

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: P179858

Luminaire Tested: **LDA6A65935D010TE LARH40FL 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179858
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26685)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A65935D010TE LARH40FL 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 40° Flood
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4449.4 lumens
Efficiency: N/A
Efficacy: 57.0 lumens/watt
Spacing Criteria (0/90/45): 2.12 / 1.05 / 1.48
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

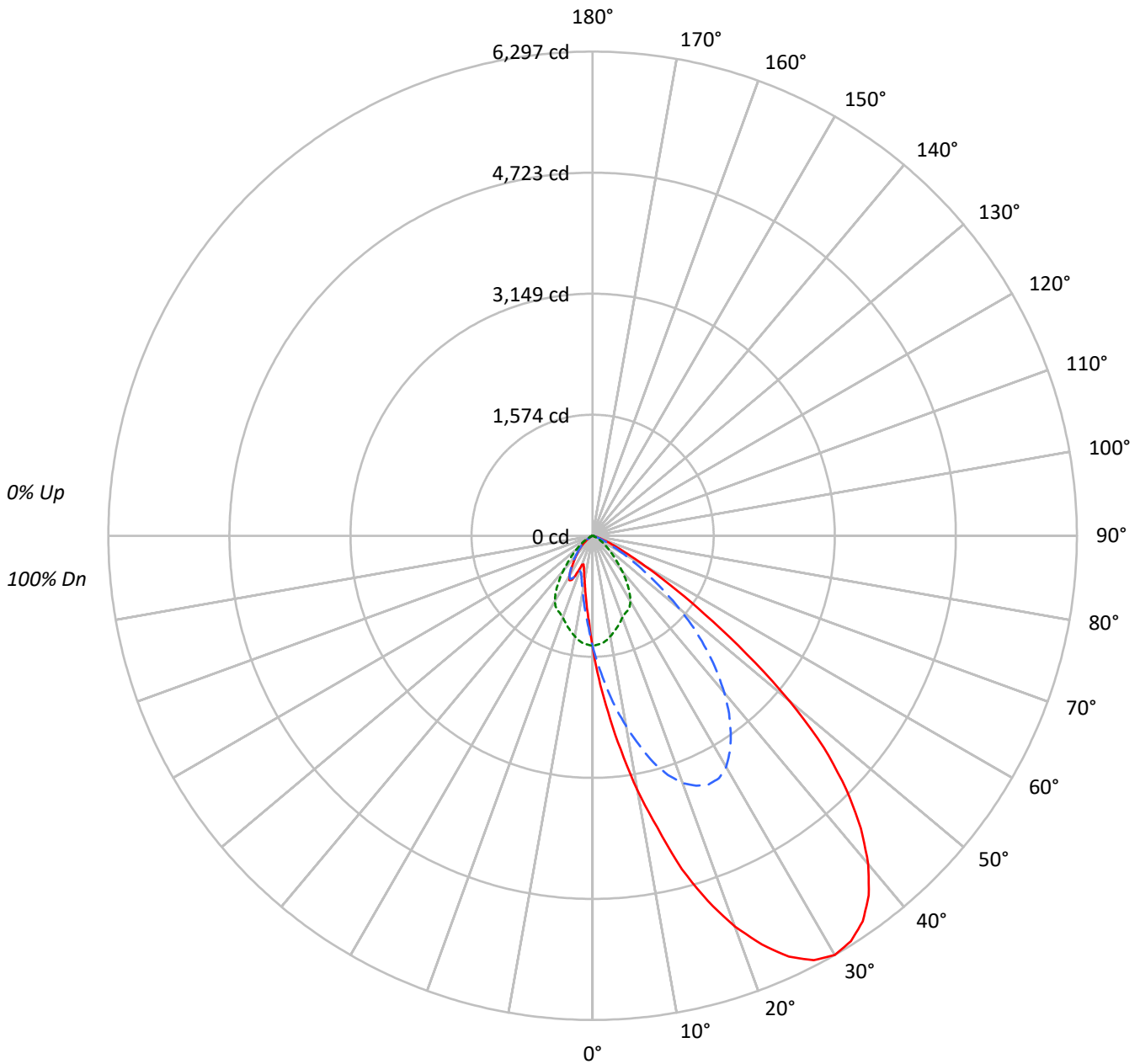
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	102	100	97	98	96	94	95	93	92	90																			
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79																			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70																			
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62																			
5	83	72	64	59	81	71	64	58	69	63	58	67	61	57	65	60	57	55																			
6	77	65	58	52	75	64	57	52	63	56	51	61	55	51	60	55	51	49																			
7	72	60	52	46	70	59	51	46	57	51	46	56	50	46	55	49	45	44																			
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	39																			
9	62	50	43	38	61	50	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	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	78744	78744	78744
5°	126535	77190	49235
10°	187115	73935	33049
15°	254979	69938	24546
20°	315360	65998	23271
25°	365356	64976	38198
30°	398625	62250	38227
35°	409690	53799	29901
40°	398962	42344	23286
45°	361751	31321	18351
50°	285023	23146	12443
55°	169944	16477	7120
60°	86901	10964	2686
65°	41548	5824	1193
70°	19619	2613	1138
75°	7985	1737	1292
80°	3852	1926	1294
85°	1950	3208	1950



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.4	3.3
10°-20°	520.9	11.7
20°-30°	980.5	22.0
30°-40°	1194.0	26.8
40°-50°	993.9	22.3
50°-60°	476.0	10.7
60°-70°	114.3	2.6
70°-80°	18.0	0.4
80°-90°	4.2	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°	1648.9	37.1
0°-40°	2842.9	63.9
0°-60°	4312.8	96.9
0°-90°	4449.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4449.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1436	1436	1436	1436	1436	
5°	2299	1950	1403	1020	895	252
15°	4493	3052	1232	559	432	1288
25°	6040	3567	1074	609	632	2774
35°	6122	3133	804	468	447	3793
45°	4666	2094	404	249	237	3533
55°	1778	864	172	97	74	1675
65°	320	187	45	14	9	367
75°	38	19	8	7	6	51
85°	3	3	5	4	3	4
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°	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4
2.5°	1857.7	1792.4	1812.8	1808.7	1804.6	1783.2	1767.9	1754.6	1721.0	1721.0	1678.1
5°	2299.4	2222.9	2242.3	2228.0	2209.6	2177.0	2147.4	2113.7	2051.5	2025.0	1950.5
7.5°	2804.4	2717.6	2735.0	2706.4	2667.7	2623.8	2575.8	2512.6	2413.6	2353.5	2238.2
10°	3361.4	3237.9	3248.1	3205.3	3141.0	3081.8	3035.9	2915.6	2774.8	2674.8	2513.6
12.5°	3888.8	3780.6	3783.7	3723.5	3630.7	3558.2	3488.9	3329.7	3142.0	2999.2	2787.0
15°	4492.7	4360.1	4328.4	4246.8	4125.4	4036.7	3941.8	3740.8	3505.2	3316.5	3052.3
17.5°	4979.3	4842.6	4822.2	4745.7	4572.3	4465.1	4345.8	4119.3	3820.4	3585.8	3261.4
20°	5405.7	5270.0	5235.3	5136.4	4937.5	4815.0	4671.2	4403.9	4077.5	3788.8	3422.6
22.5°	5754.6	5605.7	5556.7	5434.3	5212.9	5075.2	4899.7	4608.0	4243.8	3921.4	3518.5
25°	6040.2	5870.9	5808.7	5669.9	5421.0	5269.0	5076.2	4749.8	4352.9	3996.9	3567.4
27.5°	6222.8	6053.5	5985.1	5826.0	5546.5	5383.3	5173.1	4820.1	4391.7	4007.1	3557.2
30°	6297.3	6121.8	6044.3	5863.7	5562.8	5390.4	5171.1	4789.5	4341.7	3933.6	3471.5
32.5°	6251.4	6079.0	5992.3	5796.4	5483.2	5297.6	5078.2	4671.2	4210.1	3787.8	3322.6
35°	6121.8	5951.5	5861.7	5652.6	5326.1	5132.3	4914.0	4492.7	4026.5	3595.0	3132.8
37.5°	5898.4	5737.3	5634.2	5427.1	5098.6	4900.7	4684.5	4259.1	3782.7	3376.7	2913.5
40°	5575.0	5422.0	5320.0	5098.6	4788.5	4588.6	4384.5	3953.0	3504.2	3108.4	2661.5
42.5°	5162.9	5022.1	4924.2	4709.0	4413.1	4216.2	4029.5	3615.4	3187.9	2811.5	2389.2
45°	4666.1	4543.7	4447.8	4269.3	3977.5	3790.8	3622.5	3247.1	2831.9	2486.1	2094.3
47.5°	4081.6	3980.6	3887.7	3725.5	3462.3	3285.9	3147.1	2803.3	2451.4	2126.0	1792.4
50°	3342.0	3269.5	3197.1	3028.8	2843.1	2689.1	2588.1	2282.0	1997.4	1742.4	1465.9
52.5°	2519.7	2475.9	2424.9	2304.5	2180.0	2090.3	2000.5	1767.9	1554.7	1364.9	1149.7
55°	1778.1	1755.7	1715.9	1666.9	1572.0	1510.8	1433.3	1315.0	1149.7	1022.2	864.1
57.5°	1201.7	1195.6	1168.1	1138.5	1086.4	1066.0	1000.8	924.2	831.4	736.5	624.3
60°	792.6	779.4	773.3	756.9	717.2	700.8	677.4	628.4	571.3	505.0	435.6
62.5°	510.1	502.9	497.8	490.7	466.2	466.2	442.7	420.3	377.5	336.6	291.8
65°	320.3	314.2	313.2	308.1	298.9	294.8	277.5	261.2	240.8	218.3	186.7
67.5°	206.1	196.9	191.8	188.7	182.6	175.5	169.3	162.2	145.9	132.6	112.2
70°	122.4	114.3	113.2	114.3	107.1	106.1	100.0	94.9	83.7	75.5	63.2
72.5°	69.4	65.3	64.3	64.3	60.2	59.2	55.1	52.0	45.9	39.8	34.7
75°	37.7	34.7	34.7	34.7	32.6	31.6	29.6	28.6	24.5	22.4	19.4
77.5°	21.4	20.4	20.4	19.4	18.4	17.3	16.3	16.3	14.3	13.3	12.2
80°	12.2	12.2	12.2	12.2	11.2	11.2	10.2	10.2	9.2	9.2	8.2
82.5°	7.1	7.1	7.1	7.1	7.1	7.1	6.1	6.1	6.1	6.1	5.1
85°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
87.5°	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	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°	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4
2.5°	1658.7	1628.1	1626.1	1581.2	1552.6	1529.2	1511.8	1490.4	1442.5	1416.0	1396.6
5°	1898.5	1835.2	1802.6	1721.0	1676.1	1636.3	1587.3	1536.3	1457.8	1402.7	1357.8
7.5°	2147.4	2042.3	1972.9	1851.5	1790.3	1728.1	1645.5	1562.9	1455.7	1373.1	1304.8
10°	2379.0	2230.0	2119.8	1956.6	1877.1	1795.4	1679.1	1568.0	1434.3	1328.2	1238.4
12.5°	2606.5	2410.6	2258.6	2051.5	1954.6	1853.6	1704.6	1564.9	1407.8	1280.3	1175.2
15°	2823.7	2577.9	2384.1	2134.1	2020.9	1899.5	1721.0	1555.7	1377.2	1232.3	1113.0
17.5°	2997.2	2705.4	2472.8	2185.1	2057.6	1919.9	1714.9	1529.2	1335.4	1181.3	1050.7
20°	3116.5	2787.0	2521.8	2205.5	2065.8	1917.9	1691.4	1492.5	1291.5	1131.3	998.7
22.5°	3180.8	2823.7	2535.0	2199.4	2053.5	1898.5	1662.8	1458.8	1256.8	1096.6	970.2
25°	3204.3	2826.8	2520.8	2172.9	2026.0	1867.9	1629.2	1427.2	1229.3	1074.2	955.9
27.5°	3176.7	2784.0	2468.7	2117.8	1968.9	1812.8	1575.1	1382.3	1188.5	1041.6	930.4
30°	3082.9	2684.0	2366.7	2019.9	1874.0	1724.0	1489.4	1299.7	1122.2	983.4	877.3
32.5°	2933.9	2537.1	2222.9	1885.2	1744.4	1600.6	1376.2	1195.6	1030.3	899.8	804.9
35°	2749.3	2361.6	2055.6	1728.1	1595.5	1459.8	1246.6	1076.2	921.2	803.9	711.0
37.5°	2540.1	2166.8	1870.9	1570.0	1435.3	1307.8	1100.7	954.8	805.9	698.8	614.1
40°	2305.5	1943.4	1674.0	1381.3	1262.9	1146.6	954.8	822.2	686.6	591.7	518.2
42.5°	2054.6	1716.9	1468.0	1204.8	1086.4	980.4	807.9	688.6	568.2	489.7	431.5
45°	1788.3	1490.4	1251.7	1016.1	908.9	817.1	660.0	551.9	464.2	404.0	360.1
47.5°	1509.8	1246.6	1034.4	829.4	734.5	654.9	528.4	445.8	376.4	332.6	298.9
50°	1229.3	994.6	826.3	651.9	570.3	507.0	413.2	356.0	305.0	271.4	245.9
52.5°	961.0	769.2	632.5	491.7	429.5	385.6	322.4	282.6	243.8	218.3	198.9
55°	710.0	579.4	462.1	357.0	320.3	292.8	247.9	219.3	191.8	172.4	158.1
57.5°	513.1	415.2	329.5	262.2	237.7	219.3	186.7	167.3	147.9	133.6	122.4
60°	360.1	286.7	232.6	191.8	174.4	162.2	138.7	126.5	112.2	100.0	88.8
62.5°	236.7	192.8	162.2	135.7	125.5	116.3	100.0	90.8	78.6	70.4	60.2
65°	154.0	126.5	108.1	90.8	82.6	78.6	67.3	60.2	52.0	44.9	38.8
67.5°	93.9	78.6	68.3	57.1	53.0	49.0	41.8	36.7	31.6	26.5	23.5
70°	52.0	45.9	39.8	33.7	30.6	28.6	24.5	22.4	18.4	16.3	13.3
72.5°	30.6	26.5	23.5	19.4	18.4	17.3	14.3	13.3	11.2	10.2	9.2
75°	18.4	15.3	14.3	12.2	11.2	11.2	10.2	9.2	8.2	8.2	7.1
77.5°	11.2	10.2	9.2	8.2	8.2	8.2	7.1	7.1	7.1	6.1	6.1
80°	7.1	7.1	7.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
82.5°	5.1	5.1	5.1	4.1	5.1	4.1	5.1	5.1	5.1	5.1	5.1
85°	3.1	3.1	4.1	4.1	4.1	4.1	4.1	5.1	5.1	5.1	5.1
87.5°	3.1	3.1	4.1	4.1	4.1	4.1	4.1	5.1	5.1	5.1	4.1
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4
2.5°	1374.1	1336.4	1308.8	1288.4	1295.6	1259.9	1248.6	1209.9	1195.6	1195.6	1175.2
5°	1311.9	1251.7	1204.8	1175.2	1173.2	1122.2	1095.6	1046.7	1020.1	1000.8	981.4
7.5°	1237.4	1159.9	1097.7	1062.0	1051.8	991.6	955.9	906.9	867.1	841.6	818.1
10°	1157.9	1065.0	994.6	953.8	938.5	873.2	826.3	781.4	738.6	712.1	687.6
12.5°	1081.3	980.4	902.8	861.0	841.6	774.3	726.3	679.4	638.6	611.1	586.6
15°	1011.0	903.8	822.2	780.4	759.0	692.7	644.7	598.8	559.0	533.5	511.1
17.5°	944.6	835.5	753.9	713.1	689.6	628.4	582.5	537.6	501.9	478.4	458.0
20°	894.7	786.5	711.0	675.3	651.9	594.7	555.0	516.2	486.6	469.3	449.9
22.5°	873.2	773.3	709.0	676.4	660.0	614.1	586.6	559.0	539.7	536.6	524.4
25°	870.2	782.4	729.4	701.9	691.7	657.0	640.6	623.3	609.0	613.1	615.1
27.5°	856.9	775.3	731.4	708.0	699.8	671.3	659.0	642.7	632.5	637.6	639.6
30°	811.0	735.5	694.7	675.3	667.2	638.6	628.4	610.0	601.9	602.9	601.9
32.5°	739.6	668.2	630.4	613.1	603.9	578.4	567.2	550.9	538.6	537.6	535.6
35°	652.9	588.6	553.9	538.6	529.5	508.0	497.8	482.5	468.2	467.2	465.2
37.5°	564.1	507.0	477.4	464.2	456.0	438.7	426.4	416.2	407.0	403.0	401.9
40°	478.4	427.4	406.0	395.8	389.7	371.3	365.2	355.0	347.9	343.8	342.8
42.5°	397.9	362.1	344.8	335.6	330.5	317.3	310.1	302.0	294.8	290.7	289.7
45°	337.7	308.1	291.8	284.6	280.5	268.3	263.2	255.0	248.9	245.9	244.8
47.5°	281.6	258.1	246.9	238.7	237.7	227.5	220.3	214.2	208.1	205.0	204.0
50°	230.6	211.2	202.0	196.9	195.9	185.7	180.6	175.5	170.4	167.3	165.3
52.5°	189.7	171.4	165.3	158.1	157.1	147.9	143.8	138.7	133.6	129.6	126.5
55°	150.0	135.7	129.6	123.4	122.4	112.2	108.1	102.0	96.9	92.8	88.8
57.5°	114.3	103.0	96.9	90.8	89.8	82.6	75.5	70.4	65.3	60.2	57.1
60°	83.7	72.4	65.3	62.2	59.2	52.0	46.9	42.8	38.8	35.7	32.6
62.5°	55.1	46.9	41.8	37.7	35.7	30.6	27.5	24.5	22.4	21.4	20.4
65°	33.7	28.6	24.5	22.4	22.4	19.4	17.3	15.3	14.3	14.3	13.3
67.5°	20.4	17.3	15.3	14.3	13.3	12.2	11.2	11.2	10.2	10.2	9.2
70°	12.2	11.2	10.2	9.2	9.2	9.2	9.2	9.2	8.2	8.2	8.2
72.5°	9.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	7.1	7.1	7.1
75°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.1
77.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
80°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.1	5.1	5.1
82.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
85°	5.1	5.1	5.1	5.1	5.1	5.1	4.1	4.1	4.1	4.1	4.1
87.5°	5.1	4.1	4.1	4.1	4.1	4.1	3.1	3.1	3.1	3.1	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: P179858

CATALOG NUMBER: LDA6A65935D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4	1436.4
2.5°	1165.0	1173.2	1160.9	1152.8	1144.6	1150.7	1122.2	1109.9
5°	963.0	953.8	947.7	940.6	928.3	930.4	905.9	894.7
7.5°	796.7	790.6	775.3	767.1	754.9	754.9	732.5	723.3
10°	665.1	655.9	641.7	634.5	623.3	614.1	602.9	593.7
12.5°	565.2	555.0	542.7	536.6	525.4	518.2	507.0	509.0
15°	490.7	480.5	469.3	463.1	454.0	446.8	437.6	432.5
17.5°	438.7	429.5	420.3	414.2	407.0	400.9	392.8	391.7
20°	434.6	427.4	422.3	418.3	412.1	408.1	404.0	398.9
22.5°	520.3	521.3	522.3	522.3	523.3	523.3	524.4	514.1
25°	614.1	625.3	625.3	628.4	637.6	637.6	635.5	631.5
27.5°	638.6	649.8	646.8	648.8	658.0	660.0	652.9	653.9
30°	597.8	608.0	601.9	602.9	609.0	609.0	599.8	603.9
32.5°	529.5	535.6	527.4	527.4	532.5	531.5	525.4	525.4
35°	457.0	460.1	452.9	456.0	456.0	452.9	446.8	446.8
37.5°	394.8	395.8	388.7	389.7	389.7	386.6	380.5	380.5
40°	335.6	338.7	332.6	334.6	332.6	329.5	326.4	325.4
42.5°	283.6	285.6	280.5	283.6	282.6	282.6	281.6	282.6
45°	238.7	240.8	236.7	238.7	239.7	238.7	235.7	236.7
47.5°	197.9	199.9	199.9	197.9	196.9	191.8	188.7	188.7
50°	160.2	159.1	158.1	155.1	152.0	148.9	145.9	145.9
52.5°	120.4	118.3	117.3	114.3	113.2	110.2	110.2	107.1
55°	82.6	81.6	81.6	78.6	78.6	75.5	74.5	74.5
57.5°	52.0	50.0	51.0	49.0	47.9	44.9	44.9	43.9
60°	29.6	28.6	28.6	27.5	26.5	24.5	24.5	24.5
62.5°	19.4	18.4	18.4	17.3	17.3	16.3	16.3	15.3
65°	12.2	11.2	11.2	10.2	10.2	9.2	9.2	9.2
67.5°	9.2	8.2	8.2	8.2	8.2	8.2	7.1	7.1
70°	8.2	8.2	7.1	7.1	7.1	7.1	7.1	7.1
72.5°	7.1	7.1	7.1	7.1	6.1	6.1	6.1	6.1
75°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
77.5°	6.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
80°	5.1	5.1	5.1	5.1	5.1	5.1	4.1	4.1
82.5°	5.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
85°	4.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
87.5°	2.0	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)