.1	2.1	2.1	2.1	2.1	2.1	2.8	2.8	2.8	2.8	2.1
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.6	3.6	2.8	2.8
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: P170860

CATALOG NUMBER: LDA4A13940D010TE LAR25NF 4LLWW1

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7
2.5°	378.1	374.5	373.1	370.2	366.7	364.5	362.4	363.1	358.2	354.6	349.6
5°	473.3	465.5	461.2	454.8	447.0	440.6	434.9	432.1	422.8	416.4	402.9
7.5°	585.6	572.1	563.5	552.2	538.7	527.3	515.9	508.1	493.9	481.8	461.2
10°	708.5	687.9	673.0	655.9	635.3	616.8	599.8	585.6	564.2	545.8	518.8
12.5°	842.8	813.7	792.3	767.5	738.3	712.8	682.2	665.9	636.7	611.1	576.3
15°	985.6	947.3	917.4	883.3	844.9	810.8	771.7	747.6	709.2	676.5	633.2
17.5°	1122.8	1074.5	1035.4	992.0	944.4	900.4	854.2	820.1	773.2	732.7	680.8
20°	1242.2	1184.6	1137.0	1084.4	1028.3	974.3	923.8	878.3	823.6	776.0	717.0
22.5°	1339.5	1272.7	1218.0	1156.9	1092.2	1031.1	973.6	921.7	859.1	806.6	741.9
25°	1409.9	1336.7	1275.6	1208.1	1137.0	1067.4	1006.2	949.4	881.2	825.0	756.1
27.5°	1446.8	1369.4	1304.7	1232.2	1156.9	1084.4	1018.3	957.9	886.1	827.2	756.1
30°	1440.4	1361.6	1294.8	1220.1	1144.1	1071.6	1002.7	942.3	868.4	808.7	737.6
32.5°	1391.4	1313.9	1248.6	1176.1	1101.5	1031.1	962.2	903.9	830.0	771.7	702.8
35°	1310.4	1237.2	1175.4	1106.4	1036.1	970.0	907.5	848.5	777.4	722.0	657.3
37.5°	1205.2	1138.4	1082.3	1018.3	953.7	894.0	832.1	781.7	718.4	666.6	603.3
40°	1079.4	1020.5	970.7	913.9	855.6	803.7	751.8	702.8	641.0	594.8	540.8
42.5°	940.9	890.4	847.8	798.0	747.6	703.5	658.7	616.1	564.9	523.0	472.6
45°	791.6	749.0	714.2	674.4	632.5	591.2	558.6	523.0	475.4	444.1	401.5
47.5°	637.4	604.7	578.4	547.9	514.5	488.9	457.6	429.2	394.4	365.3	330.4
50°	491.0	468.3	449.8	428.5	404.3	380.9	362.4	340.4	314.1	290.6	262.9
52.5°	363.1	348.2	336.8	322.6	306.3	294.2	277.1	260.8	240.9	223.1	201.8
55°	260.1	251.6	244.5	235.9	224.6	213.9	205.4	194.0	179.8	166.3	150.7
57.5°	186.9	177.7	176.9	167.7	163.4	155.6	147.8	139.3	129.3	120.1	108.7
60°	129.3	122.9	120.1	116.5	111.6	106.6	103.0	97.4	90.2	83.9	75.3
62.5°	87.4	83.1	81.7	80.3	76.0	73.9	69.6	66.1	61.1	56.1	50.5
65°	57.6	54.7	53.3	51.2	49.0	47.6	45.5	42.6	38.4	35.5	32.0
67.5°	36.2	34.1	32.7	32.0	29.8	29.1	27.0	25.6	22.7	21.3	19.2
70°	20.6	19.9	18.5	18.5	17.1	15.6	14.9	13.5	12.8	11.4	10.7
72.5°	10.7	10.7	9.9	9.2	8.5	8.5	7.8	7.1	6.4	5.7	5.7
75°	5.0	5.0	5.0	4.3	4.3	4.3	3.6	3.6	3.6	2.8	2.8
77.5°	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	2.1	1.4	1.4	1.4	1.4	2.1	2.1	2.1	2.1	2.1	2.1
87.5°	2.1	2.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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: P170860

CATALOG NUMBER: LDA4A13940D010TE LAR25NF 4LLWW1

CANDELA DISTRIBUTION (continued):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7
2.5°	346.1	344.7	341.1	340.4	332.6	331.2	326.9	320.5	315.5	314.1	315.5
5°	397.9	391.6	380.9	378.8	366.0	361.7	352.5	342.5	334.0	329.0	326.9
7.5°	451.2	440.6	425.0	417.1	398.7	389.4	375.9	361.7	348.2	339.0	333.3
10°	502.4	485.4	456.9	450.5	427.8	412.9	394.4	375.2	358.2	345.4	336.1
12.5°	550.7	530.1	501.0	483.2	453.4	434.2	410.7	387.3	366.0	348.9	336.1
15°	600.5	573.5	537.2	512.4	478.2	452.7	424.2	397.2	372.4	351.0	335.4
17.5°	641.7	608.3	565.7	535.8	496.0	465.5	432.8	401.5	374.5	350.3	332.6
20°	672.2	633.2	584.8	550.0	506.0	471.9	436.3	402.2	372.4	346.1	326.9
22.5°	692.9	648.1	595.5	557.1	510.9	474.0	435.6	400.1	369.5	342.5	321.9
25°	702.8	654.5	599.8	558.6	510.2	471.9	432.1	395.8	364.5	336.8	316.9
27.5°	701.4	650.2	594.1	550.7	501.7	461.9	421.4	385.2	354.6	326.9	306.3
30°	680.8	630.3	573.5	529.4	481.1	441.3	400.8	365.3	335.4	307.0	287.8
32.5°	648.8	596.9	541.5	492.5	451.2	412.2	373.8	337.5	309.1	281.4	262.9
35°	605.5	555.7	502.4	460.5	415.7	378.1	341.1	307.0	280.0	253.0	235.9
37.5°	555.0	507.4	458.4	415.0	375.9	341.1	306.3	275.7	248.7	224.6	208.2
40°	496.7	452.7	407.9	370.9	332.6	300.6	268.6	238.8	216.7	194.7	180.5
42.5°	433.5	394.4	353.9	321.9	287.1	258.7	228.1	206.8	185.5	165.6	154.2
45°	367.4	333.3	299.2	270.0	241.6	216.7	190.4	170.5	154.2	137.9	127.9
47.5°	302.0	272.9	245.2	221.7	196.8	176.2	157.8	140.0	124.4	110.9	103.0
50°	235.9	216.7	194.7	175.5	155.6	138.6	121.5	108.7	96.6	86.7	81.7
52.5°	184.1	166.3	148.5	132.9	118.7	104.5	93.1	82.4	73.9	67.5	64.0
55°	137.2	122.9	109.4	97.4	86.0	76.7	68.9	62.5	56.8	51.9	50.5
57.5°	98.1	87.4	78.2	68.9	61.8	56.1	51.2	46.9	43.3	39.8	39.1
60°	68.2	60.4	54.7	49.0	44.8	40.5	37.7	34.8	32.0	29.8	29.1
62.5°	45.5	41.2	37.0	34.1	32.0	28.4	27.0	24.9	23.5	21.3	20.6
65°	29.1	26.3	24.2	22.0	20.6	19.2	17.8	16.3	14.9	13.5	13.5
67.5°	17.8	15.6	14.9	13.5	12.1	11.4	10.7	9.2	8.5	8.5	7.8
70°	9.9	8.5	7.8	7.1	6.4	6.4	5.7	5.0	5.0	4.3	4.3
72.5°	5.0	5.0	4.3	4.3	3.6	3.6	2.8	2.8	2.8	2.1	2.1
75°	2.8	2.8	2.1	2.1	2.1	2.1	2.1	2.1	1.4	1.4	1.4
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
85°	2.1	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4
87.5°	2.1	2.1	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4
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: P170860

CATALOG NUMBER: LDA4A13940D010TE LAR25NF 4LLWW1

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	302.7	302.7	302.7	302.7	302.7	302.7	302.7	302.7
2.5°	309.8	302.7	301.3	301.3	271.5	253.7	240.2	236.6
5°	316.9	307.0	302.0	299.2	245.9	214.6	194.0	188.3
7.5°	320.5	306.3	298.5	292.1	221.0	180.5	158.5	152.1
10°	319.1	302.0	291.4	282.8	198.3	154.2	131.5	125.8
12.5°	316.2	297.0	283.5	272.9	179.1	133.6	113.0	107.3
15°	313.4	291.4	275.7	262.9	163.4	119.4	100.9	95.9
17.5°	307.7	285.0	267.2	253.7	153.5	113.7	98.1	95.2
20°	301.3	277.9	259.4	245.9	150.7	119.4	110.1	110.1
22.5°	297.0	272.9	255.1	241.6	155.6	132.9	129.3	131.5
25°	291.4	268.6	250.9	238.1	160.6	143.5	141.4	144.3
27.5°	282.1	259.4	242.3	229.5	157.8	142.1	140.0	141.4
30°	263.6	241.6	226.7	213.2	146.4	131.5	127.9	128.6
32.5°	240.2	218.9	204.7	191.9	130.0	115.8	112.3	112.3
35°	214.6	194.7	181.2	169.8	114.4	101.6	98.1	97.4
37.5°	189.0	170.5	159.2	148.5	100.2	88.8	85.3	84.6
40°	163.4	147.1	136.4	127.9	88.1	78.9	75.3	74.6
42.5°	139.3	125.1	115.8	108.7	76.7	69.6	66.8	66.1
45°	115.1	103.8	96.6	91.0	66.8	59.7	59.0	59.0
47.5°	93.1	83.9	78.9	75.3	56.8	51.2	50.5	51.2
50°	74.6	68.2	64.7	61.8	48.3	43.3	41.2	41.2
52.5°	59.0	54.7	52.6	50.5	39.8	34.8	32.0	31.3
55°	46.9	43.3	41.9	40.5	31.3	25.6	22.7	22.0
57.5°	37.0	34.1	32.7	31.3	23.5	17.8	14.9	14.2
60°	27.7	25.6	24.2	23.5	16.3	10.7	8.5	7.8
62.5°	19.9	18.5	17.1	16.3	9.9	5.7	3.6	2.8
65°	12.1	12.1	10.7	9.9	5.0	2.1	1.4	0.7
67.5°	7.1	6.4	5.7	5.7	2.1	1.4	0.7	0.7
70°	3.6	3.6	2.8	2.8	1.4	0.7	0.7	0.7
72.5°	2.1	2.1	2.1	1.4	1.4	0.7	0.7	0.7
75°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.7
77.5°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.0
80°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.0
82.5°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.7
85°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.0
87.5°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.7
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)