

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: P179627

Luminaire Tested: **LDA6A45940D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179627  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26668)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA6A45940D010TE LARH30NF 6LLWW1  
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3214.9 lumens  
Efficiency: N/A  
Efficacy: 60.7 lumens/watt  
Spacing Criteria (0/90/45): 2.16 / 1.11 / 1.51  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

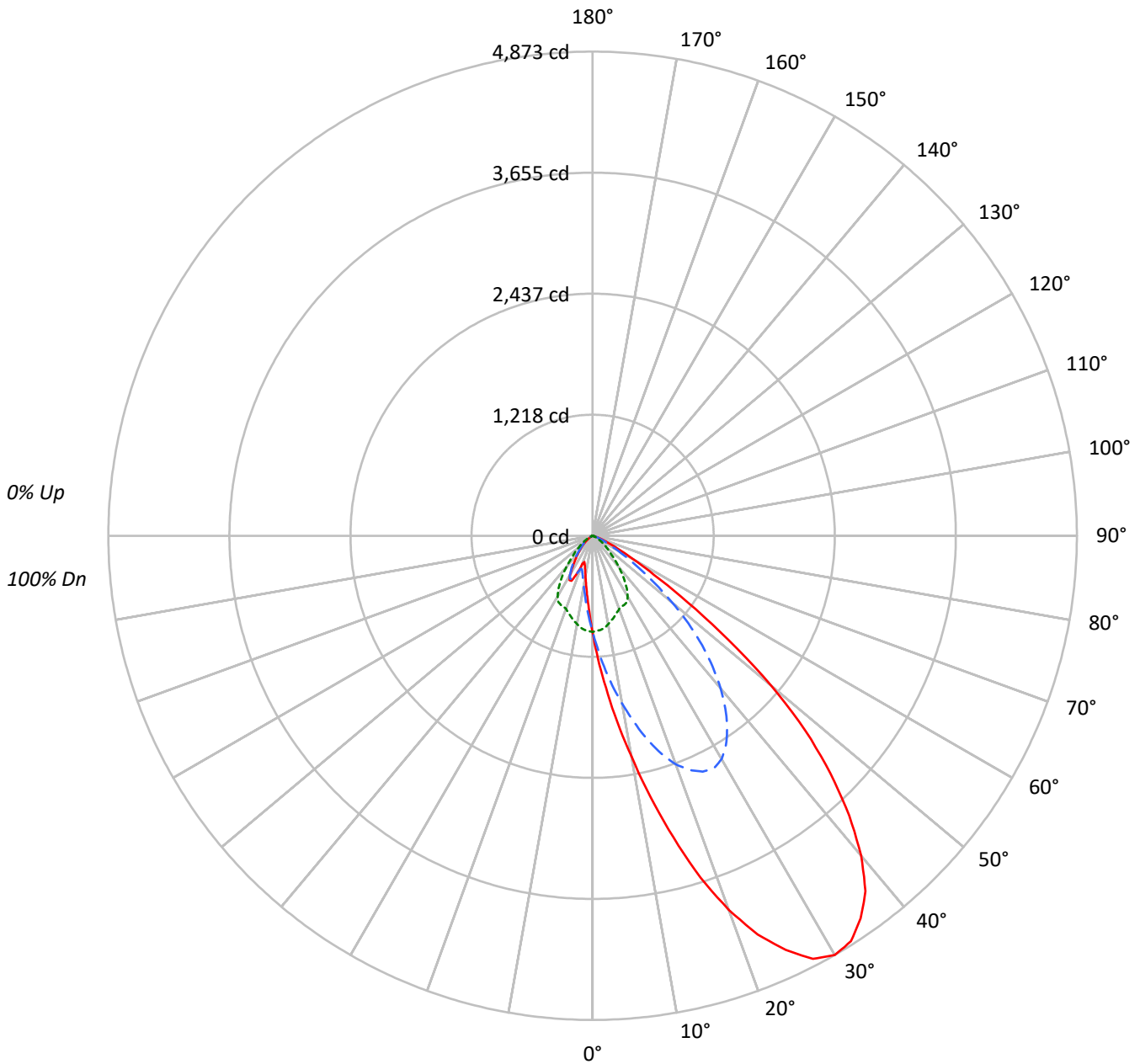
Input Watts (W): 53  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	92	88	102	96	91	87	93	89	85	89	86	83	87	84	81	80																			
3	97	88	82	76	94	87	81	76	84	79	75	81	77	73	79	75	72	70																			
4	90	80	72	67	87	78	72	66	76	70	66	74	69	65	72	68	64	62																			
5	83	72	65	59	81	71	64	59	69	63	58	67	62	57	66	61	57	55																			
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49																			
7	72	60	52	47	70	59	52	46	58	51	46	56	50	46	55	50	46	44																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39																			
9	63	50	43	38	61	50	43	38	49	42	37	48	42	37	47	41	37	35																			
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	53077	53077	53077
5°	84377	52311	33810
10°	125582	50272	22834
15°	178440	47855	17185
20°	233587	45702	17560
25°	278133	46212	30347
30°	308453	44576	28580
35°	314672	37992	21027
40°	300778	29291	15558
45°	262314	21087	11738
50°	199985	15317	7804
55°	111633	11020	4540
60°	51345	7620	1831
65°	24205	4112	804
70°	11845	1971	850
75°	5592	1313	932
80°	2778	1389	1105
85°	1635	2201	1132



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.8	3.1
10°-20°	365.2	11.4
20°-30°	730.6	22.7
30°-40°	897.1	27.9
40°-50°	718.6	22.4
50°-60°	316.1	9.8
60°-70°	71.3	2.2
70°-80°	12.9	0.4
80°-90°	3.2	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°	1195.6	37.2
0°-40°	2092.7	65.1
0°-60°	3127.5	97.3
0°-90°	3214.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3214.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	968	968	968	968	968	
5°	1533	1319	951	704	614	169
15°	3144	2120	843	393	303	917
25°	4598	2620	764	475	502	2116
35°	4702	2361	568	342	314	2911
45°	3384	1559	272	166	151	2572
55°	1168	577	115	66	48	1110
65°	187	118	32	11	6	214
75°	26	15	6	5	4	34
85°	3	3	4	4	2	3
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°	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2
2.5°	1234.9	1203.2	1228.8	1206.8	1199.7	1197.1	1186.5	1179.5	1176.8	1152.2	1132.8
5°	1533.3	1496.3	1522.7	1490.2	1473.5	1464.7	1446.2	1423.3	1404.8	1358.1	1319.4
7.5°	1882.7	1843.1	1867.8	1821.1	1789.4	1773.6	1743.7	1699.7	1658.3	1583.5	1518.3
10°	2256.0	2223.4	2244.5	2179.4	2130.1	2104.6	2060.5	2004.2	1919.7	1810.6	1714.6
12.5°	2690.8	2644.1	2660.8	2573.7	2503.3	2467.2	2404.7	2316.7	2197.0	2048.2	1917.1
15°	3144.1	3100.1	3110.6	2999.7	2902.0	2851.8	2770.9	2645.9	2487.4	2292.9	2120.4
17.5°	3608.8	3549.0	3547.2	3415.2	3284.9	3221.5	3120.3	2955.7	2770.0	2514.7	2301.7
20°	4004.0	3952.1	3938.0	3800.7	3622.9	3549.0	3426.6	3222.4	2994.4	2698.7	2448.7
22.5°	4342.9	4283.1	4257.5	4096.4	3894.9	3808.6	3668.7	3421.3	3167.8	2833.4	2551.7
25°	4598.2	4548.9	4511.9	4330.6	4105.3	4008.4	3855.3	3587.7	3293.7	2927.5	2619.5
27.5°	4800.6	4734.6	4687.9	4489.9	4236.4	4134.3	3969.7	3679.2	3358.0	2965.4	2639.7
30°	4872.8	4806.8	4753.1	4541.8	4273.4	4161.6	3989.1	3681.0	3340.4	2937.2	2595.7
32.5°	4838.5	4769.8	4709.1	4488.1	4210.0	4092.9	3916.9	3604.4	3247.9	2843.0	2498.0
35°	4702.0	4647.5	4578.8	4356.1	4081.5	3953.9	3778.7	3458.3	3104.5	2696.1	2360.7
37.5°	4509.3	4424.8	4361.4	4143.1	3877.3	3747.0	3578.9	3270.8	2912.6	2520.0	2195.2
40°	4203.0	4117.6	4054.2	3843.8	3602.7	3471.5	3316.6	3022.6	2676.7	2311.4	2001.6
42.5°	3820.9	3741.7	3680.1	3484.7	3271.7	3144.1	3007.6	2735.7	2414.4	2079.9	1789.4
45°	3383.5	3306.9	3254.1	3084.2	2895.0	2782.3	2659.1	2418.8	2124.8	1821.1	1558.8
47.5°	2909.1	2830.7	2785.8	2633.6	2473.4	2371.3	2265.6	2057.9	1794.7	1534.2	1306.2
50°	2344.9	2269.2	2228.7	2101.0	1987.5	1893.3	1816.7	1650.4	1434.7	1229.6	1043.9
52.5°	1717.3	1658.3	1628.4	1540.3	1472.6	1402.2	1352.9	1236.7	1079.1	933.9	793.9
55°	1168.0	1119.6	1105.5	1051.0	1014.0	976.1	940.9	873.2	766.7	670.7	577.4
57.5°	730.6	725.3	735.0	686.6	669.8	654.0	626.7	588.9	522.0	462.1	405.8
60°	468.3	463.0	458.6	441.0	433.1	421.6	408.4	386.4	345.0	309.8	272.9
62.5°	296.6	293.1	297.5	286.9	276.4	276.4	262.3	250.0	224.5	203.3	176.9
65°	186.6	185.7	188.4	181.3	176.0	173.4	166.4	159.3	143.5	130.3	117.9
67.5°	117.9	117.1	118.8	117.1	110.9	109.1	104.7	100.3	89.8	81.9	73.1
70°	73.9	73.1	73.9	72.2	68.7	66.9	64.3	60.7	57.2	48.4	44.0
72.5°	44.9	44.0	44.9	44.0	41.4	41.4	37.8	36.1	33.4	28.2	24.6
75°	26.4	26.4	26.4	25.5	23.8	23.8	22.0	21.1	19.4	16.7	15.0
77.5°	15.0	15.0	15.0	15.0	14.1	14.1	13.2	12.3	11.4	9.7	9.7
80°	8.8	8.8	8.8	8.8	7.9	8.8	7.9	7.9	7.0	6.2	6.2
82.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	4.4	4.4	4.4	4.4
85°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
87.5°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.8	1.8	1.8	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



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2
2.5°	1117.0	1088.8	1083.5	1053.6	1048.3	1031.6	1022.8	1006.9	975.3	958.5	938.3
5°	1272.8	1228.8	1203.2	1149.5	1132.8	1104.7	1075.6	1036.9	986.7	950.6	912.8
7.5°	1443.5	1371.4	1317.7	1238.4	1209.4	1168.0	1117.0	1056.2	985.8	932.1	878.4
10°	1615.2	1502.5	1419.8	1313.3	1271.0	1216.4	1142.5	1060.6	972.6	903.1	836.2
12.5°	1772.7	1631.9	1518.3	1382.8	1326.5	1259.6	1162.7	1060.6	955.9	873.2	794.8
15°	1944.4	1758.6	1610.8	1445.3	1375.8	1296.5	1177.7	1057.1	937.4	843.2	757.0
17.5°	2084.3	1863.4	1682.1	1489.3	1406.6	1315.9	1179.5	1043.0	913.6	810.7	720.9
20°	2187.3	1942.6	1730.5	1514.8	1421.5	1322.9	1172.4	1024.6	889.0	783.4	691.8
22.5°	2262.1	1990.1	1755.1	1523.6	1422.4	1319.4	1160.1	1008.7	872.3	769.3	682.2
25°	2307.0	2013.9	1763.0	1520.1	1415.4	1308.0	1146.0	994.6	861.7	764.0	683.9
27.5°	2311.4	2004.2	1741.9	1493.7	1386.3	1278.9	1117.0	967.3	838.8	749.0	672.5
30°	2261.2	1949.6	1686.5	1435.6	1327.3	1221.7	1062.4	915.4	793.1	704.2	634.6
32.5°	2164.4	1853.7	1593.2	1347.6	1241.1	1138.1	983.2	845.0	725.3	643.4	574.8
35°	2035.9	1732.2	1472.6	1242.0	1138.1	1040.4	889.9	754.3	645.2	567.7	505.2
37.5°	1883.6	1590.5	1347.6	1124.9	1024.6	933.9	788.7	665.4	560.7	489.4	432.2
40°	1710.2	1430.3	1202.4	991.1	901.3	813.3	681.3	568.6	470.9	409.3	360.9
42.5°	1522.7	1260.4	1050.1	853.8	771.9	691.8	572.1	470.0	385.5	335.4	297.5
45°	1316.8	1080.9	891.6	720.0	641.7	575.7	463.0	378.5	314.2	272.0	245.6
47.5°	1096.7	891.6	727.0	579.2	510.5	454.2	361.8	298.4	252.6	223.6	201.6
50°	875.8	705.0	567.7	440.1	388.2	340.6	279.9	236.8	201.6	179.6	165.5
52.5°	669.0	530.8	422.5	323.0	287.8	255.3	215.6	186.6	160.2	144.4	133.8
55°	485.0	382.9	301.0	236.8	213.0	194.5	165.5	144.4	127.6	115.3	106.5
57.5°	338.0	264.9	210.4	172.5	158.4	145.2	125.0	110.9	99.5	90.7	83.6
60°	228.9	179.6	147.0	125.0	116.2	107.4	94.2	84.5	75.7	69.5	62.5
62.5°	150.5	123.2	104.7	91.5	83.6	77.5	69.5	61.6	54.6	49.3	43.1
65°	97.7	81.0	72.2	61.6	58.1	53.7	46.7	42.2	36.1	31.7	27.3
67.5°	61.6	52.8	46.7	40.5	37.8	34.3	30.8	26.4	22.9	19.4	16.7
70°	37.0	32.6	28.2	24.6	22.9	21.1	18.5	15.8	13.2	12.3	10.6
72.5°	22.0	19.4	16.7	15.0	14.1	13.2	11.4	9.7	8.8	7.9	7.0
75°	13.2	12.3	10.6	8.8	8.8	7.9	7.9	7.0	6.2	6.2	5.3
77.5°	8.8	7.9	7.0	6.2	6.2	6.2	5.3	5.3	5.3	5.3	5.3
80°	5.3	5.3	5.3	5.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.4	4.4
85°	2.6	2.6	2.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
87.5°	2.6	2.6	2.6	2.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2
2.5°	929.5	903.1	892.5	876.7	860.8	860.0	841.5	831.8	824.7	812.4	800.1
5°	887.2	846.8	822.1	801.0	780.7	766.7	739.4	720.9	704.2	686.6	663.7
7.5°	837.9	786.0	750.8	724.4	700.6	678.6	645.2	620.5	599.4	582.7	554.5
10°	785.1	725.3	681.3	652.2	627.6	595.9	563.3	536.0	513.2	494.7	467.4
12.5°	735.8	669.8	620.5	590.6	565.1	530.8	497.3	469.1	444.5	426.9	402.3
15°	690.1	620.5	567.7	537.8	511.4	477.1	443.6	415.5	392.6	374.1	352.1
17.5°	649.6	576.5	524.6	497.3	470.0	438.3	404.9	378.5	355.6	338.9	321.3
20°	622.3	552.8	502.6	477.1	453.3	423.4	397.0	375.8	353.8	340.6	330.1
22.5°	617.9	556.3	513.2	492.0	473.5	451.5	435.7	425.1	410.2	404.0	404.0
25°	626.7	573.9	539.6	522.8	507.9	495.6	487.6	480.6	475.3	476.2	476.2
27.5°	621.4	573.9	545.7	529.9	516.7	508.8	500.8	496.4	491.2	493.8	493.8
30°	587.1	541.3	517.6	500.8	488.5	481.5	470.0	464.7	458.6	459.5	456.8
32.5°	529.9	486.8	463.9	448.0	434.8	427.8	415.5	409.3	401.4	401.4	396.1
35°	463.0	422.5	401.4	387.3	375.0	367.9	356.5	350.3	342.4	338.0	335.4
37.5°	392.6	357.4	338.0	327.4	317.8	310.7	300.1	295.7	287.8	284.3	280.8
40°	327.4	301.9	283.4	274.6	266.7	260.5	250.9	247.3	240.3	237.7	234.1
42.5°	271.1	251.7	236.8	229.7	220.9	217.4	210.4	206.8	200.7	198.0	194.5
45°	226.2	210.4	198.0	191.9	186.6	182.2	175.2	172.5	166.4	163.7	162.0
47.5°	186.6	174.3	164.6	159.3	156.7	151.4	145.2	142.6	138.2	135.6	132.9
50°	153.2	143.5	135.6	131.1	129.4	124.1	118.8	117.1	112.7	110.9	108.3
52.5°	125.0	117.1	110.0	106.5	103.0	99.5	95.1	93.3	88.9	86.3	82.7
55°	100.3	92.4	86.3	83.6	81.9	76.6	72.2	69.5	66.0	61.6	59.0
57.5°	77.5	70.4	65.1	61.6	60.7	55.5	51.9	47.5	43.1	40.5	37.8
60°	57.2	51.1	45.8	42.2	41.4	36.1	31.7	29.0	25.5	23.8	22.9
62.5°	37.8	33.4	29.0	27.3	25.5	22.0	19.4	17.6	15.8	15.0	14.1
65°	23.8	20.2	17.6	16.7	15.0	13.2	12.3	11.4	10.6	9.7	8.8
67.5°	14.1	12.3	10.6	10.6	9.7	8.8	8.8	7.9	7.0	7.0	7.0
70°	8.8	7.9	7.0	7.0	7.0	7.0	7.0	6.2	6.2	6.2	6.2
72.5°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.3	5.3
75°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
77.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	4.4	4.4	4.4	4.4
80°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
82.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	3.5	3.5	3.5
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.6
87.5°	3.5	3.5	3.5	3.5	3.5	2.6	2.6	2.6	2.6	2.6	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: P179627

CATALOG NUMBER: LDA6A45940D010TE LARH30NF 6LLWW1

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	968.2	968.2	968.2	968.2	968.2	968.2	968.2	968.2
2.5°	790.4	775.5	773.7	770.2	766.7	771.1	768.4	761.4
5°	655.7	637.3	633.7	628.5	623.2	624.9	620.5	614.4
7.5°	543.1	523.7	520.2	514.0	508.8	507.9	503.5	497.3
10°	451.5	436.6	433.1	426.9	420.7	419.9	414.6	410.2
12.5°	386.4	372.3	368.8	362.6	357.4	355.6	351.2	347.7
15°	338.0	324.8	321.3	316.0	309.8	309.8	306.3	302.8
17.5°	308.1	296.6	292.2	287.8	282.5	281.7	279.9	277.3
20°	320.4	309.8	308.1	302.8	303.7	303.7	301.9	301.0
22.5°	399.6	396.1	403.1	397.9	407.5	411.1	412.8	412.8
25°	479.7	480.6	487.6	485.0	493.8	500.8	504.4	501.7
27.5°	493.8	494.7	497.3	496.4	503.5	507.9	510.5	504.4
30°	453.3	452.4	451.5	450.7	455.1	456.8	457.7	451.5
32.5°	390.8	388.2	389.0	384.6	386.4	386.4	389.9	381.1
35°	328.3	324.8	324.8	320.4	320.4	320.4	323.0	314.2
37.5°	275.5	272.0	271.1	266.7	265.8	264.1	266.7	258.8
40°	229.7	226.2	227.1	221.8	222.7	221.8	221.8	217.4
42.5°	190.1	187.5	186.6	184.8	185.7	185.7	188.4	184.8
45°	157.6	154.9	154.0	153.2	154.0	154.0	154.9	151.4
47.5°	131.1	127.6	126.7	125.0	125.0	122.3	122.3	118.8
50°	105.6	100.3	99.5	96.8	95.9	94.2	94.2	91.5
52.5°	80.1	75.7	73.9	72.2	71.3	69.5	69.5	67.8
55°	56.3	51.9	51.1	50.2	49.3	48.4	49.3	47.5
57.5°	35.2	33.4	32.6	31.7	30.8	29.9	29.9	29.0
60°	21.1	19.4	19.4	18.5	17.6	16.7	16.7	16.7
62.5°	13.2	12.3	12.3	11.4	11.4	10.6	10.6	10.6
65°	8.8	7.9	7.9	7.0	7.0	6.2	6.2	6.2
67.5°	6.2	6.2	6.2	6.2	5.3	5.3	5.3	5.3
70°	6.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3
72.5°	5.3	5.3	5.3	5.3	4.4	4.4	4.4	4.4
75°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
77.5°	4.4	4.4	4.4	4.4	3.5	3.5	3.5	3.5
80°	4.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	3.5	3.5	3.5	3.5	3.5	2.6	2.6	2.6
85°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.8
87.5°	1.8	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)