

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: P179888

Luminaire Tested: **LDA6A65927D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179888
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: LDA6A65927D010TE LARH30NF 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 30°
Narrow Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4910.6 lumens
Efficiency: N/A
Efficacy: 63.0 lumens/watt
Spacing Criteria (0/90/45): 2.58 / 0.47 / 1.37
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

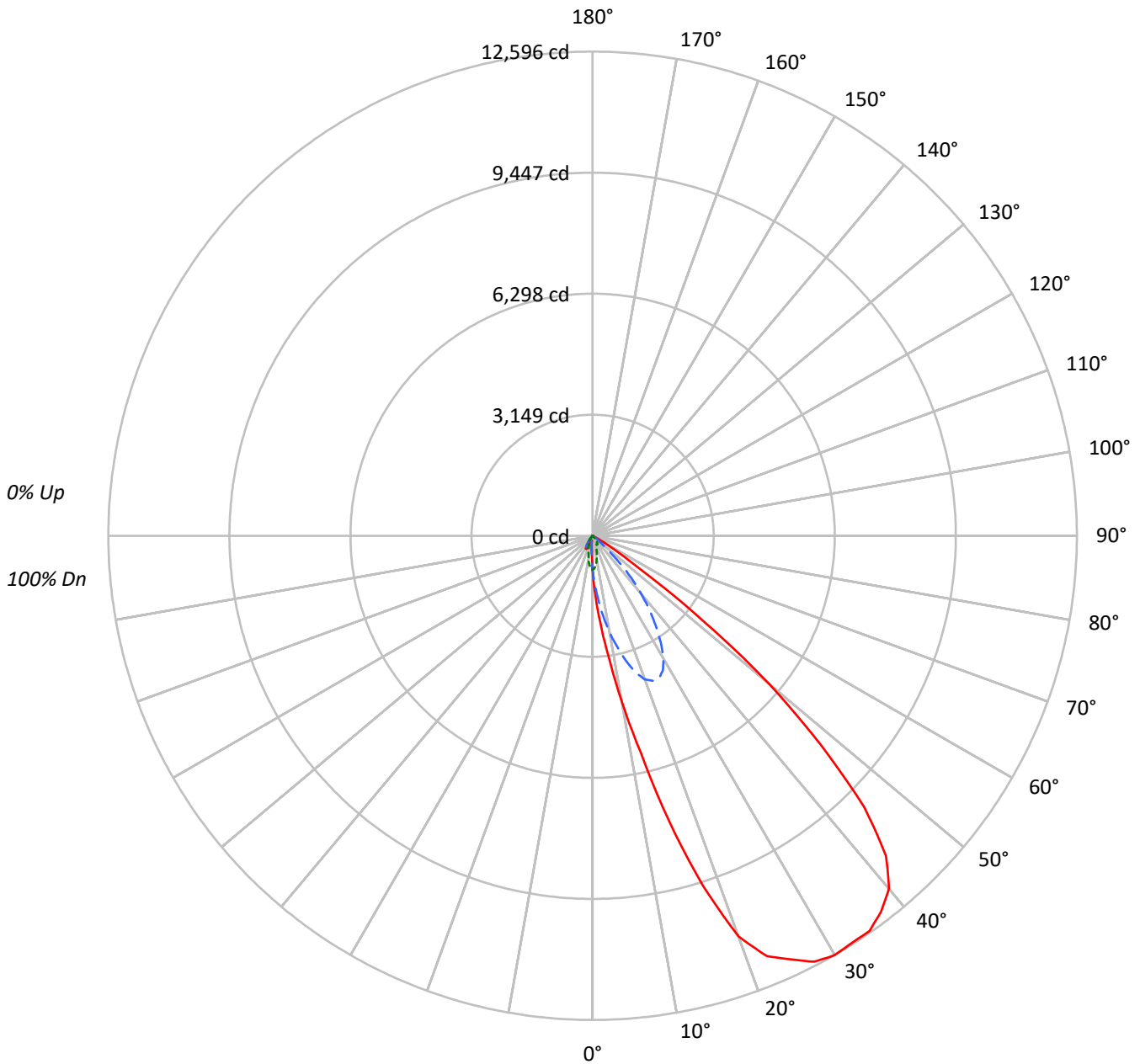
Input Watts (W): 78
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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°	48560	48560	48560
5°	124559	44172	13757
10°	242803	33951	6613
15°	435865	23059	8871
20°	647119	17502	14637
25°	735551	14420	22955
30°	797351	15768	21592
35°	839864	10219	13385
40°	858029	4537	6519
45°	774964	1729	2427
50°	510141	682	682
55°	139704	602	0
60°	27903	691	0
65°	1972	921	0
70°	289	1138	0
75°	0	1694	0
80°	0	2526	284
85°	0	5032	566



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.5	2.2
10°-20°	576.4	11.7
20°-30°	1306.5	26.6
30°-40°	1568.2	31.9
40°-50°	1105.3	22.5
50°-60°	228.1	4.6
60°-70°	8.1	0.2
70°-80°	4.8	0.1
80°-90°	4.7	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°	1991.4	40.6
0°-40°	3559.7	72.5
0°-60°	4893.0	99.6
0°-90°	4910.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4910.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	886	886	886	886	886	
5°	2264	1649	803	334	250	278
15°	7680	3379	406	145	156	2279
25°	12160	4087	238	334	380	5612
35°	12550	2862	153	200	200	7802
45°	9996	981	22	30	31	7352
55°	1462	20	6	4	0	1926
65°	15	4	7	4	0	45
75°	0	4	8	5	0	0
85°	0	5	8	5	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°	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8
2.5°	1509.9	1464.4	1482.2	1429.5	1417.9	1408.1	1417.9	1360.8	1328.6	1287.6	1254.5
5°	2263.5	2209.0	2221.5	2129.6	2087.6	2059.0	2053.7	1935.8	1847.4	1750.1	1649.2
7.5°	3151.1	3099.3	3092.1	2949.3	2862.6	2813.5	2793.0	2624.2	2471.6	2298.3	2109.0
10°	4361.8	4244.0	4207.4	4000.2	3835.0	3730.5	3602.0	3332.3	3064.4	2802.8	2561.7
12.5°	5770.8	5706.5	5615.5	5250.3	4961.0	4812.7	4620.8	4199.3	3793.9	3361.8	2958.2
15°	7679.9	7451.3	7295.9	6768.2	6302.1	6073.5	5793.2	5148.5	4535.9	3988.6	3378.7
17.5°	9545.1	9425.5	9182.6	8497.8	7779.9	7419.1	7001.3	6125.3	5260.1	4481.5	3736.8
20°	11092.5	10980.0	10703.2	10057.7	9261.2	8729.0	8203.1	7001.3	5870.8	4874.4	3976.1
22.5°	11833.6	11762.2	11536.3	10983.6	10305.0	9798.7	9233.5	7746.8	6322.6	5131.5	4085.0
25°	12160.4	12127.4	11981.9	11546.1	10906.8	10477.3	9943.4	8274.5	6603.9	5251.2	4086.8
27.5°	12491.7	12498.0	12176.5	11831.9	11225.6	10813.1	10298.7	8508.5	6654.8	5184.2	3952.9
30°	12596.2	12530.1	12388.1	11893.5	11317.5	10879.1	10327.3	8400.4	6445.9	4909.2	3685.9
32.5°	12553.3	12527.4	12371.2	11847.9	11161.3	10678.2	10051.4	7971.8	6033.3	4516.3	3307.3
35°	12549.7	12501.5	12143.5	11694.3	10848.8	10252.3	9426.4	7278.9	5449.4	3998.4	2861.8
37.5°	12323.0	12203.3	11934.5	11329.2	10214.8	9458.5	8532.6	6432.5	4735.1	3417.1	2419.8
40°	11989.9	11829.2	11475.6	10559.5	9116.5	8245.1	7341.4	5470.8	3978.8	2843.9	1950.1
42.5°	11294.3	11051.5	10551.4	9291.5	7653.1	6867.3	6115.5	4496.7	3244.8	2317.1	1488.5
45°	9996.0	9663.9	8988.0	7604.9	6182.5	5541.4	4936.9	3618.0	2597.5	1718.8	981.3
47.5°	8034.3	7726.3	7111.1	6053.9	4848.5	4306.5	3824.3	2691.2	1760.8	995.6	468.8
50°	5981.6	5717.3	5236.9	4207.4	3254.6	2828.7	2416.2	1528.6	825.0	473.2	194.7
52.5°	3568.9	3437.7	3011.8	2333.2	1607.2	1384.9	1111.7	647.4	416.1	171.4	52.7
55°	1461.7	1349.2	1189.3	954.5	699.1	592.9	507.2	319.7	129.5	35.7	19.6
57.5°	660.7	635.7	563.4	442.9	321.4	269.7	182.2	60.7	28.6	17.9	11.6
60°	254.5	229.5	196.4	106.3	45.5	38.4	31.3	20.5	14.3	9.8	7.1
62.5°	36.6	34.8	31.3	25.0	19.6	17.9	15.2	10.7	8.0	6.3	5.4
65°	15.2	15.2	13.4	10.7	8.9	8.0	7.1	5.4	4.5	4.5	4.5
67.5°	6.3	6.3	5.4	4.5	3.6	3.6	3.6	2.7	3.6	3.6	4.5
70°	1.8	1.8	1.8	1.8	1.8	1.8	2.7	2.7	3.6	3.6	4.5
72.5°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	2.7	3.6	4.5	4.5
75°	0.0	0.0	0.9	0.9	1.8	1.8	1.8	2.7	3.6	4.5	4.5
77.5°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	4.5
80°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	5.4
82.5°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	5.4
85°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	5.4
87.5°	0.0	0.0	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	5.4
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°	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8
2.5°	1226.0	1168.8	1152.7	1102.7	1060.8	1040.2	1014.3	956.3	912.5	854.5	819.7
5°	1578.7	1470.6	1384.9	1280.4	1211.7	1167.0	1097.4	991.1	905.4	802.7	729.5
7.5°	1959.9	1762.6	1608.1	1435.8	1336.7	1259.0	1140.2	987.6	861.7	725.0	611.6
10°	2327.8	2033.1	1790.3	1542.9	1412.6	1304.5	1141.1	949.2	782.2	609.9	490.2
12.5°	2651.9	2271.5	1929.6	1611.7	1450.1	1315.2	1110.8	880.4	678.6	501.8	396.4
15°	2922.5	2456.4	2027.8	1637.6	1452.8	1292.0	1047.4	782.2	563.4	406.3	332.2
17.5°	3127.8	2553.7	2058.1	1606.3	1401.0	1226.0	950.0	658.1	457.2	344.7	279.5
20°	3234.1	2572.5	2014.4	1521.5	1305.4	1126.0	822.4	534.0	387.5	300.0	233.9
22.5°	3247.5	2519.8	1909.9	1400.1	1184.9	1004.5	681.3	445.6	345.6	265.2	206.3
25°	3168.0	2405.5	1760.8	1262.6	1052.7	865.2	554.5	399.1	314.3	238.4	237.5
27.5°	2998.4	2209.0	1582.2	1102.7	892.9	703.6	470.6	360.7	280.4	252.7	268.8
30°	2759.1	1957.2	1362.6	900.9	697.4	541.1	396.4	297.3	246.4	249.1	262.5
32.5°	2434.9	1644.7	1104.5	659.9	499.1	407.2	297.3	202.7	204.5	205.4	217.0
35°	2027.8	1318.8	825.0	443.8	350.9	286.6	167.9	149.1	151.8	152.7	160.7
37.5°	1625.1	1013.4	548.2	295.6	220.5	150.9	104.5	100.0	101.8	100.9	109.8
40°	1244.7	706.3	328.6	146.4	84.8	70.5	64.3	61.6	62.5	63.4	68.8
42.5°	881.3	383.1	162.5	55.4	44.6	41.1	38.4	36.6	37.5	37.5	41.1
45°	447.3	181.3	55.4	30.4	27.7	25.0	23.2	22.3	22.3	22.3	24.1
47.5°	193.8	59.8	25.9	18.8	17.0	16.1	14.3	13.4	13.4	13.4	14.3
50°	60.7	24.1	16.1	12.5	10.7	9.8	8.9	8.9	8.9	8.0	8.9
52.5°	22.3	15.2	10.7	8.0	7.1	7.1	7.1	6.3	7.1	6.3	7.1
55°	13.4	9.8	7.1	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
57.5°	8.9	7.1	6.3	6.3	5.4	5.4	6.3	6.3	6.3	6.3	6.3
60°	6.3	6.3	5.4	5.4	5.4	5.4	6.3	6.3	6.3	6.3	6.3
62.5°	5.4	5.4	5.4	5.4	5.4	5.4	6.3	6.3	6.3	6.3	7.1
65°	4.5	5.4	5.4	5.4	5.4	5.4	6.3	6.3	7.1	7.1	7.1
67.5°	4.5	5.4	5.4	6.3	6.3	6.3	6.3	7.1	7.1	7.1	7.1
70°	5.4	5.4	6.3	6.3	6.3	6.3	7.1	7.1	7.1	7.1	8.0
72.5°	5.4	5.4	6.3	6.3	6.3	6.3	7.1	7.1	8.0	8.0	8.0
75°	5.4	6.3	6.3	6.3	6.3	7.1	7.1	7.1	8.0	8.0	8.0
77.5°	5.4	6.3	6.3	7.1	7.1	7.1	7.1	8.0	8.0	8.0	8.0
80°	5.4	6.3	6.3	7.1	7.1	7.1	8.0	8.0	8.0	8.0	8.9
82.5°	5.4	6.3	6.3	7.1	7.1	7.1	8.0	8.0	8.0	8.0	8.9
85°	6.3	6.3	7.1	7.1	7.1	7.1	8.0	8.0	8.0	8.0	8.9
87.5°	6.3	6.3	7.1	7.1	7.1	7.1	8.0	8.0	8.9	8.0	8.9
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°	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8
2.5°	773.3	721.5	685.7	672.4	646.5	605.4	581.3	559.0	517.0	508.1	484.8
5°	645.6	562.5	503.6	481.3	451.8	417.0	383.1	360.7	333.9	323.2	307.2
7.5°	509.0	425.9	375.0	357.2	336.6	308.1	277.7	255.4	227.7	213.4	200.0
10°	400.0	338.4	295.6	277.7	256.3	225.9	194.7	165.2	141.1	125.9	123.2
12.5°	325.0	274.1	228.6	209.8	184.8	154.5	132.1	131.3	129.5	128.6	130.4
15°	266.1	217.0	168.8	148.2	141.1	140.2	142.9	145.5	144.7	147.3	149.1
17.5°	218.8	166.1	155.4	156.3	157.2	159.8	164.3	171.4	172.3	176.8	180.4
20°	178.6	175.9	180.4	183.9	186.6	192.0	201.8	210.7	213.4	219.7	226.8
22.5°	202.7	210.7	220.5	225.0	228.6	238.4	249.1	263.4	268.8	276.8	286.6
25°	244.7	258.0	273.2	278.6	283.9	300.0	312.5	329.5	333.9	343.8	353.6
27.5°	279.5	293.8	309.8	317.0	321.4	337.5	348.2	358.9	358.9	364.3	371.4
30°	274.1	285.7	299.1	304.5	306.3	317.9	328.6	332.2	330.4	333.1	338.4
32.5°	227.7	236.6	247.3	251.8	253.6	261.6	270.5	270.5	269.7	269.7	273.2
35°	168.8	175.0	180.4	184.8	187.5	192.9	200.9	200.0	200.0	198.2	200.9
37.5°	113.4	117.0	123.2	125.0	125.9	129.5	135.7	135.7	133.9	134.8	136.6
40°	68.8	73.2	76.8	77.7	79.5	82.1	86.6	86.6	86.6	86.6	87.5
42.5°	41.1	43.8	46.4	46.4	47.3	50.9	52.7	52.7	52.7	52.7	53.6
45°	24.1	25.0	26.8	27.7	27.7	29.5	30.4	30.4	30.4	30.4	31.3
47.5°	14.3	15.2	15.2	16.1	16.1	17.0	17.9	17.9	17.0	17.0	17.0
50°	8.9	8.9	8.9	8.9	9.8	9.8	9.8	9.8	9.8	9.8	8.9
52.5°	7.1	7.1	7.1	7.1	6.3	6.3	6.3	6.3	5.4	5.4	4.5
55°	6.3	6.3	6.3	6.3	6.3	5.4	5.4	5.4	4.5	3.6	2.7
57.5°	6.3	6.3	6.3	6.3	6.3	5.4	5.4	4.5	3.6	3.6	2.7
60°	6.3	6.3	6.3	6.3	6.3	5.4	5.4	4.5	3.6	3.6	2.7
62.5°	7.1	7.1	6.3	6.3	6.3	5.4	5.4	4.5	4.5	3.6	2.7
65°	7.1	7.1	6.3	6.3	6.3	6.3	5.4	5.4	4.5	3.6	2.7
67.5°	7.1	7.1	7.1	7.1	6.3	6.3	6.3	5.4	4.5	3.6	2.7
70°	8.0	8.0	7.1	7.1	7.1	6.3	6.3	5.4	4.5	4.5	3.6
72.5°	8.0	8.0	7.1	7.1	7.1	7.1	6.3	5.4	5.4	4.5	3.6
75°	8.0	8.0	8.0	8.0	7.1	7.1	6.3	6.3	5.4	4.5	3.6
77.5°	8.0	8.0	8.0	8.0	7.1	7.1	7.1	6.3	5.4	4.5	3.6
80°	8.0	8.0	8.0	8.0	8.0	7.1	7.1	6.3	5.4	4.5	3.6
82.5°	8.9	8.9	8.0	8.0	8.0	7.1	7.1	6.3	5.4	4.5	4.5
85°	8.9	8.9	8.0	8.0	8.0	7.1	7.1	6.3	5.4	5.4	4.5
87.5°	8.9	8.9	8.0	8.0	8.0	7.1	7.1	6.3	5.4	5.4	4.5
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: P179888

CATALOG NUMBER: LDA6A65927D010TE LARH30NF 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	885.8	885.8	885.8	885.8	885.8	885.8	885.8	885.8
2.5°	470.6	443.8	434.8	441.1	434.0	428.6	421.5	417.9
5°	294.7	275.0	268.8	270.5	264.3	258.9	251.8	250.0
7.5°	181.3	162.5	155.4	155.4	148.2	142.0	137.5	134.8
10°	121.4	117.9	118.8	119.6	118.8	119.6	117.0	118.8
12.5°	130.4	128.6	130.4	131.3	131.3	133.0	129.5	132.1
15°	151.8	150.0	152.7	154.5	154.5	157.2	153.6	156.3
17.5°	185.7	184.8	189.3	191.1	192.0	196.4	192.0	195.5
20°	234.8	233.9	240.2	242.9	242.0	250.9	244.7	250.9
22.5°	298.2	296.4	305.4	308.1	308.9	320.6	315.2	319.7
25°	361.6	363.4	367.9	372.3	373.2	383.1	375.0	379.5
27.5°	375.0	372.3	375.0	380.4	381.3	385.7	378.6	382.2
30°	339.3	334.8	335.7	342.0	343.8	345.6	339.3	341.1
32.5°	275.9	268.8	268.8	275.0	276.8	279.5	268.8	273.2
35°	203.6	197.3	197.3	201.8	202.7	204.5	196.4	200.0
37.5°	139.3	133.9	135.7	137.5	138.4	140.2	139.3	138.4
40°	89.3	85.7	88.4	88.4	89.3	90.2	90.2	91.1
42.5°	54.5	51.8	53.6	53.6	54.5	54.5	54.5	55.4
45°	31.3	30.4	30.4	31.3	31.3	31.3	30.4	31.3
47.5°	17.0	16.1	17.0	17.0	17.0	17.0	17.0	17.0
50°	8.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0
52.5°	4.5	3.6	3.6	3.6	2.7	3.6	2.7	2.7
55°	2.7	1.8	1.8	1.8	0.9	0.9	0.0	0.0
57.5°	1.8	0.9	0.9	0.9	0.0	0.0	0.0	0.0
60°	1.8	0.9	0.9	0.9	0.0	0.0	0.0	0.0
62.5°	1.8	0.9	0.9	0.9	0.0	0.0	0.0	0.0
65°	1.8	0.9	0.9	0.9	0.0	0.0	0.0	0.0
67.5°	2.7	1.8	0.9	0.9	0.9	0.0	0.0	0.0
70°	2.7	1.8	1.8	0.9	0.9	0.0	0.0	0.0
72.5°	2.7	1.8	1.8	1.8	0.9	0.9	0.0	0.0
75°	2.7	1.8	1.8	1.8	0.9	0.9	0.0	0.0
77.5°	2.7	2.7	1.8	1.8	0.9	0.9	0.9	0.0
80°	3.6	2.7	1.8	1.8	1.8	0.9	0.9	0.9
82.5°	3.6	2.7	1.8	1.8	1.8	0.9	0.9	0.9
85°	3.6	2.7	2.7	1.8	1.8	0.9	0.9	0.9
87.5°	3.6	2.7	2.7	1.8	1.8	0.9	0.9	0.9
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)