

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: P179623

Luminaire Tested: **LDA6A45840D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179623
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: LDA6A45840D010TE LARH30NF 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3798.5 lumens
Efficiency: N/A
Efficacy: 71.7 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

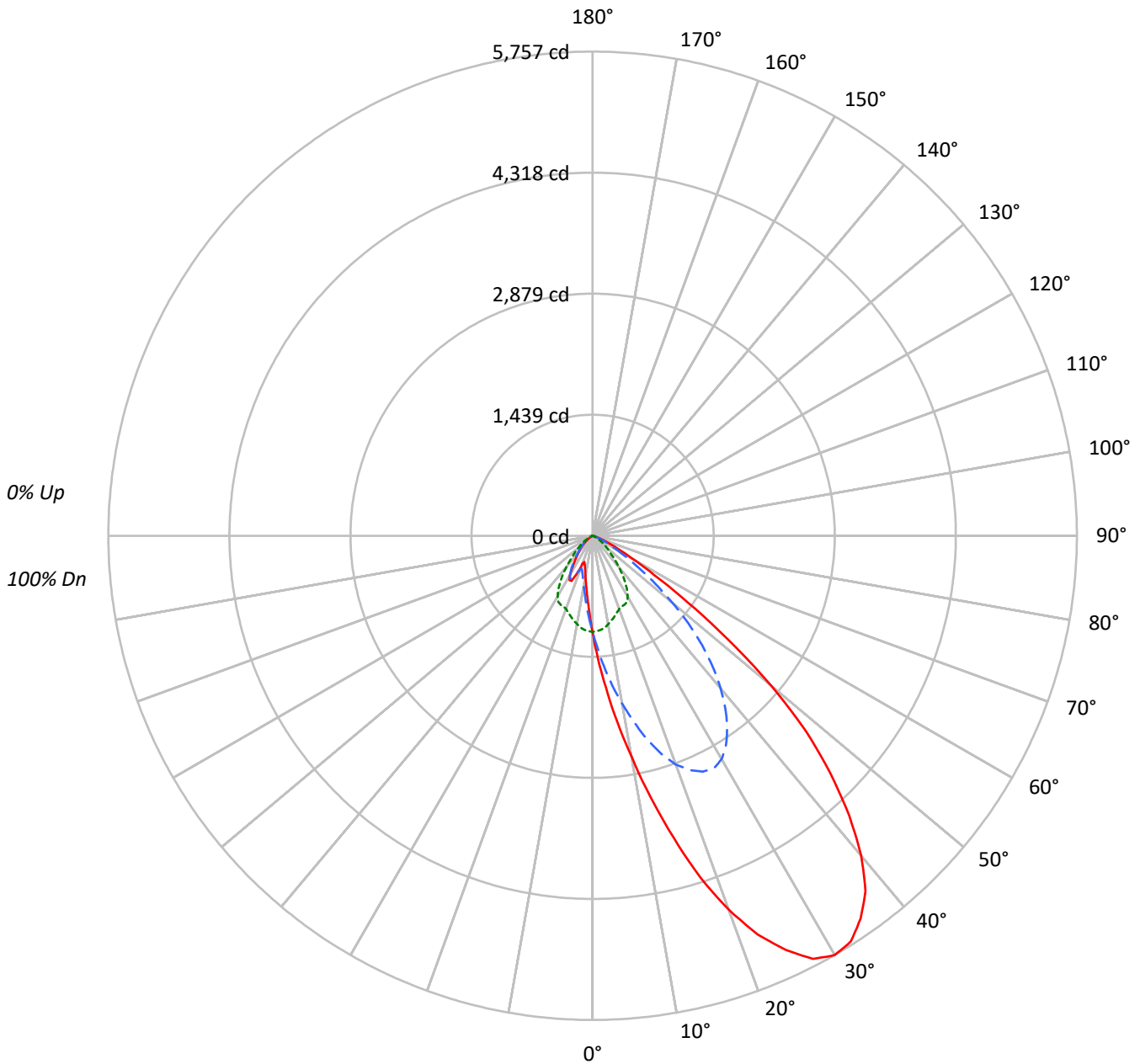
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P179623

CATALOG NUMBER: LDA6A45840D010TE LARH30NF 6LLWW1

Luminous Intensity Polar Plot





TEST NUMBER: P179623

CATALOG NUMBER: LDA6A45840D010TE LARH30NF 6LLWW1

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				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°	62714	62714	62714
5°	99692	61809	39946
10°	148372	59395	26976
15°	210830	56544	20301
20°	275987	53998	20751
25°	328616	54602	35857
30°	364442	52666	33771
35°	371791	44892	24849
40°	355373	34608	18384
45°	309924	24917	13870
50°	236282	18097	9228
55°	131895	13017	5371
60°	60664	9012	2171
65°	28602	4851	947
70°	14009	2340	994
75°	6608	1546	1101
80°	3283	1642	1326
85°	1950	2642	1321



TEST NUMBER: P179623

CATALOG NUMBER: LDA6A45840D010TE LARH30NF 6LLWW1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.9	3.1
10°-20°	431.5	11.4
20°-30°	863.2	22.7
30°-40°	1060.0	27.9
40°-50°	849.1	22.4
50°-60°	373.5	9.8
60°-70°	84.2	2.2
70°-80°	15.3	0.4
80°-90°	3.8	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°	1412.6	37.2
0°-40°	2472.6	65.1
0°-60°	3695.2	97.3
0°-90°	3798.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3798.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1144	1144	1144	1144	1144	
5°	1812	1559	1123	832	726	199
15°	3715	2505	996	464	358	1083
25°	5433	3095	903	562	593	2500
35°	5556	2789	671	404	371	3439
45°	3998	1842	321	197	179	3039
55°	1380	682	136	78	56	1312
65°	220	139	37	12	7	253
75°	31	18	7	6	5	40
85°	3	3	4	4	2	4
90°	0	0	0	0	0	



TEST NUMBER: P179623

CATALOG NUMBER: LDA6A45840D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0
2.5°	1459.1	1421.6	1451.8	1425.8	1417.5	1414.4	1401.9	1393.6	1390.4	1361.3	1338.4
5°	1811.6	1767.9	1799.1	1760.7	1740.9	1730.5	1708.7	1681.6	1659.8	1604.7	1558.9
7.5°	2224.5	2177.7	2206.8	2151.7	2114.3	2095.5	2060.2	2008.2	1959.3	1870.9	1793.9
10°	2665.4	2627.0	2651.9	2575.0	2516.7	2486.6	2434.6	2368.0	2268.2	2139.2	2025.9
12.5°	3179.2	3124.1	3143.8	3040.9	2957.7	2915.0	2841.2	2737.2	2595.8	2420.0	2265.1
15°	3714.8	3662.8	3675.3	3544.2	3428.8	3369.5	3273.8	3126.1	2939.0	2709.1	2505.3
17.5°	4263.9	4193.2	4191.1	4035.1	3881.2	3806.3	3686.7	3492.2	3272.8	2971.2	2719.5
20°	4730.8	4669.5	4652.8	4490.6	4280.5	4193.2	4048.6	3807.3	3538.0	3188.5	2893.2
22.5°	5131.2	5060.5	5030.3	4840.0	4601.9	4499.9	4334.6	4042.4	3742.8	3347.7	3014.9
25°	5432.8	5374.6	5330.9	5116.6	4850.4	4736.0	4555.1	4238.9	3891.6	3458.9	3094.9
27.5°	5672.0	5594.0	5538.9	5304.9	5005.4	4884.7	4690.3	4347.1	3967.5	3503.7	3118.9
30°	5757.3	5679.3	5615.8	5366.2	5049.0	4917.0	4713.1	4349.2	3946.7	3470.4	3066.9
32.5°	5716.7	5635.6	5563.8	5302.8	4974.2	4835.9	4627.9	4258.7	3837.5	3359.1	2951.4
35°	5555.5	5491.0	5409.9	5146.8	4822.3	4671.5	4464.6	4086.0	3668.0	3185.4	2789.2
37.5°	5327.8	5227.9	5153.0	4895.1	4581.1	4427.1	4228.5	3864.5	3441.3	2977.4	2593.7
40°	4965.9	4865.0	4790.1	4541.5	4256.6	4101.6	3918.6	3571.3	3162.5	2731.0	2364.9
42.5°	4514.5	4420.9	4348.1	4117.2	3865.6	3714.8	3553.6	3232.2	2852.6	2457.4	2114.3
45°	3997.6	3907.2	3844.8	3644.1	3420.5	3287.3	3141.7	2857.8	2510.5	2151.7	1841.8
47.5°	3437.1	3344.5	3291.5	3111.6	2922.3	2801.7	2676.9	2431.4	2120.5	1812.7	1543.3
50°	2770.5	2681.0	2633.2	2482.4	2348.2	2237.0	2146.5	1949.9	1695.1	1452.8	1233.4
52.5°	2029.0	1959.3	1923.9	1819.9	1739.9	1656.7	1598.4	1461.2	1275.0	1103.4	938.1
55°	1380.0	1322.8	1306.2	1241.7	1198.0	1153.3	1111.7	1031.6	905.8	792.5	682.2
57.5°	863.2	856.9	868.4	811.2	791.4	772.7	740.5	695.7	616.7	546.0	479.4
60°	553.3	547.0	541.8	521.0	511.7	498.1	482.5	456.5	407.7	366.1	322.4
62.5°	350.5	346.3	351.5	339.0	326.6	326.6	309.9	295.4	265.2	240.2	209.0
65°	220.5	219.4	222.6	214.2	208.0	204.9	196.6	188.2	169.5	153.9	139.4
67.5°	139.4	138.3	140.4	138.3	131.0	129.0	123.8	118.6	106.1	96.7	86.3
70°	87.4	86.3	87.4	85.3	81.1	79.0	75.9	71.8	67.6	57.2	52.0
72.5°	53.0	52.0	53.0	52.0	48.9	48.9	44.7	42.6	39.5	33.3	29.1
75°	31.2	31.2	31.2	30.2	28.1	28.1	26.0	25.0	22.9	19.8	17.7
77.5°	17.7	17.7	17.7	17.7	16.6	16.6	15.6	14.6	13.5	11.4	11.4
80°	10.4	10.4	10.4	10.4	9.4	10.4	9.4	9.4	8.3	7.3	7.3
82.5°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.2	5.2	5.2	5.2
85°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
87.5°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.1	2.1	2.1	2.1
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: P179623

CATALOG NUMBER: LDA6A45840D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0
2.5°	1319.7	1286.4	1280.2	1244.8	1238.6	1218.8	1208.4	1189.7	1152.3	1132.5	1108.6
5°	1503.8	1451.8	1421.6	1358.2	1338.4	1305.2	1270.8	1225.1	1165.8	1123.2	1078.4
7.5°	1705.5	1620.3	1556.8	1463.2	1428.9	1380.0	1319.7	1248.0	1164.8	1101.3	1037.9
10°	1908.3	1775.2	1677.5	1551.6	1501.7	1437.2	1349.9	1253.2	1149.2	1067.0	988.0
12.5°	2094.5	1928.1	1793.9	1633.8	1567.2	1488.2	1373.8	1253.2	1129.4	1031.6	939.1
15°	2297.3	2077.9	1903.1	1707.6	1625.5	1531.9	1391.5	1249.0	1107.6	996.3	894.4
17.5°	2462.6	2201.6	1987.4	1759.6	1661.9	1554.8	1393.6	1232.4	1079.5	957.8	851.7
20°	2584.3	2295.2	2044.6	1789.8	1679.5	1563.1	1385.2	1210.5	1050.4	925.6	817.4
22.5°	2672.7	2351.4	2073.7	1800.2	1680.6	1558.9	1370.7	1191.8	1030.6	908.9	806.0
25°	2725.8	2379.4	2083.1	1796.0	1672.3	1545.4	1354.0	1175.2	1018.1	902.7	808.1
27.5°	2731.0	2368.0	2058.1	1764.8	1638.0	1511.1	1319.7	1142.9	991.1	885.0	794.5
30°	2671.7	2303.5	1992.6	1696.2	1568.3	1443.5	1255.2	1081.6	937.0	832.0	749.8
32.5°	2557.3	2190.2	1882.3	1592.2	1466.4	1344.7	1161.6	998.4	856.9	760.2	679.1
35°	2405.4	2046.7	1739.9	1467.4	1344.7	1229.2	1051.4	891.3	762.3	670.8	596.9
37.5°	2225.5	1879.2	1592.2	1329.1	1210.5	1103.4	931.8	786.2	662.5	578.2	510.6
40°	2020.7	1689.9	1420.6	1171.0	1064.9	960.9	804.9	671.8	556.4	483.6	426.4
42.5°	1799.1	1489.2	1240.7	1008.8	912.1	817.4	676.0	555.3	455.5	396.2	351.5
45°	1555.8	1277.1	1053.5	850.7	758.1	680.1	547.0	447.2	371.3	321.4	290.2
47.5°	1295.8	1053.5	859.0	684.3	603.2	536.6	427.4	352.5	298.5	264.2	238.2
50°	1034.8	833.0	670.8	520.0	458.6	402.5	330.7	279.8	238.2	212.2	195.5
52.5°	790.4	627.1	499.2	381.7	340.1	301.6	254.8	220.5	189.3	170.6	158.1
55°	573.0	452.4	355.7	279.8	251.7	229.8	195.5	170.6	150.8	136.2	125.8
57.5°	399.3	313.0	248.6	203.8	187.2	171.6	147.7	131.0	117.5	107.1	98.8
60°	270.4	212.2	173.7	147.7	137.3	126.9	111.3	99.8	89.4	82.2	73.8
62.5°	177.8	145.6	123.8	108.2	98.8	91.5	82.2	72.8	64.5	58.2	51.0
65°	115.4	95.7	85.3	72.8	68.6	63.4	55.1	49.9	42.6	37.4	32.2
67.5°	72.8	62.4	55.1	47.8	44.7	40.6	36.4	31.2	27.0	22.9	19.8
70°	43.7	38.5	33.3	29.1	27.0	25.0	21.8	18.7	15.6	14.6	12.5
72.5°	26.0	22.9	19.8	17.7	16.6	15.6	13.5	11.4	10.4	9.4	8.3
75°	15.6	14.6	12.5	10.4	10.4	9.4	9.4	8.3	7.3	7.3	6.2
77.5°	10.4	9.4	8.3	7.3	7.3	7.3	6.2	6.2	6.2	6.2	6.2
80°	6.2	6.2	6.2	6.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
82.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	5.2	5.2
85°	3.1	3.1	3.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
87.5°	3.1	3.1	3.1	3.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2
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: P179623

CATALOG NUMBER: LDA6A45840D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0
2.5°	1098.2	1067.0	1054.5	1035.8	1017.1	1016.0	994.2	982.8	974.5	959.9	945.3
5°	1048.3	1000.5	971.3	946.4	922.5	905.8	873.6	851.7	832.0	811.2	784.1
7.5°	990.1	928.7	887.1	855.9	827.8	801.8	762.3	733.2	708.2	688.5	655.2
10°	927.7	856.9	804.9	770.6	741.5	704.1	665.6	633.3	606.3	584.5	552.2
12.5°	869.4	791.4	733.2	697.8	667.7	627.1	587.6	554.3	525.2	504.4	475.3
15°	815.3	733.2	670.8	635.4	604.2	563.7	524.1	490.9	463.8	442.0	416.0
17.5°	767.5	681.2	619.8	587.6	555.3	517.9	478.4	447.2	420.1	400.4	379.6
20°	735.3	653.1	593.8	563.7	535.6	500.2	469.0	444.1	418.1	402.5	390.0
22.5°	730.1	657.3	606.3	581.3	559.5	533.5	514.8	502.3	484.6	477.3	477.3
25°	740.5	678.1	637.5	617.7	600.1	585.5	576.1	567.8	561.6	562.6	562.6
27.5°	734.2	678.1	644.8	626.1	610.5	601.1	591.7	586.5	580.3	583.4	583.4
30°	693.7	639.6	611.5	591.7	577.2	568.9	555.3	549.1	541.8	542.9	539.7
32.5°	626.1	575.1	548.1	529.3	513.7	505.4	490.9	483.6	474.2	474.2	468.0
35°	547.0	499.2	474.2	457.6	443.0	434.7	421.2	413.9	404.5	399.3	396.2
37.5°	463.8	422.2	399.3	386.9	375.4	367.1	354.6	349.4	340.1	335.9	331.8
40°	386.9	356.7	334.9	324.5	315.1	307.8	296.4	292.2	283.9	280.8	276.6
42.5°	320.3	297.4	279.8	271.4	261.0	256.9	248.6	244.4	237.1	234.0	229.8
45°	267.3	248.6	234.0	226.7	220.5	215.3	207.0	203.8	196.6	193.4	191.4
47.5°	220.5	205.9	194.5	188.2	185.1	178.9	171.6	168.5	163.3	160.2	157.0
50°	181.0	169.5	160.2	155.0	152.9	146.6	140.4	138.3	133.1	131.0	127.9
52.5°	147.7	138.3	130.0	125.8	121.7	117.5	112.3	110.2	105.0	101.9	97.8
55°	118.6	109.2	101.9	98.8	96.7	90.5	85.3	82.2	78.0	72.8	69.7
57.5°	91.5	83.2	77.0	72.8	71.8	65.5	61.4	56.2	51.0	47.8	44.7
60°	67.6	60.3	54.1	49.9	48.9	42.6	37.4	34.3	30.2	28.1	27.0
62.5°	44.7	39.5	34.3	32.2	30.2	26.0	22.9	20.8	18.7	17.7	16.6
65°	28.1	23.9	20.8	19.8	17.7	15.6	14.6	13.5	12.5	11.4	10.4
67.5°	16.6	14.6	12.5	12.5	11.4	10.4	10.4	9.4	8.3	8.3	8.3
70°	10.4	9.4	8.3	8.3	8.3	8.3	8.3	7.3	7.3	7.3	7.3
72.5°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.2	6.2
75°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
77.5°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.2	5.2	5.2	5.2
80°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
82.5°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.2	4.2	4.2
85°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.1
87.5°	4.2	4.2	4.2	4.2	4.2	3.1	3.1	3.1	3.1	3.1	2.1
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: P179623

CATALOG NUMBER: LDA6A45840D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0	1144.0
2.5°	933.9	916.2	914.1	910.0	905.8	911.0	907.9	899.6
5°	774.8	752.9	748.8	742.5	736.3	738.4	733.2	725.9
7.5°	641.7	618.8	614.6	607.3	601.1	600.1	594.9	587.6
10°	533.5	515.8	511.7	504.4	497.1	496.1	489.8	484.6
12.5°	456.5	439.9	435.7	428.5	422.2	420.1	414.9	410.8
15°	399.3	383.7	379.6	373.3	366.1	366.1	361.9	357.7
17.5°	364.0	350.5	345.3	340.1	333.8	332.8	330.7	327.6
20°	378.5	366.1	364.0	357.7	358.8	358.8	356.7	355.7
22.5°	472.1	468.0	476.3	470.1	481.5	485.7	487.7	487.7
25°	566.8	567.8	576.1	573.0	583.4	591.7	595.9	592.8
27.5°	583.4	584.5	587.6	586.5	594.9	600.1	603.2	595.9
30°	535.6	534.5	533.5	532.5	537.7	539.7	540.8	533.5
32.5°	461.7	458.6	459.7	454.5	456.5	456.5	460.7	450.3
35°	387.9	383.7	383.7	378.5	378.5	378.5	381.7	371.3
37.5°	325.5	321.4	320.3	315.1	314.1	312.0	315.1	305.8
40°	271.4	267.3	268.3	262.1	263.1	262.1	262.1	256.9
42.5°	224.6	221.5	220.5	218.4	219.4	219.4	222.6	218.4
45°	186.2	183.0	182.0	181.0	182.0	182.0	183.0	178.9
47.5°	155.0	150.8	149.8	147.7	147.7	144.6	144.6	140.4
50°	124.8	118.6	117.5	114.4	113.4	111.3	111.3	108.2
52.5°	94.6	89.4	87.4	85.3	84.2	82.2	82.2	80.1
55°	66.6	61.4	60.3	59.3	58.2	57.2	58.2	56.2
57.5°	41.6	39.5	38.5	37.4	36.4	35.4	35.4	34.3
60°	25.0	22.9	22.9	21.8	20.8	19.8	19.8	19.8
62.5°	15.6	14.6	14.6	13.5	13.5	12.5	12.5	12.5
65°	10.4	9.4	9.4	8.3	8.3	7.3	7.3	7.3
67.5°	7.3	7.3	7.3	7.3	6.2	6.2	6.2	6.2
70°	7.3	6.2	6.2	6.2	6.2	6.2	6.2	6.2
72.5°	6.2	6.2	6.2	6.2	5.2	5.2	5.2	5.2
75°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
77.5°	5.2	5.2	5.2	5.2	4.2	4.2	4.2	4.2
80°	5.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
82.5°	4.2	4.2	4.2	4.2	4.2	3.1	3.1	3.1
85°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.1
87.5°	2.1	2.1	2.1	2.1	1.0	1.0	1.0	1.0
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)