

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: P179630

Luminaire Tested: **LDA6A45835D010TE LARH40FL 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179630
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: LDA6A45835D010TE LARH40FL 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 40° Flood
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3828.0 lumens
Efficiency: N/A
Efficacy: 72.2 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

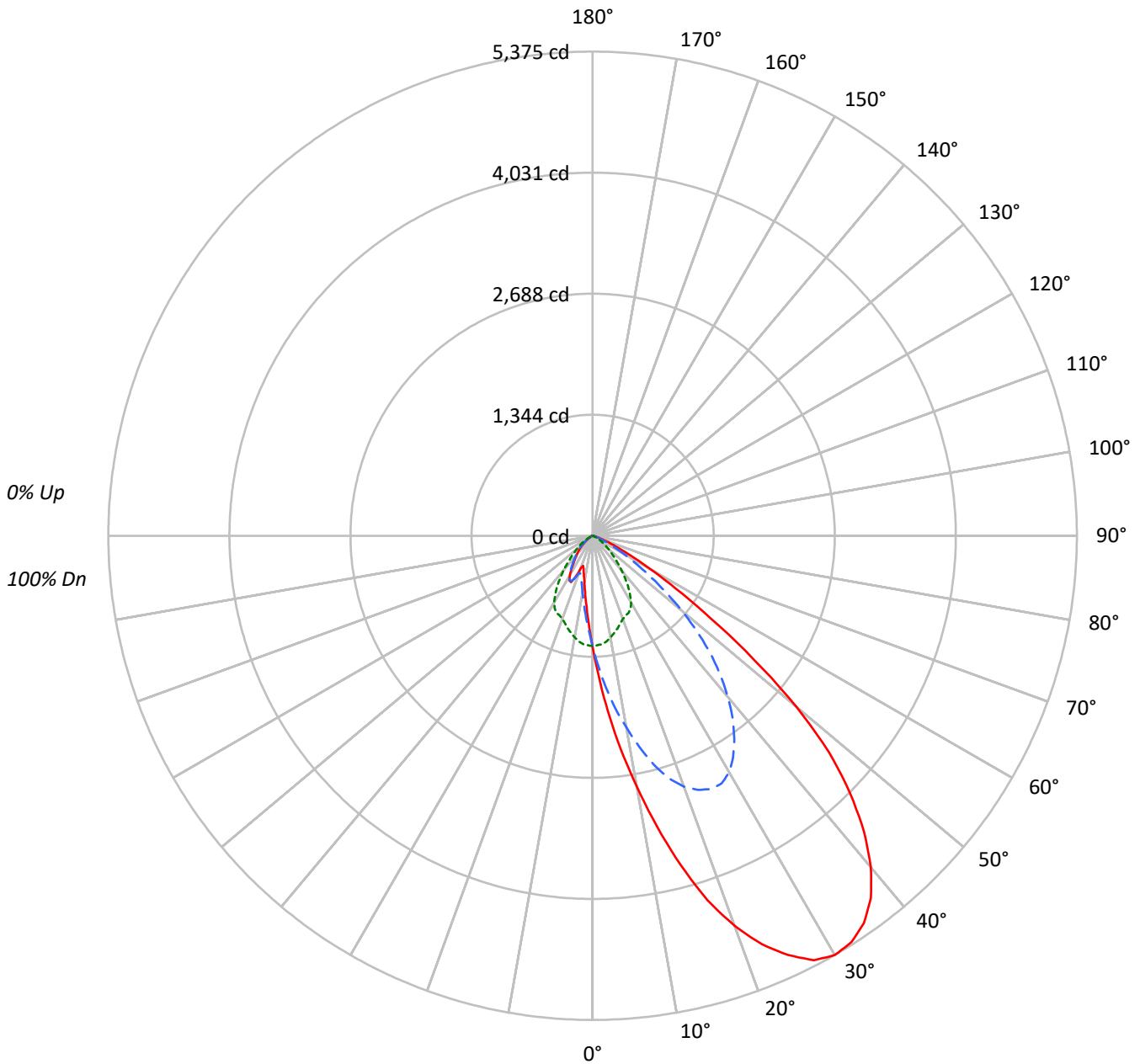
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	67210	67210	67210
5°	107583	66366	43033
10°	157206	63737	29002
15°	214933	60443	21907
20°	268888	57230	22110
25°	310609	57040	34296
30°	340249	53996	31904
35°	351353	45775	24628
40°	343866	35710	19393
45°	313451	26359	14885
50°	251941	19445	9978
55°	153400	13763	5639
60°	79599	9100	2193
65°	38785	4799	1038
70°	17791	2084	962
75°	7413	1483	1059
80°	3788	1578	1263
85°	2516	3145	1887



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.8	3.3
10°-20°	445.5	11.6
20°-30°	843.5	22.0
30°-40°	1021.6	26.7
40°-50°	855.1	22.3
50°-60°	414.3	10.8
60°-70°	101.6	2.7
70°-80°	16.5	0.4
80°-90°	4.0	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°	1414.8	37.0
0°-40°	2436.5	63.6
0°-60°	3705.9	96.8
0°-90°	3828.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3828.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1226	1226	1226	1226	1226	
5°	1955	1684	1206	882	782	213
15°	3787	2633	1065	487	386	1093
25°	5135	3102	943	555	567	2365
35°	5250	2741	684	395	368	3254
45°	4043	1849	340	207	192	3068
55°	1605	758	144	78	59	1504
65°	299	166	37	12	8	337
75°	35	18	7	6	5	47
85°	4	3	5	4	3	5
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°	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0
2.5°	1556.0	1520.0	1528.0	1534.0	1507.0	1524.0	1495.0	1485.0	1461.0	1467.0	1449.0
5°	1955.0	1905.0	1890.0	1890.0	1845.0	1860.0	1834.0	1788.0	1741.0	1727.0	1684.0
7.5°	2384.1	2329.0	2305.0	2295.0	2229.0	2220.0	2198.0	2127.0	2050.0	2009.0	1933.0
10°	2824.1	2774.1	2740.1	2717.1	2626.1	2610.1	2571.1	2471.1	2374.1	2286.0	2161.0
12.5°	3309.1	3242.1	3197.1	3159.1	3042.1	3017.1	2959.1	2825.1	2672.1	2566.1	2401.1
15°	3787.1	3719.1	3660.1	3605.1	3463.1	3427.1	3349.1	3179.1	3000.1	2842.1	2633.1
17.5°	4242.1	4156.1	4084.1	4010.1	3843.1	3798.1	3696.1	3507.1	3257.1	3078.1	2826.1
20°	4609.1	4525.1	4442.1	4348.1	4157.1	4103.1	3979.1	3755.1	3471.1	3256.1	2962.1
22.5°	4909.1	4814.1	4732.1	4609.1	4394.1	4331.1	4188.1	3934.1	3627.1	3376.1	3053.1
25°	5135.1	5034.1	4950.1	4812.1	4574.1	4501.1	4334.1	4059.1	3724.1	3448.1	3102.1
27.5°	5313.1	5197.1	5102.1	4949.1	4687.1	4605.1	4422.1	4125.1	3763.1	3462.1	3100.1
30°	5375.1	5262.1	5155.1	4990.1	4708.1	4617.1	4427.1	4105.1	3728.1	3404.1	3031.1
32.5°	5348.1	5231.1	5115.1	4940.1	4642.1	4544.1	4352.1	4008.1	3621.1	3280.1	2904.1
35°	5250.1	5131.1	5007.1	4826.1	4514.1	4408.1	4216.1	3860.1	3458.1	3117.1	2741.1
37.5°	5072.1	4953.1	4836.1	4641.1	4322.1	4212.1	4023.1	3654.1	3262.1	2918.1	2552.1
40°	4805.1	4687.1	4579.1	4382.1	4061.1	3950.1	3771.1	3405.1	3027.1	2687.1	2335.0
42.5°	4461.1	4348.1	4251.1	4058.1	3744.1	3638.1	3470.1	3116.1	2763.1	2434.1	2103.0
45°	4043.1	3940.1	3851.1	3669.1	3379.1	3277.1	3128.1	2793.1	2464.1	2156.0	1849.0
47.5°	3561.1	3467.1	3389.1	3221.1	2952.1	2859.1	2731.1	2420.1	2126.0	1845.0	1572.0
50°	2954.1	2872.1	2818.1	2673.1	2433.1	2355.1	2256.0	1994.0	1753.0	1511.0	1285.0
52.5°	2254.0	2190.0	2165.0	2056.0	1870.0	1816.0	1752.0	1551.0	1375.0	1184.0	1008.0
55°	1605.0	1563.0	1547.0	1476.0	1354.0	1319.0	1264.0	1140.0	1023.0	888.0	758.0
57.5°	1093.0	1071.0	1059.0	1015.0	940.0	916.0	885.0	805.0	730.0	642.0	549.0
60°	726.0	717.0	707.0	680.0	636.0	618.0	603.0	550.0	504.0	449.0	384.0
62.5°	471.0	467.0	460.0	443.0	426.0	414.0	398.0	363.0	336.0	308.0	259.0
65°	299.0	295.0	292.0	281.0	270.0	258.0	252.0	232.0	215.0	197.0	166.0
67.5°	185.0	182.0	181.0	174.0	166.0	159.0	155.0	142.0	132.0	121.0	101.0
70°	111.0	110.0	108.0	104.0	99.0	94.0	92.0	83.0	77.0	70.0	57.0
72.5°	64.0	63.0	62.0	59.0	56.0	54.0	52.0	49.0	42.0	38.0	32.0
75°	35.0	35.0	34.0	32.0	31.0	29.0	28.0	26.0	23.0	21.0	18.0
77.5°	20.0	19.0	19.0	18.0	17.0	17.0	16.0	15.0	13.0	13.0	11.0
80°	12.0	12.0	12.0	11.0	11.0	11.0	10.0	10.0	9.0	8.0	8.0
82.5°	8.0	7.0	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0	5.0
85°	4.0	4.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
87.5°	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	3.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0
2.5°	1402.0	1392.0	1372.0	1344.0	1334.0	1328.0	1295.0	1265.0	1244.0	1217.0	1191.0
5°	1606.0	1569.0	1521.0	1463.0	1440.0	1420.0	1359.0	1303.0	1257.0	1206.0	1158.0
7.5°	1817.0	1748.0	1667.0	1575.0	1537.0	1502.0	1410.0	1327.0	1256.0	1183.0	1114.0
10°	2015.0	1910.0	1793.0	1670.0	1613.0	1562.0	1440.0	1333.0	1239.0	1145.0	1060.0
12.5°	2209.0	2066.0	1911.0	1753.0	1679.0	1613.0	1462.0	1331.0	1215.0	1105.0	1007.0
15°	2396.1	2211.0	2020.0	1826.0	1737.0	1656.0	1477.0	1324.0	1190.0	1065.0	956.0
17.5°	2547.1	2329.0	2098.0	1870.0	1770.0	1676.0	1475.0	1304.0	1156.0	1020.0	904.0
20°	2653.1	2402.1	2145.0	1890.0	1781.0	1677.0	1460.0	1277.0	1121.0	981.0	864.0
22.5°	2713.1	2436.1	2161.0	1890.0	1773.0	1664.0	1439.0	1252.0	1095.0	958.0	846.0
25°	2738.1	2442.1	2154.0	1874.0	1753.0	1641.0	1415.0	1228.0	1074.0	943.0	839.0
27.5°	2718.1	2407.1	2115.0	1830.0	1706.0	1594.0	1369.0	1186.0	1037.0	912.0	813.0
30°	2638.1	2319.0	2028.0	1745.0	1620.0	1511.0	1293.0	1116.0	973.0	853.0	759.0
32.5°	2508.1	2191.0	1905.0	1629.0	1505.0	1400.0	1192.0	1024.0	887.0	773.0	686.0
35°	2350.1	2039.0	1763.0	1494.0	1375.0	1275.0	1079.0	915.0	789.0	684.0	604.0
37.5°	2172.0	1871.0	1598.0	1351.0	1237.0	1142.0	959.0	805.0	689.0	592.0	521.0
40°	1972.0	1688.0	1431.0	1197.0	1089.0	1001.0	828.0	692.0	586.0	499.0	439.0
42.5°	1761.0	1496.0	1257.0	1038.0	936.0	856.0	699.0	578.0	485.0	414.0	366.0
45°	1535.0	1290.0	1071.0	875.0	790.0	710.0	577.0	467.0	394.0	340.0	304.0
47.5°	1294.0	1077.0	884.0	713.0	639.0	569.0	457.0	373.0	320.0	279.0	252.0
50°	1052.0	869.0	705.0	559.0	496.0	440.0	354.0	297.0	258.0	228.0	206.0
52.5°	822.0	674.0	540.0	421.0	374.0	334.0	275.0	235.0	206.0	183.0	167.0
55°	617.0	500.0	395.0	306.0	278.0	253.0	214.0	182.0	162.0	144.0	132.0
57.5°	447.0	357.0	281.0	225.0	207.0	190.0	162.0	140.0	125.0	111.0	102.0
60°	314.0	248.0	199.0	165.0	151.0	141.0	119.0	105.0	93.0	83.0	74.0
62.5°	211.0	168.0	139.0	117.0	108.0	101.0	87.0	75.0	66.0	58.0	50.0
65°	135.0	113.0	94.0	79.0	73.0	68.0	59.0	49.0	43.0	37.0	31.0
67.5°	83.0	71.0	59.0	49.0	45.0	42.0	36.0	30.0	26.0	22.0	19.0
70°	48.0	41.0	34.0	29.0	27.0	25.0	21.0	18.0	16.0	13.0	11.0
72.5°	27.0	24.0	20.0	17.0	16.0	15.0	13.0	11.0	10.0	9.0	8.0
75°	16.0	14.0	12.0	11.0	10.0	10.0	9.0	8.0	7.0	7.0	6.0
77.5°	10.0	9.0	8.0	8.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0
80°	7.0	7.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
82.5°	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0
85°	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0
87.5°	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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°	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0
2.5°	1163.0	1151.0	1129.0	1109.0	1106.0	1078.0	1049.0	1043.0	1033.0	1017.0	998.0
5°	1110.0	1078.0	1040.0	1012.0	1000.0	960.0	920.0	902.0	882.0	851.0	833.0
7.5°	1048.0	1001.0	948.0	916.0	899.0	849.0	803.0	777.0	750.0	717.0	695.0
10°	980.0	921.0	859.0	823.0	803.0	749.0	700.0	670.0	641.0	608.0	585.0
12.5°	916.0	849.0	781.0	743.0	721.0	665.0	615.0	583.0	554.0	527.0	500.0
15°	859.0	784.0	713.0	675.0	652.0	595.0	547.0	515.0	487.0	461.0	437.0
17.5°	804.0	726.0	656.0	619.0	596.0	543.0	497.0	468.0	441.0	417.0	396.0
20°	766.0	692.0	626.0	591.0	571.0	524.0	485.0	462.0	443.0	422.0	404.0
22.5°	756.0	690.0	633.0	604.0	589.0	552.0	524.0	510.0	504.0	491.0	481.0
25°	756.0	698.0	650.0	626.0	614.0	586.0	564.0	559.0	555.0	547.0	542.0
27.5°	737.0	683.0	640.0	619.0	609.0	584.0	565.0	559.0	554.0	548.0	542.0
30°	687.0	637.0	597.0	578.0	568.0	544.0	524.0	517.0	512.0	503.0	498.0
32.5°	620.0	572.0	539.0	517.0	508.0	485.0	466.0	458.0	454.0	446.0	437.0
35°	545.0	503.0	471.0	453.0	444.0	424.0	407.0	399.0	395.0	386.0	375.0
37.5°	469.0	431.0	405.0	388.0	381.0	365.0	350.0	344.0	340.0	333.0	324.0
40°	394.0	367.0	344.0	331.0	325.0	312.0	299.0	293.0	290.0	284.0	277.0
42.5°	332.0	310.0	292.0	281.0	276.0	266.0	255.0	249.0	246.0	240.0	235.0
45°	278.0	261.0	247.0	237.0	233.0	224.0	215.0	210.0	207.0	202.0	197.0
47.5°	233.0	218.0	206.0	199.0	195.0	188.0	180.0	175.0	173.0	169.0	164.0
50°	191.0	180.0	170.0	164.0	161.0	154.0	147.0	143.0	141.0	137.0	132.0
52.5°	154.0	146.0	137.0	131.0	128.0	123.0	116.0	112.0	109.0	105.0	99.0
55°	121.0	114.0	107.0	101.0	99.0	93.0	87.0	81.0	78.0	74.0	69.0
57.5°	94.0	86.0	79.0	74.0	72.0	66.0	60.0	54.0	51.0	46.0	43.0
60°	67.0	60.0	53.0	50.0	48.0	42.0	37.0	32.0	30.0	27.0	25.0
62.5°	44.0	39.0	33.0	30.0	29.0	25.0	21.0	20.0	18.0	17.0	16.0
65°	27.0	24.0	20.0	18.0	17.0	16.0	14.0	13.0	12.0	11.0	11.0
67.5°	16.0	15.0	13.0	12.0	11.0	10.0	10.0	9.0	9.0	8.0	8.0
70°	11.0	10.0	9.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	7.0
72.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
75°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
77.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0
80°	5.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
82.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
85°	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	3.0
87.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	2.0
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: P179630

CATALOG NUMBER: LDA6A45835D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0	1226.0
2.5°	996.0	987.0	978.0	992.0	991.0	977.0	987.0	971.0
5°	823.0	810.0	800.0	809.0	804.0	790.0	796.0	782.0
7.5°	682.0	667.0	655.0	662.0	654.0	641.0	639.0	633.0
10°	570.0	554.0	543.0	548.0	540.0	528.0	525.0	521.0
12.5°	485.0	470.0	460.0	464.0	456.0	445.0	443.0	446.0
15°	419.0	408.0	400.0	403.0	392.0	386.0	384.0	386.0
17.5°	381.0	369.0	363.0	366.0	358.0	352.0	351.0	350.0
20°	397.0	388.0	386.0	391.0	385.0	380.0	383.0	379.0
22.5°	484.0	483.0	484.0	496.0	493.0	491.0	493.0	493.0
25°	545.0	549.0	550.0	563.0	564.0	562.0	567.0	567.0
27.5°	543.0	544.0	543.0	556.0	558.0	554.0	559.0	560.0
30°	495.0	495.0	492.0	503.0	503.0	501.0	503.0	504.0
32.5°	432.0	431.0	430.0	435.0	435.0	432.0	434.0	434.0
35°	373.0	369.0	369.0	372.0	371.0	368.0	369.0	368.0
37.5°	322.0	317.0	317.0	319.0	316.0	313.0	314.0	314.0
40°	275.0	271.0	271.0	274.0	272.0	269.0	271.0	271.0
42.5°	231.0	230.0	230.0	232.0	232.0	230.0	233.0	234.0
45°	195.0	192.0	192.0	194.0	194.0	192.0	193.0	192.0
47.5°	162.0	159.0	159.0	159.0	157.0	154.0	154.0	153.0
50°	129.0	124.0	123.0	123.0	121.0	118.0	118.0	117.0
52.5°	96.0	91.0	91.0	90.0	88.0	87.0	86.0	86.0
55°	66.0	62.0	63.0	61.0	61.0	59.0	60.0	59.0
57.5°	41.0	39.0	39.0	38.0	36.0	35.0	35.0	34.0
60°	24.0	22.0	22.0	22.0	21.0	20.0	20.0	20.0
62.5°	16.0	15.0	15.0	15.0	13.0	13.0	12.0	12.0
65°	10.0	9.0	9.0	9.0	8.0	8.0	8.0	8.0
67.5°	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0
70°	7.0	7.0	7.0	7.0	7.0	6.0	6.0	6.0
72.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
75°	6.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
77.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80°	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0
82.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
85°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
87.5°	3.0	2.0	2.0	2.0	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)