

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: P179842

Luminaire Tested: **LDA6A65935D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179842
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26684)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A65935D010TE LARH30NF 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4204.6 lumens
Efficiency: N/A
Efficacy: 53.9 lumens/watt
Spacing Criteria (0/90/45): 2.21 / 1.07 / 1.54
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

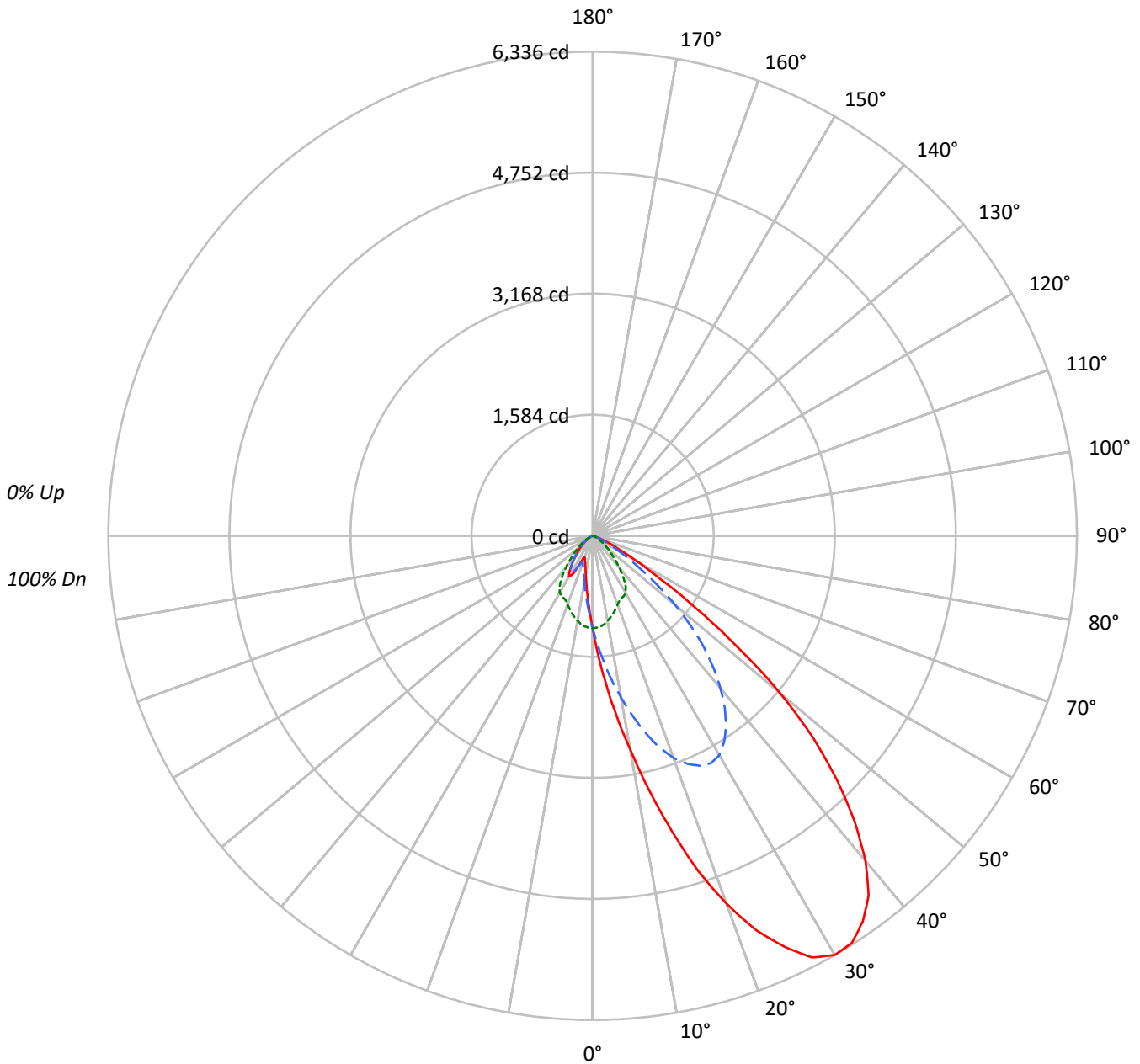
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90																			
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	84	81	79																			
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70																			
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	61																			
5	83	72	64	58	81	71	63	58	69	62	57	67	61	57	65	60	56	54																			
6	77	65	57	51	75	64	57	51	62	56	51	61	55	50	59	54	50	48																			
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	35																			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	66327	66327	66327
5°	105371	65513	42554
10°	158097	62863	28562
15°	226556	59575	21135
20°	299060	55707	17618
25°	358950	54300	25731
30°	401087	54439	38873
35°	412367	48747	33180
40°	397366	38765	24675
45°	350215	28786	18979
50°	273108	21313	13134
55°	157959	15598	8487
60°	73821	10854	3805
65°	34543	5954	1583
70°	16028	2613	1138
75°	6693	1737	1292
80°	2904	1926	1610
85°	629	3208	2579



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.1	3.0
10°-20°	459.3	10.9
20°-30°	909.2	21.6
30°-40°	1175.6	28.0
40°-50°	966.0	23.0
50°-60°	446.6	10.6
60°-70°	102.0	2.4
70°-80°	16.6	0.4
80°-90°	4.2	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°	1493.6	35.5
0°-40°	2669.2	63.5
0°-60°	4081.7	97.1
0°-90°	4204.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4204.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1210	1210	1210	1210	1210	
5°	1915	1646	1190	861	773	211
15°	3992	2670	1050	470	372	1166
25°	5934	3322	898	441	425	2732
35°	6162	3040	728	484	496	3815
45°	4517	2053	371	247	245	3438
55°	1653	799	163	105	89	1553
65°	266	163	46	17	12	305
75°	32	18	8	7	6	42
85°	1	3	5	5	4	3
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°	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9
2.5°	1536.4	1512.9	1527.2	1534.3	1497.6	1505.8	1509.8	1481.3	1473.1	1457.8	1412.9
5°	1914.8	1887.3	1898.5	1898.5	1844.5	1847.5	1845.5	1791.4	1761.8	1723.1	1646.5
7.5°	2360.7	2333.1	2335.2	2325.0	2248.4	2243.3	2210.7	2144.4	2086.2	2014.8	1900.6
10°	2840.1	2823.8	2813.6	2788.1	2687.1	2669.8	2621.8	2516.7	2420.8	2311.7	2150.5
12.5°	3403.3	3370.6	3341.0	3300.2	3168.6	3136.0	3068.7	2916.6	2775.9	2622.8	2409.6
15°	3991.9	3966.4	3918.4	3854.2	3685.8	3633.8	3546.1	3342.1	3166.6	2943.2	2669.8
17.5°	4600.9	4554.0	4483.6	4392.8	4189.8	4116.4	4007.2	3746.0	3513.4	3234.9	2904.4
20°	5126.3	5089.6	4992.7	4875.4	4642.8	4544.8	4416.3	4096.0	3811.3	3480.8	3092.1
22.5°	5582.3	5533.4	5414.0	5272.2	5012.1	4890.7	4745.8	4387.7	4040.9	3657.3	3229.8
25°	5934.3	5897.6	5755.8	5590.5	5304.8	5164.1	5003.9	4597.9	4213.3	3791.9	3321.7
27.5°	6221.0	6158.7	6000.6	5813.9	5505.8	5341.6	5172.2	4727.4	4311.2	3860.3	3356.3
30°	6336.2	6272.0	6104.7	5897.6	5571.1	5390.5	5216.1	4741.7	4304.1	3836.8	3314.5
32.5°	6314.8	6242.4	6063.8	5844.5	5510.9	5318.1	5141.6	4648.9	4202.1	3730.7	3201.3
35°	6161.8	6101.6	5916.9	5687.4	5354.8	5151.8	4967.2	4479.5	4031.7	3566.5	3040.1
37.5°	5931.2	5845.5	5673.1	5442.6	5090.6	4901.9	4719.3	4237.8	3800.1	3339.0	2839.1
40°	5552.7	5449.7	5277.3	5076.3	4741.7	4554.0	4387.7	3937.8	3507.3	3076.8	2599.4
42.5°	5076.3	4995.7	4835.6	4628.5	4321.4	4141.9	3992.9	3560.4	3178.8	2779.9	2335.2
45°	4517.3	4439.7	4303.0	4116.4	3838.9	3682.8	3546.1	3161.5	2817.7	2453.5	2052.6
47.5°	3912.3	3835.8	3716.5	3552.2	3304.3	3169.6	3050.3	2735.1	2410.6	2092.4	1740.4
50°	3202.3	3097.2	3031.9	2894.2	2687.1	2572.9	2481.0	2198.5	1958.7	1702.7	1409.9
52.5°	2390.2	2356.6	2262.7	2165.8	2019.9	1935.2	1875.1	1693.5	1494.5	1308.9	1085.5
55°	1652.7	1622.1	1564.9	1505.8	1407.8	1365.0	1320.1	1209.9	1077.3	950.8	798.8
57.5°	1044.6	1067.1	1030.4	996.7	937.5	922.2	887.5	823.3	741.7	662.1	567.2
60°	673.3	685.5	662.1	642.7	610.1	597.8	581.5	542.7	493.8	447.9	383.6
62.5°	426.4	432.5	419.3	408.1	389.7	384.6	373.4	350.9	321.4	293.8	253.0
65°	266.3	271.4	262.2	255.0	243.8	244.8	234.6	221.4	204.0	186.7	163.2
67.5°	164.2	167.3	161.2	157.1	150.0	150.0	143.8	135.7	124.5	114.3	99.0
70°	100.0	101.0	96.9	94.9	89.8	88.8	85.7	79.6	72.4	65.3	56.1
72.5°	58.1	59.2	56.1	54.1	51.0	51.0	49.0	45.9	42.8	36.7	31.6
75°	31.6	32.6	30.6	29.6	27.5	28.6	26.5	25.5	22.4	20.4	18.4
77.5°	16.3	17.3	16.3	15.3	15.3	15.3	14.3	13.3	13.3	11.2	11.2
80°	9.2	9.2	9.2	9.2	9.2	8.2	8.2	8.2	8.2	8.2	7.1
82.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.1
85°	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.1	3.1
87.5°	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	3.1
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°	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9
2.5°	1399.7	1398.6	1351.7	1331.3	1315.0	1289.5	1271.1	1251.7	1234.4	1202.8	1176.2
5°	1607.8	1579.2	1501.7	1452.7	1422.1	1381.3	1336.4	1291.5	1247.7	1190.5	1143.6
7.5°	1826.1	1764.9	1648.6	1567.0	1520.0	1462.9	1387.4	1317.0	1245.6	1167.1	1099.7
10°	2034.2	1934.2	1786.3	1661.8	1597.6	1524.1	1420.1	1322.1	1228.3	1129.3	1045.7
12.5°	2246.4	2103.6	1910.8	1749.6	1668.0	1577.2	1443.5	1322.1	1205.8	1091.6	992.6
15°	2456.6	2267.8	2028.1	1828.1	1729.2	1621.0	1459.9	1315.0	1178.3	1049.7	939.6
17.5°	2636.1	2402.5	2113.8	1882.2	1765.9	1643.5	1458.8	1293.6	1141.6	1002.8	885.5
20°	2775.9	2499.4	2174.0	1909.7	1779.2	1645.5	1442.5	1261.9	1099.7	954.9	834.5
22.5°	2870.7	2562.6	2204.6	1914.8	1775.1	1634.3	1417.0	1230.3	1062.0	917.1	796.7
25°	2929.9	2594.3	2213.8	1907.7	1760.8	1614.9	1393.5	1202.8	1037.5	897.7	785.5
27.5°	2941.1	2585.1	2195.4	1878.1	1727.1	1580.2	1359.9	1176.2	1016.1	886.5	785.5
30°	2886.0	2525.9	2133.2	1811.8	1663.9	1520.0	1303.8	1128.3	978.3	860.0	768.2
32.5°	2781.0	2416.8	2030.1	1713.9	1570.0	1435.4	1227.3	1059.9	915.1	805.9	723.3
35°	2629.0	2270.9	1896.5	1590.4	1450.7	1325.2	1120.1	967.1	829.4	728.4	651.9
37.5°	2444.3	2095.4	1740.4	1449.7	1317.0	1199.7	1003.8	860.0	732.5	637.6	569.3
40°	2219.9	1905.7	1564.9	1294.6	1168.1	1062.0	881.4	742.7	622.3	541.7	479.5
42.5°	1985.2	1693.5	1378.2	1121.2	1008.9	907.9	747.8	623.3	516.2	449.9	400.9
45°	1743.5	1457.8	1182.4	953.9	869.2	755.9	608.0	507.0	420.3	371.3	332.6
47.5°	1471.1	1229.3	975.3	774.3	685.5	609.0	485.6	404.0	347.9	305.0	275.4
50°	1178.3	985.5	772.3	600.9	527.4	469.3	378.5	322.4	279.5	249.9	227.5
52.5°	905.9	753.9	581.5	440.7	394.8	350.9	294.8	256.1	225.5	203.0	186.7
55°	673.3	549.9	418.3	326.5	293.8	265.2	231.6	201.0	178.5	163.2	150.0
57.5°	474.4	383.6	293.8	236.7	219.3	201.0	175.5	155.1	139.8	127.5	117.3
60°	317.3	261.2	207.1	173.4	161.2	148.9	132.6	118.3	107.1	99.0	88.8
62.5°	213.2	175.5	144.9	124.5	116.3	108.1	96.9	86.7	78.6	70.4	62.2
65°	136.7	116.3	97.9	84.7	78.6	74.5	66.3	59.2	53.0	45.9	39.8
67.5°	83.7	72.4	61.2	53.0	50.0	46.9	41.8	36.7	32.6	27.5	23.5
70°	49.0	42.8	36.7	31.6	30.6	28.6	24.5	21.4	19.4	16.3	14.3
72.5°	28.6	25.5	21.4	19.4	18.4	16.3	15.3	13.3	11.2	10.2	9.2
75°	16.3	14.3	12.2	11.2	11.2	10.2	9.2	9.2	8.2	8.2	7.1
77.5°	10.2	9.2	8.2	8.2	8.2	7.1	7.1	7.1	7.1	6.1	6.1
80°	7.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
82.5°	4.1	4.1	4.1	4.1	4.1	5.1	5.1	5.1	5.1	5.1	6.1
85°	3.1	4.1	4.1	4.1	4.1	4.1	5.1	5.1	5.1	5.1	5.1
87.5°	3.1	4.1	4.1	4.1	4.1	4.1	5.1	5.1	5.1	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9
2.5°	1160.9	1144.6	1094.6	1112.0	1080.4	1054.8	1052.8	1037.5	1011.0	996.7	989.6
5°	1107.9	1071.2	1010.0	1014.0	977.3	937.5	916.1	895.7	861.0	839.6	825.3
7.5°	1042.6	992.6	920.2	915.1	876.3	828.4	797.8	769.2	731.5	703.9	686.6
10°	974.3	913.0	828.4	822.3	781.4	729.4	694.7	662.1	623.3	595.8	577.4
12.5°	911.0	840.6	755.9	740.6	700.9	647.8	610.1	575.4	537.6	514.2	492.7
15°	850.8	774.3	684.5	670.2	631.5	578.4	536.6	506.0	470.3	447.9	428.5
17.5°	790.6	712.1	623.3	607.0	570.3	519.3	482.5	449.9	417.2	395.8	378.5
20°	738.6	660.0	573.3	557.0	523.3	474.4	440.7	410.1	380.5	360.1	345.8
22.5°	704.9	628.4	549.9	535.6	504.0	460.1	428.5	401.9	376.4	357.1	345.8
25°	702.9	636.6	566.2	558.0	531.5	494.8	472.3	456.0	440.7	425.4	421.3
27.5°	715.1	661.1	601.9	599.9	578.4	553.9	543.7	538.6	530.5	525.4	532.5
30°	708.0	662.1	612.1	612.1	595.8	578.4	573.3	571.3	566.2	567.2	575.4
32.5°	670.2	628.4	580.5	581.5	571.3	551.9	548.8	547.8	541.7	540.7	546.8
35°	601.9	563.1	523.3	524.4	516.2	497.8	493.8	491.7	483.6	479.5	483.6
37.5°	523.3	491.7	454.0	454.0	445.8	431.5	427.4	423.4	418.3	414.2	414.2
40°	442.8	417.2	386.6	385.6	379.5	365.2	361.1	358.1	353.0	345.8	347.9
42.5°	374.4	350.9	326.5	324.4	320.3	308.1	304.0	299.9	294.8	288.7	288.7
45°	311.1	295.8	274.4	273.4	269.3	259.1	256.1	251.0	246.9	240.8	240.8
47.5°	259.1	246.9	229.5	228.5	225.5	216.3	213.2	209.1	205.1	201.0	201.0
50°	217.3	205.1	190.8	189.8	187.7	180.6	176.5	173.4	170.4	167.3	165.3
52.5°	178.5	168.3	157.1	156.1	154.0	146.9	143.8	141.8	138.7	133.6	133.6
55°	143.8	135.7	125.5	124.5	122.4	116.3	113.2	109.2	105.1	100.0	99.0
57.5°	112.2	105.1	96.9	95.9	92.8	87.7	82.6	78.6	74.5	70.4	68.4
60°	84.7	76.5	69.4	67.3	65.3	58.1	54.1	50.0	45.9	42.8	40.8
62.5°	57.1	52.0	43.9	42.8	40.8	36.7	31.6	29.6	27.5	25.5	24.5
65°	35.7	31.6	27.5	26.5	24.5	21.4	19.4	18.4	17.3	16.3	15.3
67.5°	21.4	19.4	16.3	16.3	15.3	14.3	12.2	12.2	11.2	11.2	10.2
70°	13.3	12.2	11.2	10.2	10.2	10.2	9.2	9.2	9.2	9.2	9.2
72.5°	9.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
75°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
77.5°	7.1	7.1	6.1	7.1	7.1	7.1	7.1	6.1	7.1	6.1	6.1
80°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
82.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.1	5.1	5.1	5.1
85°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.1
87.5°	5.1	5.1	5.1	5.1	5.1	4.1	4.1	4.1	4.1	3.1	3.1
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: P179842

CATALOG NUMBER: LDA6A65935D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9	1209.9
2.5°	991.6	963.0	974.3	957.9	952.8	948.8	942.6	962.0
5°	819.2	788.6	795.7	779.4	772.3	765.1	758.0	773.3
7.5°	676.4	646.8	649.8	635.6	628.4	620.3	613.1	625.4
10°	565.2	537.6	538.6	525.4	518.2	510.1	504.0	513.1
12.5°	480.5	455.0	455.0	444.8	438.7	429.5	424.4	431.5
15°	416.2	393.8	393.8	383.6	378.5	370.3	365.2	372.4
17.5°	367.3	346.9	346.9	339.7	334.6	327.5	323.4	329.5
20°	334.6	317.3	318.3	311.1	307.1	298.9	296.9	302.0
22.5°	337.7	321.4	323.4	318.3	314.2	308.1	306.0	313.2
25°	422.3	410.1	417.2	417.2	419.3	410.1	414.2	425.4
27.5°	542.7	536.6	547.8	543.7	551.9	551.9	556.0	570.3
30°	586.6	581.5	593.7	592.7	600.9	598.8	600.9	614.1
32.5°	555.0	549.9	560.1	559.0	565.2	560.1	561.1	572.3
35°	487.6	482.5	489.7	488.7	492.7	486.6	489.7	495.8
37.5°	416.2	411.1	415.2	414.2	415.2	408.1	412.1	415.2
40°	349.9	343.8	349.9	345.8	346.9	339.7	340.7	344.8
42.5°	292.8	285.6	290.7	290.7	290.7	285.6	286.7	290.7
45°	243.8	238.7	241.8	240.8	241.8	237.7	240.8	244.8
47.5°	202.0	197.9	200.0	198.9	198.9	194.9	195.9	195.9
50°	166.3	162.2	163.2	162.2	159.1	154.0	153.0	154.0
52.5°	131.6	126.5	126.5	124.5	122.4	118.3	118.3	119.4
55°	96.9	92.8	92.8	91.8	89.8	86.7	86.7	88.8
57.5°	65.3	62.2	63.3	62.2	62.2	58.1	60.2	60.2
60°	39.8	37.7	37.7	36.7	34.7	33.7	32.6	34.7
62.5°	23.5	22.4	22.4	21.4	21.4	20.4	20.4	20.4
65°	15.3	14.3	14.3	13.3	13.3	12.2	11.2	12.2
67.5°	10.2	9.2	9.2	9.2	9.2	8.2	8.2	8.2
70°	9.2	8.2	8.2	8.2	8.2	7.1	7.1	7.1
72.5°	8.2	7.1	8.2	7.1	7.1	7.1	7.1	7.1
75°	7.1	7.1	7.1	6.1	6.1	6.1	6.1	6.1
77.5°	6.1	6.1	6.1	6.1	6.1	5.1	5.1	5.1
80°	6.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
82.5°	5.1	5.1	5.1	5.1	5.1	4.1	4.1	4.1
85°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
87.5°	3.1	3.1	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)