

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: P179633

Luminaire Tested: **LDA6A45930D010TE LARH40FL 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179633
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: LDA6A45930D010TE LARH40FL 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 40° Flood
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3115.4 lumens
Efficiency: N/A
Efficacy: 58.8 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

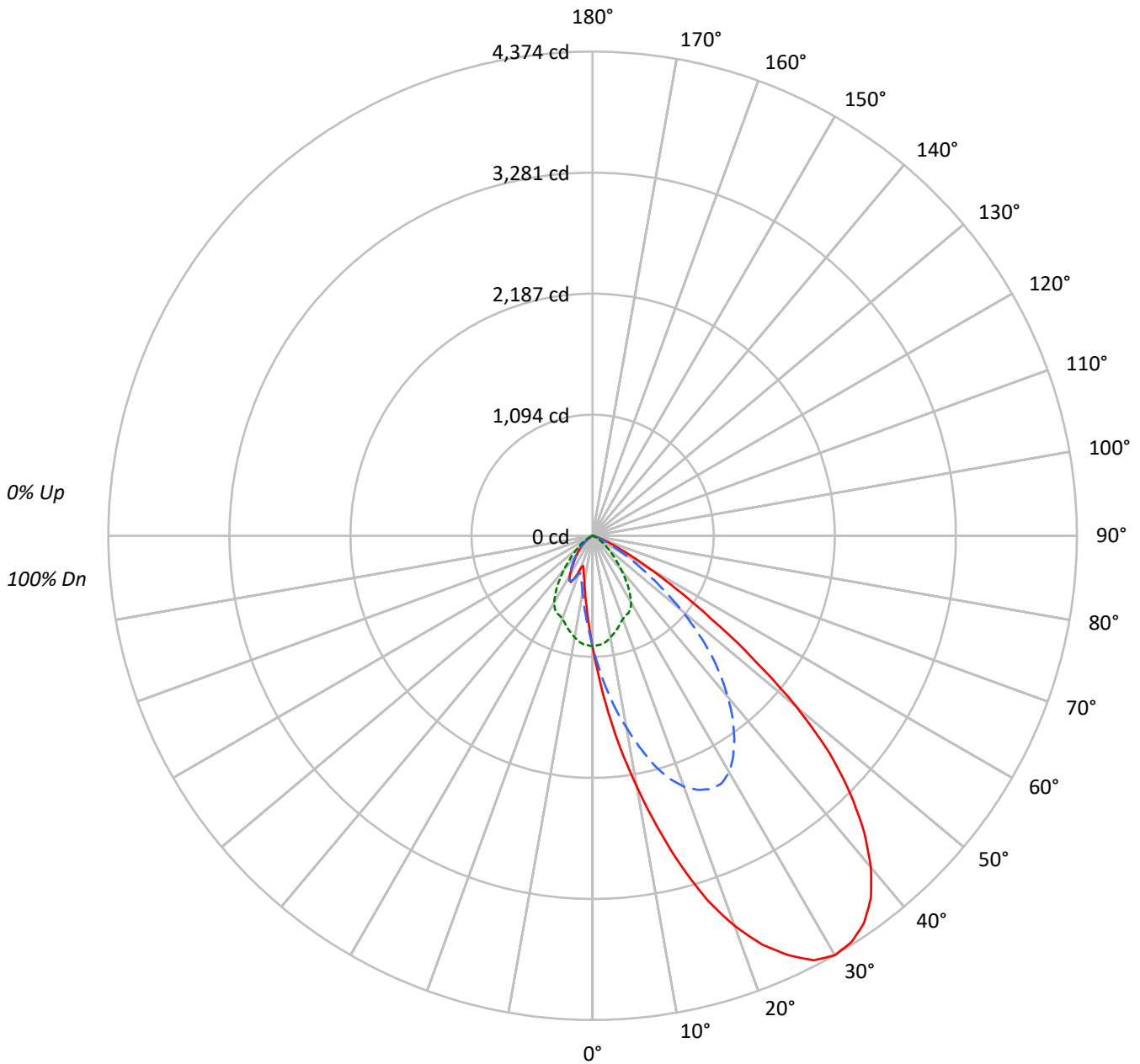
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P179633

CATALOG NUMBER: LDA6A45930D010TE LARH40FL 6LLWW1

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					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°	54700	54700	54700
5°	87558	54012	35021
10°	127937	51875	23602
15°	174922	49194	17826
20°	218833	46577	17997
25°	252783	46424	27915
30°	276910	43943	25966
35°	285942	37256	20043
40°	279853	29062	15787
45°	255096	21452	12118
50°	205034	15829	8119
55°	124841	11202	4588
60°	64786	7401	1787
65°	31560	3904	843
70°	14474	1699	785
75°	6037	1207	868
80°	3094	1294	1042
85°	2076	2579	1510



TEST NUMBER: P179633

CATALOG NUMBER: LDA6A45930D010TE LARH40FL 6LLWW1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.4	3.3
10°-20°	362.6	11.6
20°-30°	686.5	22.0
30°-40°	831.4	26.7
40°-50°	695.9	22.3
50°-60°	337.2	10.8
60°-70°	82.7	2.7
70°-80°	13.4	0.4
80°-90°	3.3	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°	1151.4	37.0
0°-40°	1982.9	63.6
0°-60°	3016.0	96.8
0°-90°	3115.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3115.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	998	998	998	998	998	
5°	1591	1370	982	718	636	173
15°	3082	2143	867	396	314	890
25°	4179	2525	768	452	462	1925
35°	4273	2231	557	322	300	2648
45°	3290	1505	277	168	156	2497
55°	1306	617	117	64	48	1224
65°	243	135	30	10	6	274
75°	28	15	6	5	4	39
85°	3	2	4	3	2	4
90°	0	0	0	0	0	



TEST NUMBER: P179633

CATALOG NUMBER: LDA6A45930D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8
2.5°	1266.4	1237.1	1243.6	1248.5	1226.5	1240.3	1216.7	1208.6	1189.0	1193.9	1179.3
5°	1591.1	1550.4	1538.2	1538.2	1501.6	1513.8	1492.6	1455.2	1416.9	1405.5	1370.5
7.5°	1940.2	1895.5	1875.9	1867.8	1814.1	1806.8	1788.9	1731.1	1668.4	1635.0	1573.2
10°	2298.3	2257.6	2230.0	2211.2	2137.2	2124.2	2092.4	2011.0	1932.1	1860.5	1758.7
12.5°	2693.0	2638.5	2601.9	2571.0	2475.7	2455.4	2408.2	2299.1	2174.6	2088.3	1954.1
15°	3082.1	3026.7	2978.7	2933.9	2818.4	2789.1	2725.6	2587.2	2441.6	2313.0	2142.9
17.5°	3452.4	3382.4	3323.8	3263.6	3127.6	3091.0	3008.0	2854.2	2650.7	2505.0	2300.0
20°	3751.1	3682.7	3615.1	3538.6	3383.2	3339.2	3238.3	3056.0	2824.9	2649.9	2410.6
22.5°	3995.2	3917.9	3851.2	3751.1	3576.1	3524.8	3408.4	3201.7	2951.8	2747.6	2484.7
25°	4179.1	4096.9	4028.6	3916.3	3722.6	3663.2	3527.2	3303.4	3030.8	2806.2	2524.6
27.5°	4324.0	4229.6	4152.3	4027.8	3814.5	3747.8	3598.9	3357.1	3062.5	2817.6	2522.9
30°	4374.5	4282.5	4195.4	4061.1	3831.6	3757.6	3602.9	3340.9	3034.0	2770.4	2466.8
32.5°	4352.5	4257.3	4162.9	4020.4	3777.9	3698.2	3541.9	3261.9	2947.0	2669.4	2363.4
35°	4272.7	4175.9	4075.0	3927.7	3673.7	3587.5	3431.2	3141.5	2814.3	2536.8	2230.8
37.5°	4127.9	4031.0	3935.8	3777.1	3517.5	3428.0	3274.1	2973.8	2654.8	2374.8	2077.0
40°	3910.6	3814.5	3726.6	3566.3	3305.1	3214.7	3069.0	2771.2	2463.5	2186.8	1900.3
42.5°	3630.6	3538.6	3459.7	3302.6	3047.1	2960.8	2824.1	2536.0	2248.7	1980.9	1711.5
45°	3290.4	3206.6	3134.2	2986.0	2750.0	2667.0	2545.7	2273.1	2005.3	1754.7	1504.8
47.5°	2898.1	2821.6	2758.2	2621.4	2402.5	2326.8	2222.6	1969.5	1730.3	1501.6	1279.4
50°	2404.1	2337.4	2293.4	2175.4	1980.1	1916.6	1836.1	1622.8	1426.7	1229.7	1045.8
52.5°	1834.4	1782.3	1762.0	1673.3	1521.9	1478.0	1425.9	1262.3	1119.0	963.6	820.4
55°	1306.2	1272.1	1259.0	1201.2	1102.0	1073.5	1028.7	927.8	832.6	722.7	616.9
57.5°	889.5	871.6	861.9	826.1	765.0	745.5	720.3	655.2	594.1	522.5	446.8
60°	590.9	583.5	575.4	553.4	517.6	503.0	490.8	447.6	410.2	365.4	312.5
62.5°	383.3	380.1	374.4	360.5	346.7	336.9	323.9	295.4	273.5	250.7	210.8
65°	243.3	240.1	237.6	228.7	219.7	210.0	205.1	188.8	175.0	160.3	135.1
67.5°	150.6	148.1	147.3	141.6	135.1	129.4	126.1	115.6	107.4	98.5	82.2
70°	90.3	89.5	87.9	84.6	80.6	76.5	74.9	67.5	62.7	57.0	46.4
72.5°	52.1	51.3	50.5	48.0	45.6	43.9	42.3	39.9	34.2	30.9	26.0
75°	28.5	28.5	27.7	26.0	25.2	23.6	22.8	21.2	18.7	17.1	14.6
77.5°	16.3	15.5	15.5	14.6	13.8	13.8	13.0	12.2	10.6	10.6	9.0
80°	9.8	9.8	9.8	9.0	9.0	9.0	8.1	8.1	7.3	6.5	6.5
82.5°	6.5	5.7	5.7	5.7	5.7	5.7	4.9	4.9	4.9	4.9	4.1
85°	3.3	3.3	3.3	3.3	2.4	3.3	2.4	2.4	2.4	2.4	2.4
87.5°	0.0	0.0	0.8	0.8	0.8	0.8	0.8	1.6	1.6	1.6	2.4
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: P179633

CATALOG NUMBER: LDA6A45930D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8
2.5°	1141.0	1132.9	1116.6	1093.8	1085.7	1080.8	1053.9	1029.5	1012.4	990.5	969.3
5°	1307.0	1276.9	1237.9	1190.7	1171.9	1155.7	1106.0	1060.5	1023.0	981.5	942.4
7.5°	1478.8	1422.6	1356.7	1281.8	1250.9	1222.4	1147.5	1080.0	1022.2	962.8	906.6
10°	1639.9	1554.5	1459.2	1359.1	1312.7	1271.2	1171.9	1084.9	1008.4	931.9	862.7
12.5°	1797.8	1681.4	1555.3	1426.7	1366.5	1312.7	1189.9	1083.2	988.8	899.3	819.6
15°	1950.0	1799.4	1644.0	1486.1	1413.7	1347.7	1202.1	1077.5	968.5	866.8	778.0
17.5°	2072.9	1895.5	1707.5	1521.9	1440.5	1364.0	1200.4	1061.3	940.8	830.1	735.7
20°	2159.2	1954.9	1745.7	1538.2	1449.5	1364.8	1188.2	1039.3	912.3	798.4	703.2
22.5°	2208.0	1982.5	1758.7	1538.2	1443.0	1354.3	1171.1	1018.9	891.2	779.7	688.5
25°	2228.3	1987.4	1753.0	1525.2	1426.7	1335.5	1151.6	999.4	874.1	767.5	682.8
27.5°	2212.1	1958.9	1721.3	1489.4	1388.4	1297.3	1114.2	965.2	844.0	742.2	661.7
30°	2146.9	1887.3	1650.5	1420.2	1318.4	1229.7	1052.3	908.3	791.9	694.2	617.7
32.5°	2041.1	1783.2	1550.4	1325.8	1224.9	1139.4	970.1	833.4	721.9	629.1	558.3
35°	1912.6	1659.4	1434.8	1215.9	1119.0	1037.7	878.1	744.7	642.1	556.7	491.6
37.5°	1767.7	1522.7	1300.5	1099.5	1006.7	929.4	780.5	655.2	560.7	481.8	424.0
40°	1604.9	1373.8	1164.6	974.2	886.3	814.7	673.9	563.2	476.9	406.1	357.3
42.5°	1433.2	1217.5	1023.0	844.8	761.8	696.7	568.9	470.4	394.7	336.9	297.9
45°	1249.3	1049.9	871.6	712.1	642.9	577.8	469.6	380.1	320.7	276.7	247.4
47.5°	1053.1	876.5	719.4	580.3	520.1	463.1	371.9	303.6	260.4	227.1	205.1
50°	856.2	707.2	573.8	454.9	403.7	358.1	288.1	241.7	210.0	185.6	167.7
52.5°	669.0	548.5	439.5	342.6	304.4	271.8	223.8	191.3	167.7	148.9	135.9
55°	502.1	406.9	321.5	249.0	226.3	205.9	174.2	148.1	131.8	117.2	107.4
57.5°	363.8	290.5	228.7	183.1	168.5	154.6	131.8	113.9	101.7	90.3	83.0
60°	255.6	201.8	162.0	134.3	122.9	114.8	96.8	85.5	75.7	67.5	60.2
62.5°	171.7	136.7	113.1	95.2	87.9	82.2	70.8	61.0	53.7	47.2	40.7
65°	109.9	92.0	76.5	64.3	59.4	55.3	48.0	39.9	35.0	30.1	25.2
67.5°	67.5	57.8	48.0	39.9	36.6	34.2	29.3	24.4	21.2	17.9	15.5
70°	39.1	33.4	27.7	23.6	22.0	20.3	17.1	14.6	13.0	10.6	9.0
72.5°	22.0	19.5	16.3	13.8	13.0	12.2	10.6	9.0	8.1	7.3	6.5
75°	13.0	11.4	9.8	9.0	8.1	8.1	7.3	6.5	5.7	5.7	4.9
77.5°	8.1	7.3	6.5	6.5	5.7	5.7	5.7	4.9	4.9	4.9	4.9
80°	5.7	5.7	4.9	4.9	4.9	4.9	4.1	4.1	4.1	4.1	4.1
82.5°	4.1	4.1	4.1	3.3	3.3	3.3	3.3	3.3	4.1	4.1	4.1
85°	2.4	2.4	3.3	3.3	3.3	3.3	3.3	3.3	4.1	4.1	4.1
87.5°	2.4	2.4	2.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
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: P179633

CATALOG NUMBER: LDA6A45930D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8
2.5°	946.5	936.7	918.8	902.6	900.1	877.3	853.7	848.8	840.7	827.7	812.2
5°	903.4	877.3	846.4	823.6	813.9	781.3	748.7	734.1	717.8	692.6	677.9
7.5°	852.9	814.7	771.5	745.5	731.7	691.0	653.5	632.4	610.4	583.5	565.6
10°	797.6	749.6	699.1	669.8	653.5	609.6	569.7	545.3	521.7	494.8	476.1
12.5°	745.5	691.0	635.6	604.7	586.8	541.2	500.5	474.5	450.9	428.9	406.9
15°	699.1	638.1	580.3	549.4	530.6	484.2	445.2	419.1	396.3	375.2	355.7
17.5°	654.3	590.9	533.9	503.8	485.1	441.9	404.5	380.9	358.9	339.4	322.3
20°	623.4	563.2	509.5	481.0	464.7	426.5	394.7	376.0	360.5	343.4	328.8
22.5°	615.3	561.6	515.2	491.6	479.4	449.2	426.5	415.1	410.2	399.6	391.5
25°	615.3	568.1	529.0	509.5	499.7	476.9	459.0	454.9	451.7	445.2	441.1
27.5°	599.8	555.9	520.9	503.8	495.6	475.3	459.8	454.9	450.9	446.0	441.1
30°	559.1	518.4	485.9	470.4	462.3	442.7	426.5	420.8	416.7	409.4	405.3
32.5°	504.6	465.5	438.7	420.8	413.4	394.7	379.3	372.7	369.5	363.0	355.7
35°	443.6	409.4	383.3	368.7	361.4	345.1	331.2	324.7	321.5	314.1	305.2
37.5°	381.7	350.8	329.6	315.8	310.1	297.1	284.8	280.0	276.7	271.0	263.7
40°	320.7	298.7	280.0	269.4	264.5	253.9	243.3	238.5	236.0	231.1	225.4
42.5°	270.2	252.3	237.6	228.7	224.6	216.5	207.5	202.6	200.2	195.3	191.3
45°	226.3	212.4	201.0	192.9	189.6	182.3	175.0	170.9	168.5	164.4	160.3
47.5°	189.6	177.4	167.7	162.0	158.7	153.0	146.5	142.4	140.8	137.5	133.5
50°	155.4	146.5	138.4	133.5	131.0	125.3	119.6	116.4	114.8	111.5	107.4
52.5°	125.3	118.8	111.5	106.6	104.2	100.1	94.4	91.2	88.7	85.5	80.6
55°	98.5	92.8	87.1	82.2	80.6	75.7	70.8	65.9	63.5	60.2	56.2
57.5°	76.5	70.0	64.3	60.2	58.6	53.7	48.8	43.9	41.5	37.4	35.0
60°	54.5	48.8	43.1	40.7	39.1	34.2	30.1	26.0	24.4	22.0	20.3
62.5°	35.8	31.7	26.9	24.4	23.6	20.3	17.1	16.3	14.6	13.8	13.0
65°	22.0	19.5	16.3	14.6	13.8	13.0	11.4	10.6	9.8	9.0	9.0
67.5°	13.0	12.2	10.6	9.8	9.0	8.1	8.1	7.3	7.3	6.5	6.5
70°	9.0	8.1	7.3	6.5	6.5	6.5	6.5	6.5	6.5	5.7	5.7
72.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
75°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
77.5°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.1	4.1
80°	4.1	4.9	4.9	4.9	4.9	4.1	4.1	4.1	4.1	4.1	4.1
82.5°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
85°	4.1	4.1	4.1	4.1	4.1	3.3	3.3	3.3	3.3	3.3	2.4
87.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.4	2.4	2.4	1.6
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: P179633

CATALOG NUMBER: LDA6A45930D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	997.8	997.8	997.8	997.8	997.8	997.8	997.8	997.8
2.5°	810.6	803.3	795.9	807.3	806.5	795.1	803.3	790.3
5°	669.8	659.2	651.1	658.4	654.3	642.9	647.8	636.4
7.5°	555.0	542.8	533.1	538.8	532.3	521.7	520.1	515.2
10°	463.9	450.9	441.9	446.0	439.5	429.7	427.3	424.0
12.5°	394.7	382.5	374.4	377.6	371.1	362.2	360.5	363.0
15°	341.0	332.1	325.5	328.0	319.0	314.1	312.5	314.1
17.5°	310.1	300.3	295.4	297.9	291.4	286.5	285.7	284.8
20°	323.1	315.8	314.1	318.2	313.3	309.3	311.7	308.5
22.5°	393.9	393.1	393.9	403.7	401.2	399.6	401.2	401.2
25°	443.6	446.8	447.6	458.2	459.0	457.4	461.5	461.5
27.5°	441.9	442.7	441.9	452.5	454.1	450.9	454.9	455.8
30°	402.9	402.9	400.4	409.4	409.4	407.7	409.4	410.2
32.5°	351.6	350.8	350.0	354.0	354.0	351.6	353.2	353.2
35°	303.6	300.3	300.3	302.8	301.9	299.5	300.3	299.5
37.5°	262.1	258.0	258.0	259.6	257.2	254.7	255.6	255.6
40°	223.8	220.6	220.6	223.0	221.4	218.9	220.6	220.6
42.5°	188.0	187.2	187.2	188.8	188.8	187.2	189.6	190.4
45°	158.7	156.3	156.3	157.9	157.9	156.3	157.1	156.3
47.5°	131.8	129.4	129.4	129.4	127.8	125.3	125.3	124.5
50°	105.0	100.9	100.1	100.1	98.5	96.0	96.0	95.2
52.5°	78.1	74.1	74.1	73.2	71.6	70.8	70.0	70.0
55°	53.7	50.5	51.3	49.6	49.6	48.0	48.8	48.0
57.5°	33.4	31.7	31.7	30.9	29.3	28.5	28.5	27.7
60°	19.5	17.9	17.9	17.9	17.1	16.3	16.3	16.3
62.5°	13.0	12.2	12.2	12.2	10.6	10.6	9.8	9.8
65°	8.1	7.3	7.3	7.3	6.5	6.5	6.5	6.5
67.5°	6.5	6.5	5.7	5.7	5.7	5.7	5.7	5.7
70°	5.7	5.7	5.7	5.7	5.7	4.9	4.9	4.9
72.5°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
75°	4.9	4.9	4.1	4.9	4.1	4.1	4.1	4.1
77.5°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
80°	4.1	4.1	4.1	4.1	4.1	3.3	3.3	3.3
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
87.5°	2.4	1.6	1.6	1.6	0.8	0.8	0.8	0.8
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)