

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: P179628

Luminaire Tested: **LDA6A45827D010TE LARH40FL 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179628
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26669)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A45827D010TE LARH40FL 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 40° Flood
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3486.1 lumens
Efficiency: N/A
Efficacy: 65.8 lumens/watt
Spacing Criteria (0/90/45): 2.14 / 1.07 / 1.49
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

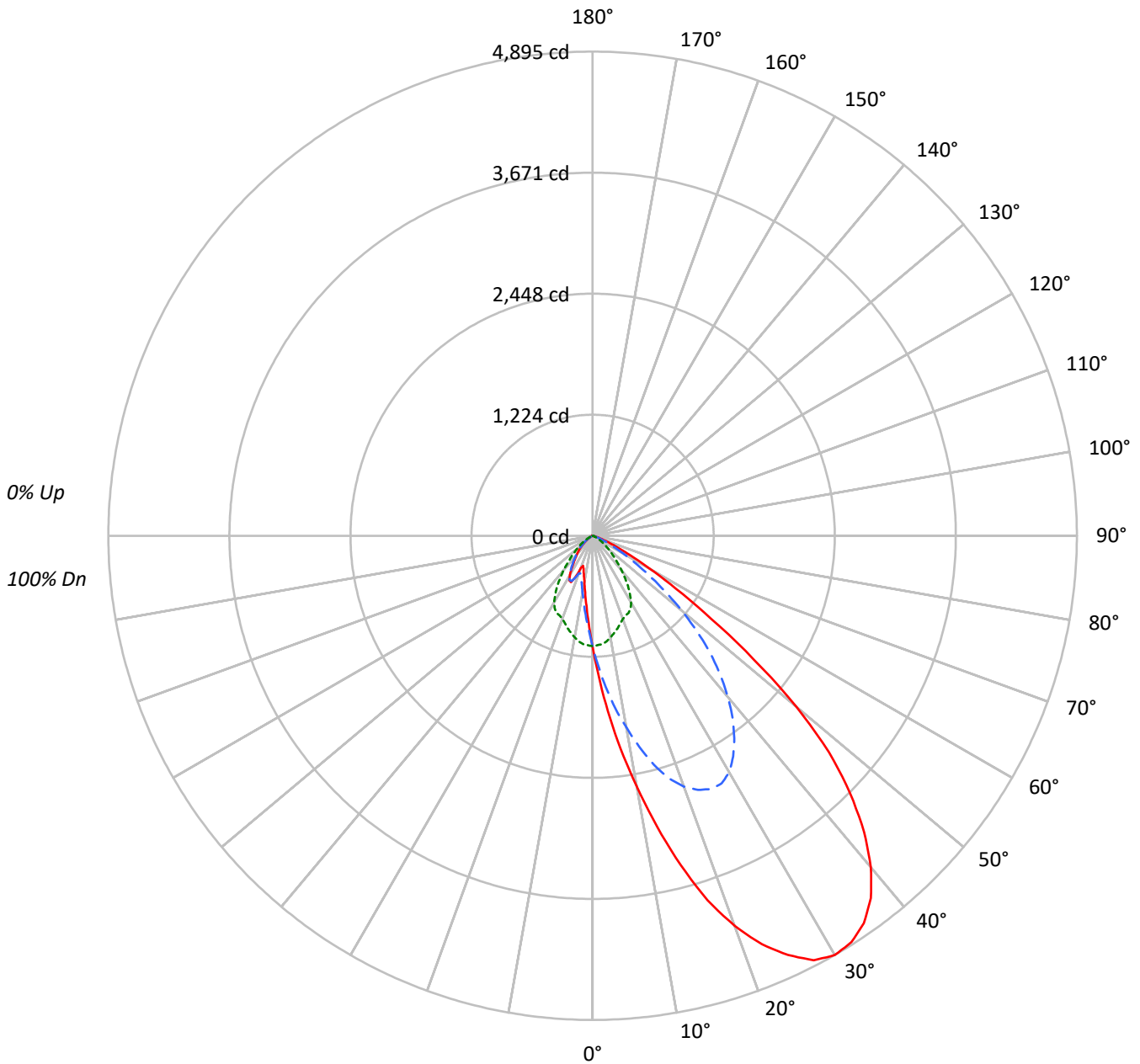
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P179628

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LLWW1

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	100	102	99	97	98	96	94	95	93	92	90																			
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	84	81	79																			
3	96	88	81	76	94	86	80	75	84	78	74	81	77	73	79	75	72	70																			
4	89	79	72	66	87	78	71	66	76	70	65	74	68	64	71	67	64	62																			
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56	55																			
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	49																			
7	72	59	52	46	70	59	51	46	57	51	46	56	50	45	55	49	45	43																			
8	67	54	47	41	65	54	46	41	53	46	41	51	45	41	50	45	41	39																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	37	33	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	61207	61207	61207
5°	97975	60439	39192
10°	143161	58048	26413
15°	195739	55046	19949
20°	244875	52120	20138
25°	282869	51947	31236
30°	309864	49172	29055
35°	319973	41686	22426
40°	313158	32518	17662
45°	285456	24002	13560
50°	229434	17705	9091
55°	139704	12530	5132
60°	72494	8289	1995
65°	35322	4371	947
70°	16205	1891	882
75°	6757	1356	974
80°	3441	1452	1137
85°	2264	2893	1698



TEST NUMBER: P179628

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.5	3.3
10°-20°	405.7	11.6
20°-30°	768.2	22.0
30°-40°	930.4	26.7
40°-50°	778.7	22.3
50°-60°	377.3	10.8
60°-70°	92.5	2.7
70°-80°	15.0	0.4
80°-90°	3.7	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°	1288.5	37.0
0°-40°	2218.9	63.6
0°-60°	3374.9	96.8
0°-90°	3486.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3486.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1116	1116	1116	1116	1116	
5°	1780	1534	1098	803	712	194
15°	3449	2398	970	444	352	995
25°	4676	2825	859	505	516	2154
35°	4781	2496	623	360	335	2963
45°	3682	1684	310	188	175	2794
55°	1462	690	131	71	54	1370
65°	272	151	34	11	7	307
75°	32	16	6	6	5	43
85°	4	3	5	4	3	4
90°	0	0	0	0	0	



TEST NUMBER: P179628

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5
2.5°	1417.1	1384.3	1391.6	1397.0	1372.4	1387.9	1361.5	1352.4	1330.5	1336.0	1319.6
5°	1780.4	1734.9	1721.2	1721.2	1680.3	1693.9	1670.2	1628.4	1585.5	1572.8	1533.6
7.5°	2171.1	2121.0	2099.2	2090.1	2030.0	2021.8	2001.7	1937.1	1867.0	1829.6	1760.4
10°	2571.8	2526.3	2495.3	2474.4	2391.5	2377.0	2341.4	2250.4	2162.0	2081.9	1968.0
12.5°	3013.5	2952.5	2911.5	2876.9	2770.4	2747.6	2694.8	2572.8	2433.4	2336.9	2186.6
15°	3448.9	3386.9	3333.2	3283.1	3153.8	3121.0	3050.0	2895.2	2732.1	2588.2	2397.9
17.5°	3863.2	3784.9	3719.3	3652.0	3499.9	3458.9	3366.0	3193.9	2966.2	2803.2	2573.7
20°	4197.5	4121.0	4045.4	3959.8	3785.8	3736.6	3623.7	3419.7	3161.1	2965.3	2697.5
22.5°	4470.7	4384.2	4309.5	4197.5	4001.7	3944.3	3814.1	3582.7	3303.1	3074.6	2780.4
25°	4676.5	4584.5	4508.0	4382.3	4165.6	4099.1	3947.0	3696.6	3391.5	3140.1	2825.0
27.5°	4838.6	4733.0	4646.4	4507.1	4268.5	4193.8	4027.2	3756.7	3427.0	3152.9	2823.2
30°	4895.1	4792.2	4694.7	4544.4	4287.6	4204.8	4031.7	3738.5	3395.1	3100.1	2760.4
32.5°	4870.5	4763.9	4658.3	4498.9	4227.5	4138.3	3963.4	3650.1	3297.7	2987.1	2644.7
35°	4781.2	4672.9	4559.9	4395.1	4111.0	4014.4	3839.6	3515.3	3149.2	2838.7	2496.3
37.5°	4619.1	4510.8	4404.2	4226.6	3936.1	3835.9	3663.8	3327.7	2970.7	2657.5	2324.1
40°	4376.0	4268.5	4170.1	3990.7	3698.4	3597.3	3434.3	3101.0	2756.7	2447.1	2126.5
42.5°	4062.7	3959.8	3871.4	3695.7	3409.7	3313.2	3160.2	2837.8	2516.3	2216.7	1915.2
45°	3682.0	3588.2	3507.1	3341.4	3077.3	2984.4	2848.7	2543.6	2244.0	1963.5	1683.9
47.5°	3243.0	3157.4	3086.4	2933.4	2688.4	2603.7	2487.2	2203.9	1936.2	1680.3	1431.6
50°	2690.2	2615.6	2566.4	2434.3	2215.8	2144.7	2054.6	1816.0	1596.5	1376.1	1170.3
52.5°	2052.7	1994.5	1971.7	1872.4	1703.0	1653.9	1595.6	1412.5	1252.2	1078.3	918.0
55°	1461.7	1423.4	1408.9	1344.2	1233.1	1201.2	1151.1	1038.2	931.7	808.7	690.3
57.5°	995.4	975.4	964.4	924.4	856.1	834.2	806.0	733.1	664.8	584.7	500.0
60°	661.2	653.0	643.9	619.3	579.2	562.8	549.2	500.9	459.0	408.9	349.7
62.5°	428.9	425.3	418.9	403.4	388.0	377.0	362.5	330.6	306.0	280.5	235.9
65°	272.3	268.7	265.9	255.9	245.9	235.0	229.5	211.3	195.8	179.4	151.2
67.5°	168.5	165.7	164.8	158.5	151.2	144.8	141.2	129.3	120.2	110.2	92.0
70°	101.1	100.2	98.4	94.7	90.2	85.6	83.8	75.6	70.1	63.7	51.9
72.5°	58.3	57.4	56.5	53.7	51.0	49.2	47.4	44.6	38.2	34.6	29.1
75°	31.9	31.9	31.0	29.1	28.2	26.4	25.5	23.7	20.9	19.1	16.4
77.5°	18.2	17.3	17.3	16.4	15.5	15.5	14.6	13.7	11.8	11.8	10.0
80°	10.9	10.9	10.9	10.0	10.0	10.0	9.1	9.1	8.2	7.3	7.3
82.5°	7.3	6.4	6.4	6.4	6.4	6.4	5.5	5.5	5.5	5.5	4.6
85°	3.6	3.6	3.6	3.6	2.7	3.6	2.7	2.7	2.7	2.7	2.7
87.5°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.8	1.8	1.8	2.7
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: P179628

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5
2.5°	1276.8	1267.7	1249.5	1224.0	1214.9	1209.4	1179.4	1152.0	1132.9	1108.3	1084.7
5°	1462.6	1428.9	1385.2	1332.4	1311.4	1293.2	1237.7	1186.7	1144.8	1098.3	1054.6
7.5°	1654.8	1591.9	1518.2	1434.4	1399.8	1367.9	1284.1	1208.5	1143.9	1077.4	1014.5
10°	1835.1	1739.5	1632.9	1520.9	1469.0	1422.5	1311.4	1214.0	1128.4	1042.8	965.4
12.5°	2011.8	1881.5	1740.4	1596.5	1529.1	1469.0	1331.5	1212.2	1106.5	1006.3	917.1
15°	2182.1	2013.6	1839.6	1663.0	1581.9	1508.1	1345.1	1205.8	1083.7	969.9	870.6
17.5°	2319.6	2121.0	1910.7	1703.0	1612.0	1526.4	1343.3	1187.6	1052.8	928.9	823.3
20°	2416.1	2187.5	1953.5	1721.2	1622.0	1527.3	1329.6	1163.0	1020.9	893.4	786.9
22.5°	2470.8	2218.5	1968.0	1721.2	1614.7	1515.4	1310.5	1140.2	997.2	872.5	770.5
25°	2493.5	2224.0	1961.7	1706.7	1596.5	1494.5	1288.7	1118.4	978.1	858.8	764.1
27.5°	2475.3	2192.1	1926.2	1666.6	1553.7	1451.7	1246.8	1080.1	944.4	830.6	740.4
30°	2402.5	2111.9	1846.9	1589.2	1475.4	1376.1	1177.5	1016.4	886.1	776.8	691.2
32.5°	2284.1	1995.4	1734.9	1483.5	1370.6	1275.0	1085.6	932.6	807.8	704.0	624.7
35°	2140.2	1856.9	1605.6	1360.6	1252.2	1161.2	982.7	833.3	718.6	622.9	550.1
37.5°	1978.1	1703.9	1455.3	1230.4	1126.5	1040.0	873.4	733.1	627.5	539.1	474.5
40°	1795.9	1537.3	1303.2	1090.1	991.8	911.6	754.1	630.2	533.7	454.4	399.8
42.5°	1603.8	1362.4	1144.8	945.3	852.4	779.6	636.6	526.4	441.7	377.0	333.3
45°	1397.9	1174.8	975.4	796.9	719.5	646.6	525.5	425.3	358.8	309.6	276.9
47.5°	1178.5	980.8	805.1	649.3	581.9	518.2	416.2	339.7	291.4	254.1	229.5
50°	958.1	791.4	642.1	509.1	451.7	400.7	322.4	270.5	235.0	207.6	187.6
52.5°	748.6	613.8	491.8	383.4	340.6	304.2	250.4	214.0	187.6	166.7	152.1
55°	561.9	455.4	359.7	278.7	253.2	230.4	194.9	165.7	147.5	131.1	120.2
57.5°	407.1	325.1	255.9	204.9	188.5	173.0	147.5	127.5	113.8	101.1	92.9
60°	286.0	225.9	181.2	150.3	137.5	128.4	108.4	95.6	84.7	75.6	67.4
62.5°	192.2	153.0	126.6	106.6	98.4	92.0	79.2	68.3	60.1	52.8	45.5
65°	122.9	102.9	85.6	71.9	66.5	61.9	53.7	44.6	39.2	33.7	28.2
67.5°	75.6	64.7	53.7	44.6	41.0	38.2	32.8	27.3	23.7	20.0	17.3
70°	43.7	37.3	31.0	26.4	24.6	22.8	19.1	16.4	14.6	11.8	10.0
72.5°	24.6	21.9	18.2	15.5	14.6	13.7	11.8	10.0	9.1	8.2	7.3
75°	14.6	12.7	10.9	10.0	9.1	9.1	8.2	7.3	6.4	6.4	5.5
77.5°	9.1	8.2	7.3	7.3	6.4	6.4	6.4	5.5	5.5	5.5	5.5
80°	6.4	6.4	5.5	5.5	5.5	5.5	4.6	4.6	4.6	4.6	4.6
82.5°	4.6	4.6	4.6	3.6	3.6	3.6	3.6	3.6	4.6	4.6	4.6
85°	2.7	2.7	3.6	3.6	3.6	3.6	3.6	3.6	4.6	4.6	4.6
87.5°	2.7	2.7	2.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
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: P179628

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5
2.5°	1059.2	1048.2	1028.2	1010.0	1007.2	981.7	955.3	949.9	940.8	926.2	908.9
5°	1010.9	981.7	947.1	921.6	910.7	874.3	837.9	821.5	803.2	775.0	758.6
7.5°	954.4	911.6	863.4	834.2	818.7	773.2	731.3	707.6	683.0	653.0	632.9
10°	892.5	838.8	782.3	749.5	731.3	682.1	637.5	610.2	583.8	553.7	532.8
12.5°	834.2	773.2	711.3	676.7	656.6	605.6	560.1	530.9	504.5	479.9	455.4
15°	782.3	714.0	649.3	614.7	593.8	541.9	498.2	469.0	443.5	419.8	398.0
17.5°	732.2	661.2	597.4	563.7	542.8	494.5	452.6	426.2	401.6	379.8	360.6
20°	697.6	630.2	570.1	538.2	520.0	477.2	441.7	420.7	403.4	384.3	367.9
22.5°	688.5	628.4	576.5	550.1	536.4	502.7	477.2	464.5	459.0	447.2	438.1
25°	688.5	635.7	592.0	570.1	559.2	533.7	513.6	509.1	505.4	498.2	493.6
27.5°	671.2	622.0	582.9	563.7	554.6	531.9	514.6	509.1	504.5	499.1	493.6
30°	625.7	580.1	543.7	526.4	517.3	495.4	477.2	470.8	466.3	458.1	453.5
32.5°	564.6	520.9	490.9	470.8	462.6	441.7	424.4	417.1	413.5	406.2	398.0
35°	496.3	458.1	428.9	412.6	404.4	386.1	370.7	363.4	359.7	351.5	341.5
37.5°	427.1	392.5	368.8	353.4	347.0	332.4	318.7	313.3	309.6	303.3	295.1
40°	358.8	334.2	313.3	301.4	296.0	284.1	272.3	266.8	264.1	258.6	252.3
42.5°	302.4	282.3	265.9	255.9	251.4	242.2	232.2	226.8	224.0	218.6	214.0
45°	253.2	237.7	224.9	215.8	212.2	204.0	195.8	191.2	188.5	184.0	179.4
47.5°	212.2	198.5	187.6	181.2	177.6	171.2	163.9	159.4	157.6	153.9	149.4
50°	173.9	163.9	154.8	149.4	146.6	140.2	133.9	130.2	128.4	124.8	120.2
52.5°	140.2	133.0	124.8	119.3	116.6	112.0	105.6	102.0	99.3	95.6	90.2
55°	110.2	103.8	97.4	92.0	90.2	84.7	79.2	73.8	71.0	67.4	62.8
57.5°	85.6	78.3	71.9	67.4	65.6	60.1	54.6	49.2	46.4	41.9	39.2
60°	61.0	54.6	48.3	45.5	43.7	38.2	33.7	29.1	27.3	24.6	22.8
62.5°	40.1	35.5	30.1	27.3	26.4	22.8	19.1	18.2	16.4	15.5	14.6
65°	24.6	21.9	18.2	16.4	15.5	14.6	12.7	11.8	10.9	10.0	10.0
67.5°	14.6	13.7	11.8	10.9	10.0	9.1	9.1	8.2	8.2	7.3	7.3
70°	10.0	9.1	8.2	7.3	7.3	7.3	7.3	7.3	7.3	6.4	6.4
72.5°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
75°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
77.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.6	4.6
80°	4.6	5.5	5.5	5.5	5.5	4.6	4.6	4.6	4.6	4.6	4.6
82.5°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
85°	4.6	4.6	4.6	4.6	4.6	3.6	3.6	3.6	3.6	3.6	2.7
87.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.7	2.7	2.7	1.8
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: P179628

CATALOG NUMBER: LDA6A45827D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5	1116.5
2.5°	907.1	898.9	890.7	903.4	902.5	889.8	898.9	884.3
5°	749.5	737.7	728.6	736.8	732.2	719.5	724.9	712.2
7.5°	621.1	607.4	596.5	602.9	595.6	583.8	581.9	576.5
10°	519.1	504.5	494.5	499.1	491.8	480.9	478.1	474.5
12.5°	441.7	428.0	418.9	422.6	415.3	405.3	403.4	406.2
15°	381.6	371.6	364.3	367.0	357.0	351.5	349.7	351.5
17.5°	347.0	336.1	330.6	333.3	326.0	320.6	319.7	318.7
20°	361.6	353.4	351.5	356.1	350.6	346.1	348.8	345.2
22.5°	440.8	439.9	440.8	451.7	449.0	447.2	449.0	449.0
25°	496.3	500.0	500.9	512.7	513.6	511.8	516.4	516.4
27.5°	494.5	495.4	494.5	506.4	508.2	504.5	509.1	510.0
30°	450.8	450.8	448.1	458.1	458.1	456.3	458.1	459.0
32.5°	393.4	392.5	391.6	396.2	396.2	393.4	395.2	395.2
35°	339.7	336.1	336.1	338.8	337.9	335.1	336.1	335.1
37.5°	293.2	288.7	288.7	290.5	287.8	285.1	286.0	286.0
40°	250.4	246.8	246.8	249.5	247.7	245.0	246.8	246.8
42.5°	210.4	209.5	209.5	211.3	211.3	209.5	212.2	213.1
45°	177.6	174.9	174.9	176.7	176.7	174.9	175.8	174.9
47.5°	147.5	144.8	144.8	144.8	143.0	140.2	140.2	139.3
50°	117.5	112.9	112.0	112.0	110.2	107.5	107.5	106.6
52.5°	87.4	82.9	82.9	82.0	80.1	79.2	78.3	78.3
55°	60.1	56.5	57.4	55.6	55.6	53.7	54.6	53.7
57.5°	37.3	35.5	35.5	34.6	32.8	31.9	31.9	31.0
60°	21.9	20.0	20.0	20.0	19.1	18.2	18.2	18.2
62.5°	14.6	13.7	13.7	13.7	11.8	11.8	10.9	10.9
65°	9.1	8.2	8.2	8.2	7.3	7.3	7.3	7.3
67.5°	7.3	7.3	6.4	6.4	6.4	6.4	6.4	6.4
70°	6.4	6.4	6.4	6.4	6.4	5.5	5.5	5.5
72.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
75°	5.5	5.5	4.6	5.5	4.6	4.6	4.6	4.6
77.5°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
80°	4.6	4.6	4.6	4.6	4.6	3.6	3.6	3.6
82.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
85°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
87.5°	2.7	1.8	1.8	1.8	0.9	0.9	0.9	0.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)