

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: P179864

Luminaire Tested: **LDA6A55927D010TE LARH20SP 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179864
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26686)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A55927D010TE LARH20SP 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 20° Spot, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3767.0 lumens
Efficiency: N/A
Efficacy: 61.8 lumens/watt
Spacing Criteria (0/90/45): 2.35 / 0.6 / 1.31
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

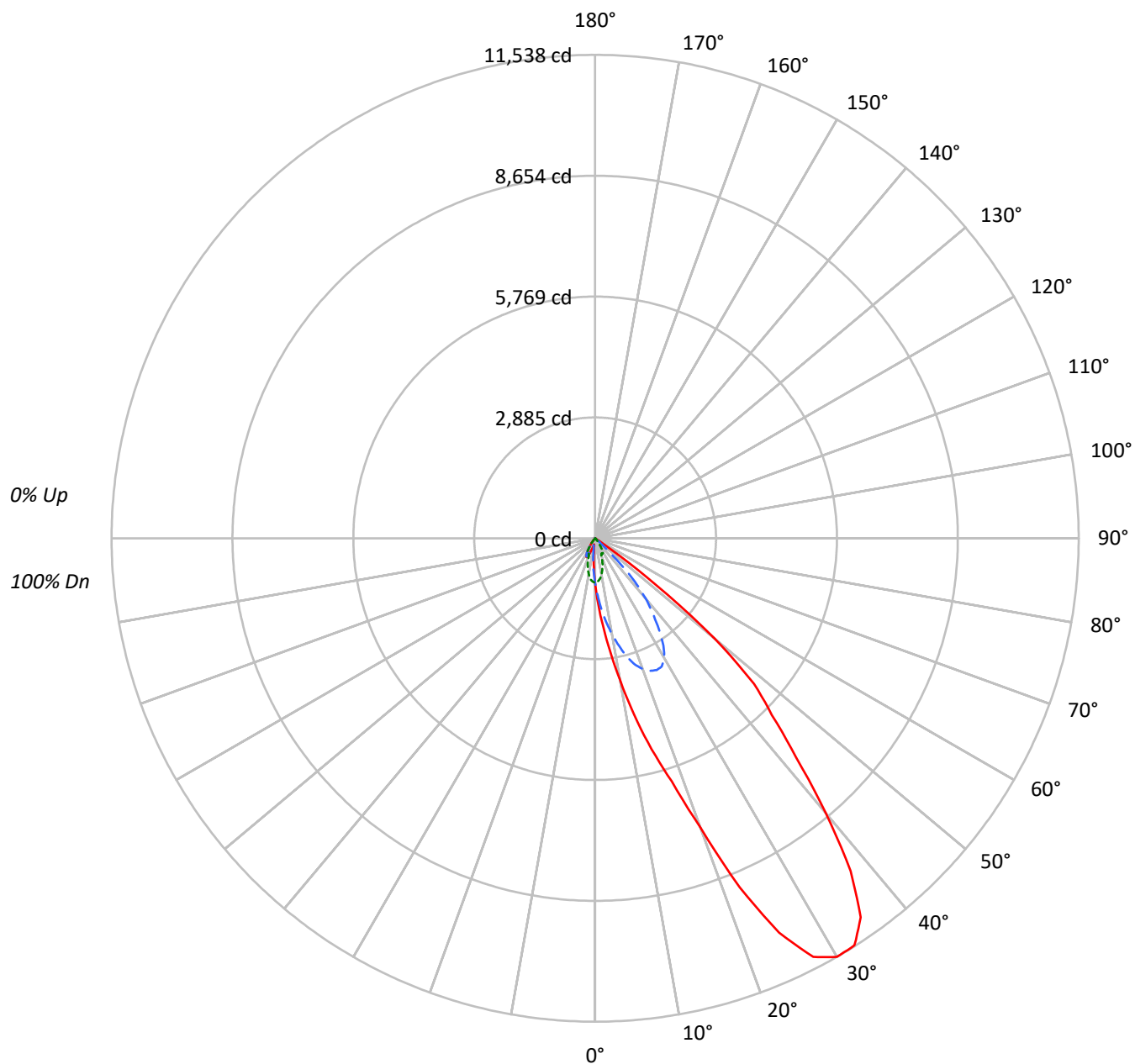
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P179864

CATALOG NUMBER: LDA6A55927D010TE LARH20SP 6LA1LI 30°

Luminous Intensity Polar Plot





TEST NUMBER: P179864

CATALOG NUMBER: LDA6A55927D010TE LARH20SP 6LA1LI 30°

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	112	109	106	104	110	107	104	102	103	101	99		99	97	96		96
2	105	100	95	91	103	98	94	90	95	91	88		92	89	86		89
3	99	91	85	80	96	89	84	80	87	82	78		84	80	77		82
4	92	83	76	71	90	82	76	71	79	74	70		77	73	69		75
5	86	76	69	64	84	75	68	63	73	67	63		71	66	62		69
6	80	69	62	57	79	69	62	57	67	61	56		65	60	56		64
7	75	64	56	51	73	63	56	51	62	55	51		60	55	50		59
8	70	59	51	46	69	58	51	46	57	50	46		56	50	46		54
9	66	54	47	42	64	53	47	42	52	46	42		51	46	42		50
10	61	50	43	38	60	49	43	38	48	42	38		48	42	38		47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	58301	58301	58301
5°	112965	55558	18738
10°	191925	48619	8417
15°	295751	38780	13377
20°	428128	25237	23271
25°	628143	24352	29923
30°	730366	23073	22928
35°	739252	12220	12120
40°	612047	4609	5088
45°	462250	1566	1853
50°	316263	571	571
55°	43994	497	67
60°	1151	493	0
65°	285	675	0
70°	112	833	0
75°	0	1101	0
80°	0	1894	221
85°	0	3774	0



TEST NUMBER: P179864

CATALOG NUMBER: LDA6A55927D010TE LARH20SP 6LA1LI 30°

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.6	3.0
10°-20°	471.6	12.5
20°-30°	1075.8	28.6
30°-40°	1245.0	33.1
40°-50°	750.8	19.9
50°-60°	102.0	2.7
60°-70°	3.3	0.1
70°-80°	3.5	0.1
80°-90°	3.3	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°	1659.0	44.0
0°-40°	2904.0	77.1
0°-60°	3756.9	99.7
0°-90°	3767.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3767.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1064	1064	1064	1064	1064	
5°	2053	1681	1010	552	340	239
15°	5211	2929	683	210	236	1543
25°	10385	3471	403	484	495	4700
35°	11046	2646	183	186	181	6657
45°	5962	721	20	25	24	4662
55°	460	5	5	4	1	902
65°	2	3	5	3	0	3
75°	0	4	5	4	0	0
85°	0	4	6	4	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P179864

CATALOG NUMBER: LDA6A55927D010TE LARH20SP 6LA1LI 30°

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5
2.5°	1537.9	1523.7	1529.7	1514.0	1474.3	1466.1	1465.4	1454.9	1421.2	1395.0	1363.6
5°	2052.8	2052.1	2055.8	2022.2	1952.6	1930.9	1920.4	1894.9	1813.4	1750.5	1680.9
7.5°	2695.7	2691.2	2686.7	2625.4	2516.1	2474.2	2447.2	2355.2	2242.9	2131.4	2007.2
10°	3447.8	3445.6	3428.4	3320.6	3145.5	3068.4	3016.0	2870.1	2689.7	2531.1	2320.0
12.5°	4321.2	4301.0	4270.3	4112.4	3872.2	3788.4	3673.1	3441.9	3165.0	2921.7	2626.9
15°	5211.1	5181.9	5127.2	4924.4	4626.6	4483.6	4340.7	4036.1	3660.4	3307.1	2929.2
17.5°	6081.4	6049.3	5921.3	5577.0	5285.9	5111.5	4952.9	4534.5	4093.0	3638.7	3159.7
20°	7338.7	7222.0	6999.0	6456.4	5915.3	5601.0	5415.4	4973.1	4426.7	3897.6	3323.6
22.5°	9018.1	8759.2	8284.0	7402.4	6629.3	6175.7	5871.9	5283.7	4667.0	4066.8	3424.6
25°	10384.7	10267.2	9726.9	8472.6	7266.1	6731.8	6309.0	5530.6	4842.1	4179.8	3471.0
27.5°	11265.6	11236.4	10618.9	9358.7	7786.3	7085.0	6612.8	5693.8	4926.7	4203.7	3448.6
30°	11538.0	11583.6	10990.9	9659.5	7936.7	7156.1	6639.7	5696.0	4861.6	4095.2	3304.9
32.5°	11517.8	11520.0	10793.3	9399.8	7692.0	6949.6	6415.2	5506.7	4621.3	3823.5	3031.7
35°	11046.3	10930.3	10108.5	8602.0	7122.5	6467.6	5970.7	5140.0	4225.4	3414.9	2646.3
37.5°	10011.3	9859.3	8901.4	7580.5	6448.2	5842.7	5441.6	4658.7	3753.9	2978.6	2248.2
40°	8552.6	8337.1	7546.8	6630.8	5710.2	5255.2	4918.4	4120.7	3249.5	2550.5	1874.7
42.5°	7092.5	6987.0	6464.6	5720.0	5089.8	4661.7	4310.0	3557.1	2764.6	2128.4	1402.5
45°	5962.4	5871.9	5520.9	5029.9	4411.8	4021.1	3682.1	2969.6	2147.9	1427.9	720.7
47.5°	5139.2	5065.9	4729.8	4214.2	3536.2	3108.8	2759.3	1947.3	1216.9	616.7	180.4
50°	3708.3	3633.4	3304.2	2706.9	2094.8	1737.0	1485.6	869.6	345.0	125.0	18.7
52.5°	1817.8	1756.5	1532.7	1147.3	770.1	553.8	404.9	163.1	39.7	13.5	9.0
55°	460.3	422.8	352.5	221.5	108.5	65.1	41.9	15.0	9.7	7.5	5.2
57.5°	26.2	25.4	23.2	17.2	12.7	11.2	9.7	7.5	5.2	4.5	3.7
60°	10.5	9.7	9.0	7.5	6.0	5.2	5.2	3.7	3.0	3.0	3.0
62.5°	4.5	4.5	4.5	3.7	3.0	3.0	3.0	2.2	3.0	3.0	3.0
65°	2.2	2.2	2.2	1.5	1.5	1.5	2.2	2.2	2.2	3.0	3.0
67.5°	1.5	0.7	0.7	0.7	1.5	1.5	1.5	2.2	2.2	3.0	3.0
70°	0.7	0.7	0.7	0.7	1.5	1.5	1.5	2.2	2.2	3.0	3.7
72.5°	0.0	0.7	0.7	0.7	1.5	1.5	1.5	2.2	2.2	3.0	3.7
75°	0.0	0.7	0.7	0.7	1.5	1.5	1.5	2.2	3.0	3.0	3.7
77.5°	0.0	0.7	0.7	0.7	1.5	1.5	1.5	2.2	3.0	3.0	3.7
80°	0.0	0.7	0.7	0.7	1.5	1.5	1.5	2.2	3.0	3.0	3.7
82.5°	0.0	0.0	0.7	0.7	1.5	1.5	1.5	2.2	3.0	3.0	3.7
85°	0.0	0.0	0.7	0.7	1.5	1.5	1.5	2.2	3.0	3.0	3.7
87.5°	0.0	0.0	0.7	0.7	1.5	1.5	1.5	2.2	2.2	3.0	3.7
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: P179864

CATALOG NUMBER: LDA6A55927D010TE LARH20SP 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5
2.5°	1323.2	1296.2	1256.6	1230.4	1204.9	1181.0	1141.3	1118.8	1078.4	1041.0	1008.8
5°	1597.1	1529.7	1448.1	1378.5	1333.6	1289.5	1209.4	1150.3	1076.2	1009.6	948.2
7.5°	1874.0	1755.0	1621.0	1506.5	1436.9	1368.8	1249.1	1153.3	1048.5	953.5	862.9
10°	2125.4	1946.6	1757.2	1593.3	1499.0	1410.7	1252.8	1125.6	990.9	873.4	759.6
12.5°	2358.9	2114.2	1867.2	1653.2	1536.5	1430.2	1237.1	1081.4	921.3	782.1	649.6
15°	2567.0	2252.7	1947.3	1687.6	1550.7	1424.9	1200.4	1019.3	838.9	683.3	515.6
17.5°	2724.9	2338.7	1982.5	1682.4	1525.2	1385.3	1137.6	941.5	751.4	562.8	373.4
20°	2820.7	2375.4	1975.0	1642.0	1470.6	1322.4	1062.7	856.9	645.9	432.6	329.3
22.5°	2861.1	2372.4	1939.8	1581.4	1403.2	1253.6	990.9	774.6	535.1	391.4	343.5
25°	2867.8	2341.7	1890.4	1514.7	1336.6	1187.7	918.3	681.0	464.8	402.6	384.7
27.5°	2816.2	2269.9	1797.6	1419.0	1243.1	1088.9	809.8	541.1	436.3	401.1	413.1
30°	2663.5	2106.0	1633.7	1250.6	1080.7	926.5	578.5	424.3	362.2	364.5	367.5
32.5°	2394.9	1833.6	1370.3	1004.3	818.7	610.7	360.0	283.6	275.4	275.4	273.9
35°	2036.4	1500.5	1075.4	635.4	407.1	293.4	186.3	187.1	183.4	182.6	181.9
37.5°	1665.9	1184.0	681.0	262.7	176.6	122.7	110.0	111.5	110.0	112.3	110.8
40°	1313.4	731.2	248.5	83.8	62.1	59.9	61.4	62.9	62.9	64.4	64.4
42.5°	763.4	242.5	65.1	33.7	33.7	32.2	32.9	34.4	35.2	35.9	35.2
45°	226.8	50.1	21.0	18.7	18.7	18.0	18.0	18.7	19.5	20.2	20.2
47.5°	35.9	14.2	12.0	10.5	10.5	10.5	10.5	10.5	11.2	11.2	12.0
50°	11.2	9.0	7.5	6.7	6.7	6.0	6.0	6.7	6.7	6.7	7.5
52.5°	6.7	5.2	5.2	4.5	5.2	5.2	4.5	5.2	5.2	5.2	6.0
55°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	5.2	5.2	5.2
57.5°	3.7	3.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
60°	3.7	3.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	5.2
62.5°	3.7	3.7	4.5	4.5	4.5	4.5	4.5	4.5	5.2	5.2	5.2
65°	3.7	3.7	4.5	4.5	4.5	4.5	4.5	5.2	5.2	5.2	5.2
67.5°	3.7	4.5	4.5	4.5	4.5	5.2	5.2	5.2	5.2	5.2	5.2
70°	3.7	4.5	4.5	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
72.5°	3.7	4.5	4.5	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
75°	4.5	4.5	4.5	5.2	5.2	5.2	5.2	5.2	5.2	5.2	6.0
77.5°	4.5	4.5	5.2	5.2	5.2	5.2	5.2	5.2	6.0	6.0	6.0
80°	4.5	4.5	5.2	5.2	5.2	5.2	5.2	6.0	6.0	6.0	6.0
82.5°	4.5	4.5	5.2	5.2	5.2	5.2	5.2	6.0	6.0	6.0	6.0
85°	4.5	4.5	5.2	5.2	5.2	5.2	5.2	6.0	6.0	6.0	6.0
87.5°	4.5	4.5	5.2	5.2	5.2	5.2	5.2	6.0	6.0	6.0	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



TEST NUMBER: P179864

CATALOG NUMBER: LDA6A55927D010TE LARH20SP 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5
2.5°	981.1	946.7	930.3	907.1	890.6	853.9	838.9	813.5	792.5	758.1	760.4
5°	895.8	830.7	786.6	752.1	728.2	669.8	630.9	589.7	552.3	505.9	488.7
7.5°	777.6	697.5	630.1	589.0	558.3	480.5	394.4	327.0	276.2	239.5	225.3
10°	659.3	555.3	448.3	384.7	340.5	265.7	227.5	209.6	193.1	172.9	159.4
12.5°	521.6	373.4	276.2	250.7	232.8	208.1	183.4	163.9	167.6	168.4	173.6
15°	356.2	268.7	238.0	220.8	201.3	187.1	195.3	200.6	210.3	211.0	217.8
17.5°	289.6	252.2	227.5	226.8	228.3	236.5	249.2	256.0	268.7	271.7	281.4
20°	289.6	267.9	288.9	288.9	292.6	303.8	320.3	330.0	344.3	349.5	361.5
22.5°	330.0	345.0	371.2	374.2	375.7	387.7	408.6	418.4	434.8	437.8	450.5
25°	402.6	416.1	440.1	442.3	443.0	452.0	467.7	473.0	484.2	478.2	485.7
27.5°	425.8	431.8	446.8	448.3	444.5	448.3	454.3	454.3	458.0	446.0	448.3
30°	374.2	375.7	383.2	383.9	375.7	377.2	377.9	377.2	376.4	363.7	363.7
32.5°	277.7	277.7	287.4	285.1	276.2	278.4	278.4	278.4	277.7	267.2	265.7
35°	184.1	184.9	193.1	191.6	184.9	186.3	186.3	188.6	186.3	180.4	178.9
37.5°	112.3	113.0	116.7	117.5	115.3	116.0	116.7	116.0	117.5	114.5	113.0
40°	65.1	66.6	69.6	70.3	69.6	69.6	70.3	71.1	74.1	70.3	68.9
42.5°	38.2	38.9	40.4	40.4	40.4	40.4	41.2	41.9	42.7	41.9	41.2
45°	21.7	22.5	23.2	23.2	23.9	23.2	23.9	23.9	24.7	23.9	23.9
47.5°	12.7	12.7	13.5	13.5	14.2	13.5	14.2	14.2	14.2	13.5	13.5
50°	7.5	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	7.5	7.5
52.5°	6.0	6.0	6.0	6.0	6.0	5.2	5.2	5.2	5.2	4.5	4.5
55°	5.2	5.2	5.2	5.2	5.2	5.2	4.5	3.7	3.7	3.0	3.0
57.5°	4.5	5.2	5.2	5.2	5.2	4.5	4.5	3.7	3.0	2.2	2.2
60°	5.2	5.2	5.2	5.2	4.5	4.5	4.5	3.7	3.0	2.2	2.2
62.5°	5.2	5.2	5.2	5.2	5.2	4.5	4.5	3.7	3.0	2.2	2.2
65°	5.2	5.2	5.2	5.2	5.2	4.5	4.5	3.7	3.0	2.2	2.2
67.5°	5.2	5.2	5.2	5.2	5.2	4.5	4.5	3.7	3.0	3.0	2.2
70°	5.2	6.0	6.0	5.2	5.2	5.2	4.5	3.7	3.7	3.0	2.2
72.5°	5.2	6.0	6.0	5.2	5.2	5.2	4.5	3.7	3.7	3.0	2.2
75°	6.0	6.0	6.0	6.0	5.2	5.2	4.5	4.5	3.7	3.0	2.2
77.5°	6.0	6.0	6.0	6.0	5.2	5.2	4.5	4.5	3.7	3.0	2.2
80°	6.0	6.0	6.0	6.0	6.0	5.2	5.2	4.5	3.7	3.0	3.0
82.5°	6.0	6.0	6.0	6.0	6.0	5.2	5.2	4.5	3.7	3.0	3.0
85°	6.0	6.0	6.0	6.0	6.0	5.2	5.2	4.5	3.7	3.0	2.2
87.5°	6.0	6.0	6.0	6.0	5.2	5.2	4.5	4.5	3.7	3.0	2.2
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: P179864

CATALOG NUMBER: LDA6A55927D010TE LARH20SP 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5	1063.5
2.5°	732.7	715.5	708.0	720.0	714.0	696.0	699.7	688.5
5°	437.1	410.9	394.4	401.9	377.9	356.2	356.2	340.5
7.5°	211.0	202.8	198.3	199.8	194.6	187.8	184.1	184.1
10°	148.2	145.2	145.9	145.9	150.4	149.7	151.9	151.2
12.5°	175.9	177.4	178.1	181.1	184.9	184.9	187.1	185.6
15°	225.3	223.8	228.3	229.0	235.0	235.7	238.7	235.7
17.5°	286.6	289.6	294.1	293.4	305.3	306.1	306.1	305.3
20°	369.0	371.2	375.7	377.2	391.4	392.9	398.1	398.9
22.5°	458.8	458.8	461.0	464.0	477.5	478.2	480.5	480.5
25°	489.4	485.0	485.7	489.4	496.9	493.9	496.2	494.7
27.5°	449.8	443.0	441.6	446.8	452.0	443.8	446.8	446.8
30°	365.2	359.2	357.7	363.0	366.7	357.7	360.7	362.2
32.5°	267.2	263.4	262.7	266.4	269.4	261.9	264.9	267.2
35°	180.4	178.9	177.4	178.1	182.6	176.6	179.6	181.1
37.5°	114.5	111.5	112.3	113.8	116.7	113.0	116.0	116.0
40°	70.3	68.9	68.9	70.3	71.8	68.9	70.3	71.1
42.5°	41.2	41.2	41.2	41.9	42.7	41.2	41.2	41.9
45°	23.9	23.2	23.2	23.9	24.7	23.2	23.9	23.9
47.5°	13.5	12.7	12.7	13.5	13.5	12.7	13.5	13.5
50°	7.5	6.7	6.7	7.5	7.5	6.7	6.7	6.7
52.5°	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0
55°	2.2	2.2	1.5	1.5	1.5	1.5	1.5	0.7
57.5°	1.5	1.5	0.7	0.7	0.7	0.7	0.0	0.0
60°	1.5	1.5	0.7	0.7	0.7	0.0	0.0	0.0
62.5°	1.5	1.5	0.7	0.7	0.7	0.0	0.0	0.0
65°	1.5	1.5	0.7	0.7	0.7	0.0	0.0	0.0
67.5°	1.5	1.5	0.7	0.7	0.7	0.0	0.0	0.0
70°	2.2	1.5	1.5	0.7	0.7	0.7	0.0	0.0
72.5°	2.2	1.5	1.5	1.5	0.7	0.7	0.0	0.0
75°	2.2	1.5	1.5	1.5	0.7	0.7	0.0	0.0
77.5°	2.2	1.5	1.5	1.5	0.7	0.7	0.7	0.0
80°	2.2	1.5	1.5	1.5	0.7	0.7	0.7	0.7
82.5°	2.2	1.5	1.5	1.5	0.7	0.7	0.7	0.7
85°	2.2	1.5	1.5	1.5	0.7	0.7	0.7	0.0
87.5°	2.2	1.5	1.5	1.5	0.7	0.7	0.7	0.0
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)