

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: P179838

Luminaire Tested: **LDA6A65835D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179838
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26684)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A65835D010TE LARH30NF 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4918.0 lumens
Efficiency: N/A
Efficacy: 63.1 lumens/watt
Spacing Criteria (0/90/45): 2.21 / 1.07 / 1.54
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

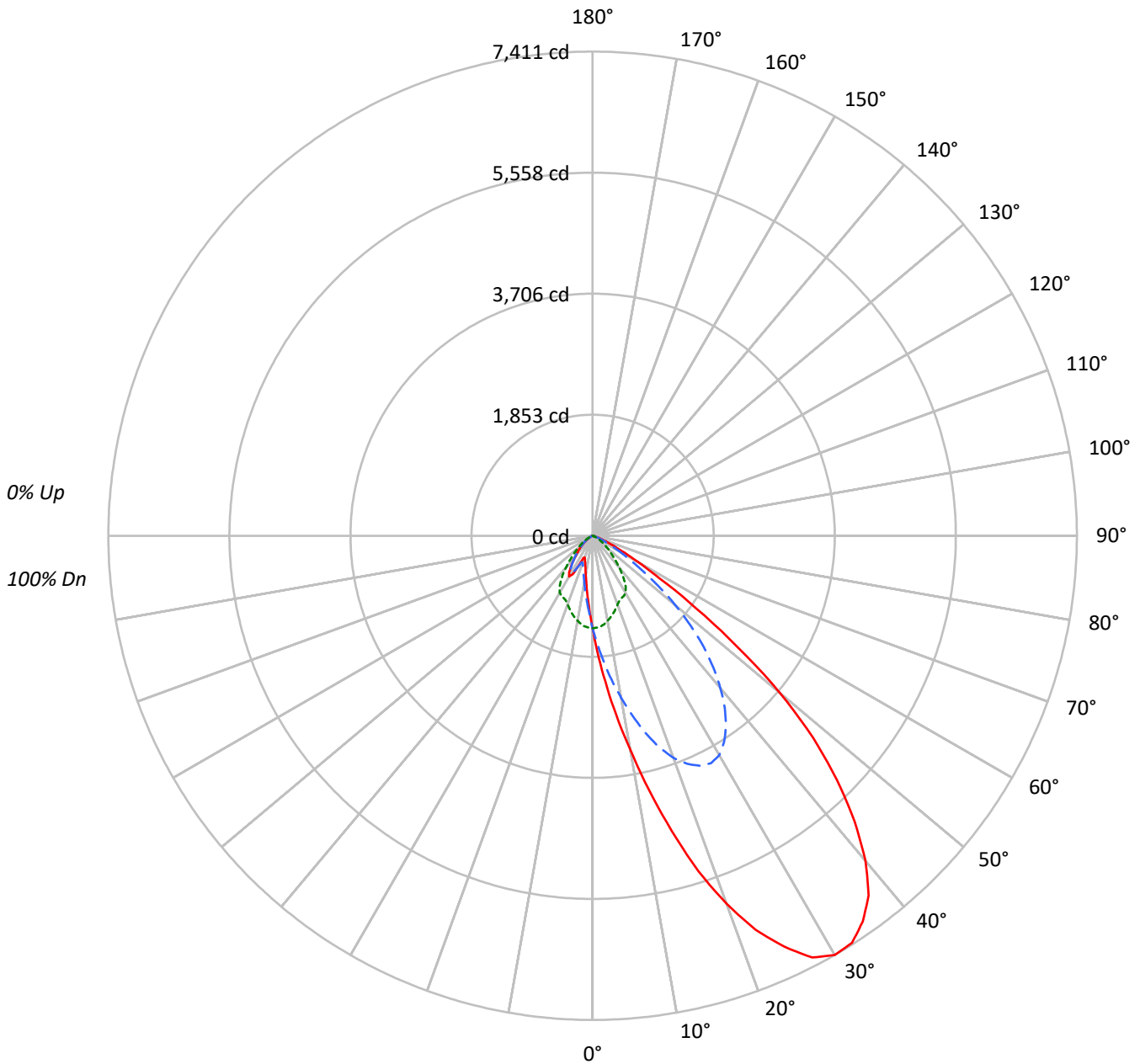
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	83	78	74	81	76	73	78	75	72	70								
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	61								
5	83	72	64	58	81	71	63	58	69	62	57	67	61	57	65	60	56	54								
6	77	65	57	51	75	64	57	51	62	56	51	61	55	50	59	54	50	48								
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43								
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38								
9	62	50	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	35								
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	77582	77582	77582
5°	123250	76629	49774
10°	184922	73529	33411
15°	264996	69688	24716
20°	349803	65158	20605
25°	419855	63518	30099
30°	469142	63674	45469
35°	482335	57018	38809
40°	464792	45342	28861
45°	409632	33670	22204
50°	319444	24929	15368
55°	184758	18245	9921
60°	86342	12685	4451
65°	40393	6966	1855
70°	18737	3061	1346
75°	7837	2012	1525
80°	3378	2273	1894
85°	755	3774	3019



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.3	3.0
10°-20°	537.2	10.9
20°-30°	1063.5	21.6
30°-40°	1375.0	28.0
40°-50°	1129.9	23.0
50°-60°	522.3	10.6
60°-70°	119.3	2.4
70°-80°	19.5	0.4
80°-90°	5.0	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°	1747.0	35.5
0°-40°	3122.1	63.5
0°-60°	4774.3	97.1
0°-90°	4918.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4918.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1415	1415	1415	1415	1415	
5°	2240	1926	1392	1007	904	247
15°	4669	3123	1228	550	436	1364
25°	6941	3885	1050	516	498	3196
35°	7207	3556	852	566	580	4462
45°	5284	2401	434	289	286	4021
55°	1933	934	191	123	104	1817
65°	311	191	54	20	14	357
75°	37	22	10	8	7	49
85°	1	4	6	6	5	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°	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2
2.5°	1797.0	1769.6	1786.3	1794.7	1751.7	1761.2	1766.0	1732.6	1723.1	1705.2	1652.7
5°	2239.7	2207.5	2220.6	2220.6	2157.4	2161.0	2158.6	2095.4	2060.8	2015.4	1925.9
7.5°	2761.2	2729.0	2731.4	2719.4	2629.9	2624.0	2585.8	2508.2	2440.2	2356.7	2223.0
10°	3322.0	3302.9	3291.0	3261.2	3143.0	3122.7	3066.7	2943.8	2831.6	2703.9	2515.4
12.5°	3980.7	3942.5	3907.9	3860.2	3706.3	3668.1	3589.3	3411.5	3246.8	3067.9	2818.5
15°	4669.2	4639.4	4583.3	4508.1	4311.2	4250.4	4147.8	3909.1	3703.9	3442.5	3122.7
17.5°	5381.6	5326.7	5244.4	5138.2	4900.7	4814.8	4687.1	4381.6	4109.6	3783.8	3397.2
20°	5996.1	5953.2	5839.8	5702.6	5430.5	5316.0	5165.6	4790.9	4458.0	4071.4	3616.8
22.5°	6529.5	6472.2	6332.6	6166.7	5862.5	5720.5	5551.0	5132.2	4726.5	4277.8	3777.8
25°	6941.2	6898.2	6732.3	6539.0	6204.9	6040.3	5852.9	5378.0	4928.1	4435.3	3885.2
27.5°	7276.5	7203.7	7018.7	6800.4	6440.0	6247.9	6049.8	5529.5	5042.7	4515.3	3925.8
30°	7411.3	7336.1	7140.4	6898.2	6516.4	6305.2	6101.1	5546.3	5034.3	4487.8	3876.9
32.5°	7386.3	7301.5	7092.7	6836.2	6446.0	6220.4	6014.0	5437.7	4915.0	4363.7	3744.4
35°	7207.3	7136.9	6920.9	6652.4	6263.4	6025.9	5810.0	5239.6	4715.7	4171.6	3555.9
37.5°	6937.6	6837.4	6635.7	6366.0	5954.3	5733.6	5520.0	4956.8	4444.9	3905.5	3320.8
40°	6494.9	6374.4	6172.7	5937.6	5546.3	5326.7	5132.2	4606.0	4102.4	3598.9	3040.4
42.5°	5937.6	5843.4	5656.0	5413.8	5054.6	4844.6	4670.4	4164.5	3718.2	3251.6	2731.4
45°	5283.7	5193.0	5033.2	4814.8	4490.2	4307.7	4147.8	3697.9	3295.8	2869.8	2400.8
47.5°	4576.1	4486.6	4347.0	4154.9	3865.0	3707.4	3567.8	3199.1	2819.7	2447.4	2035.7
50°	3745.6	3622.7	3546.4	3385.3	3143.0	3009.4	2902.0	2571.5	2291.1	1991.5	1649.1
52.5°	2795.8	2756.4	2646.6	2533.3	2362.6	2263.6	2193.2	1980.8	1748.1	1530.9	1269.6
55°	1933.1	1897.3	1830.5	1761.2	1646.7	1596.6	1544.1	1415.2	1260.1	1112.1	934.3
57.5°	1221.9	1248.1	1205.2	1165.8	1096.6	1078.7	1038.1	963.0	867.5	774.4	663.4
60°	787.5	801.9	774.4	751.8	713.6	699.2	680.2	634.8	577.5	523.8	448.7
62.5°	498.8	505.9	490.4	477.3	455.8	449.9	436.7	410.5	375.9	343.7	295.9
65°	311.4	317.4	306.7	298.3	285.2	286.4	274.4	258.9	238.7	218.4	190.9
67.5°	192.1	195.7	188.5	183.8	175.4	175.4	168.2	158.7	145.6	133.6	115.7
70°	116.9	118.1	113.4	111.0	105.0	103.8	100.2	93.1	84.7	76.4	65.6
72.5°	68.0	69.2	65.6	63.2	59.7	59.7	57.3	53.7	50.1	43.0	37.0
75°	37.0	38.2	35.8	34.6	32.2	33.4	31.0	29.8	26.3	23.9	21.5
77.5°	19.1	20.3	19.1	17.9	17.9	17.9	16.7	15.5	15.5	13.1	13.1
80°	10.7	10.7	10.7	10.7	10.7	9.5	9.5	9.5	9.5	9.5	8.4
82.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.8
85°	1.2	1.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.6	3.6
87.5°	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.4	2.4	2.4	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2
2.5°	1637.1	1636.0	1581.1	1557.2	1538.1	1508.3	1486.8	1464.1	1443.8	1406.8	1375.8
5°	1880.6	1847.2	1756.5	1699.2	1663.4	1615.7	1563.2	1510.7	1459.4	1392.5	1337.6
7.5°	2135.9	2064.3	1928.3	1832.8	1778.0	1711.1	1622.8	1540.5	1457.0	1365.1	1286.3
10°	2379.4	2262.4	2089.4	1943.8	1868.6	1782.7	1661.0	1546.5	1436.7	1320.9	1223.1
12.5°	2627.5	2460.5	2235.0	2046.4	1951.0	1844.8	1688.5	1546.5	1410.4	1276.8	1161.0
15°	2873.4	2652.6	2372.2	2138.3	2022.6	1896.1	1707.5	1538.1	1378.2	1227.9	1099.0
17.5°	3083.4	2810.1	2472.4	2201.6	2065.5	1922.3	1706.4	1513.0	1335.3	1173.0	1035.7
20°	3246.8	2923.5	2542.8	2233.8	2081.0	1924.7	1687.3	1476.1	1286.3	1116.9	976.1
22.5°	3357.8	2997.5	2578.6	2239.7	2076.3	1911.6	1657.4	1439.1	1242.2	1072.7	931.9
25°	3427.0	3034.4	2589.4	2231.4	2059.6	1888.9	1630.0	1406.8	1213.5	1050.1	918.8
27.5°	3440.2	3023.7	2567.9	2196.8	2020.2	1848.4	1590.6	1375.8	1188.5	1036.9	918.8
30°	3375.7	2954.5	2495.1	2119.2	1946.2	1778.0	1525.0	1319.7	1144.3	1005.9	898.5
32.5°	3252.8	2826.8	2374.6	2004.7	1836.4	1678.9	1435.5	1239.8	1070.3	942.7	846.0
35°	3075.0	2656.2	2218.3	1860.3	1696.8	1550.0	1310.2	1131.2	970.1	852.0	762.5
37.5°	2859.0	2450.9	2035.7	1695.6	1540.5	1403.3	1174.2	1005.9	856.8	745.8	665.8
40°	2596.5	2229.0	1830.5	1514.2	1366.3	1242.2	1031.0	868.7	727.9	633.6	560.8
42.5°	2322.1	1980.8	1612.1	1311.4	1180.1	1062.0	874.7	729.1	603.8	526.2	468.9
45°	2039.3	1705.2	1383.0	1115.7	1016.7	884.2	711.2	593.0	491.6	434.3	389.0
47.5°	1720.7	1437.9	1140.8	905.7	801.9	712.4	568.0	472.5	406.9	356.8	322.2
50°	1378.2	1152.7	903.3	702.8	616.9	548.9	442.7	377.1	327.0	292.3	266.1
52.5°	1059.6	881.8	680.2	515.5	461.8	410.5	344.9	299.5	263.7	237.5	218.4
55°	787.5	643.2	489.2	381.8	343.7	310.2	270.9	235.1	208.8	190.9	175.4
57.5°	554.9	448.7	343.7	276.8	256.5	235.1	205.2	181.4	163.5	149.2	137.2
60°	371.1	305.5	242.2	202.9	188.5	174.2	155.1	138.4	125.3	115.7	103.8
62.5°	249.4	205.2	169.4	145.6	136.0	126.5	113.4	101.4	91.9	82.3	72.8
65°	159.9	136.0	114.6	99.0	91.9	87.1	77.6	69.2	62.0	53.7	46.5
67.5°	97.8	84.7	71.6	62.0	58.5	54.9	48.9	43.0	38.2	32.2	27.4
70°	57.3	50.1	43.0	37.0	35.8	33.4	28.6	25.1	22.7	19.1	16.7
72.5°	33.4	29.8	25.1	22.7	21.5	19.1	17.9	15.5	13.1	11.9	10.7
75°	19.1	16.7	14.3	13.1	13.1	11.9	10.7	10.7	9.5	9.5	8.4
77.5°	11.9	10.7	9.5	9.5	9.5	8.4	8.4	8.4	8.4	7.2	7.2
80°	8.4	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
82.5°	4.8	4.8	4.8	4.8	4.8	6.0	6.0	6.0	6.0	6.0	7.2
85°	3.6	4.8	4.8	4.8	4.8	4.8	6.0	6.0	6.0	6.0	6.0
87.5°	3.6	4.8	4.8	4.8	4.8	4.8	6.0	6.0	6.0	6.0	6.0
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°	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2
2.5°	1357.9	1338.8	1280.4	1300.6	1263.7	1233.8	1231.4	1213.5	1182.5	1165.8	1157.5
5°	1295.9	1252.9	1181.3	1186.1	1143.1	1096.6	1071.5	1047.7	1007.1	982.0	965.3
7.5°	1219.5	1161.0	1076.3	1070.3	1025.0	968.9	933.1	899.7	855.6	823.3	803.1
10°	1139.6	1068.0	968.9	961.8	914.0	853.2	812.6	774.4	729.1	696.9	675.4
12.5°	1065.6	983.2	884.2	866.3	819.8	757.7	713.6	673.0	628.8	601.4	576.3
15°	995.2	905.7	800.7	784.0	738.6	676.6	627.7	591.9	550.1	523.8	501.2
17.5°	924.8	832.9	729.1	710.0	667.0	607.4	564.4	526.2	488.0	463.0	442.7
20°	863.9	772.0	670.6	651.5	612.1	554.9	515.5	479.7	445.1	421.2	404.5
22.5°	824.5	735.0	643.2	626.5	589.5	538.2	501.2	470.1	440.3	417.6	404.5
25°	822.2	744.6	662.3	652.7	621.7	578.7	552.5	533.4	515.5	497.6	492.8
27.5°	836.5	773.2	704.0	701.6	676.6	647.9	636.0	630.0	620.5	614.5	622.9
30°	828.1	774.4	716.0	716.0	696.9	676.6	670.6	668.2	662.3	663.4	673.0
32.5°	784.0	735.0	679.0	680.2	668.2	645.6	642.0	640.8	633.6	632.4	639.6
35°	704.0	658.7	612.1	613.3	603.8	582.3	577.5	575.1	565.6	560.8	565.6
37.5°	612.1	575.1	531.0	531.0	521.5	504.7	500.0	495.2	489.2	484.5	484.5
40°	517.9	488.0	452.2	451.1	443.9	427.2	422.4	418.8	412.9	404.5	406.9
42.5°	437.9	410.5	381.8	379.5	374.7	360.4	355.6	350.8	344.9	337.7	337.7
45°	363.9	346.0	321.0	319.8	315.0	303.1	299.5	293.5	288.8	281.6	281.6
47.5°	303.1	288.8	268.5	267.3	263.7	253.0	249.4	244.6	239.8	235.1	235.1
50°	254.2	239.8	223.1	221.9	219.6	211.2	206.4	202.9	199.3	195.7	193.3
52.5°	208.8	196.9	183.8	182.6	180.2	171.8	168.2	165.9	162.3	156.3	156.3
55°	168.2	158.7	146.8	145.6	143.2	136.0	132.5	127.7	122.9	116.9	115.7
57.5°	131.3	122.9	113.4	112.2	108.6	102.6	96.7	91.9	87.1	82.3	79.9
60°	99.0	89.5	81.1	78.8	76.4	68.0	63.2	58.5	53.7	50.1	47.7
62.5°	66.8	60.9	51.3	50.1	47.7	43.0	37.0	34.6	32.2	29.8	28.6
65°	41.8	37.0	32.2	31.0	28.6	25.1	22.7	21.5	20.3	19.1	17.9
67.5°	25.1	22.7	19.1	19.1	17.9	16.7	14.3	14.3	13.1	13.1	11.9
70°	15.5	14.3	13.1	11.9	11.9	11.9	10.7	10.7	10.7	10.7	10.7
72.5°	10.7	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
75°	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
77.5°	8.4	8.4	7.2	8.4	8.4	8.4	8.4	7.2	8.4	7.2	7.2
80°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
82.5°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.0	6.0	6.0	6.0
85°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.8
87.5°	6.0	6.0	6.0	6.0	6.0	4.8	4.8	4.8	4.8	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: P179838

CATALOG NUMBER: LDA6A65835D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2
2.5°	1159.8	1126.4	1139.6	1120.5	1114.5	1109.7	1102.6	1125.2
5°	958.2	922.4	930.7	911.6	903.3	894.9	886.6	904.5
7.5°	791.1	756.5	760.1	743.4	735.0	725.5	717.1	731.5
10°	661.1	628.8	630.0	614.5	606.2	596.6	589.5	600.2
12.5°	562.0	532.2	532.2	520.3	513.1	502.4	496.4	504.7
15°	486.8	460.6	460.6	448.7	442.7	433.2	427.2	435.5
17.5°	429.6	405.7	405.7	397.4	391.4	383.0	378.3	385.4
20°	391.4	371.1	372.3	363.9	359.2	349.6	347.2	353.2
22.5°	395.0	375.9	378.3	372.3	367.5	360.4	358.0	366.3
25°	494.0	479.7	488.0	488.0	490.4	479.7	484.5	497.6
27.5°	634.8	627.7	640.8	636.0	645.6	645.6	650.3	667.0
30°	686.1	680.2	694.5	693.3	702.8	700.4	702.8	718.3
32.5°	649.1	643.2	655.1	653.9	661.1	655.1	656.3	669.4
35°	570.4	564.4	572.8	571.6	576.3	569.2	572.8	579.9
37.5°	486.8	480.9	485.7	484.5	485.7	477.3	482.1	485.7
40°	409.3	402.1	409.3	404.5	405.7	397.4	398.5	403.3
42.5°	342.5	334.1	340.1	340.1	340.1	334.1	335.3	340.1
45°	285.2	279.2	282.8	281.6	282.8	278.0	281.6	286.4
47.5°	236.3	231.5	233.9	232.7	232.7	227.9	229.1	229.1
50°	194.5	189.7	190.9	189.7	186.1	180.2	179.0	180.2
52.5°	153.9	148.0	148.0	145.6	143.2	138.4	138.4	139.6
55°	113.4	108.6	108.6	107.4	105.0	101.4	101.4	103.8
57.5°	76.4	72.8	74.0	72.8	72.8	68.0	70.4	70.4
60°	46.5	44.2	44.2	43.0	40.6	39.4	38.2	40.6
62.5°	27.4	26.3	26.3	25.1	25.1	23.9	23.9	23.9
65°	17.9	16.7	16.7	15.5	15.5	14.3	13.1	14.3
67.5°	11.9	10.7	10.7	10.7	10.7	9.5	9.5	9.5
70°	10.7	9.5	9.5	9.5	9.5	8.4	8.4	8.4
72.5°	9.5	8.4	9.5	8.4	8.4	8.4	8.4	8.4
75°	8.4	8.4	8.4	7.2	7.2	7.2	7.2	7.2
77.5°	7.2	7.2	7.2	7.2	7.2	6.0	6.0	6.0
80°	7.2	6.0	6.0	6.0	6.0	6.0	6.0	6.0
82.5°	6.0	6.0	6.0	6.0	6.0	4.8	4.8	4.8
85°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
87.5°	3.6	3.6	3.6	3.6	3.6	2.4	2.4	2.4
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)