

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: P179954

Luminaire Tested: **LDA6A65935D010TE LARH40FL 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179954
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26691)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A65935D010TE LARH40FL 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5482.7 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Spacing Criteria (0/90/45): 2.62 / 0.52 / 1.36
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

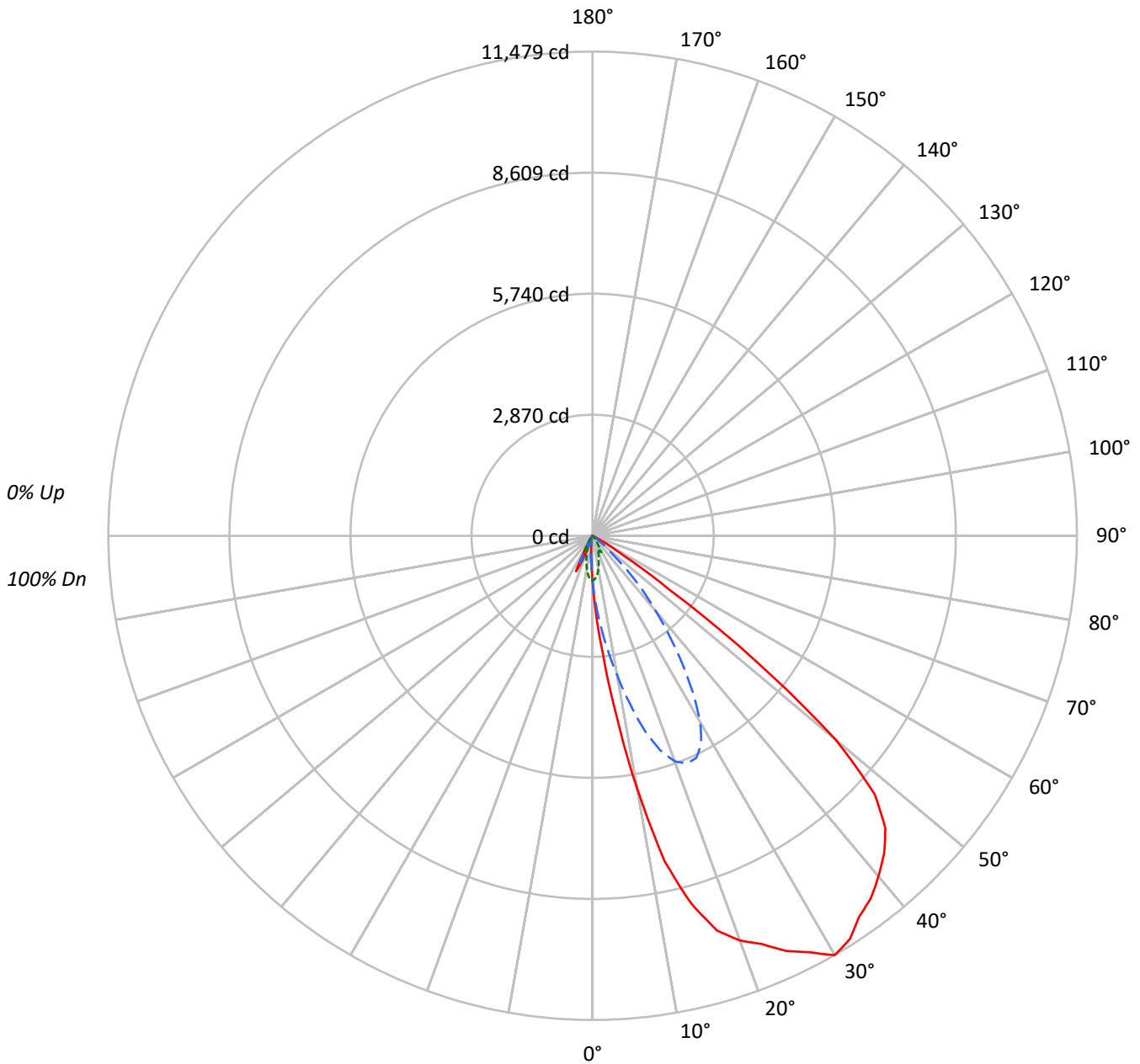
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91																			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	85	83	81																			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73																			
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65																			
5	85	74	67	62	83	73	67	61	71	65	61	70	64	60	68	63	60	58																			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52																			
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47																			
8	69	57	50	44	67	56	49	44	55	49	44	54	48	44	53	48	44	42																			
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38																			
10	60	48	41	37	59	48	41	36	47	41	36	46	40	36	45	40	36	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	58553	58553	58553
5°	155387	54281	20768
10°	339178	43893	6190
15°	511967	32072	5386
20°	595530	22017	8453
25°	656772	23753	56271
30°	726650	17889	17496
35°	737439	9148	6552
40°	754399	3721	3142
45°	760730	2295	1899
50°	640840	1569	1220
55°	211672	1070	679
60°	41609	1009	450
65°	4890	1323	532
70°	1314	1475	657
75°	212	1949	1080
80°	0	3220	1610
85°	0	6416	2579



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.1	2.6
10°-20°	717.7	13.1
20°-30°	1416.7	25.8
30°-40°	1598.0	29.1
40°-50°	1268.6	23.1
50°-60°	310.2	5.7
60°-70°	16.6	0.3
70°-80°	7.1	0.1
80°-90°	5.8	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°	2276.5	41.5
0°-40°	3874.5	70.7
0°-60°	5453.2	99.5
0°-90°	5482.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5482.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1068	1068	1068	1068	1068	
5°	2824	2116	986	496	377	373
15°	9021	4794	565	111	95	2530
25°	10858	5812	393	711	930	5029
35°	11019	3699	137	108	98	6930
45°	9812	1153	30	31	24	7354
55°	2215	50	11	11	7	2598
65°	38	9	10	8	4	92
75°	1	5	9	8	5	3
85°	0	5	10	7	4	0
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°	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1
2.5°	1853.5	1817.8	1834.2	1808.6	1736.2	1713.8	1732.1	1704.6	1622.0	1590.3	1557.7
5°	2823.7	2792.0	2802.2	2744.1	2608.4	2561.5	2558.4	2474.8	2307.5	2213.6	2115.7
7.5°	4281.4	4237.5	4225.3	4085.5	3824.4	3726.5	3678.5	3472.4	3157.2	2933.8	2714.5
10°	6093.1	6135.9	6092.1	5865.6	5455.5	5271.9	5155.6	4765.9	4197.7	3772.4	3362.3
12.5°	7909.9	7936.4	7853.8	7572.3	7051.0	6830.6	6659.3	6160.4	5411.7	4689.4	4077.4
15°	9020.8	9146.3	9068.8	8871.9	8467.9	8200.6	8046.6	7430.5	6487.9	5694.2	4794.5
17.5°	9812.4	9928.7	9864.4	9703.3	9247.3	9032.0	8932.1	8425.1	7398.8	6389.9	5331.1
20°	10208.2	10350.0	10291.9	10109.3	9774.7	9595.1	9473.7	8979.0	8053.7	6907.1	5689.1
22.5°	10476.5	10633.6	10570.3	10404.1	10063.4	9854.2	9797.1	9328.9	8396.5	7217.3	5841.1
25°	10858.0	10989.6	10811.1	10606.1	10269.4	10049.1	10014.4	9536.0	8560.7	7334.6	5811.5
27.5°	11131.4	11287.5	10984.5	10776.4	10391.8	10160.3	10115.4	9665.5	8576.0	7241.7	5571.8
30°	11479.3	11378.3	11112.0	10810.1	10400.0	10153.1	10096.0	9590.0	8423.0	6900.0	5102.6
32.5°	11341.5	11317.1	11050.8	10695.8	10313.3	10064.4	9987.9	9357.4	8002.7	6310.4	4438.5
35°	11019.2	11096.7	10874.3	10654.0	10178.6	9919.5	9813.4	9014.7	7369.3	5551.4	3698.9
37.5°	10830.5	10879.4	10738.7	10469.4	9998.1	9657.4	9456.4	8438.3	6539.9	4594.6	2985.9
40°	10541.8	10666.2	10530.6	10221.5	9677.8	9210.5	8860.6	7396.8	5447.4	3622.4	2335.0
42.5°	10225.6	10336.7	10207.2	9836.9	9068.8	8442.4	7860.9	6172.7	4265.1	2767.5	1751.5
45°	9812.4	9912.4	9679.8	9103.4	8016.0	7152.0	6571.5	4847.5	3216.4	2033.1	1152.7
47.5°	9067.7	9041.2	8711.7	7816.1	6476.7	5702.4	5027.1	3472.4	2138.1	1151.7	573.3
50°	7514.1	7266.2	6781.7	5742.2	4346.7	3510.2	3049.1	1792.3	970.1	558.0	360.1
52.5°	4866.9	4590.5	4146.7	3186.8	2087.1	1675.0	1343.5	810.0	506.0	315.2	141.8
55°	2214.7	2018.8	1735.2	1287.4	895.7	744.7	630.4	410.1	271.3	117.3	50.0
57.5°	843.6	778.3	691.6	551.9	414.2	358.1	296.9	196.9	84.7	43.9	29.6
60°	379.5	351.9	323.4	253.0	177.5	127.5	96.9	53.0	35.7	25.5	19.4
62.5°	129.6	108.1	89.8	64.3	47.9	41.8	36.7	29.6	21.4	17.3	13.3
65°	37.7	36.7	34.7	30.6	24.5	22.4	21.4	17.3	13.3	11.2	9.2
67.5°	18.4	17.3	16.3	15.3	12.2	11.2	11.2	10.2	8.2	7.1	6.1
70°	8.2	8.2	7.1	7.1	6.1	6.1	6.1	5.1	5.1	5.1	5.1
72.5°	4.1	4.1	4.1	3.1	3.1	3.1	3.1	4.1	4.1	5.1	5.1
75°	1.0	2.0	2.0	2.0	2.0	3.1	3.1	4.1	4.1	5.1	5.1
77.5°	1.0	1.0	1.0	2.0	2.0	2.0	3.1	4.1	4.1	5.1	5.1
80°	0.0	1.0	1.0	2.0	2.0	2.0	3.1	3.1	4.1	5.1	5.1
82.5°	0.0	1.0	1.0	2.0	2.0	2.0	3.1	3.1	4.1	5.1	5.1
85°	0.0	0.0	1.0	1.0	2.0	2.0	3.1	3.1	4.1	5.1	5.1
87.5°	0.0	0.0	1.0	1.0	2.0	2.0	3.1	3.1	4.1	5.1	5.1
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°	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1
2.5°	1478.1	1456.7	1372.0	1306.8	1276.2	1274.1	1205.8	1163.9	1090.5	1033.4	979.3
5°	1943.3	1848.4	1677.1	1541.4	1476.1	1442.4	1307.8	1210.9	1084.4	986.4	889.5
7.5°	2416.6	2236.1	1995.3	1737.2	1631.2	1565.9	1357.8	1202.7	1034.4	897.7	777.3
10°	2901.2	2582.9	2223.8	1883.1	1730.1	1619.9	1352.7	1142.5	948.7	788.5	656.9
12.5°	3406.1	2904.2	2404.4	1978.0	1776.0	1631.2	1306.8	1054.8	843.6	673.3	547.8
15°	3831.5	3153.2	2518.6	2000.4	1761.7	1586.3	1208.8	943.6	731.4	565.1	450.9
17.5°	4160.0	3292.9	2540.1	1945.3	1682.2	1486.3	1082.3	821.2	613.1	466.2	353.0
20°	4325.3	3314.3	2472.7	1814.8	1538.3	1336.3	938.5	696.7	514.1	377.4	280.5
22.5°	4337.5	3214.4	2325.8	1646.5	1380.2	1175.2	820.2	600.8	450.9	338.7	266.2
25°	4178.4	3021.6	2129.0	1474.1	1218.0	1033.4	735.5	576.4	453.9	392.7	361.1
27.5°	3876.4	2754.3	1912.7	1301.7	1078.3	935.4	700.8	576.4	491.7	443.7	455.0
30°	3458.2	2413.6	1611.8	1067.0	877.3	752.8	550.9	431.5	338.7	282.6	272.4
32.5°	2915.5	1974.9	1249.6	788.5	639.6	542.7	372.3	270.3	218.3	213.2	207.1
35°	2399.3	1559.7	948.7	582.5	471.3	383.6	237.7	159.1	144.9	136.7	130.6
37.5°	1895.4	1167.0	681.4	423.3	323.4	243.8	122.4	103.0	89.8	81.6	74.5
40°	1425.1	838.5	480.5	256.0	169.3	105.1	73.4	63.2	56.1	52.0	50.0
42.5°	1007.9	558.0	297.9	108.1	80.6	66.3	51.0	44.9	40.8	38.8	36.7
45°	585.5	346.8	120.4	63.2	51.0	45.9	37.7	33.7	31.6	29.6	28.6
47.5°	366.2	139.8	62.2	40.8	35.7	32.6	27.5	26.5	24.5	23.5	23.5
50°	147.9	62.2	38.8	28.6	25.5	24.5	21.4	20.4	18.4	18.4	18.4
52.5°	56.1	36.7	26.5	20.4	18.4	17.3	15.3	15.3	14.3	14.3	14.3
55°	32.6	24.5	18.4	14.3	13.3	13.3	12.2	12.2	11.2	11.2	11.2
57.5°	21.4	16.3	13.3	10.2	10.2	10.2	9.2	9.2	9.2	9.2	9.2
60°	14.3	11.2	9.2	8.2	8.2	8.2	8.2	9.2	9.2	9.2	9.2
62.5°	10.2	9.2	8.2	8.2	8.2	8.2	8.2	9.2	9.2	9.2	10.2
65°	8.2	7.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	10.2	10.2
67.5°	6.1	6.1	6.1	6.1	7.1	7.1	8.2	9.2	9.2	9.2	10.2
70°	5.1	6.1	6.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	10.2
72.5°	5.1	6.1	6.1	7.1	7.1	7.1	8.2	9.2	9.2	9.2	10.2
75°	5.1	6.1	6.1	7.1	7.1	7.1	8.2	9.2	9.2	9.2	10.2
77.5°	6.1	6.1	7.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	10.2
80°	6.1	6.1	7.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	10.2
82.5°	6.1	6.1	7.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	10.2
85°	6.1	6.1	7.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	10.2
87.5°	6.1	6.1	7.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	10.2
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°	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1
2.5°	952.8	905.9	854.8	838.5	822.2	790.6	771.2	736.5	711.0	685.5	665.1
5°	825.3	750.8	688.6	662.0	636.5	592.7	562.1	525.4	495.8	470.3	446.8
7.5°	692.7	607.0	544.7	518.2	492.7	444.8	406.0	360.1	325.4	296.9	273.4
10°	570.2	488.6	421.3	389.7	360.1	310.1	273.4	236.7	207.1	182.6	161.2
12.5°	464.1	376.4	308.1	284.6	256.0	215.2	180.6	140.8	123.4	116.3	111.2
15°	360.1	281.5	224.4	203.0	177.5	138.7	123.4	116.3	111.2	108.1	104.1
17.5°	274.4	209.1	153.0	138.7	130.6	122.4	118.3	113.2	110.2	109.2	106.1
20°	215.2	158.1	143.8	139.8	139.8	137.7	134.7	134.7	133.6	136.7	136.7
22.5°	221.4	221.4	233.6	232.6	248.9	265.2	277.5	317.3	339.7	387.6	420.3
25°	386.6	423.3	466.2	479.5	511.1	558.0	607.0	668.2	711.0	756.9	775.3
27.5°	482.5	488.6	482.5	497.8	477.4	465.2	469.2	476.4	476.4	479.5	491.7
30°	285.6	299.9	313.2	323.4	318.3	313.2	311.1	295.8	295.8	289.7	284.6
32.5°	193.8	191.8	189.7	193.8	189.7	189.7	186.7	187.7	181.6	177.5	175.5
35°	132.6	126.5	119.4	120.4	116.3	115.3	112.2	112.2	108.1	106.1	105.1
37.5°	73.4	73.4	70.4	71.4	70.4	70.4	70.4	71.4	70.4	70.4	71.4
40°	50.0	50.0	49.0	50.0	49.0	50.0	51.0	51.0	51.0	51.0	50.0
42.5°	37.7	37.7	36.7	37.7	36.7	37.7	38.8	38.8	38.8	38.8	38.8
45°	29.6	29.6	29.6	29.6	29.6	29.6	29.6	30.6	30.6	29.6	29.6
47.5°	23.5	24.5	23.5	23.5	23.5	23.5	24.5	24.5	23.5	23.5	23.5
50°	19.4	19.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
52.5°	15.3	14.3	14.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	12.2
55°	11.2	11.2	10.2	10.2	10.2	11.2	11.2	11.2	11.2	10.2	10.2
57.5°	10.2	10.2	10.2	9.2	9.2	10.2	10.2	9.2	9.2	9.2	8.2
60°	9.2	10.2	9.2	9.2	9.2	9.2	9.2	8.2	8.2	8.2	7.1
62.5°	10.2	10.2	9.2	9.2	9.2	9.2	8.2	8.2	8.2	7.1	7.1
65°	10.2	10.2	10.2	9.2	9.2	9.2	9.2	8.2	8.2	7.1	7.1
67.5°	10.2	10.2	10.2	10.2	9.2	9.2	9.2	8.2	8.2	8.2	7.1
70°	10.2	10.2	10.2	10.2	10.2	9.2	9.2	9.2	8.2	8.2	7.1
72.5°	10.2	10.2	10.2	9.2	9.2	9.2	9.2	9.2	8.2	8.2	7.1
75°	10.2	10.2	10.2	9.2	9.2	9.2	9.2	8.2	8.2	8.2	7.1
77.5°	10.2	10.2	10.2	9.2	9.2	9.2	9.2	8.2	8.2	8.2	7.1
80°	10.2	10.2	10.2	9.2	9.2	9.2	9.2	8.2	8.2	8.2	7.1
82.5°	10.2	10.2	10.2	9.2	9.2	9.2	9.2	8.2	8.2	7.1	7.1
85°	10.2	10.2	9.2	9.2	9.2	9.2	8.2	8.2	7.1	7.1	6.1
87.5°	9.2	9.2	9.2	9.2	8.2	8.2	8.2	7.1	6.1	6.1	5.1
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: P179954

CATALOG NUMBER: LDA6A65935D010TE LARH40FL 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1	1068.1
2.5°	640.6	636.5	633.5	639.6	637.6	612.1	615.1	614.1
5°	420.3	411.1	404.0	407.0	398.9	387.6	379.5	377.4
7.5°	249.9	239.7	233.6	227.5	225.4	211.2	205.0	209.1
10°	137.7	123.4	122.4	119.4	115.3	112.2	110.2	111.2
12.5°	106.1	105.1	103.0	102.0	100.0	99.0	97.9	96.9
15°	101.0	100.0	99.0	97.9	96.9	95.9	94.9	94.9
17.5°	104.1	104.1	103.0	102.0	102.0	103.0	102.0	101.0
20°	135.7	135.7	137.7	140.8	140.8	143.8	147.9	144.9
22.5°	440.7	463.1	490.7	498.8	546.8	585.5	656.9	625.3
25°	805.9	856.9	869.1	886.5	913.0	926.3	913.0	930.3
27.5°	489.7	507.0	509.0	510.1	516.2	515.2	501.9	510.1
30°	284.6	290.7	288.7	287.7	285.6	274.4	272.4	276.4
32.5°	178.5	176.5	175.5	174.4	174.4	168.3	171.4	169.3
35°	102.0	105.1	104.1	103.0	100.0	99.0	99.0	97.9
37.5°	68.3	69.4	68.3	67.3	65.3	64.3	63.2	62.2
40°	49.0	50.0	49.0	47.9	46.9	45.9	44.9	43.9
42.5°	36.7	37.7	36.7	36.7	34.7	33.7	32.6	31.6
45°	28.6	27.5	27.5	27.5	26.5	25.5	24.5	24.5
47.5°	23.5	23.5	23.5	22.4	21.4	21.4	21.4	20.4
50°	17.3	18.4	17.3	17.3	16.3	15.3	15.3	14.3
52.5°	12.2	12.2	11.2	11.2	10.2	9.2	9.2	9.2
55°	9.2	9.2	9.2	8.2	8.2	7.1	7.1	7.1
57.5°	8.2	7.1	7.1	7.1	6.1	6.1	5.1	5.1
60°	7.1	6.1	6.1	5.1	5.1	4.1	4.1	4.1
62.5°	6.1	5.1	5.1	5.1	4.1	4.1	4.1	4.1
65°	6.1	5.1	5.1	5.1	4.1	4.1	4.1	4.1
67.5°	6.1	6.1	5.1	5.1	5.1	4.1	4.1	4.1
70°	6.1	6.1	6.1	5.1	5.1	5.1	4.1	4.1
72.5°	7.1	6.1	6.1	6.1	5.1	5.1	5.1	5.1
75°	7.1	6.1	6.1	6.1	5.1	5.1	5.1	5.1
77.5°	7.1	6.1	6.1	6.1	5.1	5.1	5.1	5.1
80°	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1
82.5°	6.1	6.1	6.1	6.1	5.1	5.1	5.1	5.1
85°	6.1	5.1	5.1	5.1	4.1	4.1	4.1	4.1
87.5°	5.1	4.1	4.1	3.1	3.1	3.1	2.0	2.0
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)