

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: P179626

Luminaire Tested: **LDA6A45935D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179626
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: LDA6A45935D010TE LARH30NF 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3095.5 lumens
Efficiency: N/A
Efficacy: 58.4 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

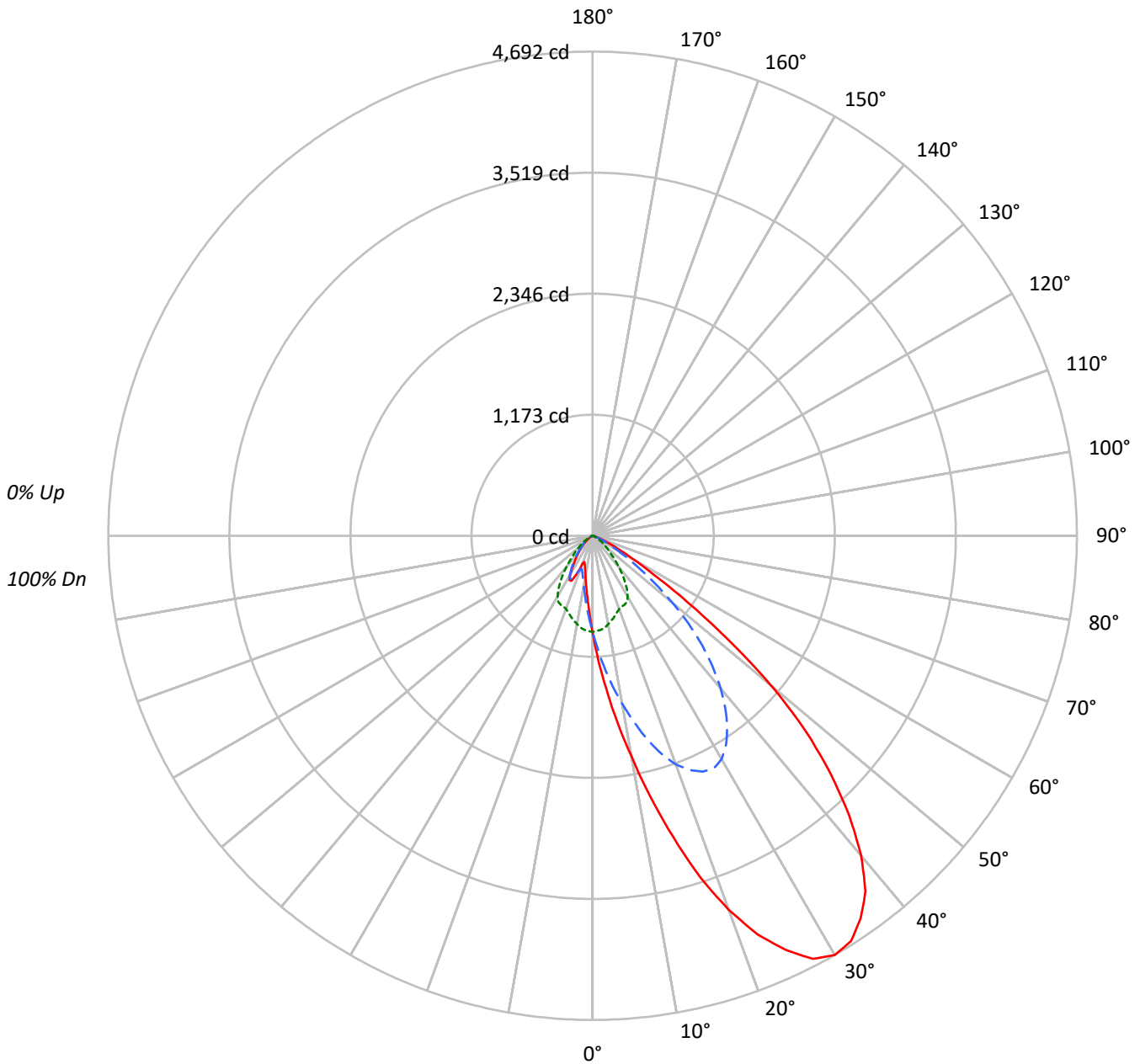
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	51103	51103	51103
5°	81240	50369	32550
10°	120912	48401	21982
15°	171806	46079	16544
20°	224906	44005	16906
25°	267796	44495	29221
30°	296989	42918	27523
35°	302981	36580	20251
40°	289600	28203	14978
45°	252569	20304	11303
50°	192548	14746	7514
55°	107485	10609	4377
60°	49437	7346	1765
65°	23310	3956	765
70°	11412	1907	817
75°	5380	1250	890
80°	2683	1326	1073
85°	1572	2139	1069



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.1	3.1
10°-20°	351.7	11.4
20°-30°	703.4	22.7
30°-40°	863.8	27.9
40°-50°	691.9	22.4
50°-60°	304.4	9.8
60°-70°	68.6	2.2
70°-80°	12.4	0.4
80°-90°	3.1	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°	1151.2	37.2
0°-40°	2015.0	65.1
0°-60°	3011.3	97.3
0°-90°	3095.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3095.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	932	932	932	932	932	
5°	1476	1270	915	678	592	162
15°	3027	2042	812	378	292	883
25°	4427	2522	736	458	483	2037
35°	4527	2273	547	330	303	2803
45°	3258	1501	262	160	146	2477
55°	1125	556	111	64	46	1069
65°	180	114	30	10	6	206
75°	25	14	6	5	4	32
85°	2	2	3	3	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°	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2
2.5°	1189.0	1158.5	1183.1	1161.9	1155.1	1152.6	1142.4	1135.6	1133.1	1109.4	1090.7
5°	1476.3	1440.7	1466.2	1434.8	1418.7	1410.2	1392.4	1370.4	1352.6	1307.7	1270.4
7.5°	1812.8	1774.6	1798.4	1753.5	1722.9	1707.7	1678.9	1636.5	1596.7	1524.6	1461.9
10°	2172.1	2140.8	2161.1	2098.4	2050.9	2026.4	1984.0	1929.7	1848.4	1743.3	1650.9
12.5°	2590.8	2545.9	2562.0	2478.1	2410.3	2375.5	2315.3	2230.6	2115.3	1972.1	1845.8
15°	3027.2	2984.9	2995.0	2888.2	2794.2	2745.9	2667.9	2547.6	2395.0	2207.7	2041.6
17.5°	3474.7	3417.1	3415.4	3288.3	3162.8	3101.8	3004.4	2845.9	2667.1	2421.3	2216.2
20°	3855.2	3805.2	3791.7	3659.5	3488.3	3417.1	3299.3	3102.7	2883.2	2598.4	2357.7
22.5°	4181.5	4123.9	4099.3	3944.2	3750.1	3667.1	3532.3	3294.2	3050.1	2728.1	2456.9
25°	4427.3	4379.8	4344.2	4169.7	3952.7	3859.5	3712.0	3454.4	3171.3	2818.8	2522.1
27.5°	4622.2	4558.7	4513.7	4323.1	4079.0	3980.7	3822.2	3542.5	3233.2	2855.2	2541.6
30°	4691.7	4628.1	4576.5	4373.1	4114.6	4006.9	3840.8	3544.2	3216.2	2828.1	2499.3
32.5°	4658.7	4592.6	4534.1	4321.4	4053.5	3940.8	3771.3	3470.5	3127.2	2737.4	2405.2
35°	4527.3	4474.8	4408.6	4194.2	3929.8	3806.9	3638.3	3329.8	2989.1	2595.9	2273.0
37.5°	4341.7	4260.3	4199.3	3989.1	3733.2	3607.8	3445.9	3149.3	2804.3	2426.4	2113.6
40°	4046.8	3964.6	3903.5	3701.0	3468.8	3342.5	3193.3	2910.3	2577.2	2225.5	1927.2
42.5°	3679.0	3602.7	3543.4	3355.2	3150.1	3027.2	2895.9	2634.0	2324.7	2002.6	1722.9
45°	3257.8	3184.0	3133.2	2969.6	2787.4	2678.9	2560.3	2328.9	2045.8	1753.5	1500.9
47.5°	2801.0	2725.5	2682.3	2535.7	2381.4	2283.1	2181.4	1981.4	1728.0	1477.2	1257.7
50°	2257.7	2184.8	2145.8	2023.0	1913.6	1823.0	1749.2	1589.0	1381.4	1183.9	1005.1
52.5°	1653.5	1596.7	1567.9	1483.1	1417.9	1350.1	1302.6	1190.7	1039.0	899.2	764.4
55°	1124.6	1078.0	1064.4	1011.9	976.3	939.9	906.0	840.7	738.2	645.8	556.0
57.5°	703.4	698.3	707.7	661.0	644.9	629.7	603.4	567.0	502.6	444.9	390.7
60°	450.9	445.8	441.5	424.6	417.0	405.9	393.2	372.0	332.2	298.3	262.7
62.5°	285.6	282.2	286.5	276.3	266.1	266.1	252.6	240.7	216.1	195.8	170.3
65°	179.7	178.8	181.4	174.6	169.5	167.0	160.2	153.4	138.1	125.4	113.6
67.5°	113.6	112.7	114.4	112.7	106.8	105.1	100.9	96.6	86.4	78.8	70.3
70°	71.2	70.3	71.2	69.5	66.1	64.4	61.9	58.5	55.1	46.6	42.4
72.5°	43.2	42.4	43.2	42.4	39.8	39.8	36.4	34.7	32.2	27.1	23.7
75°	25.4	25.4	25.4	24.6	22.9	22.9	21.2	20.3	18.6	16.1	14.4
77.5°	14.4	14.4	14.4	14.4	13.6	13.6	12.7	11.9	11.0	9.3	9.3
80°	8.5	8.5	8.5	8.5	7.6	8.5	7.6	7.6	6.8	5.9	5.9
82.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.2	4.2	4.2	4.2
85°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
87.5°	0.0	0.0	0.0	0.8	0.8	0.8	0.8	1.7	1.7	1.7	1.7
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°	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2
2.5°	1075.5	1048.3	1043.3	1014.4	1009.4	993.3	984.8	969.5	939.0	922.9	903.4
5°	1225.5	1183.1	1158.5	1106.8	1090.7	1063.6	1035.6	998.3	950.0	915.3	878.8
7.5°	1389.9	1320.4	1268.7	1192.4	1164.5	1124.6	1075.5	1017.0	949.2	897.5	845.8
10°	1555.1	1446.7	1367.0	1264.5	1223.8	1171.2	1100.0	1021.2	936.5	869.5	805.1
12.5°	1706.8	1571.2	1461.9	1331.4	1277.2	1212.8	1119.5	1021.2	920.4	840.7	765.3
15°	1872.1	1693.3	1550.9	1391.6	1324.6	1248.4	1133.9	1017.8	902.6	811.9	728.8
17.5°	2006.9	1794.1	1619.6	1434.0	1354.3	1267.0	1135.6	1004.3	879.7	780.5	694.1
20°	2106.0	1870.4	1666.2	1458.5	1368.7	1273.8	1128.9	986.5	856.0	754.3	666.1
22.5°	2178.1	1916.2	1689.9	1467.0	1369.5	1270.4	1117.0	971.2	839.9	740.7	656.8
25°	2221.3	1939.1	1697.5	1463.6	1362.8	1259.4	1103.4	957.7	829.7	735.6	658.5
27.5°	2225.5	1929.7	1677.2	1438.2	1334.8	1231.4	1075.5	931.4	807.7	721.2	647.5
30°	2177.2	1877.2	1623.8	1382.3	1278.0	1176.3	1022.9	881.4	763.6	678.0	611.0
32.5°	2084.0	1784.8	1534.0	1297.5	1195.0	1095.8	946.6	813.6	698.3	619.5	553.4
35°	1960.2	1667.9	1417.9	1195.8	1095.8	1001.7	856.8	726.3	621.2	546.6	486.5
37.5°	1813.6	1531.4	1297.5	1083.1	986.5	899.2	759.4	640.7	539.9	471.2	416.1
40°	1646.7	1377.2	1157.7	954.3	867.8	783.1	656.0	547.5	453.4	394.1	347.5
42.5°	1466.2	1213.6	1011.1	822.1	743.2	666.1	550.9	452.6	371.2	322.9	286.5
45°	1267.8	1040.7	858.5	693.2	617.8	554.3	445.8	364.4	302.6	261.9	236.4
47.5°	1056.0	858.5	700.0	557.6	491.5	437.3	348.3	287.3	243.2	215.3	194.1
50°	843.3	678.8	546.6	423.7	373.7	328.0	269.5	228.0	194.1	172.9	159.3
52.5°	644.1	511.0	406.8	311.0	277.1	245.8	207.6	179.7	154.2	139.0	128.8
55°	467.0	368.7	289.8	228.0	205.1	187.3	159.3	139.0	122.9	111.0	102.5
57.5°	325.4	255.1	202.6	166.1	152.5	139.8	120.3	106.8	95.8	87.3	80.5
60°	220.3	172.9	141.5	120.3	111.9	103.4	90.7	81.4	72.9	67.0	60.2
62.5°	144.9	118.6	100.9	88.1	80.5	74.6	67.0	59.3	52.5	47.5	41.5
65°	94.1	78.0	69.5	59.3	55.9	51.7	44.9	40.7	34.7	30.5	26.3
67.5°	59.3	50.8	44.9	39.0	36.4	33.1	29.7	25.4	22.0	18.6	16.1
70°	35.6	31.4	27.1	23.7	22.0	20.3	17.8	15.3	12.7	11.9	10.2
72.5°	21.2	18.6	16.1	14.4	13.6	12.7	11.0	9.3	8.5	7.6	6.8
75°	12.7	11.9	10.2	8.5	8.5	7.6	7.6	6.8	5.9	5.9	5.1
77.5°	8.5	7.6	6.8	5.9	5.9	5.9	5.1	5.1	5.1	5.1	5.1
80°	5.1	5.1	5.1	5.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2
82.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	4.2	4.2
85°	2.5	2.5	2.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
87.5°	2.5	2.5	2.5	2.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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°	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2
2.5°	895.0	869.5	859.4	844.1	828.8	828.0	810.2	800.9	794.1	782.2	770.4
5°	854.3	815.3	791.6	771.2	751.7	738.2	711.9	694.1	678.0	661.0	639.0
7.5°	806.8	756.8	722.9	697.5	674.6	653.4	621.2	597.5	577.1	561.0	533.9
10°	756.0	698.3	656.0	628.0	604.3	573.8	542.4	516.1	494.1	476.3	450.0
12.5°	708.5	644.9	597.5	568.7	544.1	511.0	478.8	451.7	428.0	411.0	387.3
15°	664.4	597.5	546.6	517.8	492.4	459.3	427.1	400.0	378.0	360.2	339.0
17.5°	625.4	555.1	505.1	478.8	452.6	422.1	389.8	364.4	342.4	326.3	309.3
20°	599.2	532.2	483.9	459.3	436.5	407.6	382.2	361.9	340.7	328.0	317.8
22.5°	594.9	535.6	494.1	473.7	456.0	434.8	419.5	409.3	394.9	389.0	389.0
25°	603.4	552.6	519.5	503.4	489.0	477.1	469.5	462.7	457.6	458.5	458.5
27.5°	598.3	552.6	525.4	510.2	497.5	489.8	482.2	478.0	472.9	475.4	475.4
30°	565.3	521.2	498.3	482.2	470.4	463.6	452.6	447.5	441.5	442.4	439.8
32.5°	510.2	468.7	446.6	431.4	418.7	411.9	400.0	394.1	386.5	386.5	381.4
35°	445.8	406.8	386.5	372.9	361.0	354.3	343.2	337.3	329.7	325.4	322.9
37.5°	378.0	344.1	325.4	315.3	305.9	299.2	289.0	284.8	277.1	273.7	270.3
40°	315.3	290.7	272.9	264.4	256.8	250.9	241.5	238.1	231.4	228.8	225.4
42.5°	261.0	242.4	228.0	221.2	212.7	209.3	202.6	199.2	193.2	190.7	187.3
45°	217.8	202.6	190.7	184.8	179.7	175.4	168.7	166.1	160.2	157.6	155.9
47.5°	179.7	167.8	158.5	153.4	150.9	145.8	139.8	137.3	133.1	130.5	128.0
50°	147.5	138.1	130.5	126.3	124.6	119.5	114.4	112.7	108.5	106.8	104.2
52.5°	120.3	112.7	105.9	102.5	99.2	95.8	91.5	89.8	85.6	83.1	79.7
55°	96.6	89.0	83.1	80.5	78.8	73.7	69.5	67.0	63.6	59.3	56.8
57.5°	74.6	67.8	62.7	59.3	58.5	53.4	50.0	45.8	41.5	39.0	36.4
60°	55.1	49.2	44.1	40.7	39.8	34.7	30.5	28.0	24.6	22.9	22.0
62.5°	36.4	32.2	28.0	26.3	24.6	21.2	18.6	16.9	15.3	14.4	13.6
65°	22.9	19.5	16.9	16.1	14.4	12.7	11.9	11.0	10.2	9.3	8.5
67.5°	13.6	11.9	10.2	10.2	9.3	8.5	8.5	7.6	6.8	6.8	6.8
70°	8.5	7.6	6.8	6.8	6.8	6.8	6.8	5.9	5.9	5.9	5.9
72.5°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.1	5.1
75°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
77.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.2	4.2	4.2	4.2
80°	4.2	4.2	4.2	4.2	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	4.2	4.2	4.2	3.4	3.4	3.4
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	2.5
87.5°	3.4	3.4	3.4	3.4	3.4	2.5	2.5	2.5	2.5	2.5	1.7
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: P179626

CATALOG NUMBER: LDA6A45935D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	932.2	932.2	932.2	932.2	932.2	932.2	932.2	932.2
2.5°	761.0	746.6	744.9	741.6	738.2	742.4	739.9	733.1
5°	631.4	613.6	610.2	605.1	600.0	601.7	597.5	591.5
7.5°	522.9	504.3	500.9	494.9	489.8	489.0	484.8	478.8
10°	434.8	420.4	417.0	411.0	405.1	404.3	399.2	394.9
12.5°	372.0	358.5	355.1	349.2	344.1	342.4	338.1	334.8
15°	325.4	312.7	309.3	304.2	298.3	298.3	294.9	291.5
17.5°	296.6	285.6	281.4	277.1	272.0	271.2	269.5	267.0
20°	308.5	298.3	296.6	291.5	292.4	292.4	290.7	289.8
22.5°	384.8	381.4	388.2	383.1	392.4	395.8	397.5	397.5
25°	461.9	462.7	469.5	467.0	475.4	482.2	485.6	483.1
27.5°	475.4	476.3	478.8	478.0	484.8	489.0	491.5	485.6
30°	436.5	435.6	434.8	433.9	438.2	439.8	440.7	434.8
32.5°	376.3	373.7	374.6	370.4	372.0	372.0	375.4	367.0
35°	316.1	312.7	312.7	308.5	308.5	308.5	311.0	302.6
37.5°	265.3	261.9	261.0	256.8	255.9	254.2	256.8	249.2
40°	221.2	217.8	218.7	213.6	214.4	213.6	213.6	209.3
42.5°	183.1	180.5	179.7	178.0	178.8	178.8	181.4	178.0
45°	151.7	149.2	148.3	147.5	148.3	148.3	149.2	145.8
47.5°	126.3	122.9	122.0	120.3	120.3	117.8	117.8	114.4
50°	101.7	96.6	95.8	93.2	92.4	90.7	90.7	88.1
52.5°	77.1	72.9	71.2	69.5	68.6	67.0	67.0	65.3
55°	54.2	50.0	49.2	48.3	47.5	46.6	47.5	45.8
57.5°	33.9	32.2	31.4	30.5	29.7	28.8	28.8	28.0
60°	20.3	18.6	18.6	17.8	16.9	16.1	16.1	16.1
62.5°	12.7	11.9	11.9	11.0	11.0	10.2	10.2	10.2
65°	8.5	7.6	7.6	6.8	6.8	5.9	5.9	5.9
67.5°	5.9	5.9	5.9	5.9	5.1	5.1	5.1	5.1
70°	5.9	5.1	5.1	5.1	5.1	5.1	5.1	5.1
72.5°	5.1	5.1	5.1	5.1	4.2	4.2	4.2	4.2
75°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
77.5°	4.2	4.2	4.2	4.2	3.4	3.4	3.4	3.4
80°	4.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4
82.5°	3.4	3.4	3.4	3.4	3.4	2.5	2.5	2.5
85°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1.7
87.5°	1.7	1.7	1.7	1.7	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)