

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: P179894

Luminaire Tested: **LDA6A55835D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179894
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26688)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A55835D010TE LARH40FL 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5784.0 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 2.63 / 0.54 / 1.37
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

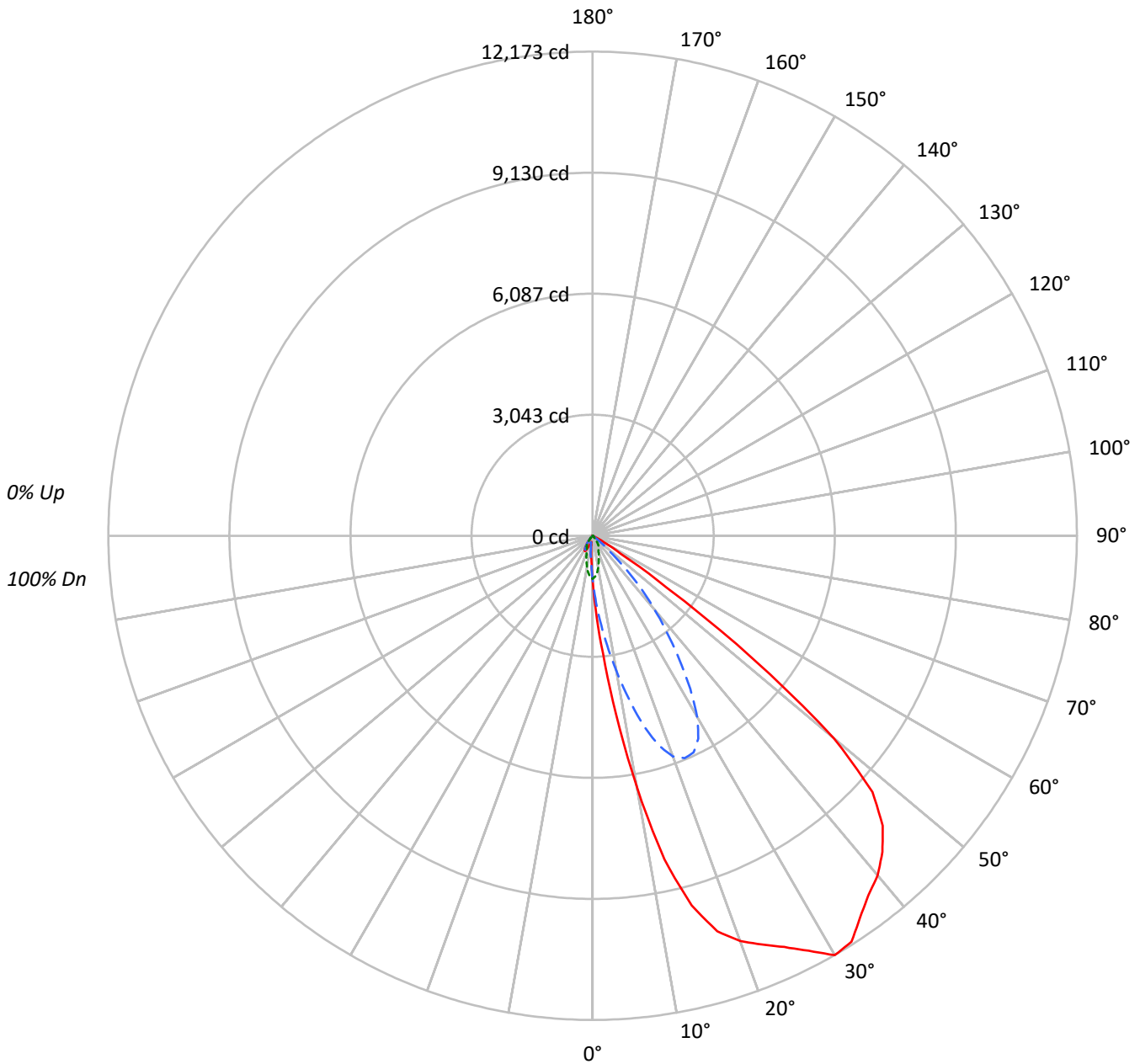
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	66	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	53	49	59	53	49	57	52	48	46																			
8	69	57	49	44	67	56	49	44	55	49	44	54	48	44	53	47	44	42																			
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	43	39	38																			
10	60	48	41	36	59	48	41	36	47	41	36	46	40	36	45	40	36	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	59425	59425	59425
5°	163108	54754	22342
10°	357436	44811	8517
15°	545979	34109	9989
20°	632569	25377	15518
25°	690052	20868	25042
30°	770574	18927	25574
35°	784017	12983	17534
40°	797795	6154	8874
45°	799083	2558	3876
50°	675551	1109	1194
55°	217531	765	191
60°	43198	877	0
65°	4410	1038	0
70°	481	1443	0
75°	0	1906	0
80°	0	3157	316
85°	0	6290	629



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.1	2.5
10°-20°	761.1	13.2
20°-30°	1457.2	25.2
30°-40°	1716.8	29.7
40°-50°	1348.5	23.3
50°-60°	328.6	5.7
60°-70°	14.1	0.2
70°-80°	5.3	0.1
80°-90°	5.3	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°	2365.4	40.9
0°-40°	4082.2	70.6
0°-60°	5759.3	99.6
0°-90°	5784.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5784.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1084	1084	1084	1084	1084	
5°	2964	2145	995	521	406	392
15°	9620	4941	601	172	176	2686
25°	11408	6008	345	361	414	5317
35°	11715	3798	194	250	262	7346
45°	10307	1174	33	46	50	7744
55°	2276	43	8	5	2	2709
65°	34	5	8	5	0	90
75°	0	5	9	6	0	0
85°	0	6	10	6	1	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°	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0
2.5°	1858.0	1854.0	1827.0	1852.0	1776.0	1773.0	1739.0	1724.0	1680.0	1638.0	1578.0
5°	2964.0	2899.0	2846.0	2848.0	2702.0	2675.0	2599.0	2522.0	2404.0	2294.0	2145.0
7.5°	4518.1	4441.1	4329.1	4282.1	4003.1	3921.1	3764.1	3559.0	3302.0	3046.0	2770.0
10°	6421.1	6433.1	6288.1	6154.1	5732.1	5566.1	5312.1	4908.1	4421.1	3940.1	3451.0
12.5°	8336.1	8328.1	8155.1	7952.1	7432.1	7198.1	6860.1	6356.1	5711.1	4965.1	4200.1
15°	9620.1	9677.1	9604.1	9442.1	8998.1	8730.1	8349.1	7665.1	6879.1	5973.1	4941.1
17.5°	10426.1	10480.1	10454.1	10327.1	9935.1	9649.1	9331.1	8771.1	7862.1	6723.1	5525.1
20°	10843.1	10928.1	10916.1	10778.1	10482.1	10245.1	9894.1	9375.1	8588.1	7244.1	5903.1
22.5°	11121.2	11186.2	11204.2	11048.2	10742.1	10517.1	10260.1	9734.1	8994.1	7562.1	6053.1
25°	11408.2	11523.2	11410.2	11218.2	10937.1	10721.1	10447.1	9943.1	9188.1	7692.1	6008.1
27.5°	11760.2	11815.2	11559.2	11384.2	11072.2	10838.1	10547.1	10064.1	9222.1	7588.1	5751.1
30°	12173.2	11945.2	11766.2	11419.2	11065.2	10837.1	10541.1	9988.1	9043.1	7243.1	5253.1
32.5°	12105.2	11896.2	11693.2	11326.2	10976.1	10750.1	10420.1	9735.1	8620.1	6666.1	4566.1
35°	11715.2	11760.2	11541.2	11237.2	10841.1	10608.1	10248.1	9375.1	7902.1	5870.1	3798.1
37.5°	11386.2	11485.2	11342.2	11061.2	10659.1	10344.1	9858.1	8797.1	6965.1	4860.1	3070.0
40°	11148.2	11180.2	11103.2	10788.1	10305.1	9850.1	9288.1	7759.1	5827.1	3815.1	2423.0
42.5°	10779.1	10864.1	10728.1	10384.1	9652.1	9137.1	8323.1	6560.1	4526.1	2914.0	1824.0
45°	10307.1	10388.1	10220.1	9648.1	8630.1	7875.1	6882.1	5115.1	3348.0	2148.0	1174.0
47.5°	9537.1	9587.1	9262.1	8471.1	6991.1	6280.1	5262.1	3566.0	2157.0	1201.0	571.0
50°	7921.1	7897.1	7227.1	6254.1	4676.1	3930.1	3132.0	1933.0	969.0	569.0	357.0
52.5°	5105.1	5050.1	4387.1	3502.0	2368.0	1807.0	1358.0	834.0	505.0	318.0	141.0
55°	2276.0	2255.0	1846.0	1434.0	969.0	834.0	637.0	409.0	269.0	111.0	43.0
57.5°	844.0	825.0	727.0	610.0	468.0	389.0	309.0	196.0	69.0	37.0	23.0
60°	394.0	393.0	346.0	285.0	198.0	150.0	87.0	46.0	29.0	20.0	13.0
62.5°	126.0	123.0	86.0	63.0	45.0	39.0	31.0	23.0	15.0	11.0	8.0
65°	34.0	34.0	31.0	26.0	21.0	18.0	15.0	11.0	7.0	6.0	5.0
67.5°	13.0	13.0	12.0	11.0	8.0	7.0	6.0	5.0	4.0	5.0	5.0
70°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	5.0
72.5°	0.0	0.0	1.0	1.0	2.0	2.0	3.0	3.0	4.0	5.0	5.0
75°	0.0	0.0	1.0	1.0	2.0	2.0	3.0	3.0	4.0	5.0	5.0
77.5°	0.0	0.0	1.0	1.0	2.0	2.0	3.0	3.0	4.0	5.0	5.0
80°	0.0	0.0	1.0	1.0	2.0	2.0	3.0	3.0	4.0	5.0	5.0
82.5°	0.0	0.0	1.0	2.0	2.0	2.0	3.0	4.0	4.0	5.0	6.0
85°	0.0	0.0	1.0	2.0	2.0	3.0	3.0	4.0	4.0	5.0	6.0
87.5°	0.0	0.0	1.0	2.0	2.0	3.0	3.0	4.0	4.0	5.0	6.0
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°	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0
2.5°	1534.0	1468.0	1377.0	1324.0	1311.0	1283.0	1234.0	1161.0	1101.0	1043.0	1009.0
5°	2019.0	1863.0	1688.0	1565.0	1515.0	1448.0	1329.0	1206.0	1093.0	995.0	918.0
7.5°	2533.0	2276.0	1993.0	1765.0	1683.0	1577.0	1383.0	1200.0	1045.0	909.0	806.0
10°	3044.0	2630.0	2246.0	1916.0	1782.0	1638.0	1382.0	1145.0	963.0	805.0	691.0
12.5°	3555.0	2960.0	2432.0	2007.0	1833.0	1651.0	1341.0	1061.0	859.0	698.0	589.0
15°	4027.1	3223.0	2558.0	2038.0	1828.0	1613.0	1258.0	959.0	750.0	601.0	500.0
17.5°	4379.1	3361.0	2587.0	1991.0	1749.0	1511.0	1131.0	839.0	646.0	515.0	412.0
20°	4552.1	3383.0	2518.0	1857.0	1613.0	1366.0	992.0	724.0	557.0	435.0	348.0
22.5°	4552.1	3279.0	2368.0	1689.0	1443.0	1199.0	858.0	629.0	487.0	379.0	306.0
25°	4379.1	3072.0	2167.0	1495.0	1256.0	1034.0	742.0	558.0	433.0	345.0	284.0
27.5°	4043.1	2786.0	1909.0	1279.0	1072.0	887.0	650.0	493.0	392.0	311.0	312.0
30°	3581.0	2435.0	1613.0	1051.0	883.0	729.0	547.0	413.0	314.0	299.0	308.0
32.5°	3047.0	2015.0	1278.0	815.0	684.0	574.0	416.0	292.0	250.0	252.0	262.0
35°	2499.0	1586.0	962.0	604.0	509.0	416.0	273.0	192.0	190.0	194.0	201.0
37.5°	1973.0	1187.0	696.0	442.0	342.0	256.0	147.0	132.0	132.0	136.0	140.0
40°	1478.0	842.0	479.0	262.0	166.0	117.0	93.0	86.0	85.0	86.0	91.0
42.5°	1015.0	533.0	285.0	105.0	80.0	68.0	59.0	54.0	53.0	54.0	57.0
45°	570.0	328.0	111.0	56.0	48.0	43.0	37.0	34.0	33.0	33.0	35.0
47.5°	357.0	130.0	50.0	35.0	30.0	28.0	24.0	22.0	21.0	21.0	22.0
50°	137.0	51.0	31.0	23.0	20.0	18.0	16.0	14.0	13.0	13.0	14.0
52.5°	47.0	30.0	20.0	15.0	13.0	12.0	10.0	9.0	9.0	9.0	9.0
55°	26.0	18.0	12.0	9.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
57.5°	16.0	11.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	8.0	8.0
60°	9.0	7.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	8.0	8.0
62.5°	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	8.0	8.0	8.0
65°	5.0	5.0	5.0	6.0	6.0	6.0	7.0	7.0	8.0	8.0	8.0
67.5°	5.0	5.0	6.0	6.0	6.0	7.0	7.0	8.0	8.0	8.0	8.0
70°	5.0	6.0	6.0	7.0	7.0	7.0	8.0	8.0	8.0	9.0	9.0
72.5°	5.0	6.0	6.0	7.0	7.0	7.0	8.0	8.0	9.0	9.0	9.0
75°	6.0	6.0	6.0	7.0	7.0	7.0	8.0	9.0	9.0	9.0	9.0
77.5°	6.0	6.0	7.0	7.0	7.0	8.0	8.0	9.0	9.0	9.0	9.0
80°	6.0	6.0	7.0	7.0	8.0	8.0	9.0	9.0	9.0	10.0	10.0
82.5°	6.0	6.0	7.0	8.0	8.0	8.0	9.0	9.0	10.0	10.0	10.0
85°	6.0	7.0	7.0	8.0	8.0	8.0	9.0	9.0	10.0	10.0	10.0
87.5°	6.0	7.0	7.0	8.0	8.0	8.0	9.0	9.0	10.0	10.0	10.0
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°	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0
2.5°	964.0	922.0	880.0	849.0	834.0	819.0	786.0	743.0	725.0	699.0	684.0
5°	840.0	769.0	713.0	676.0	654.0	625.0	587.0	545.0	521.0	494.0	476.0
7.5°	712.0	629.0	575.0	541.0	519.0	483.0	435.0	385.0	356.0	326.0	305.0
10°	600.0	521.0	460.0	421.0	393.0	351.0	303.0	268.0	243.0	217.0	196.0
12.5°	501.0	416.0	351.0	318.0	299.0	259.0	219.0	180.0	165.0	160.0	160.0
15°	406.0	329.0	274.0	246.0	226.0	183.0	175.0	173.0	172.0	171.0	173.0
17.5°	331.0	266.0	208.0	194.0	192.0	191.0	192.0	192.0	193.0	196.0	201.0
20°	278.0	218.0	214.0	215.0	215.0	219.0	224.0	228.0	232.0	237.0	246.0
22.5°	247.0	246.0	253.0	254.0	259.0	265.0	274.0	280.0	290.0	295.0	308.0
25°	285.0	292.0	305.0	309.0	317.0	327.0	341.0	349.0	361.0	367.0	382.0
27.5°	323.0	334.0	350.0	355.0	362.0	378.0	388.0	395.0	401.0	405.0	414.0
30°	320.0	330.0	346.0	347.0	357.0	368.0	374.0	380.0	384.0	383.0	388.0
32.5°	271.0	280.0	295.0	295.0	306.0	315.0	318.0	323.0	323.0	323.0	325.0
35°	208.0	214.0	224.0	227.0	236.0	242.0	244.0	250.0	250.0	248.0	248.0
37.5°	144.0	152.0	159.0	161.0	167.0	171.0	176.0	177.0	175.0	176.0	176.0
40°	94.0	99.0	104.0	105.0	110.0	113.0	118.0	118.0	119.0	118.0	120.0
42.5°	58.0	62.0	65.0	67.0	69.0	71.0	74.0	75.0	76.0	75.0	77.0
45°	36.0	38.0	40.0	41.0	42.0	43.0	46.0	46.0	46.0	46.0	47.0
47.5°	22.0	23.0	24.0	24.0	25.0	26.0	27.0	27.0	27.0	27.0	28.0
50°	13.0	14.0	14.0	14.0	15.0	15.0	16.0	16.0	16.0	15.0	16.0
52.5°	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.0	9.0
55°	8.0	8.0	7.0	7.0	7.0	7.0	7.0	6.0	5.0	5.0	4.0
57.5°	7.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0	5.0	4.0	3.0
60°	7.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0	4.0	4.0	3.0
62.5°	8.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0	4.0	4.0	3.0
65°	8.0	8.0	7.0	7.0	7.0	6.0	6.0	5.0	5.0	4.0	3.0
67.5°	8.0	8.0	8.0	7.0	8.0	7.0	6.0	6.0	5.0	4.0	4.0
70°	9.0	8.0	8.0	8.0	8.0	7.0	7.0	6.0	5.0	4.0	4.0
72.5°	9.0	9.0	8.0	8.0	8.0	7.0	7.0	6.0	5.0	5.0	4.0
75°	9.0	9.0	8.0	8.0	8.0	7.0	7.0	6.0	6.0	5.0	4.0
77.5°	9.0	9.0	9.0	8.0	8.0	8.0	7.0	7.0	6.0	5.0	4.0
80°	9.0	9.0	9.0	9.0	9.0	8.0	8.0	7.0	6.0	5.0	4.0
82.5°	10.0	9.0	9.0	9.0	9.0	8.0	8.0	7.0	6.0	5.0	5.0
85°	10.0	10.0	9.0	9.0	9.0	8.0	8.0	7.0	6.0	6.0	5.0
87.5°	10.0	9.0	9.0	9.0	9.0	8.0	8.0	7.0	6.0	5.0	5.0
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: P179894

CATALOG NUMBER: LDA6A55835D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0
2.5°	669.0	661.0	661.0	647.0	645.0	634.0	643.0	637.0
5°	456.0	443.0	439.0	425.0	420.0	407.0	411.0	406.0
7.5°	287.0	274.0	270.0	260.0	254.0	244.0	245.0	242.0
10°	175.0	163.0	160.0	157.0	154.0	153.0	154.0	153.0
12.5°	159.0	158.0	156.0	157.0	155.0	156.0	157.0	156.0
15°	173.0	175.0	173.0	174.0	173.0	175.0	176.0	176.0
17.5°	203.0	207.0	205.0	208.0	207.0	212.0	212.0	212.0
20°	249.0	256.0	254.0	258.0	258.0	264.0	264.0	266.0
22.5°	313.0	322.0	321.0	330.0	328.0	335.0	335.0	337.0
25°	390.0	399.0	400.0	406.0	405.0	412.0	412.0	414.0
27.5°	422.0	427.0	426.0	429.0	430.0	434.0	437.0	435.0
30°	396.0	400.0	399.0	401.0	401.0	404.0	407.0	404.0
32.5°	333.0	336.0	336.0	340.0	337.0	338.0	343.0	340.0
35°	255.0	257.0	255.0	257.0	258.0	258.0	263.0	262.0
37.5°	182.0	183.0	183.0	186.0	183.0	183.0	188.0	189.0
40°	122.0	123.0	122.0	126.0	124.0	124.0	127.0	124.0
42.5°	78.0	79.0	78.0	81.0	79.0	81.0	82.0	83.0
45°	48.0	48.0	47.0	49.0	48.0	49.0	50.0	50.0
47.5°	28.0	28.0	27.0	29.0	28.0	28.0	28.0	29.0
50°	15.0	15.0	15.0	16.0	15.0	15.0	15.0	14.0
52.5°	8.0	8.0	7.0	8.0	7.0	7.0	7.0	7.0
55°	4.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0
57.5°	3.0	2.0	2.0	1.0	1.0	1.0	0.0	0.0
60°	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0
62.5°	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0
65°	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0
67.5°	3.0	2.0	2.0	1.0	1.0	0.0	0.0	0.0
70°	3.0	2.0	2.0	1.0	1.0	0.0	0.0	0.0
72.5°	3.0	2.0	2.0	2.0	1.0	1.0	0.0	0.0
75°	3.0	3.0	2.0	2.0	1.0	1.0	0.0	0.0
77.5°	4.0	3.0	2.0	2.0	1.0	1.0	0.0	0.0
80°	4.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0
82.5°	4.0	3.0	3.0	2.0	2.0	1.0	1.0	1.0
85°	4.0	3.0	3.0	2.0	2.0	1.0	1.0	1.0
87.5°	4.0	3.0	3.0	2.0	2.0	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)