

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: P170861

Luminaire Tested: **LDA4A28827D010TE LAR25NF 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170861
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: LDA4A28827D010TE LAR25NF 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 25° Narrow Flood Optic,
at 30° tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2114.8 lumens
Efficiency: N/A
Efficacy: 47.5 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

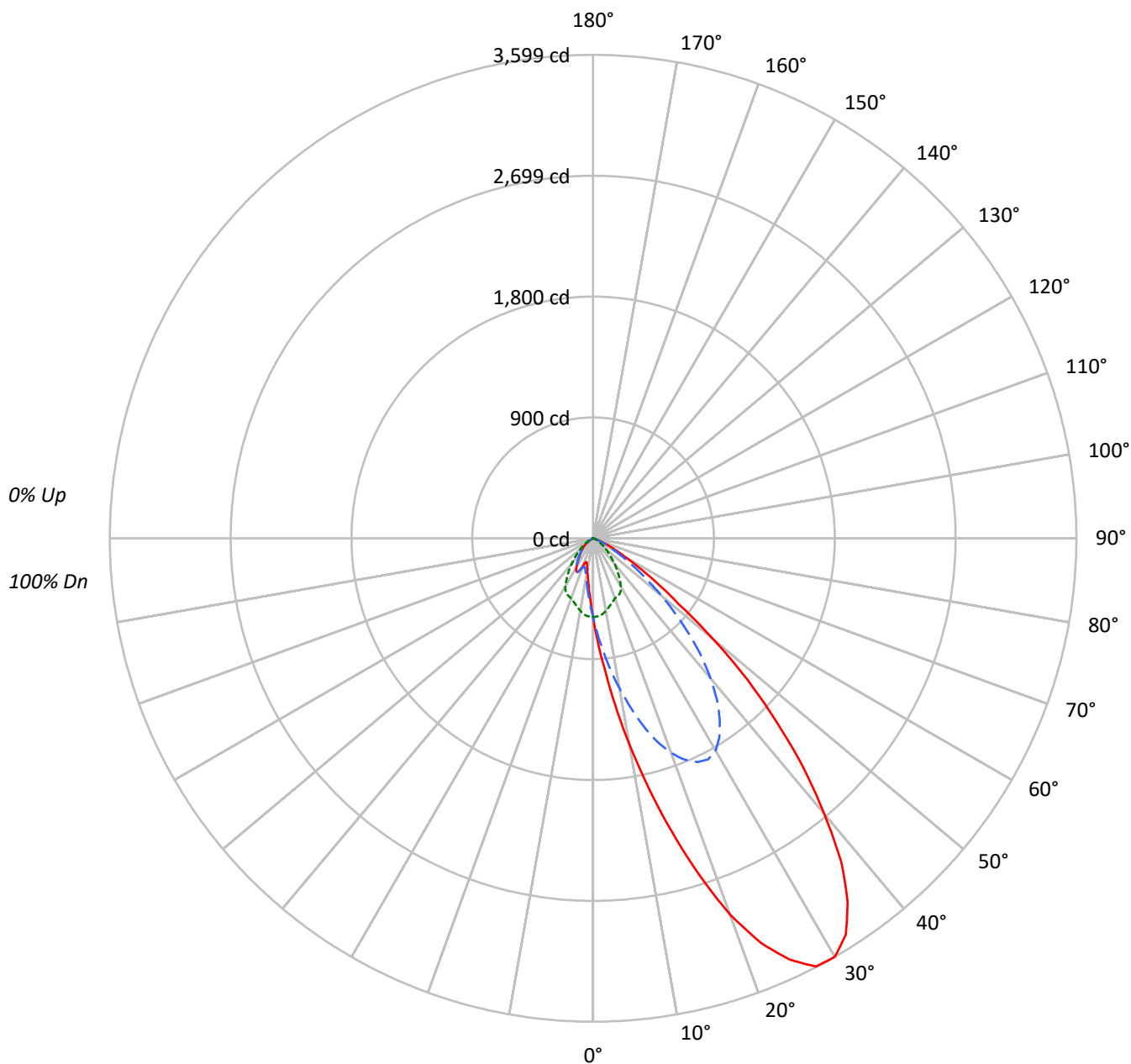
Input Watts (W): 44.49
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	72318	72318	72318
5°	120313	71739	45156
10°	194786	68611	30511
15°	288046	65023	23726
20°	391291	62507	27998
25°	471072	62754	38025
30°	512596	58808	35479
35°	497567	49525	28399
40°	431024	39884	23267
45°	336105	30736	19921
50°	222901	22969	15313
55°	124297	16860	9182
60°	65521	11200	3725
65°	35344	5633	409
70°	16878	1984	505
75°	5909	1334	667
80°	1989	1989	0
85°	5802	3963	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.5	3.0
10°-20°	246.8	11.7
20°-30°	507.6	24.0
30°-40°	606.4	28.7
40°-50°	447.7	21.2
50°-60°	188.4	8.9
60°-70°	46.3	2.2
70°-80°	6.4	0.3
80°-90°	2.5	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°	817.0	38.6
0°-40°	1423.4	67.3
0°-60°	2059.5	97.4
0°-90°	2114.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2114.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	586	586	586	586	586	
5°	972	837	579	416	365	111
15°	2256	1448	509	231	186	662
25°	3461	1839	461	278	279	1583
35°	3304	1643	329	197	189	2027
45°	1927	1013	176	116	114	1479
55°	578	376	78	50	43	551
65°	121	83	19	4	1	132
75°	12	7	3	1	1	18
85°	4	4	3	1	0	4
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3
2.5°	762.5	752.8	752.8	755.6	763.8	757.0	751.4	745.9	751.4	739.1	743.2
5°	971.7	970.3	970.3	959.3	968.9	970.3	959.3	949.6	952.4	934.5	934.5
7.5°	1246.9	1238.6	1235.9	1220.8	1231.8	1230.4	1212.5	1196.0	1196.0	1167.1	1160.2
10°	1555.2	1544.2	1538.7	1519.4	1529.0	1523.5	1497.4	1472.6	1465.7	1424.4	1409.3
12.5°	1895.1	1888.3	1880.0	1855.2	1863.5	1852.5	1815.3	1779.5	1764.4	1709.3	1683.2
15°	2255.7	2266.7	2253.0	2224.1	2229.6	2210.3	2162.1	2112.6	2089.2	2014.9	1976.3
17.5°	2627.3	2641.1	2625.9	2592.9	2591.5	2565.4	2499.3	2438.8	2404.4	2309.4	2258.5
20°	2981.0	2985.1	2965.9	2930.1	2921.8	2886.1	2806.2	2720.9	2687.9	2570.9	2506.2
22.5°	3259.0	3274.2	3250.8	3224.6	3198.5	3153.1	3059.5	2965.9	2919.1	2785.6	2707.1
25°	3461.3	3495.7	3468.2	3437.9	3409.0	3355.4	3250.8	3150.3	3092.5	2943.9	2854.4
27.5°	3594.8	3627.9	3597.6	3563.2	3532.9	3471.0	3356.7	3260.4	3190.2	3027.8	2931.5
30°	3599.0	3638.9	3607.2	3570.1	3541.2	3479.2	3362.2	3263.2	3184.7	3022.3	2921.8
32.5°	3499.9	3531.5	3499.9	3468.2	3435.2	3376.0	3259.0	3164.1	3081.5	2926.0	2825.5
35°	3304.4	3332.0	3300.3	3263.2	3239.8	3187.5	3076.0	2985.1	2902.6	2759.4	2671.4
37.5°	3034.7	3059.5	3030.6	3009.9	2975.5	2928.7	2826.9	2745.7	2667.2	2537.9	2459.4
40°	2676.9	2729.2	2701.6	2687.9	2656.2	2616.3	2526.8	2455.3	2383.7	2270.9	2206.2
42.5°	2319.0	2368.6	2343.8	2334.2	2306.6	2272.2	2197.9	2137.4	2071.3	1977.7	1922.7
45°	1926.8	1979.1	1955.7	1951.6	1928.2	1902.0	1822.2	1790.5	1732.7	1644.7	1618.5
47.5°	1557.9	1567.6	1545.6	1546.9	1530.4	1512.5	1447.8	1428.6	1399.7	1332.2	1302.0
50°	1161.6	1168.5	1150.6	1156.1	1145.1	1134.1	1090.0	1080.4	1062.5	1017.1	999.2
52.5°	799.6	831.3	818.9	824.4	818.9	814.8	796.9	780.3	772.1	743.2	734.9
55°	578.0	580.8	571.2	576.7	572.5	571.2	560.1	550.5	546.4	528.5	525.7
57.5°	400.5	403.2	403.2	400.5	399.1	396.4	389.5	384.0	381.2	377.1	368.8
60°	265.6	276.6	272.5	275.3	273.9	273.9	268.4	264.2	262.9	254.6	254.6
62.5°	181.7	188.6	185.8	187.2	185.8	185.8	181.7	178.9	178.9	177.5	173.4
65°	121.1	125.2	122.5	123.9	123.9	123.9	121.1	118.4	118.4	117.0	114.2
67.5°	77.1	79.8	78.4	79.8	78.4	79.8	77.1	75.7	74.3	74.3	72.9
70°	46.8	48.2	46.8	48.2	46.8	46.8	45.4	45.4	44.0	42.7	42.7
72.5°	24.8	26.1	26.1	26.1	26.1	26.1	24.8	23.4	23.4	23.4	22.0
75°	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	11.0	11.0	11.0
77.5°	5.5	5.5	5.5	5.5	6.9	5.5	5.5	5.5	5.5	5.5	5.5
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
85°	4.1	4.1	4.1	4.1	4.1	4.1	5.5	5.5	5.5	5.5	4.1
87.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	6.9	6.9	5.5	5.5
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3
2.5°	732.2	725.3	722.5	717.0	710.2	706.0	701.9	703.3	693.6	686.8	677.1
5°	916.6	901.5	893.2	880.8	865.7	853.3	842.3	836.8	818.9	806.5	780.3
7.5°	1134.1	1107.9	1091.4	1069.4	1043.2	1021.2	999.2	984.0	956.5	933.1	893.2
10°	1372.1	1332.2	1303.3	1270.3	1230.4	1194.6	1161.6	1134.1	1092.8	1057.0	1004.7
12.5°	1632.3	1575.8	1534.5	1486.4	1430.0	1380.4	1321.2	1289.6	1233.1	1183.6	1116.2
15°	1908.9	1834.6	1776.8	1710.7	1636.4	1570.3	1494.6	1447.8	1373.5	1310.2	1226.3
17.5°	2174.5	2080.9	2005.2	1921.3	1829.1	1743.7	1654.3	1588.2	1497.4	1418.9	1318.5
20°	2405.7	2294.3	2202.0	2100.2	1991.5	1886.9	1789.2	1701.1	1595.1	1502.9	1388.7
22.5°	2594.3	2464.9	2358.9	2240.6	2115.3	1997.0	1885.5	1785.0	1663.9	1562.1	1436.8
25°	2730.5	2588.8	2470.4	2339.7	2202.0	2067.2	1948.8	1838.7	1706.6	1597.9	1464.4
27.5°	2802.1	2652.1	2526.8	2386.5	2240.6	2100.2	1972.2	1855.2	1716.2	1602.0	1464.4
30°	2789.7	2636.9	2507.6	2363.1	2215.8	2075.4	1941.9	1824.9	1681.8	1566.2	1428.6
32.5°	2694.8	2544.7	2418.1	2277.7	2133.2	1997.0	1863.5	1750.6	1607.5	1494.6	1361.1
35°	2537.9	2396.1	2276.4	2142.9	2006.6	1878.6	1757.5	1643.3	1505.6	1398.3	1273.1
37.5°	2334.2	2204.8	2096.1	1972.2	1847.0	1731.4	1611.6	1513.9	1391.4	1290.9	1168.5
40°	2090.6	1976.3	1880.0	1769.9	1657.0	1556.6	1456.1	1361.1	1241.4	1151.9	1047.3
42.5°	1822.2	1724.5	1641.9	1545.6	1447.8	1362.5	1275.8	1193.2	1094.1	1012.9	915.2
45°	1533.2	1450.6	1383.2	1306.1	1224.9	1145.1	1081.8	1012.9	920.7	860.2	777.6
47.5°	1234.5	1171.2	1120.3	1061.1	996.4	946.9	886.3	831.3	763.8	707.4	640.0
50°	951.0	907.0	871.2	829.9	783.1	737.7	701.9	659.2	608.3	562.9	509.2
52.5°	703.3	674.4	652.4	624.8	593.2	569.8	536.7	505.1	466.6	432.2	390.9
55°	503.7	487.2	473.4	456.9	434.9	414.3	397.7	375.7	348.2	322.0	291.8
57.5°	362.0	344.1	342.7	324.8	316.5	301.4	286.3	269.8	250.5	232.6	210.6
60°	250.5	238.1	232.6	225.7	216.1	206.4	199.6	188.6	174.8	162.4	145.9
62.5°	169.3	161.0	158.3	155.5	147.3	143.1	134.9	128.0	118.4	108.7	97.7
65°	111.5	106.0	103.2	99.1	95.0	92.2	88.1	82.6	74.3	68.8	61.9
67.5°	70.2	66.1	63.3	61.9	57.8	56.4	52.3	49.5	44.0	41.3	37.2
70°	39.9	38.5	35.8	35.8	33.0	30.3	28.9	26.1	24.8	22.0	20.6
72.5°	20.6	20.6	19.3	17.9	16.5	16.5	15.1	13.8	12.4	11.0	11.0
75°	9.6	9.6	9.6	8.3	8.3	8.3	6.9	6.9	6.9	5.5	5.5
77.5°	5.5	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	2.8	2.8
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	2.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
85°	4.1	2.8	2.8	2.8	2.8	4.1	4.1	4.1	4.1	4.1	4.1
87.5°	4.1	4.1	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
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):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3
2.5°	670.2	667.5	660.6	659.2	644.1	641.3	633.1	620.7	611.1	608.3	611.1
5°	770.7	758.3	737.7	733.6	708.8	700.5	682.6	663.4	646.9	637.2	633.1
7.5°	873.9	853.3	823.0	807.9	772.1	754.2	728.1	700.5	674.4	656.5	645.5
10°	973.0	940.0	884.9	872.6	828.5	799.6	763.8	726.7	693.6	668.9	651.0
12.5°	1066.6	1026.7	970.3	935.9	878.1	840.9	795.5	750.1	708.8	675.8	651.0
15°	1163.0	1110.7	1040.5	992.3	926.2	876.7	821.6	769.3	721.2	679.9	649.6
17.5°	1242.8	1178.1	1095.5	1037.7	960.6	901.5	838.2	777.6	725.3	678.5	644.1
20°	1302.0	1226.3	1132.7	1065.2	979.9	913.8	845.0	779.0	721.2	670.2	633.1
22.5°	1341.9	1255.2	1153.3	1079.0	989.5	918.0	843.7	774.8	715.7	663.4	623.5
25°	1361.1	1267.6	1161.6	1081.8	988.2	913.8	836.8	766.6	706.0	652.4	613.8
27.5°	1358.4	1259.3	1150.6	1066.6	971.7	894.6	816.1	745.9	686.8	633.1	593.2
30°	1318.5	1220.8	1110.7	1025.3	931.7	854.7	776.2	707.4	649.6	594.6	557.4
32.5°	1256.5	1156.1	1048.7	953.8	873.9	798.2	723.9	653.7	598.7	545.0	509.2
35°	1172.6	1076.2	973.0	891.8	805.1	732.2	660.6	594.6	542.3	490.0	456.9
37.5°	1074.9	982.7	887.7	803.7	728.1	660.6	593.2	534.0	481.7	434.9	403.2
40°	962.0	876.7	790.0	718.4	644.1	582.2	520.2	462.4	419.8	377.1	349.6
42.5°	839.5	763.8	685.4	623.5	556.0	501.0	441.8	400.5	359.2	320.7	298.7
45°	711.5	645.5	579.4	523.0	467.9	419.8	368.8	330.3	298.7	267.0	247.7
47.5°	584.9	528.5	474.8	429.4	381.2	341.3	305.5	271.1	240.8	214.7	199.6
50°	456.9	419.8	377.1	339.9	301.4	268.4	235.3	210.6	187.2	167.9	158.3
52.5°	356.5	322.0	287.6	257.4	229.8	202.3	180.3	159.6	143.1	130.7	123.9
55°	265.6	238.1	211.9	188.6	166.5	148.6	133.5	121.1	110.1	100.5	97.7
57.5°	189.9	169.3	151.4	133.5	119.7	108.7	99.1	90.8	84.0	77.1	75.7
60°	132.1	117.0	106.0	95.0	86.7	78.4	72.9	67.4	61.9	57.8	56.4
62.5°	88.1	79.8	71.6	66.1	61.9	55.1	52.3	48.2	45.4	41.3	39.9
65°	56.4	50.9	46.8	42.7	39.9	37.2	34.4	31.7	28.9	26.1	26.1
67.5°	34.4	30.3	28.9	26.1	23.4	22.0	20.6	17.9	16.5	16.5	15.1
70°	19.3	16.5	15.1	13.8	12.4	12.4	11.0	9.6	9.6	8.3	8.3
72.5°	9.6	9.6	8.3	8.3	6.9	6.9	5.5	5.5	5.5	4.1	4.1
75°	5.5	5.5	4.1	4.1	4.1	4.1	4.1	4.1	2.8	2.8	2.8
77.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
85°	4.1	4.1	4.1	4.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8
87.5°	4.1	4.1	4.1	4.1	4.1	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: P170861

CATALOG NUMBER: LDA4A28827D010TE LAR25NF 4LLWW1

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	586.3	586.3	586.3	586.3	586.3	586.3	586.3	586.3
2.5°	600.1	586.3	583.5	583.5	525.7	491.3	465.2	458.3
5°	613.8	594.6	584.9	579.4	476.2	415.6	375.7	364.7
7.5°	620.7	593.2	578.0	565.7	428.0	349.6	306.9	294.5
10°	617.9	584.9	564.3	547.8	384.0	298.7	254.6	243.6
12.5°	612.4	575.3	549.1	528.5	346.8	258.7	218.8	207.8
15°	606.9	564.3	534.0	509.2	316.5	231.2	195.4	185.8
17.5°	595.9	551.9	517.5	491.3	297.3	220.2	189.9	184.4
20°	583.5	538.1	502.3	476.2	291.8	231.2	213.3	213.3
22.5°	575.3	528.5	494.1	467.9	301.4	257.4	250.5	254.6
25°	564.3	520.2	485.8	461.1	311.0	278.0	273.9	279.4
27.5°	546.4	502.3	469.3	444.5	305.5	275.3	271.1	273.9
30°	510.6	467.9	439.0	412.9	283.5	254.6	247.7	249.1
32.5°	465.2	423.9	396.4	371.6	251.9	224.3	217.5	217.5
35°	415.6	377.1	351.0	328.9	221.6	196.8	189.9	188.6
37.5°	366.1	330.3	308.3	287.6	194.1	172.0	165.2	163.8
40°	316.5	284.9	264.2	247.7	170.7	152.8	145.9	144.5
42.5°	269.8	242.2	224.3	210.6	148.6	134.9	129.4	128.0
45°	223.0	200.9	187.2	176.2	129.4	115.6	114.2	114.2
47.5°	180.3	162.4	152.8	145.9	110.1	99.1	97.7	99.1
50°	144.5	132.1	125.2	119.7	93.6	84.0	79.8	79.8
52.5°	114.2	106.0	101.8	97.7	77.1	67.4	61.9	60.6
55°	90.8	84.0	81.2	78.4	60.6	49.5	44.0	42.7
57.5°	71.6	66.1	63.3	60.6	45.4	34.4	28.9	27.5
60°	53.7	49.5	46.8	45.4	31.7	20.6	16.5	15.1
62.5°	38.5	35.8	33.0	31.7	19.3	11.0	6.9	5.5
65°	23.4	23.4	20.6	19.3	9.6	4.1	2.8	1.4
67.5°	13.8	12.4	11.0	11.0	4.1	2.8	1.4	1.4
70°	6.9	6.9	5.5	5.5	2.8	1.4	1.4	1.4
72.5°	4.1	4.1	4.1	2.8	2.8	1.4	1.4	1.4
75°	2.8	2.8	2.8	2.8	2.8	1.4	1.4	1.4
77.5°	2.8	2.8	2.8	2.8	2.8	1.4	1.4	0.0
80°	2.8	2.8	2.8	2.8	2.8	1.4	1.4	0.0
82.5°	2.8	2.8	2.8	2.8	2.8	1.4	1.4	1.4
85°	2.8	2.8	2.8	2.8	2.8	1.4	1.4	0.0
87.5°	2.8	2.8	2.8	2.8	2.8	1.4	1.4	1.4
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)