

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: P179854

Luminaire Tested: **LDA6A65835D010TE LARH40FL 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179854
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: LDA6A65835D010TE 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: 5204.4 lumens
Efficiency: N/A
Efficacy: 66.7 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

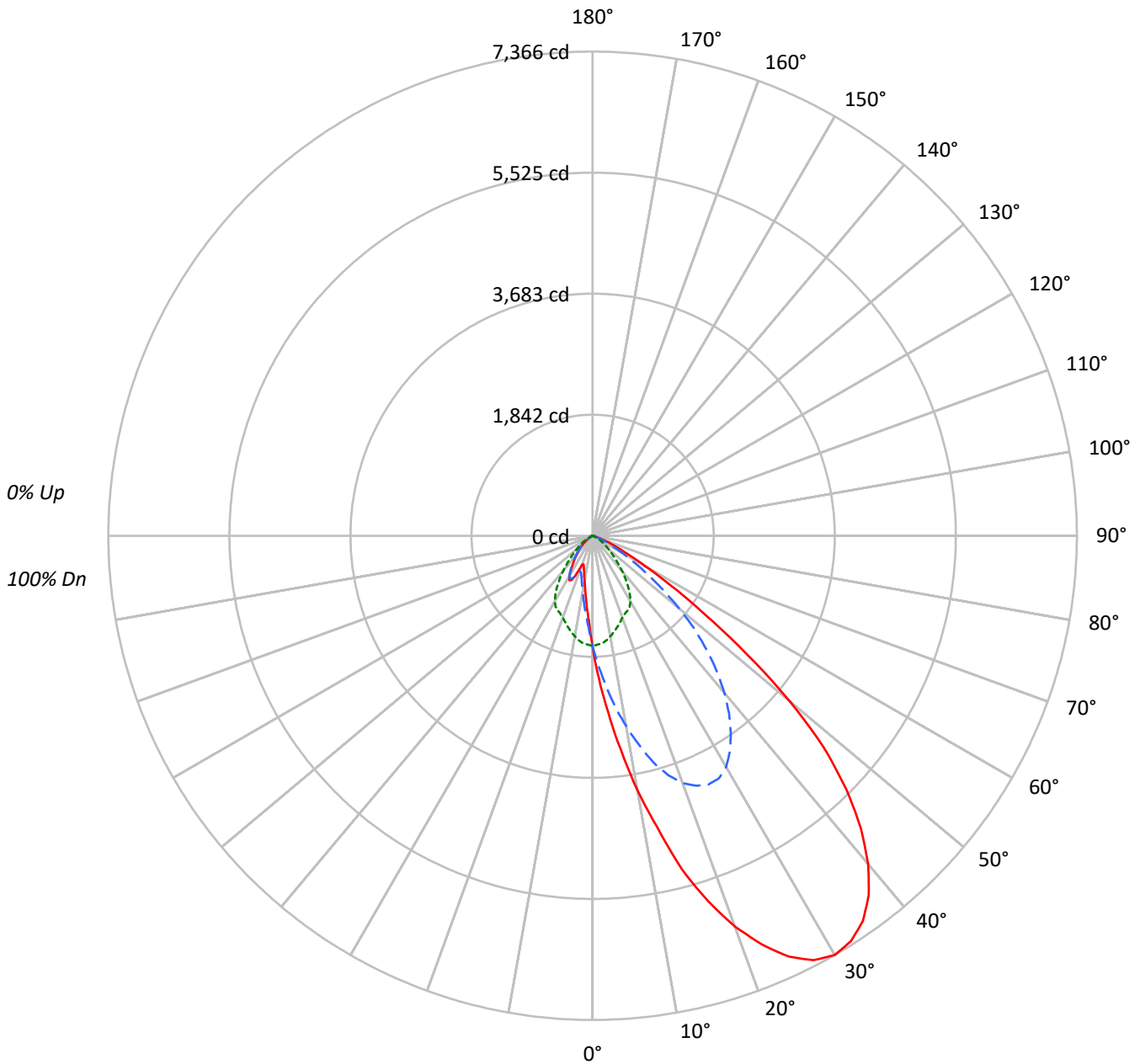
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	92103	92103	92103
5°	148002	90287	57588
10°	218861	86482	38660
15°	298242	81805	28712
20°	368868	77199	27221
25°	427349	76002	44676
30°	466262	72815	44716
35°	479203	62928	34974
40°	466660	49529	27237
45°	423129	36632	21460
50°	333379	27069	14550
55°	198779	19278	8325
60°	101648	12817	3136
65°	48604	6810	1388
70°	22953	3061	1346
75°	9341	2012	1525
80°	4514	2273	1515
85°	2264	3774	2264



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.5	3.3
10°-20°	609.3	11.7
20°-30°	1146.9	22.0
30°-40°	1396.6	26.8
40°-50°	1162.5	22.3
50°-60°	556.8	10.7
60°-70°	133.7	2.6
70°-80°	21.1	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°	1928.7	37.1
0°-40°	3325.3	63.9
0°-60°	5044.6	96.9
0°-90°	5204.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5204.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1680	1680	1680	1680	1680	
5°	2690	2281	1641	1193	1046	295
15°	5255	3570	1441	654	506	1506
25°	7065	4173	1256	712	739	3245
35°	7160	3664	940	548	523	4437
45°	5458	2450	472	291	277	4133
55°	2080	1011	202	113	87	1959
65°	375	218	52	17	11	429
75°	44	23	10	8	7	60
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°	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1
2.5°	2172.9	2096.5	2120.4	2115.6	2110.8	2085.8	2067.9	2052.3	2013.0	2013.0	1962.9
5°	2689.5	2600.0	2622.7	2606.0	2584.5	2546.3	2511.7	2472.4	2399.6	2368.6	2281.4
7.5°	3280.2	3178.8	3199.0	3165.6	3120.3	3069.0	3012.9	2938.9	2823.2	2752.8	2617.9
10°	3931.7	3787.3	3799.2	3749.1	3673.9	3604.7	3551.0	3410.2	3245.6	3128.6	2940.1
12.5°	4548.6	4422.1	4425.7	4355.3	4246.7	4162.0	4080.8	3894.7	3675.1	3508.1	3259.9
15°	5255.0	5099.8	5062.9	4967.4	4825.4	4721.6	4610.6	4375.6	4099.9	3879.2	3570.1
17.5°	5824.1	5664.2	5640.4	5550.9	5348.0	5222.7	5083.1	4818.2	4468.6	4194.2	3814.7
20°	6322.9	6164.2	6123.6	6007.9	5775.2	5632.0	5463.8	5151.2	4769.3	4431.6	4003.3
22.5°	6731.0	6556.8	6499.5	6356.3	6097.4	5936.3	5731.1	5389.8	4963.8	4586.8	4115.4
25°	7065.1	6867.0	6794.2	6631.9	6340.8	6163.0	5937.5	5555.7	5091.5	4675.1	4172.7
27.5°	7278.7	7080.6	7000.7	6814.5	6487.6	6296.6	6050.8	5638.0	5136.8	4687.0	4160.8
30°	7365.8	7160.5	7069.9	6858.7	6506.7	6305.0	6048.5	5602.2	5078.4	4601.1	4060.5
32.5°	7312.1	7110.4	7009.0	6779.9	6413.6	6196.4	5939.9	5463.8	4924.4	4430.4	3886.3
35°	7160.5	6961.3	6856.3	6611.7	6229.8	6003.1	5747.8	5255.0	4709.7	4204.9	3664.4
37.5°	6899.2	6710.7	6590.2	6348.0	5963.7	5732.3	5479.3	4981.7	4424.5	3949.6	3407.9
40°	6521.0	6342.0	6222.7	5963.7	5601.0	5367.1	5128.5	4623.7	4098.7	3635.8	3113.1
42.5°	6038.9	5874.2	5759.7	5507.9	5161.9	4931.6	4713.2	4228.8	3728.8	3288.5	2794.5
45°	5457.8	5314.6	5202.5	4993.6	4652.4	4434.0	4237.1	3798.0	3312.4	2907.9	2449.7
47.5°	4774.1	4656.0	4547.4	4357.7	4049.8	3843.4	3681.1	3279.0	2867.3	2486.7	2096.5
50°	3909.0	3824.3	3739.6	3542.7	3325.5	3145.3	3027.2	2669.2	2336.3	2038.0	1714.7
52.5°	2947.3	2896.0	2836.3	2695.5	2549.9	2444.9	2339.9	2067.9	1818.5	1596.5	1344.8
55°	2079.8	2053.5	2007.0	1949.7	1838.8	1767.2	1676.5	1538.1	1344.8	1195.6	1010.7
57.5°	1405.6	1398.5	1366.2	1331.6	1270.8	1246.9	1170.6	1081.1	972.5	861.5	730.3
60°	927.1	911.6	904.5	885.4	838.8	819.7	792.3	735.0	668.2	590.6	509.5
62.5°	596.6	588.3	582.3	573.9	545.3	545.3	517.9	491.6	441.5	393.8	341.3
65°	374.7	367.5	366.3	360.4	349.6	344.8	324.6	305.5	281.6	255.4	218.4
67.5°	241.0	230.3	224.3	220.7	213.6	205.2	198.1	189.7	170.6	155.1	131.3
70°	143.2	133.6	132.4	133.6	125.3	124.1	116.9	111.0	97.8	88.3	74.0
72.5°	81.1	76.4	75.2	75.2	70.4	69.2	64.4	60.9	53.7	46.5	40.6
75°	44.1	40.6	40.6	40.6	38.2	37.0	34.6	33.4	28.6	26.3	22.7
77.5°	25.1	23.9	23.9	22.7	21.5	20.3	19.1	19.1	16.7	15.5	14.3
80°	14.3	14.3	14.3	14.3	13.1	13.1	11.9	11.9	10.7	10.7	9.5
82.5°	8.4	8.4	8.4	8.4	8.4	8.4	7.2	7.2	7.2	7.2	6.0
85°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	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°	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1
2.5°	1940.2	1904.4	1902.0	1849.5	1816.1	1788.6	1768.4	1743.3	1687.2	1656.2	1633.5
5°	2220.6	2146.6	2108.4	2013.0	1960.5	1913.9	1856.7	1797.0	1705.1	1640.7	1588.2
7.5°	2511.7	2388.8	2307.7	2165.7	2094.1	2021.3	1924.7	1828.0	1702.7	1606.1	1526.1
10°	2782.6	2608.4	2479.5	2288.6	2195.5	2100.1	1964.0	1834.0	1677.7	1553.6	1448.6
12.5°	3048.7	2819.6	2641.8	2399.6	2286.2	2168.1	1993.9	1830.4	1646.7	1497.5	1374.6
15°	3302.8	3015.3	2788.6	2496.2	2363.8	2221.8	2013.0	1819.7	1610.9	1441.4	1301.8
17.5°	3505.7	3164.4	2892.4	2555.9	2406.7	2245.6	2005.8	1788.6	1561.9	1381.8	1229.0
20°	3645.3	3259.9	2949.7	2579.8	2416.3	2243.3	1978.4	1745.7	1510.6	1323.3	1168.2
22.5°	3720.5	3302.8	2965.2	2572.6	2402.0	2220.6	1945.0	1706.3	1470.1	1282.7	1134.8
25°	3747.9	3306.4	2948.5	2541.6	2369.7	2184.8	1905.6	1669.3	1437.8	1256.5	1118.1
27.5°	3715.7	3256.3	2887.6	2477.1	2302.9	2120.4	1842.3	1616.8	1390.1	1218.3	1088.2
30°	3605.9	3139.4	2768.3	2362.6	2192.0	2016.6	1742.1	1520.2	1312.5	1150.3	1026.2
32.5°	3431.7	2967.6	2600.0	2205.1	2040.4	1872.2	1609.7	1398.5	1205.2	1052.4	941.5
35°	3215.7	2762.3	2404.3	2021.3	1866.2	1707.5	1458.1	1258.9	1077.5	940.3	831.7
37.5°	2971.1	2534.4	2188.4	1836.4	1678.9	1529.7	1287.5	1116.9	942.6	817.4	718.3
40°	2696.7	2273.1	1958.1	1615.6	1477.2	1341.2	1116.9	961.7	803.0	692.1	606.2
42.5°	2403.2	2008.2	1717.1	1409.2	1270.8	1146.7	945.0	805.4	664.6	572.7	504.7
45°	2091.7	1743.3	1464.1	1188.5	1063.2	955.8	772.0	645.5	542.9	472.5	421.2
47.5°	1766.0	1458.1	1209.9	970.1	859.1	766.1	618.1	521.4	440.3	389.0	349.6
50°	1437.8	1163.4	966.5	762.5	667.0	593.0	483.3	416.4	356.8	317.4	287.6
52.5°	1124.0	899.7	739.8	575.1	502.3	451.0	377.1	330.5	285.2	255.4	232.7
55°	830.5	677.8	540.5	417.6	374.7	342.5	290.0	256.5	224.3	201.7	184.9
57.5°	600.2	485.6	385.4	306.7	278.0	256.5	218.4	195.7	173.0	156.3	143.2
60°	421.2	335.3	272.1	224.3	204.0	189.7	162.3	148.0	131.3	116.9	103.8
62.5°	276.8	225.5	189.7	158.7	146.8	136.0	116.9	106.2	91.9	82.3	70.4
65°	180.2	148.0	126.5	106.2	96.7	91.9	78.8	70.4	60.9	52.5	45.3
67.5°	109.8	91.9	79.9	66.8	62.0	57.3	48.9	43.0	37.0	31.0	27.4
70°	60.9	53.7	46.5	39.4	35.8	33.4	28.6	26.3	21.5	19.1	15.5
72.5°	35.8	31.0	27.4	22.7	21.5	20.3	16.7	15.5	13.1	11.9	10.7
75°	21.5	17.9	16.7	14.3	13.1	13.1	11.9	10.7	9.5	9.5	8.4
77.5°	13.1	11.9	10.7	9.5	9.5	9.5	8.4	8.4	8.4	7.2	7.2
80°	8.4	8.4	8.4	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
82.5°	6.0	6.0	6.0	4.8	6.0	4.8	6.0	6.0	6.0	6.0	6.0
85°	3.6	3.6	4.8	4.8	4.8	4.8	4.8	6.0	6.0	6.0	6.0
87.5°	3.6	3.6	4.8	4.8	4.8	4.8	4.8	6.0	6.0	6.0	4.8
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°	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1
2.5°	1607.3	1563.1	1530.9	1507.0	1515.4	1473.6	1460.5	1415.2	1398.5	1398.5	1374.6
5°	1534.5	1464.1	1409.2	1374.6	1372.2	1312.5	1281.5	1224.2	1193.2	1170.6	1147.9
7.5°	1447.4	1356.7	1283.9	1242.1	1230.2	1159.8	1118.1	1060.8	1014.2	984.4	957.0
10°	1354.3	1245.7	1163.4	1115.7	1097.8	1021.4	966.5	914.0	863.9	832.9	804.2
12.5°	1264.8	1146.7	1056.0	1007.1	984.4	905.7	849.6	794.7	747.0	714.7	686.1
15°	1182.5	1057.2	961.7	912.8	887.8	810.2	754.1	700.4	653.9	624.1	597.8
17.5°	1104.9	977.3	881.8	834.1	806.6	735.0	681.3	628.8	587.1	559.6	535.8
20°	1046.5	920.0	831.7	789.9	762.5	695.7	649.1	603.8	569.2	548.9	526.2
22.5°	1021.4	904.5	829.3	791.1	772.0	718.3	686.1	653.9	631.2	627.6	613.3
25°	1017.8	915.2	853.2	820.9	809.0	768.4	749.3	729.1	712.4	717.1	719.5
27.5°	1002.3	906.9	855.5	828.1	818.6	785.1	770.8	751.7	739.8	745.8	748.2
30°	948.6	860.3	812.6	789.9	780.4	747.0	735.0	713.5	704.0	705.2	704.0
32.5°	865.1	781.6	737.4	717.1	706.4	676.6	663.4	644.3	630.0	628.8	626.4
35°	763.7	688.5	647.9	630.0	619.3	594.2	582.3	564.4	547.7	546.5	544.1
37.5°	659.9	593.0	558.4	542.9	533.4	513.1	498.8	486.8	476.1	471.3	470.1
40°	559.6	500.0	474.9	463.0	455.8	434.3	427.2	415.2	406.9	402.1	400.9
42.5°	465.4	423.6	403.3	392.6	386.6	371.1	362.7	353.2	344.8	340.1	338.9
45°	395.0	360.4	341.3	332.9	328.1	313.8	307.9	298.3	291.1	287.6	286.4
47.5°	329.3	301.9	288.8	279.2	278.0	266.1	257.7	250.6	243.4	239.8	238.6
50°	269.7	247.0	236.3	230.3	229.1	217.2	211.2	205.2	199.3	195.7	193.3
52.5°	221.9	200.5	193.3	184.9	183.8	173.0	168.2	162.3	156.3	151.5	148.0
55°	175.4	158.7	151.5	144.4	143.2	131.3	126.5	119.3	113.4	108.6	103.8
57.5°	133.6	120.5	113.4	106.2	105.0	96.7	88.3	82.3	76.4	70.4	66.8
60°	97.8	84.7	76.4	72.8	69.2	60.9	54.9	50.1	45.3	41.8	38.2
62.5°	64.4	54.9	48.9	44.1	41.8	35.8	32.2	28.6	26.3	25.1	23.9
65°	39.4	33.4	28.6	26.3	26.3	22.7	20.3	17.9	16.7	16.7	15.5
67.5°	23.9	20.3	17.9	16.7	15.5	14.3	13.1	13.1	11.9	11.9	10.7
70°	14.3	13.1	11.9	10.7	10.7	10.7	10.7	10.7	9.5	9.5	9.5
72.5°	10.7	9.5	9.5	9.5	9.5	9.5	9.5	9.5	8.4	8.4	8.4
75°	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	7.2
77.5°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
80°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.0	6.0	6.0
82.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
85°	6.0	6.0	6.0	6.0	6.0	6.0	4.8	4.8	4.8	4.8	4.8
87.5°	6.0	4.8	4.8	4.8	4.8	4.8	3.6	3.6	3.6	3.6	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: P179854

CATALOG NUMBER: LDA6A65835D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1	1680.1
2.5°	1362.7	1372.2	1357.9	1348.3	1338.8	1346.0	1312.5	1298.2
5°	1126.4	1115.7	1108.5	1100.2	1085.8	1088.2	1059.6	1046.5
7.5°	931.9	924.7	906.9	897.3	883.0	883.0	856.7	846.0
10°	778.0	767.2	750.5	742.2	729.1	718.3	705.2	694.5
12.5°	661.0	649.1	634.8	627.6	614.5	606.2	593.0	595.4
15°	573.9	562.0	548.9	541.7	531.0	522.6	511.9	505.9
17.5°	513.1	502.3	491.6	484.4	476.1	468.9	459.4	458.2
20°	508.3	500.0	494.0	489.2	482.1	477.3	472.5	466.6
22.5°	608.5	609.7	610.9	610.9	612.1	612.1	613.3	601.4
25°	718.3	731.4	731.4	735.0	745.8	745.8	743.4	738.6
27.5°	747.0	760.1	756.5	758.9	769.6	772.0	763.7	764.9
30°	699.2	711.2	704.0	705.2	712.4	712.4	701.6	706.4
32.5°	619.3	626.4	616.9	616.9	622.9	621.7	614.5	614.5
35°	534.6	538.1	529.8	533.4	533.4	529.8	522.6	522.6
37.5°	461.8	463.0	454.6	455.8	455.8	452.2	445.1	445.1
40°	392.6	396.2	389.0	391.4	389.0	385.4	381.8	380.6
42.5°	331.7	334.1	328.1	331.7	330.5	330.5	329.3	330.5
45°	279.2	281.6	276.8	279.2	280.4	279.2	275.6	276.8
47.5°	231.5	233.9	233.9	231.5	230.3	224.3	220.7	220.7
50°	187.3	186.1	184.9	181.4	177.8	174.2	170.6	170.6
52.5°	140.8	138.4	137.2	133.6	132.4	128.9	128.9	125.3
55°	96.7	95.5	95.5	91.9	91.9	88.3	87.1	87.1
57.5°	60.9	58.5	59.7	57.3	56.1	52.5	52.5	51.3
60°	34.6	33.4	33.4	32.2	31.0	28.6	28.6	28.6
62.5°	22.7	21.5	21.5	20.3	20.3	19.1	19.1	17.9
65°	14.3	13.1	13.1	11.9	11.9	10.7	10.7	10.7
67.5°	10.7	9.5	9.5	9.5	9.5	9.5	8.4	8.4
70°	9.5	9.5	8.4	8.4	8.4	8.4	8.4	8.4
72.5°	8.4	8.4	8.4	8.4	7.2	7.2	7.2	7.2
75°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
77.5°	7.2	6.0	6.0	6.0	6.0	6.0	6.0	6.0
80°	6.0	6.0	6.0	6.0	6.0	6.0	4.8	4.8
82.5°	6.0	4.8	4.8	4.8	4.8	4.8	4.8	4.8
85°	4.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6
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)