

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: P179878

Luminaire Tested: **LDA6A55835D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179878  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26687)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA6A55835D010TE LARH30NF 6LA1LI 30°  
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 30°  
Narrow Flood, 30° Tilt  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5500.0 lumens  
Efficiency: N/A  
Efficacy: 90.2 lumens/watt  
Spacing Criteria (0/90/45): 2.58 / 0.46 / 1.37  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

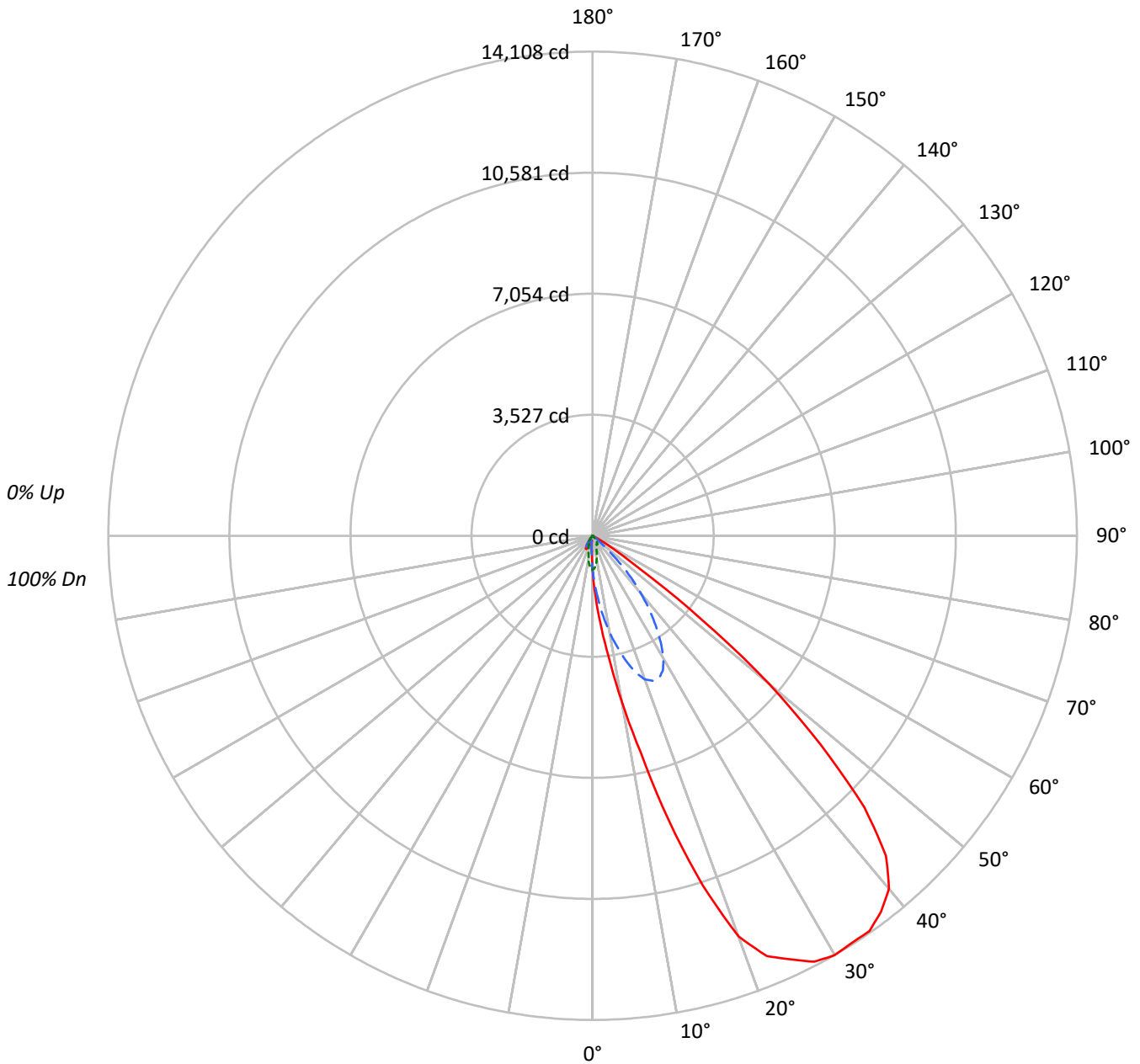
Input Watts (W): 61  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	89	83	78	86	81	77	83	79	76	81	77	74	73																			
4	91	82	75	70	89	81	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	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	43	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°	54387	54387	54387
5°	139511	49477	15408
10°	271950	38025	7404
15°	488181	25823	9932
20°	724796	19602	16393
25°	823844	16150	25707
30°	893055	17661	24181
35°	940677	11444	14991
40°	961022	5081	7299
45°	867989	1938	2713
50°	571367	768	768
55°	156468	669	0
60°	31247	767	0
65°	2205	1038	0
70°	321	1282	0
75°	0	1906	0
80°	0	2841	316
85°	0	5661	629



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.5	2.2
10°-20°	645.6	11.7
20°-30°	1463.3	26.6
30°-40°	1756.5	31.9
40°-50°	1237.9	22.5
50°-60°	255.4	4.6
60°-70°	9.0	0.2
70°-80°	5.4	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°	2230.5	40.6
0°-40°	3986.9	72.5
0°-60°	5480.3	99.6
0°-90°	5500.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5500.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	992	992	992	992	992	
5°	2535	1847	899	374	280	312
15°	8602	3784	455	162	175	2553
25°	13620	4577	267	374	425	6286
35°	14056	3205	171	224	224	8738
45°	11196	1099	25	34	35	8234
55°	1637	22	7	5	0	2157
65°	17	5	8	5	0	50
75°	0	5	9	6	0	0
85°	0	6	9	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°	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1
2.5°	1691.1	1640.1	1660.1	1601.1	1588.1	1577.1	1588.1	1524.1	1488.1	1442.1	1405.1
5°	2535.2	2474.2	2488.2	2385.2	2338.2	2306.2	2300.2	2168.2	2069.2	1960.2	1847.1
7.5°	3529.3	3471.3	3463.3	3303.3	3206.3	3151.3	3128.3	2939.2	2768.2	2574.2	2362.2
10°	4885.4	4753.4	4712.4	4480.4	4295.3	4178.3	4034.3	3732.3	3432.3	3139.3	2869.2
12.5°	6463.5	6391.5	6289.5	5880.5	5556.4	5390.4	5175.4	4703.4	4249.3	3765.3	3313.3
15°	8601.7	8345.7	8171.7	7580.6	7058.6	6802.5	6488.5	5766.5	5080.4	4467.4	3784.3
17.5°	10690.9	10556.8	10284.8	9517.8	8713.7	8309.7	7841.6	6860.6	5891.5	5019.4	4185.3
20°	12424.0	12298.0	11988.0	11264.9	10372.8	9776.8	9187.7	7841.6	6575.5	5459.4	4453.4
22.5°	13254.1	13174.1	12921.0	12302.0	11541.9	10974.9	10341.8	8676.7	7081.6	5747.5	4575.4
25°	13620.1	13583.1	13420.1	12932.0	12216.0	11734.9	11136.9	9267.7	7396.6	5881.5	4577.4
27.5°	13991.1	13998.1	13638.1	13252.1	12573.0	12111.0	11534.9	9529.8	7453.6	5806.5	4427.4
30°	14108.1	14034.1	13875.1	13321.1	12676.0	12185.0	11566.9	9408.8	7219.6	5498.4	4128.3
32.5°	14060.1	14031.1	13856.1	13270.1	12501.0	11960.0	11257.9	8928.7	6757.5	5058.4	3704.3
35°	14056.1	14002.1	13601.1	13098.1	12151.0	11482.9	10557.8	8152.7	6103.5	4478.4	3205.3
37.5°	13802.1	13668.1	13367.1	12689.0	11440.9	10593.8	9556.8	7204.6	5303.4	3827.3	2710.2
40°	13429.1	13249.1	12853.0	11826.9	10210.8	9234.7	8222.7	6127.5	4456.4	3185.3	2184.2
42.5°	12650.0	12378.0	11817.9	10406.8	8571.7	7691.6	6849.5	5036.4	3634.3	2595.2	1667.1
45°	11195.9	10823.9	10066.8	8517.7	6924.6	6206.5	5529.4	4052.3	2909.2	1925.2	1099.1
47.5°	8998.7	8653.7	7964.6	6780.5	5430.4	4823.4	4283.3	3014.2	1972.2	1115.1	525.0
50°	6699.5	6403.5	5865.5	4712.4	3645.3	3168.3	2706.2	1712.1	924.1	530.0	218.0
52.5°	3997.3	3850.3	3373.3	2613.2	1800.1	1551.1	1245.1	725.1	466.0	192.0	59.0
55°	1637.1	1511.1	1332.1	1069.1	783.1	664.1	568.0	358.0	145.0	40.0	22.0
57.5°	740.1	712.1	631.1	496.0	360.0	302.0	204.0	68.0	32.0	20.0	13.0
60°	285.0	257.0	220.0	119.0	51.0	43.0	35.0	23.0	16.0	11.0	8.0
62.5°	41.0	39.0	35.0	28.0	22.0	20.0	17.0	12.0	9.0	7.0	6.0
65°	17.0	17.0	15.0	12.0	10.0	9.0	8.0	6.0	5.0	5.0	5.0
67.5°	7.0	7.0	6.0	5.0	4.0	4.0	4.0	3.0	4.0	4.0	5.0
70°	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	4.0	4.0	5.0
72.5°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.0	4.0	5.0	5.0
75°	0.0	0.0	1.0	1.0	2.0	2.0	2.0	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	6.0
82.5°	0.0	0.0	1.0	1.0	2.0	2.0	3.0	3.0	4.0	5.0	6.0
85°	0.0	0.0	1.0	1.0	2.0	2.0	3.0	3.0	4.0	5.0	6.0
87.5°	0.0	0.0	1.0	1.0	2.0	2.0	3.0	3.0	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°	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1
2.5°	1373.1	1309.1	1291.1	1235.1	1188.1	1165.1	1136.1	1071.1	1022.1	957.1	918.1
5°	1768.1	1647.1	1551.1	1434.1	1357.1	1307.1	1229.1	1110.1	1014.1	899.1	817.1
7.5°	2195.2	1974.2	1801.1	1608.1	1497.1	1410.1	1277.1	1106.1	965.1	812.1	685.1
10°	2607.2	2277.2	2005.2	1728.1	1582.1	1461.1	1278.1	1063.1	876.1	683.1	549.0
12.5°	2970.2	2544.2	2161.2	1805.1	1624.1	1473.1	1244.1	986.1	760.1	562.0	444.0
15°	3273.3	2751.2	2271.2	1834.1	1627.1	1447.1	1173.1	876.1	631.1	455.0	372.0
17.5°	3503.3	2860.2	2305.2	1799.1	1569.1	1373.1	1064.1	737.1	512.0	386.0	313.0
20°	3622.3	2881.2	2256.2	1704.1	1462.1	1261.1	921.1	598.0	434.0	336.0	262.0
22.5°	3637.3	2822.2	2139.2	1568.1	1327.1	1125.1	763.1	499.0	387.0	297.0	231.0
25°	3548.3	2694.2	1972.2	1414.1	1179.1	969.1	621.0	447.0	352.0	267.0	266.0
27.5°	3358.3	2474.2	1772.1	1235.1	1000.1	788.1	527.0	404.0	314.0	283.0	301.0
30°	3090.2	2192.2	1526.1	1009.1	781.1	606.0	444.0	333.0	276.0	279.0	294.0
32.5°	2727.2	1842.1	1237.1	739.1	559.0	456.0	333.0	227.0	229.0	230.0	243.0
35°	2271.2	1477.1	924.1	497.0	393.0	321.0	188.0	167.0	170.0	171.0	180.0
37.5°	1820.1	1135.1	614.0	331.0	247.0	169.0	117.0	112.0	114.0	113.0	123.0
40°	1394.1	791.1	368.0	164.0	95.0	79.0	72.0	69.0	70.0	71.0	77.0
42.5°	987.1	429.0	182.0	62.0	50.0	46.0	43.0	41.0	42.0	42.0	46.0
45°	501.0	203.0	62.0	34.0	31.0	28.0	26.0	25.0	25.0	25.0	27.0
47.5°	217.0	67.0	29.0	21.0	19.0	18.0	16.0	15.0	15.0	15.0	16.0
50°	68.0	27.0	18.0	14.0	12.0	11.0	10.0	10.0	10.0	9.0	10.0
52.5°	25.0	17.0	12.0	9.0	8.0	8.0	8.0	7.0	8.0	7.0	8.0
55°	15.0	11.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
57.5°	10.0	8.0	7.0	7.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
60°	7.0	7.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
62.5°	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	8.0
65°	5.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0	8.0	8.0	8.0
67.5°	5.0	6.0	6.0	7.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0
70°	6.0	6.0	7.0	7.0	7.0	7.0	8.0	8.0	8.0	8.0	9.0
72.5°	6.0	6.0	7.0	7.0	7.0	7.0	8.0	8.0	9.0	9.0	9.0
75°	6.0	7.0	7.0	7.0	7.0	8.0	8.0	8.0	9.0	9.0	9.0
77.5°	6.0	7.0	7.0	8.0	8.0	8.0	8.0	9.0	9.0	9.0	9.0
80°	6.0	7.0	7.0	8.0	8.0	8.0	9.0	9.0	9.0	9.0	10.0
82.5°	6.0	7.0	7.0	8.0	8.0	8.0	9.0	9.0	9.0	9.0	10.0
85°	7.0	7.0	8.0	8.0	8.0	8.0	9.0	9.0	9.0	9.0	10.0
87.5°	7.0	7.0	8.0	8.0	8.0	8.0	9.0	9.0	10.0	9.0	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°	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1
2.5°	866.1	808.1	768.1	753.1	724.1	678.1	651.1	626.1	579.0	569.0	543.0
5°	723.1	630.1	564.0	539.0	506.0	467.0	429.0	404.0	374.0	362.0	344.0
7.5°	570.0	477.0	420.0	400.0	377.0	345.0	311.0	286.0	255.0	239.0	224.0
10°	448.0	379.0	331.0	311.0	287.0	253.0	218.0	185.0	158.0	141.0	138.0
12.5°	364.0	307.0	256.0	235.0	207.0	173.0	148.0	147.0	145.0	144.0	146.0
15°	298.0	243.0	189.0	166.0	158.0	157.0	160.0	163.0	162.0	165.0	167.0
17.5°	245.0	186.0	174.0	175.0	176.0	179.0	184.0	192.0	193.0	198.0	202.0
20°	200.0	197.0	202.0	206.0	209.0	215.0	226.0	236.0	239.0	246.0	254.0
22.5°	227.0	236.0	247.0	252.0	256.0	267.0	279.0	295.0	301.0	310.0	321.0
25°	274.0	289.0	306.0	312.0	318.0	336.0	350.0	369.0	374.0	385.0	396.0
27.5°	313.0	329.0	347.0	355.0	360.0	378.0	390.0	402.0	402.0	408.0	416.0
30°	307.0	320.0	335.0	341.0	343.0	356.0	368.0	372.0	370.0	373.0	379.0
32.5°	255.0	265.0	277.0	282.0	284.0	293.0	303.0	303.0	302.0	302.0	306.0
35°	189.0	196.0	202.0	207.0	210.0	216.0	225.0	224.0	224.0	222.0	225.0
37.5°	127.0	131.0	138.0	140.0	141.0	145.0	152.0	152.0	150.0	151.0	153.0
40°	77.0	82.0	86.0	87.0	89.0	92.0	97.0	97.0	97.0	97.0	98.0
42.5°	46.0	49.0	52.0	52.0	53.0	57.0	59.0	59.0	59.0	59.0	60.0
45°	27.0	28.0	30.0	31.0	31.0	33.0	34.0	34.0	34.0	34.0	35.0
47.5°	16.0	17.0	17.0	18.0	18.0	19.0	20.0	20.0	19.0	19.0	19.0
50°	10.0	10.0	10.0	10.0	11.0	11.0	11.0	11.0	11.0	11.0	10.0
52.5°	8.0	8.0	8.0	8.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0
55°	7.0	7.0	7.0	7.0	7.0	6.0	6.0	6.0	5.0	4.0	3.0
57.5°	7.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0	4.0	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	8.0	7.0	7.0	7.0	6.0	6.0	5.0	5.0	4.0	3.0
65°	8.0	8.0	7.0	7.0	7.0	7.0	6.0	6.0	5.0	4.0	3.0
67.5°	8.0	8.0	8.0	8.0	7.0	7.0	7.0	6.0	5.0	4.0	3.0
70°	9.0	9.0	8.0	8.0	8.0	7.0	7.0	6.0	5.0	5.0	4.0
72.5°	9.0	9.0	8.0	8.0	8.0	8.0	7.0	6.0	6.0	5.0	4.0
75°	9.0	9.0	9.0	9.0	8.0	8.0	7.0	7.0	6.0	5.0	4.0
77.5°	9.0	9.0	9.0	9.0	8.0	8.0	8.0	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	10.0	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	10.0	9.0	9.0	9.0	8.0	8.0	7.0	6.0	6.0	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: P179878

CATALOG NUMBER: LDA6A55835D010TE LARH30NF 6LA1LI 30°

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	992.1	992.1	992.1	992.1	992.1	992.1	992.1	992.1
2.5°	527.0	497.0	487.0	494.0	486.0	480.0	472.0	468.0
5°	330.0	308.0	301.0	303.0	296.0	290.0	282.0	280.0
7.5°	203.0	182.0	174.0	174.0	166.0	159.0	154.0	151.0
10°	136.0	132.0	133.0	134.0	133.0	134.0	131.0	133.0
12.5°	146.0	144.0	146.0	147.0	147.0	149.0	145.0	148.0
15°	170.0	168.0	171.0	173.0	173.0	176.0	172.0	175.0
17.5°	208.0	207.0	212.0	214.0	215.0	220.0	215.0	219.0
20°	263.0	262.0	269.0	272.0	271.0	281.0	274.0	281.0
22.5°	334.0	332.0	342.0	345.0	346.0	359.0	353.0	358.0
25°	405.0	407.0	412.0	417.0	418.0	429.0	420.0	425.0
27.5°	420.0	417.0	420.0	426.0	427.0	432.0	424.0	428.0
30°	380.0	375.0	376.0	383.0	385.0	387.0	380.0	382.0
32.5°	309.0	301.0	301.0	308.0	310.0	313.0	301.0	306.0
35°	228.0	221.0	221.0	226.0	227.0	229.0	220.0	224.0
37.5°	156.0	150.0	152.0	154.0	155.0	157.0	156.0	155.0
40°	100.0	96.0	99.0	99.0	100.0	101.0	101.0	102.0
42.5°	61.0	58.0	60.0	60.0	61.0	61.0	61.0	62.0
45°	35.0	34.0	34.0	35.0	35.0	35.0	34.0	35.0
47.5°	19.0	18.0	19.0	19.0	19.0	19.0	19.0	19.0
50°	10.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
52.5°	5.0	4.0	4.0	4.0	3.0	4.0	3.0	3.0
55°	3.0	2.0	2.0	2.0	1.0	1.0	0.0	0.0
57.5°	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
60°	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
62.5°	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
65°	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
67.5°	3.0	2.0	1.0	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	2.0	2.0	2.0	1.0	1.0	0.0	0.0
77.5°	3.0	3.0	2.0	2.0	1.0	1.0	1.0	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	2.0	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)