

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: P179938

Luminaire Tested: **LDA6A65935D010TE LARH30NF 6LAL1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179938
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26690)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A65935D010TE LARH30NF 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 30° Narrow Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5211.4 lumens
Efficiency: N/A
Efficacy: 66.8 lumens/watt
Spacing Criteria (0/90/45): 2.55 / 0.46 / 1.37
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

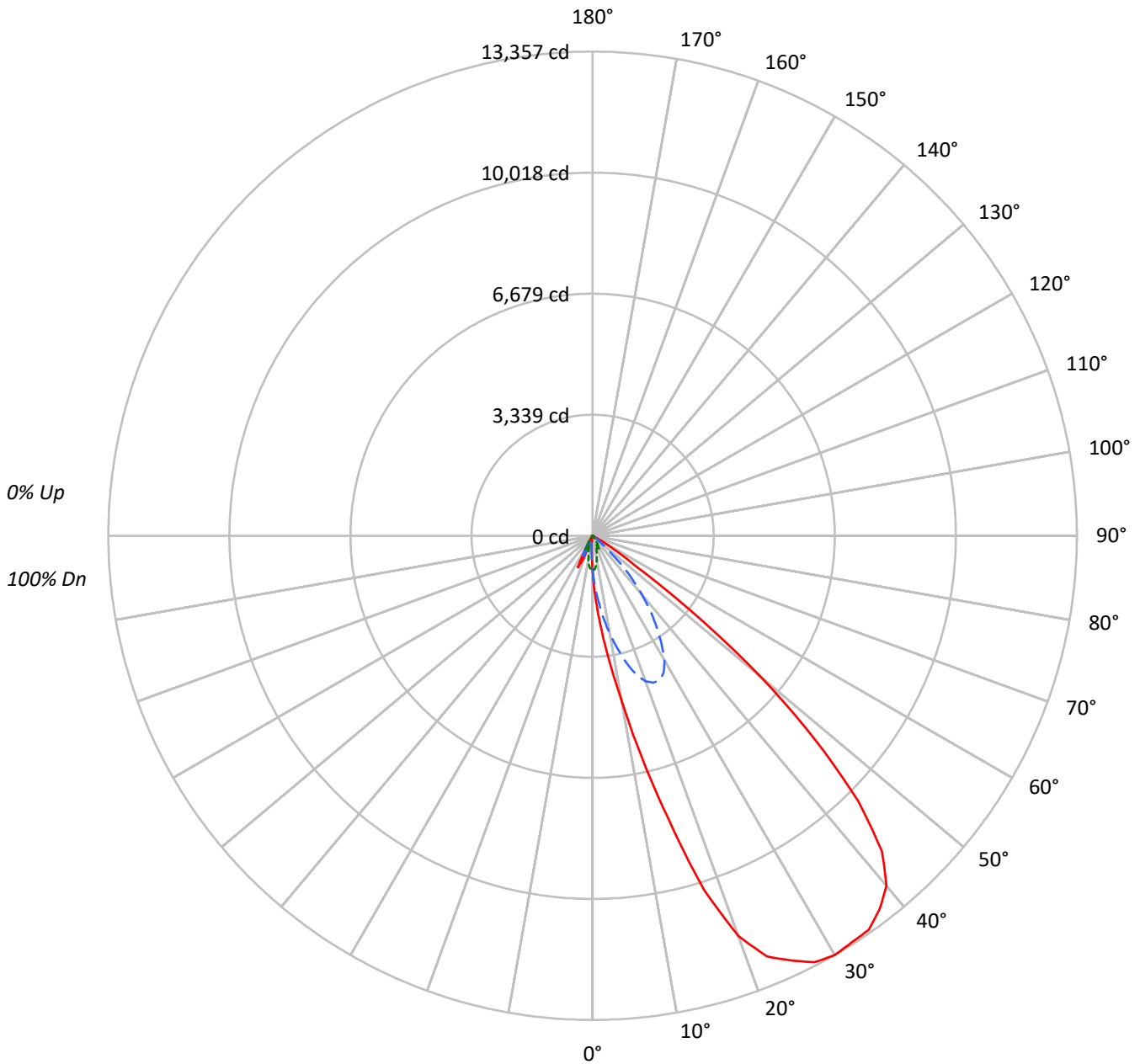
Input Watts (W): 78
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P179938

CATALOG NUMBER: LDA6A65935D010TE LARH30NF 6LAL1LI 30°

Luminous Intensity Polar Plot





TEST NUMBER: P179938

CATALOG NUMBER: LDA6A65935D010TE LARH30NF 6LAL1LI 30°

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	89	83	78	86	81	77	83	79	76	81	77	75	73																			
4	91	82	75	70	89	81	74	69	78	73	68	76	71	68	74	70	67	65																			
5	85	74	67	62	83	73	67	62	72	66	61	70	64	60	68	63	60	58																			
6	79	68	60	55	77	67	60	55	65	59	55	64	58	54	62	58	54	52																			
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47																			
8	69	57	49	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	43	39	38																			
10	60	48	41	36	59	48	41	36	47	40	36	46	40	36	45	40	36	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	52507	52507	52507
5°	135565	48668	15210
10°	257171	37135	5110
15°	459844	24143	5097
20°	685190	16422	9282
25°	781817	20487	58310
30°	845497	17110	17433
35°	888143	8325	5461
40°	902190	2991	2777
45°	803804	1977	1659
50°	516239	1390	1134
55°	135909	975	583
60°	30305	1009	450
65°	2906	1193	532
70°	978	1475	657
75°	212	1949	1080
80°	0	3220	1610
85°	0	5787	2579



TEST NUMBER: P179938

CATALOG NUMBER: LDA6A65935D010TE LARH30NF 6LAL1LI 30°

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.3	2.2
10°-20°	607.1	11.6
20°-30°	1424.4	27.3
30°-40°	1638.4	31.4
40°-50°	1163.8	22.3
50°-60°	236.6	4.5
60°-70°	11.9	0.2
70°-80°	7.0	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°	2147.8	41.2
0°-40°	3786.2	72.7
0°-60°	5186.6	99.5
0°-90°	5211.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5211.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	958	958	958	958	958	
5°	2464	1782	884	354	276	300
15°	8102	3643	425	96	90	2431
25°	12925	4387	339	740	964	5957
35°	13271	3081	124	92	82	8244
45°	10368	1096	26	28	21	7641
55°	1422	29	10	10	6	1918
65°	22	8	9	8	4	54
75°	1	5	9	8	5	2
85°	0	5	9	7	4	0
90°	0	0	0	0	0	



TEST NUMBER: P179938

CATALOG NUMBER: LDA6A65935D010TE LARH30NF 6LAL1LI 30°

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8
2.5°	1650.5	1600.5	1576.0	1575.0	1503.6	1527.0	1503.6	1485.2	1418.9	1391.4	1345.5
5°	2463.5	2402.3	2353.3	2331.9	2209.5	2182.9	2170.7	2108.5	1969.8	1889.2	1782.1
7.5°	3422.3	3358.1	3277.5	3213.2	3035.7	2985.7	2953.1	2846.0	2641.0	2478.8	2278.8
10°	4619.9	4582.2	4451.6	4333.3	4064.0	3959.9	3862.0	3612.1	3343.8	3018.4	2760.3
12.5°	6232.6	6143.9	5911.3	5674.6	5252.3	5097.3	4935.1	4535.2	4125.2	3615.1	3188.7
15°	8102.4	8026.9	7668.9	7283.3	6682.5	6427.5	6173.5	5544.1	4913.7	4256.8	3642.7
17.5°	10254.8	10112.0	9755.9	9104.1	8263.6	7862.7	7389.4	6587.6	5677.7	4785.1	4022.1
20°	11745.1	11660.4	11359.5	10734.2	9777.4	9248.0	8660.4	7559.7	6315.3	5208.5	4271.0
22.5°	12560.1	12475.5	12250.0	11698.2	10913.7	10382.3	9699.8	8346.2	6796.7	5493.1	4388.3
25°	12925.3	12870.2	12746.8	12296.9	11570.7	11092.2	10446.5	8889.9	7097.6	5622.6	4387.3
27.5°	13263.0	13277.2	12972.2	12601.9	11932.8	11452.3	10840.3	9134.7	7156.8	5557.3	4246.6
30°	13356.8	13321.1	13187.5	12666.2	12042.9	11519.7	10863.7	9005.2	6926.3	5268.7	3967.1
32.5°	13298.7	13299.7	13174.2	12620.3	11887.9	11302.4	10564.9	8541.0	6477.4	4815.8	3532.5
35°	13271.1	13261.9	12936.5	12450.0	11519.7	10831.1	9901.8	7796.4	5855.2	4237.4	3080.6
37.5°	12997.7	12942.6	12708.0	12048.0	10831.1	9950.8	8950.1	6885.5	5089.1	3635.5	2617.5
40°	12607.0	12537.7	12156.2	11209.5	9653.9	8671.6	7677.0	5854.2	4287.4	3036.7	2101.3
42.5°	11806.3	11692.0	11113.7	9858.0	8138.1	7224.1	6399.9	4821.9	3505.0	2465.5	1613.8
45°	10368.0	10181.3	9380.6	8068.8	6569.3	5852.1	5155.4	3865.0	2806.2	1836.1	1095.6
47.5°	8324.8	8120.8	7394.5	6340.8	5143.2	4561.8	3970.1	2846.0	1898.4	1070.1	549.8
50°	6053.1	5912.3	5270.7	4382.2	3400.9	2913.3	2459.4	1587.2	910.9	517.2	225.4
52.5°	3487.6	3386.6	2939.8	2306.4	1672.9	1400.6	1126.2	692.6	464.1	205.0	72.4
55°	1422.0	1363.8	1168.0	989.5	742.6	641.6	535.5	345.8	156.1	49.0	28.6
57.5°	695.7	688.5	574.3	460.1	338.7	273.4	206.1	69.4	37.7	24.5	18.4
60°	276.4	266.2	182.6	106.1	59.2	47.9	40.8	28.6	21.4	16.3	13.3
62.5°	47.9	46.9	39.8	33.7	27.5	24.5	22.4	17.3	14.3	11.2	10.2
65°	22.4	22.4	20.4	18.4	15.3	14.3	13.3	11.2	9.2	8.2	8.2
67.5°	11.2	11.2	10.2	9.2	8.2	8.2	7.1	7.1	6.1	6.1	6.1
70°	6.1	6.1	6.1	5.1	5.1	5.1	5.1	5.1	4.1	5.1	5.1
72.5°	4.1	4.1	4.1	3.1	2.0	3.1	3.1	3.1	4.1	5.1	5.1
75°	1.0	1.0	1.0	2.0	2.0	2.0	3.1	3.1	4.1	5.1	5.1
77.5°	1.0	1.0	1.0	1.0	2.0	2.0	2.0	3.1	4.1	5.1	5.1
80°	0.0	1.0	1.0	1.0	2.0	2.0	2.0	3.1	4.1	5.1	5.1
82.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.1	4.1	5.1	5.1
85°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.1	4.1	5.1	5.1
87.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	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



TEST NUMBER: P179938

CATALOG NUMBER: LDA6A65935D010TE LARH30NF 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8
2.5°	1325.1	1272.0	1237.3	1176.1	1150.6	1139.4	1083.3	1029.3	977.2	939.5	881.3
5°	1700.5	1615.8	1486.2	1364.9	1311.8	1278.1	1168.0	1066.0	969.1	884.4	783.4
7.5°	2104.4	1930.0	1727.0	1532.1	1440.3	1379.1	1208.8	1059.9	921.1	792.6	654.9
10°	2492.0	2217.6	1921.8	1643.3	1518.9	1427.1	1204.7	1013.9	833.4	667.1	519.2
12.5°	2822.5	2467.5	2074.8	1713.7	1551.5	1434.2	1167.0	934.4	715.1	536.6	408.0
15°	3101.0	2659.3	2175.8	1737.2	1542.3	1403.6	1093.5	825.2	585.5	425.4	329.5
17.5°	3296.9	2752.1	2199.3	1697.4	1478.1	1317.9	982.3	685.5	460.1	343.8	260.1
20°	3411.1	2764.4	2142.1	1600.5	1365.9	1196.5	842.6	538.6	373.3	281.5	202.0
22.5°	3428.5	2704.2	2029.9	1469.9	1236.3	1073.1	701.8	450.9	339.7	263.2	197.9
25°	3344.8	2584.9	1884.1	1342.4	1119.0	951.7	606.9	456.0	381.5	338.7	351.9
27.5°	3182.6	2388.0	1716.8	1211.8	996.6	827.3	573.3	477.4	416.2	423.3	447.8
30°	2933.7	2110.5	1476.0	990.5	763.0	630.4	456.0	343.8	285.6	270.3	271.3
32.5°	2567.5	1762.7	1158.8	687.5	513.1	425.4	288.7	191.8	192.8	178.5	177.5
35°	2149.3	1418.9	867.1	461.1	355.0	295.8	170.4	134.6	129.5	124.4	117.3
37.5°	1735.1	1096.6	577.4	315.2	226.5	164.2	85.7	70.4	65.3	61.2	61.2
40°	1321.0	767.1	357.0	165.3	91.8	67.3	51.0	42.8	41.8	41.8	40.8
42.5°	958.9	452.9	193.8	65.3	51.0	44.9	35.7	31.6	31.6	31.6	31.6
45°	510.0	230.5	74.5	40.8	33.7	31.6	26.5	24.5	24.5	25.5	25.5
47.5°	235.6	86.7	37.7	27.5	23.5	23.5	20.4	19.4	19.4	20.4	20.4
50°	84.7	35.7	24.5	19.4	17.3	18.4	16.3	15.3	16.3	16.3	16.3
52.5°	32.6	22.4	17.3	15.3	13.3	14.3	12.2	12.2	13.3	13.3	13.3
55°	20.4	16.3	13.3	11.2	10.2	11.2	10.2	10.2	10.2	10.2	10.2
57.5°	14.3	12.2	10.2	9.2	8.2	9.2	9.2	9.2	9.2	9.2	9.2
60°	11.2	9.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	9.2	9.2
62.5°	9.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	9.2	9.2	9.2
65°	8.2	7.1	8.2	8.2	7.1	8.2	8.2	8.2	9.2	9.2	10.2
67.5°	6.1	6.1	6.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	9.2
70°	6.1	6.1	7.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	9.2
72.5°	6.1	6.1	7.1	7.1	7.1	8.2	8.2	8.2	9.2	9.2	9.2
75°	6.1	6.1	7.1	7.1	7.1	8.2	8.2	8.2	9.2	9.2	9.2
77.5°	6.1	6.1	7.1	7.1	7.1	8.2	8.2	9.2	9.2	9.2	9.2
80°	6.1	7.1	7.1	8.2	8.2	8.2	8.2	9.2	9.2	10.2	10.2
82.5°	6.1	7.1	7.1	8.2	8.2	8.2	8.2	9.2	9.2	10.2	10.2
85°	6.1	7.1	7.1	8.2	8.2	8.2	8.2	9.2	9.2	9.2	9.2
87.5°	6.1	7.1	7.1	8.2	8.2	8.2	8.2	8.2	9.2	9.2	9.2
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: P179938

CATALOG NUMBER: LDA6A65935D010TE LARH30NF 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8
2.5°	842.6	792.6	742.6	718.1	696.7	666.1	627.3	595.7	562.1	544.7	504.9
5°	703.8	618.2	545.7	511.1	484.5	447.8	408.0	379.5	354.0	339.7	314.2
7.5°	544.7	463.1	399.9	373.3	354.0	317.2	287.7	258.1	231.6	212.2	186.7
10°	421.3	358.0	306.0	280.5	259.1	220.3	184.6	157.1	128.5	109.1	101.0
12.5°	334.6	275.4	222.4	196.9	174.4	134.6	108.1	103.0	97.9	95.9	92.8
15°	257.1	203.0	146.9	121.4	112.2	107.1	101.0	100.0	95.9	95.9	92.8
17.5°	192.8	132.6	112.2	110.2	109.1	107.1	104.0	103.0	102.0	102.0	101.0
20°	138.7	128.5	125.5	127.5	128.5	130.6	129.5	129.5	133.6	142.8	140.8
22.5°	194.8	211.2	228.5	234.6	257.1	279.5	299.9	325.4	385.6	455.0	471.3
25°	385.6	434.5	479.4	503.9	540.6	590.6	638.6	697.7	739.6	774.2	814.0
27.5°	479.4	497.8	490.7	493.7	489.6	482.5	484.5	496.8	490.7	472.3	479.4
30°	283.6	297.9	289.7	293.8	282.6	282.6	279.5	285.6	281.5	274.4	272.4
32.5°	184.6	192.8	191.8	191.8	187.7	185.7	178.5	176.5	169.3	156.1	153.0
35°	111.2	106.1	101.0	97.9	95.9	95.9	94.9	94.9	91.8	88.7	87.7
37.5°	60.2	61.2	61.2	61.2	61.2	63.2	62.2	62.2	62.2	60.2	60.2
40°	41.8	43.9	43.9	43.9	44.9	44.9	44.9	45.9	44.9	44.9	44.9
42.5°	32.6	33.7	32.6	32.6	33.7	33.7	33.7	34.7	34.7	34.7	33.7
45°	26.5	26.5	25.5	26.5	26.5	27.5	27.5	27.5	27.5	26.5	26.5
47.5°	21.4	21.4	21.4	21.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4
50°	17.3	17.3	17.3	18.4	18.4	18.4	17.3	18.4	18.4	18.4	17.3
52.5°	13.3	13.3	13.3	13.3	13.3	12.2	12.2	12.2	12.2	12.2	11.2
55°	10.2	10.2	10.2	10.2	10.2	11.2	10.2	11.2	10.2	10.2	9.2
57.5°	9.2	9.2	9.2	9.2	10.2	10.2	9.2	9.2	9.2	8.2	8.2
60°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.2	7.1	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	9.2	10.2	10.2	9.2	9.2	8.2	8.2	7.1	7.1
67.5°	10.2	10.2	10.2	10.2	10.2	10.2	9.2	9.2	8.2	8.2	7.1
70°	10.2	10.2	10.2	10.2	10.2	10.2	9.2	9.2	8.2	8.2	7.1
72.5°	10.2	10.2	10.2	10.2	10.2	10.2	9.2	9.2	9.2	8.2	7.1
75°	10.2	10.2	10.2	10.2	10.2	9.2	9.2	9.2	8.2	8.2	7.1
77.5°	10.2	10.2	10.2	10.2	10.2	9.2	9.2	9.2	8.2	8.2	7.1
80°	10.2	10.2	10.2	10.2	10.2	10.2	9.2	9.2	8.2	8.2	7.1
82.5°	10.2	10.2	10.2	10.2	10.2	9.2	9.2	9.2	8.2	8.2	7.1
85°	10.2	9.2	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	9.2	8.2	8.2	7.1	6.1	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



TEST NUMBER: P179938

CATALOG NUMBER: LDA6A65935D010TE LARH30NF 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	957.8	957.8	957.8	957.8	957.8	957.8	957.8	957.8
2.5°	504.9	495.8	491.7	484.5	478.4	475.4	464.1	477.4
5°	309.1	297.9	294.8	288.7	281.5	277.5	269.3	276.4
7.5°	176.5	163.2	157.1	152.0	144.8	138.7	131.6	135.7
10°	98.9	94.9	95.9	92.8	91.8	90.8	89.8	91.8
12.5°	91.8	88.7	89.8	87.7	86.7	86.7	85.7	86.7
15°	92.8	89.8	91.8	89.8	88.7	88.7	87.7	89.8
17.5°	101.0	98.9	101.0	98.9	100.0	98.9	100.0	101.0
20°	141.8	144.8	151.0	146.9	150.0	154.0	159.1	159.1
22.5°	498.8	564.1	572.3	604.9	688.5	685.5	741.6	743.6
25°	871.1	875.2	911.9	899.7	900.7	943.6	939.5	964.0
27.5°	500.9	499.8	507.0	493.7	497.8	500.9	489.6	502.9
30°	279.5	274.4	277.5	270.3	270.3	272.4	269.3	275.4
32.5°	155.1	151.0	151.0	145.9	144.8	143.8	140.8	143.8
35°	88.7	85.7	86.7	84.7	82.6	81.6	80.6	81.6
37.5°	61.2	59.2	60.2	58.1	56.1	55.1	54.1	55.1
40°	44.9	43.9	43.9	41.8	40.8	39.8	38.8	38.8
42.5°	33.7	32.6	32.6	30.6	29.6	28.6	27.5	28.6
45°	25.5	24.5	24.5	23.5	22.4	21.4	21.4	21.4
47.5°	22.4	21.4	22.4	21.4	20.4	20.4	20.4	20.4
50°	17.3	17.3	17.3	16.3	15.3	15.3	14.3	13.3
52.5°	11.2	10.2	10.2	9.2	9.2	8.2	8.2	8.2
55°	9.2	8.2	8.2	7.1	7.1	6.1	6.1	6.1
57.5°	7.1	7.1	6.1	6.1	5.1	5.1	5.1	5.1
60°	6.1	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	5.1	5.1	5.1	4.1	4.1	4.1	4.1
70°	7.1	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°	7.1	6.1	6.1	6.1	5.1	5.1	5.1	5.1
82.5°	6.1	6.1	6.1	5.1	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°	4.1	4.1	3.1	3.1	3.1	2.0	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)