

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: P179634

Luminaire Tested: **LDA6A45935D010TE LARH40FL 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179634
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26669)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A45935D010TE LARH40FL 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 40° Flood
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3243.7 lumens
Efficiency: N/A
Efficacy: 61.2 lumens/watt
Spacing Criteria (0/90/45): 2.14 / 1.07 / 1.49
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

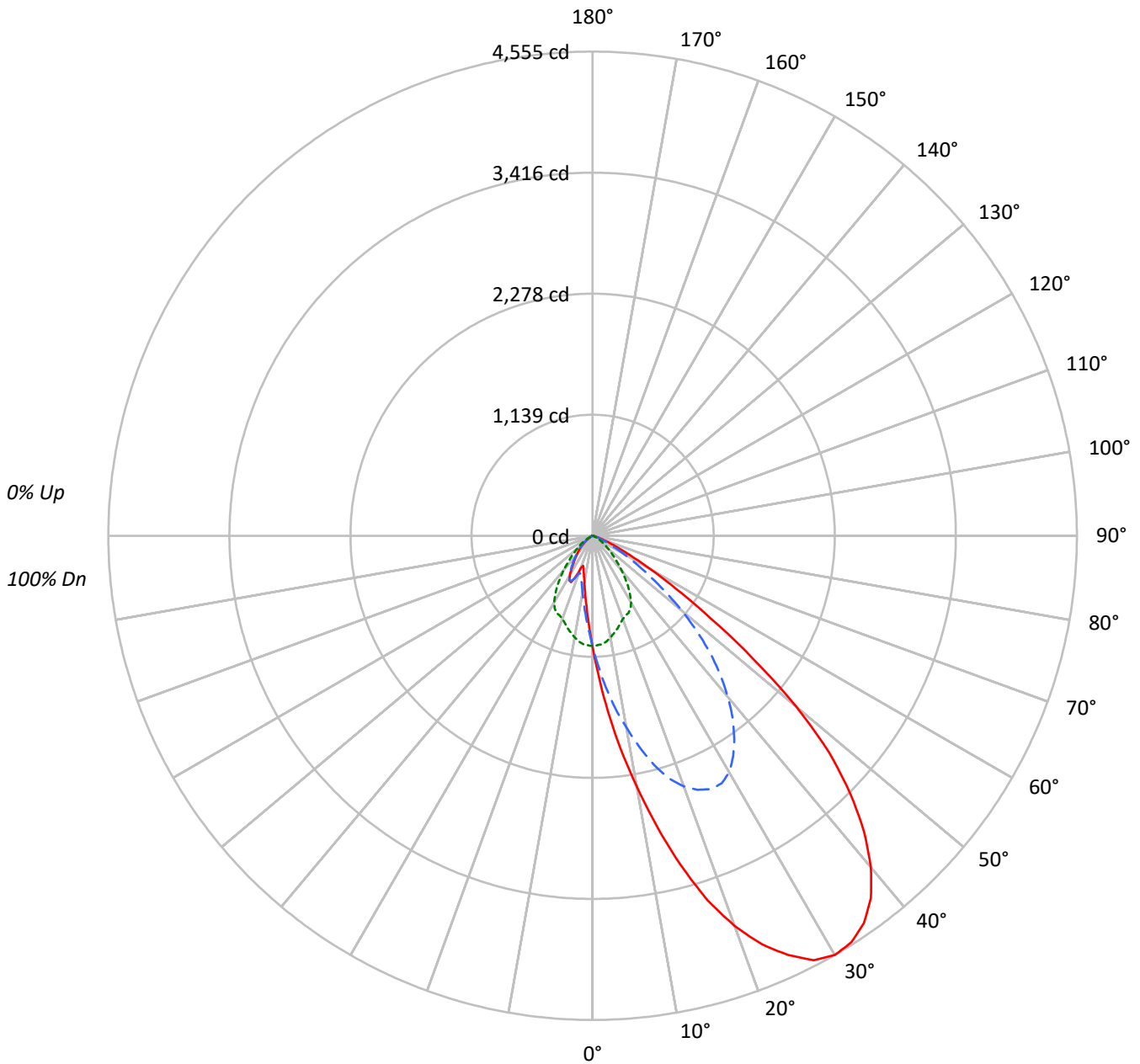
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	100	100	100
1	112	108	105	102	109	106	103	100	102	100	97	98	96	94	95	93	92	90	90	90	90
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	84	81	79	79	79	79
3	96	88	81	76	94	86	80	75	84	78	74	81	77	73	79	75	72	70	70	70	70
4	89	79	72	66	87	78	71	66	76	70	65	74	68	64	71	67	64	62	62	62	62
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56	55	55	55	55
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	49	49	49	49
7	72	59	52	46	70	59	51	46	57	51	46	56	50	45	55	49	45	43	43	43	43
8	67	54	47	41	65	54	46	41	53	46	41	51	45	41	50	45	41	39	39	39	39
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	37	33	32	32	32	32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	56953	56953	56953
5°	91167	56240	36468
10°	133214	54013	24576
15°	182129	51220	18564
20°	227852	48497	18738
25°	263205	48335	29064
30°	288323	45754	27036
35°	297727	38789	20867
40°	291382	30264	16431
45°	265609	22336	12614
50°	213486	16477	8452
55°	129993	11660	4779
60°	67451	7708	1853
65°	32870	4073	882
70°	15083	1763	817
75°	6291	1250	890
80°	3220	1326	1073
85°	2139	2642	1572



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.6	3.3
10°-20°	377.5	11.6
20°-30°	714.8	22.0
30°-40°	865.7	26.7
40°-50°	724.6	22.3
50°-60°	351.1	10.8
60°-70°	86.1	2.7
70°-80°	14.0	0.4
80°-90°	3.4	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°	1198.9	37.0
0°-40°	2064.6	63.6
0°-60°	3140.3	96.8
0°-90°	3243.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3243.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1039	1039	1039	1039	1039	
5°	1657	1427	1022	747	663	181
15°	3209	2231	902	413	327	926
25°	4351	2629	799	470	480	2004
35°	4449	2323	580	335	312	2757
45°	3426	1567	288	175	163	2600
55°	1360	642	122	66	50	1274
65°	253	141	31	10	7	286
75°	30	15	6	5	4	40
85°	3	2	4	3	2	4
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°	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9
2.5°	1318.6	1288.0	1294.8	1299.9	1277.0	1291.4	1266.9	1258.4	1238.0	1243.1	1227.9
5°	1656.7	1614.3	1601.6	1601.6	1563.4	1576.2	1554.1	1515.1	1475.3	1463.5	1427.0
7.5°	2020.2	1973.6	1953.3	1944.8	1888.8	1881.2	1862.6	1802.4	1737.2	1702.4	1638.0
10°	2393.1	2350.7	2321.9	2302.4	2225.3	2211.7	2178.7	2093.9	2011.7	1937.2	1831.2
12.5°	2804.0	2747.3	2709.1	2676.9	2577.8	2556.6	2507.4	2393.9	2264.2	2174.4	2034.6
15°	3209.1	3151.5	3101.5	3054.9	2934.5	2904.0	2837.9	2693.9	2542.2	2408.3	2231.2
17.5°	3594.7	3521.8	3460.8	3398.1	3256.5	3218.4	3132.0	2971.8	2760.0	2608.3	2394.7
20°	3905.7	3834.5	3764.1	3684.5	3522.6	3476.9	3371.8	3182.0	2941.3	2759.1	2510.0
22.5°	4159.9	4079.4	4009.9	3905.7	3723.5	3670.1	3548.9	3333.7	3073.5	2860.8	2587.1
25°	4351.4	4265.8	4194.6	4077.7	3876.0	3814.1	3672.6	3439.6	3155.7	2921.8	2628.6
27.5°	4502.2	4403.9	4323.4	4193.8	3971.8	3902.3	3747.2	3495.5	3188.8	2933.7	2626.9
30°	4554.8	4459.0	4368.3	4228.5	3989.5	3912.4	3751.4	3478.6	3159.1	2884.5	2568.5
32.5°	4531.9	4432.7	4334.4	4186.1	3933.6	3850.6	3687.9	3396.4	3068.4	2779.5	2460.8
35°	4448.8	4348.0	4242.9	4089.5	3825.2	3735.3	3572.6	3271.0	2930.3	2641.3	2322.7
37.5°	4298.0	4197.2	4098.0	3932.8	3662.5	3569.2	3409.1	3096.4	2764.2	2472.7	2162.6
40°	4071.7	3971.8	3880.2	3713.3	3441.3	3347.2	3195.5	2885.4	2565.1	2277.0	1978.7
42.5°	3780.2	3684.5	3602.3	3438.7	3172.7	3082.8	2940.5	2640.5	2341.4	2062.6	1782.1
45°	3426.0	3338.7	3263.3	3109.1	2863.4	2776.9	2650.7	2366.8	2088.0	1827.0	1566.8
47.5°	3017.6	2937.9	2871.8	2729.5	2501.5	2422.7	2314.2	2050.7	1801.6	1563.4	1332.1
50°	2503.2	2433.7	2388.0	2265.1	2061.7	1995.6	1911.7	1689.7	1485.5	1280.4	1088.9
52.5°	1910.0	1855.8	1834.6	1742.2	1584.6	1538.9	1484.6	1314.3	1165.2	1003.3	854.2
55°	1360.1	1324.5	1310.9	1250.8	1147.4	1117.7	1071.1	966.0	866.9	752.5	642.3
57.5°	926.2	907.6	897.4	860.1	796.6	776.2	749.9	682.2	618.6	544.0	465.2
60°	615.2	607.6	599.1	576.2	538.9	523.7	511.0	466.1	427.1	380.5	325.4
62.5°	399.1	395.7	389.8	375.4	361.0	350.8	337.3	307.6	284.7	261.0	219.5
65°	253.4	250.0	247.4	238.1	228.8	218.6	213.5	196.6	182.2	166.9	140.7
67.5°	156.8	154.2	153.4	147.4	140.7	134.7	131.3	120.3	111.9	102.5	85.6
70°	94.1	93.2	91.5	88.1	83.9	79.7	78.0	70.3	65.2	59.3	48.3
72.5°	54.2	53.4	52.5	50.0	47.5	45.8	44.1	41.5	35.6	32.2	27.1
75°	29.7	29.7	28.8	27.1	26.3	24.6	23.7	22.0	19.5	17.8	15.3
77.5°	16.9	16.1	16.1	15.3	14.4	14.4	13.6	12.7	11.0	11.0	9.3
80°	10.2	10.2	10.2	9.3	9.3	9.3	8.5	8.5	7.6	6.8	6.8
82.5°	6.8	5.9	5.9	5.9	5.9	5.9	5.1	5.1	5.1	5.1	4.2
85°	3.4	3.4	3.4	3.4	2.5	3.4	2.5	2.5	2.5	2.5	2.5
87.5°	0.0	0.0	0.8	0.8	0.8	0.8	0.8	1.7	1.7	1.7	2.5
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°	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9
2.5°	1188.1	1179.6	1162.6	1138.9	1130.4	1125.3	1097.4	1072.0	1054.2	1031.3	1009.3
5°	1360.9	1329.6	1288.9	1239.7	1220.3	1203.3	1151.6	1104.2	1065.2	1022.0	981.3
7.5°	1539.7	1481.3	1412.6	1334.7	1302.4	1272.8	1194.8	1124.5	1064.3	1002.5	944.0
10°	1707.5	1618.5	1519.4	1415.2	1366.9	1323.6	1220.3	1129.6	1049.9	970.3	898.2
12.5°	1871.9	1750.7	1619.4	1485.5	1422.8	1366.9	1238.9	1127.9	1029.6	936.4	853.3
15°	2030.4	1873.6	1711.7	1547.3	1471.9	1403.3	1251.6	1122.0	1008.4	902.5	810.1
17.5°	2158.3	1973.6	1777.8	1584.6	1499.9	1420.2	1249.9	1105.0	979.6	864.3	766.0
20°	2248.1	2035.4	1817.7	1601.6	1509.2	1421.1	1237.2	1082.1	949.9	831.3	732.2
22.5°	2299.0	2064.3	1831.2	1601.6	1502.4	1410.1	1219.4	1060.9	927.9	811.8	716.9
25°	2320.2	2069.3	1825.3	1588.0	1485.5	1390.6	1199.1	1040.6	910.1	799.1	711.0
27.5°	2303.2	2039.7	1792.2	1550.7	1445.7	1350.8	1160.1	1005.0	878.8	772.8	688.9
30°	2235.4	1965.1	1718.5	1478.7	1372.8	1280.4	1095.7	945.7	824.5	722.8	643.2
32.5°	2125.3	1856.6	1614.3	1380.4	1275.3	1186.4	1010.1	867.7	751.6	655.0	581.3
35°	1991.4	1727.8	1494.0	1266.0	1165.2	1080.4	914.3	775.4	668.6	579.6	511.8
37.5°	1840.5	1585.5	1354.1	1144.8	1048.2	967.7	812.7	682.2	583.9	501.7	441.5
40°	1671.1	1430.4	1212.6	1014.3	922.8	848.2	701.6	586.4	496.6	422.9	372.0
42.5°	1492.3	1267.7	1065.2	879.6	793.2	725.4	592.3	489.8	411.0	350.8	310.1
45°	1300.8	1093.1	907.6	741.5	669.4	601.7	488.9	395.7	333.9	288.1	257.6
47.5°	1096.5	912.6	749.1	604.2	541.5	482.2	387.3	316.1	271.2	236.4	213.5
50°	891.5	736.4	597.4	473.7	420.3	372.9	300.0	251.7	218.6	193.2	174.6
52.5°	696.6	571.1	457.6	356.8	316.9	283.0	233.0	199.1	174.6	155.1	141.5
55°	522.8	423.7	334.7	259.3	235.6	214.4	181.3	154.2	137.3	122.0	111.9
57.5°	378.8	302.5	238.1	190.7	175.4	161.0	137.3	118.6	105.9	94.1	86.4
60°	266.1	210.2	168.6	139.8	128.0	119.5	100.8	89.0	78.8	70.3	62.7
62.5°	178.8	142.4	117.8	99.1	91.5	85.6	73.7	63.6	55.9	49.1	42.4
65°	114.4	95.8	79.7	66.9	61.9	57.6	50.0	41.5	36.4	31.4	26.3
67.5°	70.3	60.2	50.0	41.5	38.1	35.6	30.5	25.4	22.0	18.6	16.1
70°	40.7	34.7	28.8	24.6	22.9	21.2	17.8	15.3	13.6	11.0	9.3
72.5°	22.9	20.3	16.9	14.4	13.6	12.7	11.0	9.3	8.5	7.6	6.8
75°	13.6	11.9	10.2	9.3	8.5	8.5	7.6	6.8	5.9	5.9	5.1
77.5°	8.5	7.6	6.8	6.8	5.9	5.9	5.9	5.1	5.1	5.1	5.1
80°	5.9	5.9	5.1	5.1	5.1	5.1	4.2	4.2	4.2	4.2	4.2
82.5°	4.2	4.2	4.2	3.4	3.4	3.4	3.4	3.4	4.2	4.2	4.2
85°	2.5	2.5	3.4	3.4	3.4	3.4	3.4	3.4	4.2	4.2	4.2
87.5°	2.5	2.5	2.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9
2.5°	985.5	975.4	956.7	939.8	937.2	913.5	888.9	883.8	875.4	861.8	845.7
5°	940.6	913.5	881.3	857.6	847.4	813.5	779.6	764.4	747.4	721.1	705.9
7.5°	888.1	848.2	803.3	776.2	761.8	719.4	680.5	658.4	635.5	607.6	588.9
10°	830.4	780.5	727.9	697.4	680.5	634.7	593.2	567.8	543.2	515.2	495.7
12.5°	776.2	719.4	661.8	629.6	611.0	563.5	521.1	494.0	469.5	446.6	423.7
15°	727.9	664.4	604.2	572.0	552.5	504.2	463.5	436.4	412.7	390.7	370.3
17.5°	681.3	615.2	555.9	524.5	505.0	460.1	421.2	396.6	373.7	353.4	335.6
20°	649.1	586.4	530.5	500.8	483.9	444.0	411.0	391.5	375.4	357.6	342.3
22.5°	640.6	584.7	536.4	511.8	499.1	467.8	444.0	432.2	427.1	416.1	407.6
25°	640.6	591.5	550.8	530.5	520.3	496.6	477.9	473.7	470.3	463.5	459.3
27.5°	624.5	578.8	542.3	524.5	516.1	494.9	478.8	473.7	469.5	464.4	459.3
30°	582.2	539.8	505.9	489.8	481.3	461.0	444.0	438.1	433.9	426.2	422.0
32.5°	525.4	484.7	456.7	438.1	430.5	411.0	394.9	388.1	384.7	377.9	370.3
35°	461.8	426.2	399.1	383.9	376.2	359.3	344.9	338.1	334.7	327.1	317.8
37.5°	397.4	365.2	343.2	328.8	322.9	309.3	296.6	291.5	288.1	282.2	274.6
40°	333.9	311.0	291.5	280.5	275.4	264.4	253.4	248.3	245.7	240.7	234.7
42.5°	281.3	262.7	247.4	238.1	233.9	225.4	216.1	211.0	208.5	203.4	199.1
45°	235.6	221.2	209.3	200.8	197.4	189.8	182.2	178.0	175.4	171.2	166.9
47.5°	197.4	184.7	174.6	168.6	165.2	159.3	152.5	148.3	146.6	143.2	139.0
50°	161.9	152.5	144.1	139.0	136.4	130.5	124.6	121.2	119.5	116.1	111.9
52.5°	130.5	123.7	116.1	111.0	108.5	104.2	98.3	94.9	92.4	89.0	83.9
55°	102.5	96.6	90.7	85.6	83.9	78.8	73.7	68.6	66.1	62.7	58.5
57.5°	79.7	72.9	66.9	62.7	61.0	55.9	50.8	45.8	43.2	39.0	36.4
60°	56.8	50.8	44.9	42.4	40.7	35.6	31.4	27.1	25.4	22.9	21.2
62.5°	37.3	33.0	28.0	25.4	24.6	21.2	17.8	16.9	15.3	14.4	13.6
65°	22.9	20.3	16.9	15.3	14.4	13.6	11.9	11.0	10.2	9.3	9.3
67.5°	13.6	12.7	11.0	10.2	9.3	8.5	8.5	7.6	7.6	6.8	6.8
70°	9.3	8.5	7.6	6.8	6.8	6.8	6.8	6.8	6.8	5.9	5.9
72.5°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
75°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
77.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.2	4.2
80°	4.2	5.1	5.1	5.1	5.1	4.2	4.2	4.2	4.2	4.2	4.2
82.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
85°	4.2	4.2	4.2	4.2	4.2	3.4	3.4	3.4	3.4	3.4	2.5
87.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	2.5	2.5	2.5	1.7
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: P179634

CATALOG NUMBER: LDA6A45935D010TE LARH40FL 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9	1038.9
2.5°	844.0	836.4	828.8	840.6	839.8	827.9	836.4	822.8
5°	697.4	686.4	677.9	685.5	681.3	669.4	674.5	662.7
7.5°	577.9	565.2	555.0	561.0	554.2	543.2	541.5	536.4
10°	483.0	469.5	460.1	464.4	457.6	447.4	444.9	441.5
12.5°	411.0	398.3	389.8	393.2	386.4	377.1	375.4	377.9
15°	355.1	345.7	339.0	341.5	332.2	327.1	325.4	327.1
17.5°	322.9	312.7	307.6	310.1	303.4	298.3	297.4	296.6
20°	336.4	328.8	327.1	331.3	326.2	322.0	324.6	321.2
22.5°	410.1	409.3	410.1	420.3	417.8	416.1	417.8	417.8
25°	461.8	465.2	466.1	477.1	477.9	476.2	480.5	480.5
27.5°	460.1	461.0	460.1	471.2	472.8	469.5	473.7	474.5
30°	419.5	419.5	416.9	426.2	426.2	424.5	426.2	427.1
32.5°	366.1	365.2	364.4	368.6	368.6	366.1	367.8	367.8
35°	316.1	312.7	312.7	315.2	314.4	311.8	312.7	311.8
37.5°	272.9	268.6	268.6	270.3	267.8	265.2	266.1	266.1
40°	233.0	229.6	229.6	232.2	230.5	227.9	229.6	229.6
42.5°	195.7	194.9	194.9	196.6	196.6	194.9	197.4	198.3
45°	165.2	162.7	162.7	164.4	164.4	162.7	163.5	162.7
47.5°	137.3	134.7	134.7	134.7	133.0	130.5	130.5	129.7
50°	109.3	105.1	104.2	104.2	102.5	100.0	100.0	99.1
52.5°	81.4	77.1	77.1	76.3	74.6	73.7	72.9	72.9
55°	55.9	52.5	53.4	51.7	51.7	50.0	50.8	50.0
57.5°	34.7	33.0	33.0	32.2	30.5	29.7	29.7	28.8
60°	20.3	18.6	18.6	18.6	17.8	16.9	16.9	16.9
62.5°	13.6	12.7	12.7	12.7	11.0	11.0	10.2	10.2
65°	8.5	7.6	7.6	7.6	6.8	6.8	6.8	6.8
67.5°	6.8	6.8	5.9	5.9	5.9	5.9	5.9	5.9
70°	5.9	5.9	5.9	5.9	5.9	5.1	5.1	5.1
72.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
75°	5.1	5.1	4.2	5.1	4.2	4.2	4.2	4.2
77.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
80°	4.2	4.2	4.2	4.2	4.2	3.4	3.4	3.4
82.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
85°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
87.5°	2.5	1.7	1.7	1.7	0.8	0.8	0.8	0.8
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)