

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: P179855

Luminaire Tested: **LDA6A65840D010TE LARH40FL 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179855
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: LDA6A65840D010TE LARH40FL 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 40° Flood
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5341.2 lumens
Efficiency: N/A
Efficacy: 68.5 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

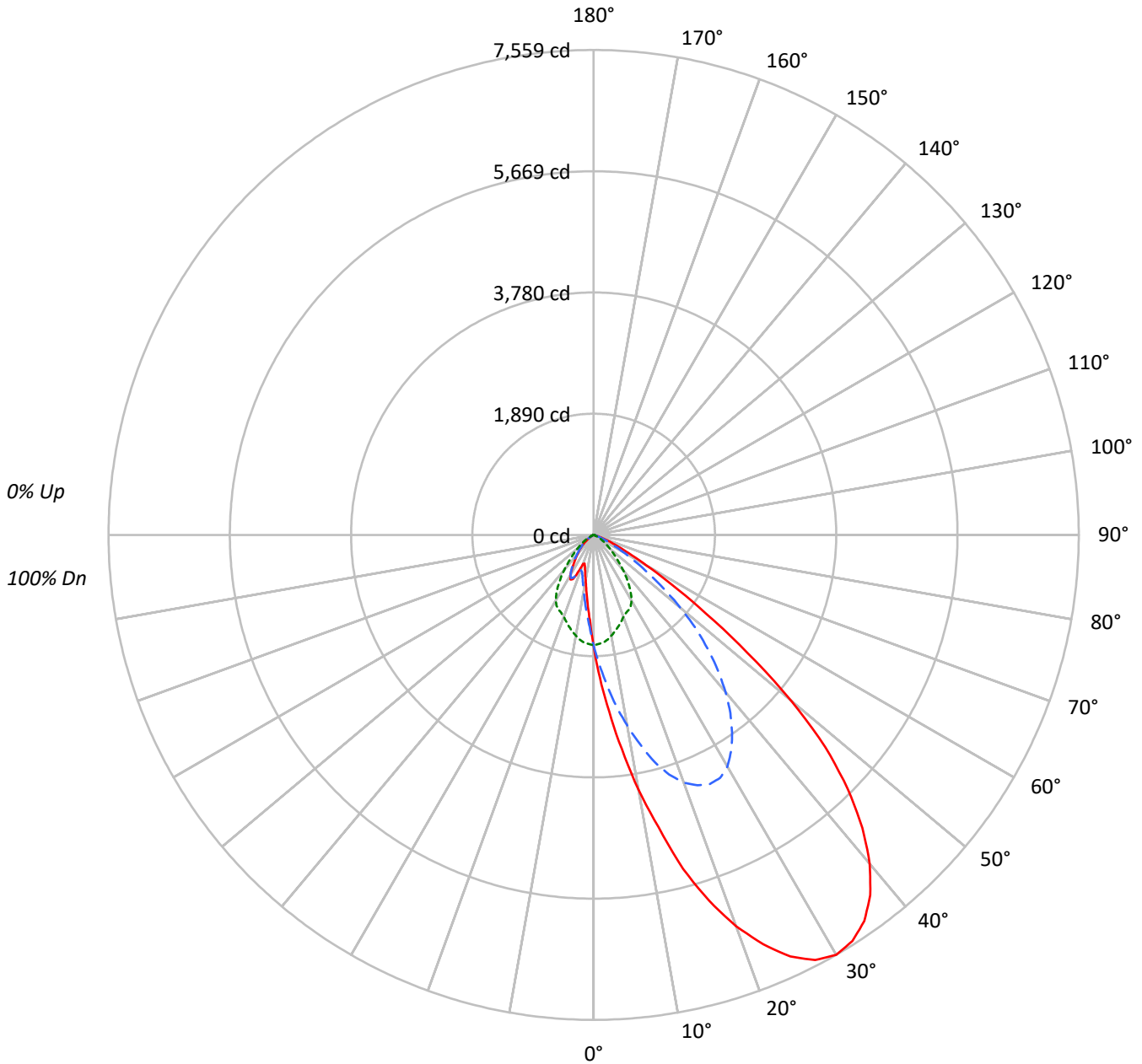
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: LDA6A65840D010TE LARH40FL 6LLWW1

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	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°	94521	94521	94521
5°	151893	92659	59102
10°	224612	88754	39673
15°	306080	83956	29467
20°	378564	79229	27932
25°	438582	77998	45849
30°	478517	74727	45893
35°	491804	64581	35898
40°	478926	50831	27952
45°	434254	37593	22026
50°	342147	27777	14933
55°	204007	19784	8544
60°	104323	13157	3223
65°	49876	6992	1427
70°	23562	3142	1378
75°	9595	2076	1546
80°	4641	2305	1547
85°	2327	3837	2327



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.0	3.3
10°-20°	625.3	11.7
20°-30°	1177.1	22.0
30°-40°	1433.3	26.8
40°-50°	1193.1	22.3
50°-60°	571.4	10.7
60°-70°	137.2	2.6
70°-80°	21.6	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°	1979.4	37.1
0°-40°	3412.7	63.9
0°-60°	5177.2	96.9
0°-90°	5341.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5341.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1724	1724	1724	1724	1724	
5°	2760	2341	1684	1225	1074	302
15°	5393	3664	1479	671	519	1546
25°	7251	4282	1290	731	758	3330
35°	7349	3761	965	562	536	4553
45°	5601	2514	485	299	284	4241
55°	2134	1037	207	116	89	2011
65°	384	224	54	17	11	440
75°	45	23	10	9	7	62
85°	4	4	6	5	4	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°	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2
2.5°	2230.0	2151.6	2176.1	2171.2	2166.3	2140.6	2122.2	2106.3	2065.9	2065.9	2014.5
5°	2760.2	2668.4	2691.7	2674.5	2652.5	2613.3	2577.8	2537.4	2462.7	2430.8	2341.4
7.5°	3366.4	3262.3	3283.1	3248.9	3202.3	3149.7	3092.1	3016.2	2897.4	2825.1	2686.8
10°	4035.0	3886.9	3899.1	3847.7	3770.5	3699.5	3644.4	3499.9	3330.9	3210.9	3017.4
12.5°	4668.2	4538.4	4542.0	4469.8	4358.3	4271.4	4188.1	3997.1	3771.8	3600.3	3345.6
15°	5393.1	5233.9	5196.0	5098.0	4952.3	4845.7	4731.8	4490.6	4207.7	3981.2	3664.0
17.5°	5977.3	5813.2	5788.7	5696.8	5488.6	5360.1	5216.8	4944.9	4586.1	4304.5	3915.0
20°	6489.1	6326.3	6284.6	6165.8	5927.1	5780.1	5607.4	5286.6	4894.7	4548.2	4108.5
22.5°	6908.0	6729.2	6670.4	6523.4	6257.7	6092.4	5881.7	5531.5	5094.3	4707.4	4223.6
25°	7250.8	7047.6	6972.9	6806.3	6507.5	6325.0	6093.6	5701.7	5225.4	4798.0	4282.4
27.5°	7470.0	7266.8	7184.7	6993.7	6658.1	6462.2	6209.9	5786.2	5271.9	4810.2	4270.2
30°	7559.4	7348.8	7255.7	7039.0	6677.7	6470.8	6207.5	5749.5	5211.9	4722.0	4167.3
32.5°	7504.3	7297.4	7193.3	6958.2	6582.2	6359.3	6096.0	5607.4	5053.9	4546.9	3988.5
35°	7348.8	7144.3	7036.5	6785.5	6393.6	6160.9	5898.9	5393.1	4833.5	4315.5	3760.7
37.5°	7080.6	6887.1	6763.5	6514.9	6120.5	5883.0	5623.4	5112.7	4540.8	4053.4	3497.4
40°	6692.4	6508.7	6386.3	6120.5	5748.3	5508.2	5263.3	4745.3	4206.5	3731.3	3195.0
42.5°	6197.7	6028.7	5911.1	5652.7	5297.6	5061.3	4837.2	4340.0	3826.9	3375.0	2868.0
45°	5601.3	5454.4	5339.2	5124.9	4774.7	4550.6	4348.5	3897.9	3399.5	2984.3	2514.1
47.5°	4899.6	4778.4	4666.9	4472.2	4156.3	3944.4	3777.9	3365.2	2942.7	2552.1	2151.6
50°	4011.8	3924.8	3837.9	3635.8	3413.0	3228.0	3106.8	2739.4	2397.8	2091.6	1759.7
52.5°	3024.8	2972.1	2910.9	2766.4	2617.0	2509.2	2401.4	2122.2	1866.3	1638.5	1380.1
55°	2134.5	2107.5	2059.8	2001.0	1887.1	1813.6	1720.6	1578.5	1380.1	1227.0	1037.2
57.5°	1442.6	1435.2	1402.2	1366.7	1304.2	1279.7	1201.3	1109.5	998.0	884.2	749.5
60°	951.5	935.6	928.2	908.7	860.9	841.3	813.1	754.4	685.8	606.2	522.9
62.5°	612.3	603.7	597.6	589.0	559.6	559.6	531.5	504.5	453.1	404.1	350.2
65°	384.5	377.2	376.0	369.8	358.8	353.9	333.1	313.5	289.0	262.1	224.1
67.5°	247.4	236.3	230.2	226.6	219.2	210.6	203.3	194.7	175.1	159.2	134.7
70°	147.0	137.2	135.9	137.2	128.6	127.4	120.0	113.9	100.4	90.6	75.9
72.5°	83.3	78.4	77.1	77.1	72.3	71.0	66.1	62.5	55.1	47.8	41.6
75°	45.3	41.6	41.6	41.6	39.2	38.0	35.5	34.3	29.4	26.9	23.3
77.5°	25.7	24.5	24.5	23.3	22.0	20.8	19.6	19.6	17.1	15.9	14.7
80°	14.7	14.7	14.7	14.7	13.5	13.5	12.2	12.2	11.0	11.0	9.8
82.5°	8.6	8.6	8.6	8.6	8.6	8.6	7.3	7.3	7.3	7.3	6.1
85°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
87.5°	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.4	2.4	2.4	3.7
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°	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2
2.5°	1991.2	1954.5	1952.0	1898.1	1863.8	1835.7	1814.9	1789.1	1731.6	1699.7	1676.5
5°	2279.0	2203.1	2163.9	2065.9	2012.0	1964.3	1905.5	1844.2	1749.9	1683.8	1629.9
7.5°	2577.8	2451.6	2368.4	2222.6	2149.2	2074.5	1975.3	1876.1	1747.5	1648.3	1566.3
10°	2855.8	2677.0	2544.7	2348.8	2253.3	2155.3	2015.7	1882.2	1721.8	1594.4	1486.7
12.5°	3128.8	2893.7	2711.3	2462.7	2346.3	2225.1	2046.3	1878.5	1689.9	1536.9	1410.7
15°	3389.7	3094.6	2861.9	2561.9	2425.9	2280.2	2065.9	1867.5	1653.2	1479.3	1336.0
17.5°	3597.9	3247.6	2968.4	2623.1	2470.0	2304.7	2058.5	1835.7	1603.0	1418.1	1261.3
20°	3741.1	3345.6	3027.2	2647.6	2479.8	2302.2	2030.4	1791.6	1550.3	1358.1	1198.9
22.5°	3818.3	3389.7	3043.1	2640.2	2465.1	2279.0	1996.1	1751.2	1508.7	1316.4	1164.6
25°	3846.5	3393.4	3026.0	2608.4	2432.1	2242.2	1955.7	1713.2	1475.6	1289.5	1147.4
27.5°	3813.4	3341.9	2963.5	2542.3	2363.5	2176.1	1890.8	1659.3	1426.7	1250.3	1116.8
30°	3700.7	3221.9	2841.1	2424.7	2249.6	2069.6	1787.9	1560.1	1347.1	1180.5	1053.2
32.5°	3521.9	3045.6	2668.4	2263.1	2094.1	1921.4	1652.0	1435.2	1236.8	1080.1	966.2
35°	3300.3	2834.9	2467.6	2074.5	1915.3	1752.4	1496.5	1292.0	1105.8	965.0	853.5
37.5°	3049.2	2601.0	2245.9	1884.7	1723.0	1569.9	1321.3	1146.2	967.4	838.8	737.2
40°	2767.6	2332.9	2009.6	1658.1	1516.1	1376.4	1146.2	987.0	824.2	710.3	622.1
42.5°	2466.3	2061.0	1762.2	1446.2	1304.2	1176.8	969.9	826.6	682.1	587.8	518.0
45°	2146.7	1789.1	1502.6	1219.7	1091.1	980.9	792.3	662.5	557.2	484.9	432.3
47.5°	1812.4	1496.5	1241.7	995.6	881.7	786.2	634.3	535.1	451.9	399.2	358.8
50°	1475.6	1194.0	991.9	782.5	684.5	608.6	496.0	427.4	366.2	325.7	295.1
52.5°	1153.6	923.3	759.3	590.3	515.6	462.9	387.0	339.2	292.7	262.1	238.8
55°	852.3	695.6	554.7	428.6	384.5	351.5	297.6	263.3	230.2	207.0	189.8
57.5°	616.0	498.4	395.5	314.7	285.3	263.3	224.1	200.8	177.6	160.4	147.0
60°	432.3	344.1	279.2	230.2	209.4	194.7	166.5	151.9	134.7	120.0	106.5
62.5°	284.1	231.4	194.7	162.9	150.6	139.6	120.0	109.0	94.3	84.5	72.3
65°	184.9	151.9	129.8	109.0	99.2	94.3	80.8	72.3	62.5	53.9	46.5
67.5°	112.7	94.3	82.0	68.6	63.7	58.8	50.2	44.1	38.0	31.8	28.2
70°	62.5	55.1	47.8	40.4	36.7	34.3	29.4	26.9	22.0	19.6	15.9
72.5°	36.7	31.8	28.2	23.3	22.0	20.8	17.1	15.9	13.5	12.2	11.0
75°	22.0	18.4	17.1	14.7	13.5	13.5	12.2	11.0	9.8	9.8	8.6
77.5°	13.5	12.2	11.0	9.8	9.8	9.8	8.6	8.6	8.6	7.3	7.3
80°	8.6	8.6	8.6	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
82.5°	6.1	6.1	6.1	4.9	6.1	4.9	6.1	6.1	6.1	6.1	6.1
85°	3.7	3.7	4.9	4.9	4.9	4.9	4.9	6.1	6.1	6.1	6.1
87.5°	3.7	3.7	4.9	4.9	4.9	4.9	4.9	6.1	6.1	6.1	4.9
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°	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2
2.5°	1649.5	1604.2	1571.2	1546.7	1555.2	1512.4	1498.9	1452.4	1435.2	1435.2	1410.7
5°	1574.8	1502.6	1446.2	1410.7	1408.3	1347.1	1315.2	1256.4	1224.6	1201.3	1178.1
7.5°	1485.4	1392.4	1317.7	1274.8	1262.6	1190.3	1147.4	1088.7	1040.9	1010.3	982.1
10°	1389.9	1278.5	1194.0	1145.0	1126.6	1048.3	991.9	938.0	886.6	854.8	825.4
12.5°	1298.1	1176.8	1083.8	1033.6	1010.3	929.5	871.9	815.6	766.6	733.5	704.1
15°	1213.6	1085.0	987.0	936.8	911.1	831.5	773.9	718.8	671.1	640.5	613.5
17.5°	1134.0	1002.9	905.0	856.0	827.8	754.4	699.2	645.4	602.5	574.3	549.8
20°	1074.0	944.2	853.5	810.7	782.5	713.9	666.2	619.6	584.1	563.3	540.0
22.5°	1048.3	928.2	851.1	811.9	792.3	737.2	704.1	671.1	647.8	644.1	629.4
25°	1044.6	939.3	875.6	842.5	830.3	788.6	769.0	748.2	731.1	736.0	738.4
27.5°	1028.7	930.7	878.0	849.9	840.1	805.8	791.1	771.5	759.3	765.4	767.8
30°	973.6	882.9	834.0	810.7	800.9	766.6	754.4	732.3	722.5	723.7	722.5
32.5°	887.8	802.1	756.8	736.0	725.0	694.3	680.9	661.3	646.6	645.4	642.9
35°	783.7	706.6	665.0	646.6	635.6	609.8	597.6	579.2	562.1	560.9	558.4
37.5°	677.2	608.6	573.1	557.2	547.4	526.6	511.9	499.6	488.6	483.7	482.5
40°	574.3	513.1	487.4	475.1	467.8	445.8	438.4	426.2	417.6	412.7	411.5
42.5°	477.6	434.7	413.9	402.9	396.8	380.8	372.3	362.5	353.9	349.0	347.8
45°	405.3	369.8	350.2	341.7	336.8	322.1	315.9	306.1	298.8	295.1	293.9
47.5°	338.0	309.8	296.4	286.6	285.3	273.1	264.5	257.2	249.8	246.1	244.9
50°	276.8	253.5	242.5	236.3	235.1	222.9	216.8	210.6	204.5	200.8	198.4
52.5°	227.8	205.7	198.4	189.8	188.6	177.6	172.7	166.5	160.4	155.5	151.9
55°	180.0	162.9	155.5	148.2	147.0	134.7	129.8	122.5	116.3	111.4	106.5
57.5°	137.2	123.7	116.3	109.0	107.8	99.2	90.6	84.5	78.4	72.3	68.6
60°	100.4	86.9	78.4	74.7	71.0	62.5	56.3	51.4	46.5	42.9	39.2
62.5°	66.1	56.3	50.2	45.3	42.9	36.7	33.1	29.4	26.9	25.7	24.5
65°	40.4	34.3	29.4	26.9	26.9	23.3	20.8	18.4	17.1	17.1	15.9
67.5°	24.5	20.8	18.4	17.1	15.9	14.7	13.5	13.5	12.2	12.2	11.0
70°	14.7	13.5	12.2	11.0	11.0	11.0	11.0	11.0	9.8	9.8	9.8
72.5°	11.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8	8.6	8.6	8.6
75°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	7.3
77.5°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
80°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.1	6.1	6.1
82.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
85°	6.1	6.1	6.1	6.1	6.1	6.1	4.9	4.9	4.9	4.9	4.9
87.5°	6.1	4.9	4.9	4.9	4.9	4.9	3.7	3.7	3.7	3.7	2.4
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: P179855

CATALOG NUMBER: LDA6A65840D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2	1724.2
2.5°	1398.5	1408.3	1393.6	1383.8	1374.0	1381.3	1347.1	1332.4
5°	1156.0	1145.0	1137.7	1129.1	1114.4	1116.8	1087.4	1074.0
7.5°	956.4	949.1	930.7	920.9	906.2	906.2	879.3	868.2
10°	798.4	787.4	770.3	761.7	748.2	737.2	723.7	712.7
12.5°	678.4	666.2	651.5	644.1	630.7	622.1	608.6	611.1
15°	589.0	576.8	563.3	556.0	544.9	536.4	525.4	519.2
17.5°	526.6	515.6	504.5	497.2	488.6	481.3	471.5	470.2
20°	521.7	513.1	507.0	502.1	494.7	489.8	484.9	478.8
22.5°	624.5	625.8	627.0	627.0	628.2	628.2	629.4	617.2
25°	737.2	750.7	750.7	754.4	765.4	765.4	762.9	758.0
27.5°	766.6	780.1	776.4	778.8	789.9	792.3	783.7	785.0
30°	717.6	729.9	722.5	723.7	731.1	731.1	720.1	725.0
32.5°	635.6	642.9	633.1	633.1	639.2	638.0	630.7	630.7
35°	548.6	552.3	543.7	547.4	547.4	543.7	536.4	536.4
37.5°	473.9	475.1	466.6	467.8	467.8	464.1	456.8	456.8
40°	402.9	406.6	399.2	401.7	399.2	395.5	391.9	390.6
42.5°	340.4	342.9	336.8	340.4	339.2	339.2	338.0	339.2
45°	286.6	289.0	284.1	286.6	287.8	286.6	282.9	284.1
47.5°	237.6	240.0	240.0	237.6	236.3	230.2	226.6	226.6
50°	192.3	191.0	189.8	186.1	182.5	178.8	175.1	175.1
52.5°	144.5	142.1	140.8	137.2	135.9	132.3	132.3	128.6
55°	99.2	98.0	98.0	94.3	94.3	90.6	89.4	89.4
57.5°	62.5	60.0	61.2	58.8	57.6	53.9	53.9	52.7
60°	35.5	34.3	34.3	33.1	31.8	29.4	29.4	29.4
62.5°	23.3	22.0	22.0	20.8	20.8	19.6	19.6	18.4
65°	14.7	13.5	13.5	12.2	12.2	11.0	11.0	11.0
67.5°	11.0	9.8	9.8	9.8	9.8	9.8	8.6	8.6
70°	9.8	9.8	8.6	8.6	8.6	8.6	8.6	8.6
72.5°	8.6	8.6	8.6	8.6	7.3	7.3	7.3	7.3
75°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
77.5°	7.3	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	4.9	4.9
82.5°	6.1	4.9	4.9	4.9	4.9	4.9	4.9	4.9
85°	4.9	3.7	3.7	3.7	3.7	3.7	3.7	3.7
87.5°	2.4	2.4	2.4	2.4	1.2	1.2	1.2	1.2
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)