

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: P179843

Luminaire Tested: **LDA6A65940D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179843
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: LDA6A65940D010TE 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: 4300.0 lumens
Efficiency: N/A
Efficacy: 55.1 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

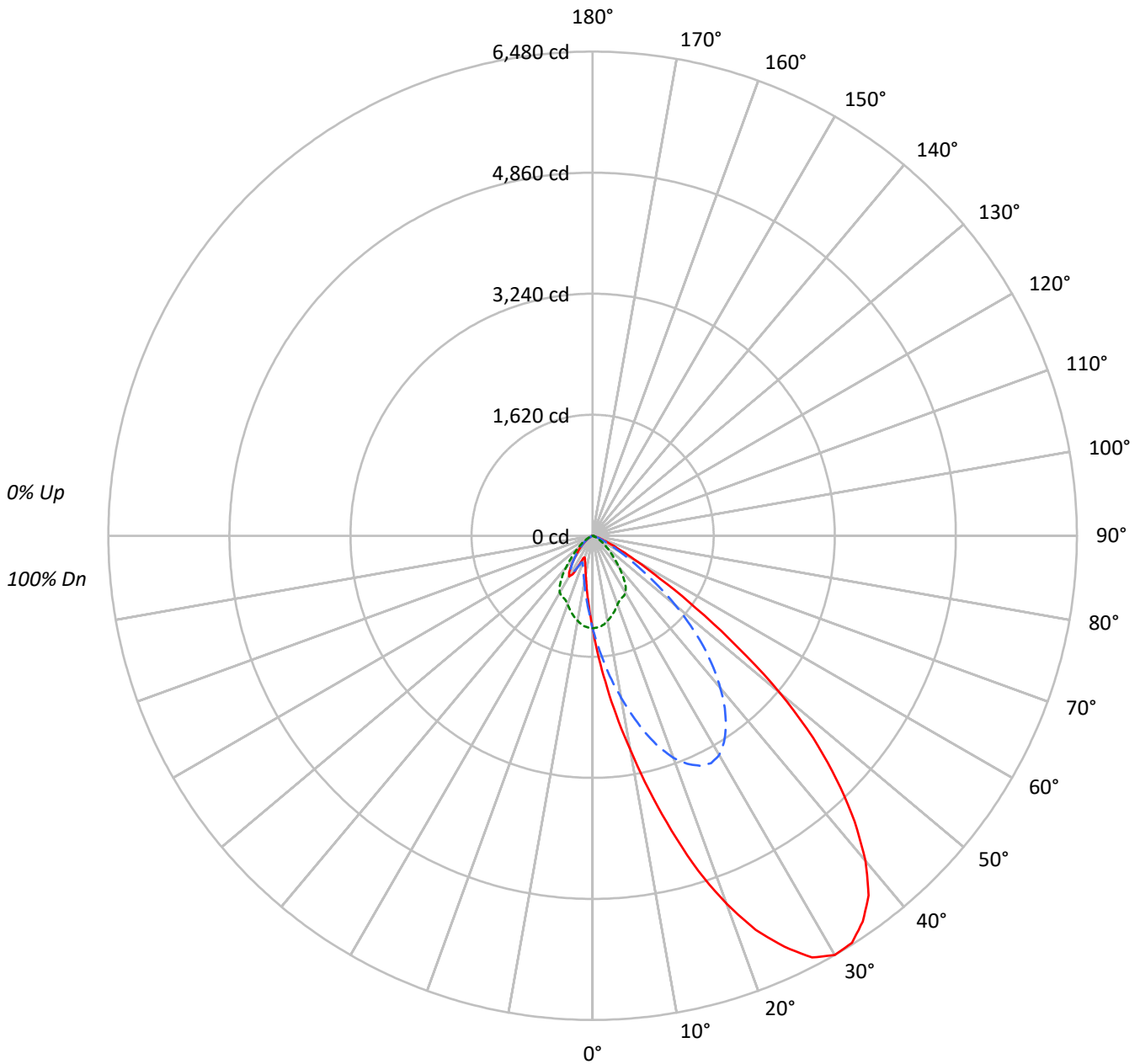
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	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°	67834	67834	67834
5°	107764	66999	43517
10°	161687	64289	29213
15°	231698	60931	21612
20°	305851	56967	18015
25°	367098	55533	26318
30°	410190	55673	39759
35°	421722	49851	33937
40°	406390	39646	25233
45°	358161	29445	19413
50°	279309	21799	13432
55°	161543	15952	8678
60°	75498	11096	3892
65°	35322	6084	1621
70°	16381	2677	1170
75°	6841	1758	1334
80°	2968	1989	1642
85°	629	3271	2642



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.0	3.0
10°-20°	469.7	10.9
20°-30°	929.9	21.6
30°-40°	1202.3	28.0
40°-50°	987.9	23.0
50°-60°	456.7	10.6
60°-70°	104.3	2.4
70°-80°	17.0	0.4
80°-90°	4.3	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°	1527.5	35.5
0°-40°	2729.8	63.5
0°-60°	4174.4	97.1
0°-90°	4300.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4300.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1237	1237	1237	1237	1237	
5°	1958	1684	1218	881	791	216
15°	4082	2730	1074	481	381	1192
25°	6069	3397	918	451	435	2795
35°	6302	3109	745	494	507	3902
45°	4620	2099	380	252	250	3516
55°	1690	817	167	108	91	1589
65°	272	167	47	18	12	312
75°	32	19	8	7	6	43
85°	1	3	5	5	4	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°	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4
2.5°	1571.2	1547.2	1561.8	1569.1	1531.6	1539.9	1544.1	1514.9	1506.5	1490.9	1445.0
5°	1958.3	1930.1	1941.6	1941.6	1886.3	1889.4	1887.4	1832.1	1801.8	1762.2	1683.9
7.5°	2414.2	2386.1	2388.1	2377.7	2299.5	2294.2	2260.9	2193.0	2133.6	2060.5	1943.7
10°	2904.6	2887.9	2877.5	2851.4	2748.1	2730.4	2681.3	2573.9	2475.8	2364.1	2199.3
12.5°	3480.5	3447.1	3416.9	3375.1	3240.5	3207.1	3138.3	2982.8	2838.9	2682.4	2464.3
15°	4082.5	4056.4	4007.4	3941.6	3769.5	3716.3	3626.6	3417.9	3238.4	3010.0	2730.4
17.5°	4705.3	4657.4	4585.4	4492.5	4284.9	4209.8	4098.1	3831.0	3593.2	3308.3	2970.3
20°	5242.7	5205.1	5106.0	4986.0	4748.1	4648.0	4516.5	4188.9	3897.8	3559.8	3162.3
22.5°	5709.0	5658.9	5536.9	5391.8	5125.8	5001.6	4853.5	4487.3	4132.6	3740.3	3303.1
25°	6069.0	6031.4	5886.4	5717.4	5425.2	5281.3	5117.5	4702.2	4308.9	3878.0	3397.0
27.5°	6362.1	6298.5	6136.8	5945.8	5630.8	5462.8	5289.6	4834.7	4409.0	3947.9	3432.5
30°	6480.0	6414.3	6243.2	6031.4	5697.5	5512.9	5334.5	4849.3	4401.7	3923.9	3389.7
32.5°	6458.1	6384.0	6201.5	5977.1	5636.0	5438.8	5258.3	4754.4	4297.4	3815.4	3273.9
35°	6301.6	6240.1	6051.2	5816.5	5476.4	5268.7	5079.9	4581.2	4123.2	3647.4	3109.1
37.5°	6065.8	5978.2	5801.9	5566.1	5206.1	5013.1	4826.4	4333.9	3886.3	3414.8	2903.5
40°	5678.8	5573.4	5397.1	5191.5	4849.3	4657.4	4487.3	4027.2	3586.9	3146.6	2658.4
42.5°	5191.5	5109.1	4945.3	4733.5	4419.5	4235.9	4083.5	3641.2	3251.0	2843.0	2388.1
45°	4619.8	4540.5	4400.7	4209.8	3926.0	3766.4	3626.6	3233.2	2881.6	2509.2	2099.1
47.5°	4001.1	3922.9	3800.8	3632.8	3379.3	3241.6	3119.5	2797.1	2465.4	2139.8	1779.9
50°	3275.0	3167.5	3100.7	2959.9	2748.1	2631.2	2537.3	2248.3	2003.2	1741.3	1441.9
52.5°	2444.5	2410.1	2314.1	2215.0	2065.8	1979.2	1917.6	1731.9	1528.5	1338.6	1110.1
55°	1690.2	1658.9	1600.4	1539.9	1439.8	1396.0	1350.0	1237.4	1101.7	972.4	816.9
57.5°	1068.4	1091.3	1053.7	1019.3	958.8	943.2	907.7	842.0	758.5	677.1	580.1
60°	688.6	701.1	677.1	657.3	623.9	611.4	594.7	555.0	505.0	458.0	392.3
62.5°	436.1	442.4	428.8	417.3	398.5	393.3	381.9	358.9	328.6	300.5	258.7
65°	272.3	277.5	268.1	260.8	249.4	250.4	240.0	226.4	208.7	190.9	166.9
67.5°	168.0	171.1	164.8	160.7	153.4	153.4	147.1	138.8	127.3	116.9	101.2
70°	102.2	103.3	99.1	97.0	91.8	90.8	87.6	81.4	74.1	66.8	57.4
72.5°	59.5	60.5	57.4	55.3	52.2	52.2	50.1	46.9	43.8	37.6	32.3
75°	32.3	33.4	31.3	30.3	28.2	29.2	27.1	26.1	23.0	20.9	18.8
77.5°	16.7	17.7	16.7	15.6	15.6	15.6	14.6	13.6	13.6	11.5	11.5
80°	9.4	9.4	9.4	9.4	9.4	8.3	8.3	8.3	8.3	8.3	7.3
82.5°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.2
85°	1.0	1.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	3.1
87.5°	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.1	2.1	2.1	3.1
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°	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4
2.5°	1431.4	1430.4	1382.4	1361.5	1344.8	1318.7	1300.0	1280.1	1262.4	1230.1	1202.9
5°	1644.3	1615.1	1535.8	1485.7	1454.4	1412.6	1366.7	1320.8	1276.0	1217.5	1169.6
7.5°	1867.5	1804.9	1686.0	1602.5	1554.5	1496.1	1418.9	1346.9	1273.9	1193.6	1124.7
10°	2080.4	1978.1	1826.8	1699.6	1633.8	1558.7	1452.3	1352.1	1256.2	1154.9	1069.4
12.5°	2297.4	2151.3	1954.1	1789.3	1705.8	1613.0	1476.3	1352.1	1233.2	1116.3	1015.1
15°	2512.3	2319.3	2074.1	1869.6	1768.4	1657.8	1493.0	1344.8	1205.0	1073.6	960.9
17.5°	2695.9	2457.0	2161.7	1924.9	1806.0	1680.8	1491.9	1322.9	1167.5	1025.6	905.6
20°	2838.9	2556.1	2223.3	1953.1	1819.5	1682.9	1475.2	1290.6	1124.7	976.5	853.4
22.5°	2935.9	2620.8	2254.6	1958.3	1815.4	1671.4	1449.2	1258.2	1086.1	937.9	814.8
25°	2996.4	2653.1	2264.0	1951.0	1800.8	1651.6	1425.2	1230.1	1061.1	918.1	803.4
27.5°	3007.9	2643.8	2245.2	1920.7	1766.3	1616.1	1390.7	1202.9	1039.1	906.6	803.4
30°	2951.5	2583.2	2181.6	1852.9	1701.6	1554.5	1333.4	1153.9	1000.5	879.5	785.6
32.5°	2844.1	2471.6	2076.2	1752.8	1605.7	1467.9	1255.1	1084.0	935.9	824.2	739.7
35°	2688.6	2322.4	1939.5	1626.5	1483.6	1355.3	1145.6	989.1	848.2	744.9	666.7
37.5°	2499.8	2143.0	1779.9	1482.5	1346.9	1226.9	1026.6	879.5	749.1	652.1	582.2
40°	2270.3	1948.9	1600.4	1324.0	1194.6	1086.1	901.4	759.5	636.4	554.0	490.4
42.5°	2030.3	1731.9	1409.5	1146.6	1031.8	928.5	764.7	637.5	527.9	460.1	410.0
45°	1783.0	1490.9	1209.2	975.5	888.9	773.1	621.8	518.5	429.8	379.8	340.1
47.5°	1504.5	1257.2	997.4	791.9	701.1	622.9	496.6	413.2	355.8	312.0	281.7
50°	1205.0	1007.8	789.8	614.5	539.4	479.9	387.1	329.7	285.9	255.6	232.7
52.5°	926.5	771.0	594.7	450.7	403.8	358.9	301.5	261.9	230.6	207.6	190.9
55°	688.6	562.3	427.8	333.9	300.5	271.3	236.8	205.5	182.6	166.9	153.4
57.5°	485.1	392.3	300.5	242.0	224.3	205.5	179.5	158.6	142.9	130.4	120.0
60°	324.5	267.1	211.8	177.4	164.8	152.3	135.6	121.0	109.5	101.2	90.8
62.5°	218.1	179.5	148.2	127.3	118.9	110.6	99.1	88.7	80.3	72.0	63.6
65°	139.8	118.9	100.2	86.6	80.3	76.2	67.8	60.5	54.3	46.9	40.7
67.5°	85.6	74.1	62.6	54.3	51.1	48.0	42.8	37.6	33.4	28.2	24.0
70°	50.1	43.8	37.6	32.3	31.3	29.2	25.0	21.9	19.8	16.7	14.6
72.5°	29.2	26.1	21.9	19.8	18.8	16.7	15.6	13.6	11.5	10.4	9.4
75°	16.7	14.6	12.5	11.5	11.5	10.4	9.4	9.4	8.3	8.3	7.3
77.5°	10.4	9.4	8.3	8.3	8.3	7.3	7.3	7.3	7.3	6.3	6.3
80°	7.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
82.5°	4.2	4.2	4.2	4.2	4.2	5.2	5.2	5.2	5.2	5.2	6.3
85°	3.1	4.2	4.2	4.2	4.2	4.2	5.2	5.2	5.2	5.2	5.2
87.5°	3.1	4.2	4.2	4.2	4.2	4.2	5.2	5.2	5.2	5.2	5.2
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°	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4
2.5°	1187.3	1170.6	1119.5	1137.2	1104.9	1078.8	1076.7	1061.1	1033.9	1019.3	1012.0
5°	1133.0	1095.5	1032.9	1037.1	999.5	958.8	936.9	916.0	880.6	858.6	844.0
7.5°	1066.3	1015.1	941.1	935.9	896.2	847.2	815.9	786.7	748.1	719.9	702.2
10°	996.4	933.8	847.2	840.9	799.2	746.0	710.5	677.1	637.5	609.3	590.5
12.5°	931.7	859.7	773.1	757.4	716.8	662.5	623.9	588.4	549.8	525.8	503.9
15°	870.1	791.9	700.1	685.5	645.8	591.6	548.8	517.5	481.0	458.0	438.2
17.5°	808.6	728.2	637.5	620.8	583.2	531.0	493.5	460.1	426.7	404.8	387.1
20°	755.4	675.0	586.3	569.6	535.2	485.1	450.7	419.4	389.2	368.3	353.7
22.5°	720.9	642.7	562.3	547.7	515.4	470.5	438.2	411.1	385.0	365.2	353.7
25°	718.8	651.0	579.0	570.7	543.6	506.0	483.1	466.4	450.7	435.1	430.9
27.5°	731.4	676.1	615.6	613.5	591.6	566.5	556.1	550.9	542.5	537.3	544.6
30°	724.1	677.1	626.0	626.0	609.3	591.6	586.3	584.3	579.0	580.1	588.4
32.5°	685.5	642.7	593.6	594.7	584.3	564.4	561.3	560.3	554.0	553.0	559.2
35°	615.6	575.9	535.2	536.3	527.9	509.1	505.0	502.9	494.5	490.4	494.5
37.5°	535.2	502.9	464.3	464.3	455.9	441.3	437.1	433.0	427.8	423.6	423.6
40°	452.8	426.7	395.4	394.4	388.1	373.5	369.3	366.2	361.0	353.7	355.8
42.5°	382.9	358.9	333.9	331.8	327.6	315.1	310.9	306.7	301.5	295.3	295.3
45°	318.2	302.6	280.7	279.6	275.4	265.0	261.9	256.7	252.5	246.2	246.2
47.5°	265.0	252.5	234.7	233.7	230.6	221.2	218.1	213.9	209.7	205.5	205.5
50°	222.2	209.7	195.1	194.1	192.0	184.7	180.5	177.4	174.2	171.1	169.0
52.5°	182.6	172.1	160.7	159.6	157.5	150.2	147.1	145.0	141.9	136.7	136.7
55°	147.1	138.8	128.3	127.3	125.2	118.9	115.8	111.6	107.5	102.2	101.2
57.5°	114.8	107.5	99.1	98.1	94.9	89.7	84.5	80.3	76.2	72.0	69.9
60°	86.6	78.2	70.9	68.9	66.8	59.5	55.3	51.1	46.9	43.8	41.7
62.5°	58.4	53.2	44.9	43.8	41.7	37.6	32.3	30.3	28.2	26.1	25.0
65°	36.5	32.3	28.2	27.1	25.0	21.9	19.8	18.8	17.7	16.7	15.6
67.5°	21.9	19.8	16.7	16.7	15.6	14.6	12.5	12.5	11.5	11.5	10.4
70°	13.6	12.5	11.5	10.4	10.4	10.4	9.4	9.4	9.4	9.4	9.4
72.5°	9.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
75°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
77.5°	7.3	7.3	6.3	7.3	7.3	7.3	7.3	6.3	7.3	6.3	6.3
80°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
82.5°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.2	5.2	5.2	5.2
85°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.2
87.5°	5.2	5.2	5.2	5.2	5.2	4.2	4.2	4.2	4.2	3.1	3.1
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: P179843

CATALOG NUMBER: LDA6A65940D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4	1237.4
2.5°	1014.1	984.9	996.4	979.7	974.5	970.3	964.0	983.8
5°	837.8	806.5	813.8	797.1	789.8	782.5	775.2	790.8
7.5°	691.7	661.5	664.6	650.0	642.7	634.3	627.0	639.6
10°	578.0	549.8	550.9	537.3	530.0	521.7	515.4	524.8
12.5°	491.4	465.3	465.3	454.9	448.6	439.2	434.0	441.3
15°	425.7	402.7	402.7	392.3	387.1	378.7	373.5	380.8
17.5°	375.6	354.7	354.7	347.4	342.2	334.9	330.7	337.0
20°	342.2	324.5	325.5	318.2	314.0	305.7	303.6	308.8
22.5°	345.3	328.6	330.7	325.5	321.3	315.1	313.0	320.3
25°	431.9	419.4	426.7	426.7	428.8	419.4	423.6	435.1
27.5°	555.0	548.8	560.3	556.1	564.4	564.4	568.6	583.2
30°	599.9	594.7	607.2	606.2	614.5	612.4	614.5	628.1
32.5°	567.6	562.3	572.8	571.7	578.0	572.8	573.8	585.3
35°	498.7	493.5	500.8	499.7	503.9	497.7	500.8	507.1
37.5°	425.7	420.5	424.6	423.6	424.6	417.3	421.5	424.6
40°	357.9	351.6	357.9	353.7	354.7	347.4	348.5	352.6
42.5°	299.4	292.1	297.3	297.3	297.3	292.1	293.2	297.3
45°	249.4	244.1	247.3	246.2	247.3	243.1	246.2	250.4
47.5°	206.6	202.4	204.5	203.4	203.4	199.3	200.3	200.3
50°	170.1	165.9	166.9	165.9	162.8	157.5	156.5	157.5
52.5°	134.6	129.4	129.4	127.3	125.2	121.0	121.0	122.1
55°	99.1	94.9	94.9	93.9	91.8	88.7	88.7	90.8
57.5°	66.8	63.6	64.7	63.6	63.6	59.5	61.6	61.6
60°	40.7	38.6	38.6	37.6	35.5	34.4	33.4	35.5
62.5°	24.0	23.0	23.0	21.9	21.9	20.9	20.9	20.9
65°	15.6	14.6	14.6	13.6	13.6	12.5	11.5	12.5
67.5°	10.4	9.4	9.4	9.4	9.4	8.3	8.3	8.3
70°	9.4	8.3	8.3	8.3	8.3	7.3	7.3	7.3
72.5°	8.3	7.3	8.3	7.3	7.3	7.3	7.3	7.3
75°	7.3	7.3	7.3	6.3	6.3	6.3	6.3	6.3
77.5°	6.3	6.3	6.3	6.3	6.3	5.2	5.2	5.2
80°	6.3	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	4.2	4.2	4.2
85°	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	3.1	2.1	2.1	2.1
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)