

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: P179841

Luminaire Tested: **LDA6A65930D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179841  
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: LDA6A65930D010TE LARH30NF 6LLWW1  
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3938.8 lumens  
Efficiency: N/A  
Efficacy: 50.5 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

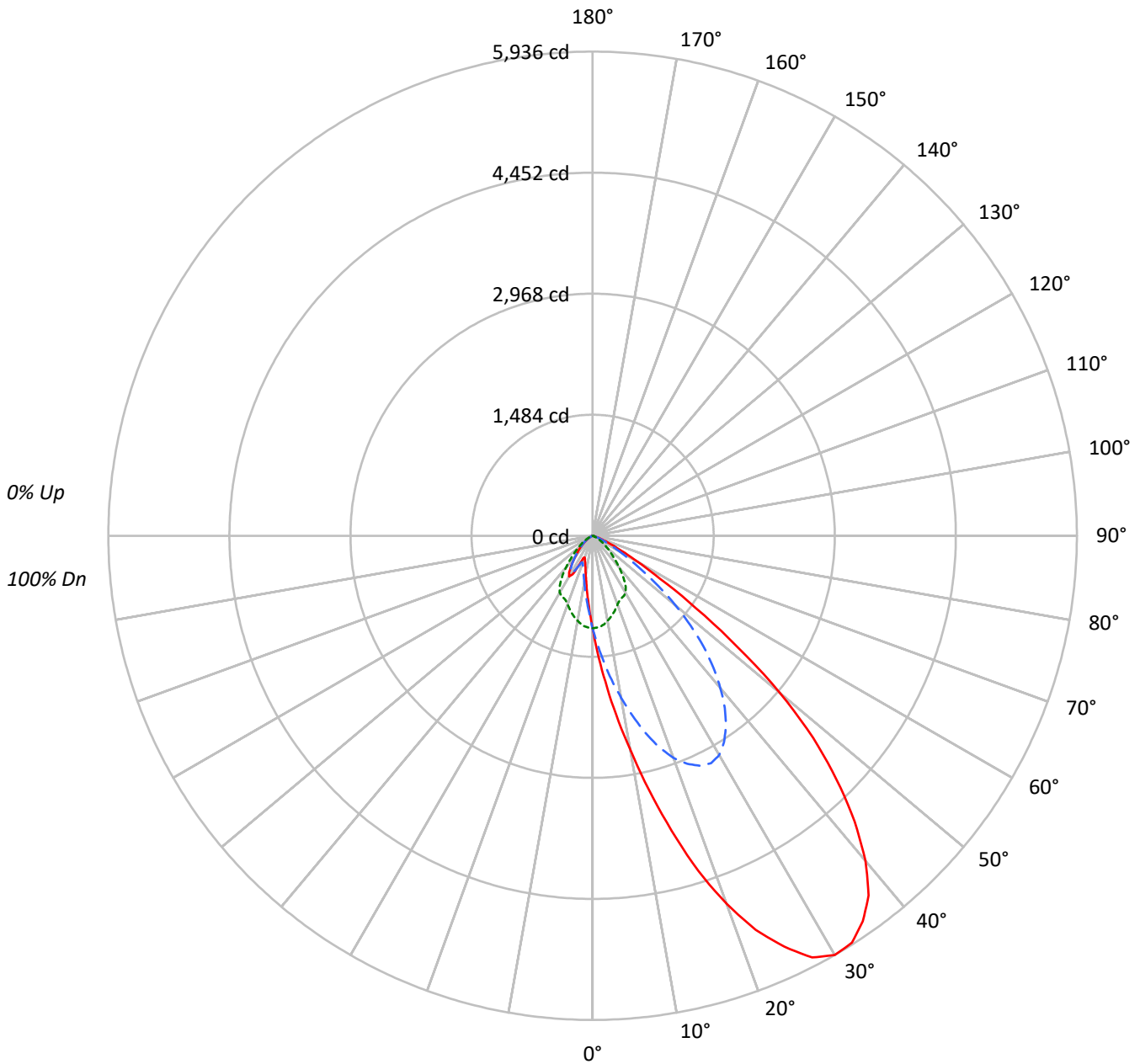
Input Watts (W): 78  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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	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°	62133	62133	62133
5°	98712	61374	39863
10°	148105	58889	26759
15°	212237	55812	19796
20°	280159	52184	16504
25°	336261	50870	24104
30°	375741	50995	36417
35°	386300	45668	31086
40°	372255	36318	23115
45°	328081	26972	17785
50°	255847	19965	12307
55°	147971	14614	7942
60°	69161	10164	3563
65°	32351	5578	1492
70°	15019	2452	1074
75°	6270	1610	1207
80°	2715	1799	1515
85°	629	3019	2390



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.2	3.0
10°-20°	430.2	10.9
20°-30°	851.8	21.6
30°-40°	1101.3	28.0
40°-50°	904.9	23.0
50°-60°	418.3	10.6
60°-70°	95.5	2.4
70°-80°	15.6	0.4
80°-90°	4.0	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°	1399.2	35.5
0°-40°	2500.5	63.5
0°-60°	3823.8	97.1
0°-90°	3938.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3938.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1133	1133	1133	1133	1133	
5°	1794	1542	1115	807	724	198
15°	3740	2501	983	441	349	1092
25°	5559	3112	841	413	398	2560
35°	5772	2848	682	453	464	3574
45°	4232	1923	348	231	229	3220
55°	1548	748	153	98	83	1455
65°	249	153	43	16	12	286
75°	30	17	8	7	6	39
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°	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4
2.5°	1439.3	1417.3	1430.7	1437.4	1402.9	1410.6	1414.4	1387.7	1380.0	1365.7	1323.6
5°	1793.8	1768.0	1778.5	1778.5	1727.9	1730.7	1728.8	1678.2	1650.5	1614.2	1542.5
7.5°	2211.5	2185.7	2187.6	2178.0	2106.3	2101.6	2071.0	2008.9	1954.4	1887.5	1780.4
10°	2660.6	2645.3	2635.8	2611.9	2517.3	2501.0	2456.1	2357.7	2267.8	2165.6	2014.6
12.5°	3188.2	3157.6	3129.9	3091.6	2968.4	2937.8	2874.7	2732.3	2600.4	2457.1	2257.3
15°	3739.6	3715.7	3670.8	3610.6	3452.9	3404.2	3322.0	3130.8	2966.4	2757.2	2501.0
17.5°	4310.1	4266.2	4200.2	4115.2	3925.0	3856.2	3753.9	3509.3	3291.4	3030.5	2720.8
20°	4802.3	4767.9	4677.1	4567.2	4349.3	4257.6	4137.2	3837.1	3570.4	3260.8	2896.7
22.5°	5229.5	5183.6	5071.8	4939.0	4695.3	4581.6	4445.9	4110.4	3785.5	3426.1	3025.7
25°	5559.2	5524.8	5392.0	5237.2	4969.6	4837.7	4687.6	4307.3	3947.0	3552.3	3111.7
27.5°	5827.8	5769.5	5621.3	5446.5	5157.8	5004.0	4845.3	4428.6	4038.7	3616.3	3144.2
30°	5935.8	5875.6	5718.8	5524.8	5219.0	5049.8	4886.4	4442.0	4032.0	3594.3	3105.0
32.5°	5915.7	5847.8	5680.6	5475.1	5162.6	4982.0	4816.7	4355.1	3936.5	3494.9	2998.9
35°	5772.3	5716.0	5543.0	5327.9	5016.4	4826.2	4653.2	4196.4	3776.9	3341.1	2847.9
37.5°	5556.4	5476.1	5314.6	5098.6	4768.9	4592.1	4421.0	3969.9	3559.9	3128.0	2659.7
40°	5201.8	5105.3	4943.8	4755.5	4442.0	4266.2	4110.4	3688.9	3285.6	2882.3	2435.1
42.5°	4755.5	4680.0	4530.0	4335.9	4048.3	3880.1	3740.6	3335.3	2977.9	2604.2	2187.6
45°	4231.8	4159.1	4031.1	3856.2	3596.2	3450.0	3322.0	2961.7	2639.6	2298.4	1922.8
47.5°	3665.1	3593.4	3481.6	3327.7	3095.5	2969.3	2857.5	2562.2	2258.3	1960.1	1630.4
50°	2999.9	2901.5	2840.3	2711.3	2517.3	2410.2	2324.2	2059.5	1834.9	1595.0	1320.8
52.5°	2239.2	2207.6	2119.7	2028.9	1892.3	1812.9	1756.6	1586.4	1400.1	1226.1	1016.8
55°	1548.2	1519.5	1466.0	1410.6	1318.8	1278.7	1236.7	1133.4	1009.2	890.7	748.3
57.5°	978.6	999.6	965.2	933.7	878.3	863.9	831.4	771.2	694.8	620.2	531.4
60°	630.8	642.2	620.2	602.1	571.5	560.0	544.7	508.4	462.6	419.5	359.3
62.5°	399.5	405.2	392.8	382.3	365.1	360.3	349.8	328.8	301.0	275.2	237.0
65°	249.4	254.2	245.6	238.9	228.4	229.4	219.8	207.4	191.1	174.9	152.9
67.5°	153.9	156.7	151.0	147.2	140.5	140.5	134.8	127.1	116.6	107.0	92.7
70°	93.7	94.6	90.8	88.9	84.1	83.1	80.3	74.5	67.9	61.2	52.6
72.5°	54.5	55.4	52.6	50.7	47.8	47.8	45.9	43.0	40.1	34.4	29.6
75°	29.6	30.6	28.7	27.7	25.8	26.8	24.8	23.9	21.0	19.1	17.2
77.5°	15.3	16.2	15.3	14.3	14.3	14.3	13.4	12.4	12.4	10.5	10.5
80°	8.6	8.6	8.6	8.6	8.6	7.6	7.6	7.6	7.6	7.6	6.7
82.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	3.8
85°	1.0	1.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.9	2.9
87.5°	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.9	1.9	1.9	2.9
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4
2.5°	1311.2	1310.2	1266.3	1247.2	1231.9	1208.0	1190.8	1172.6	1156.4	1126.8	1101.9
5°	1506.2	1479.4	1406.8	1360.9	1332.2	1294.0	1251.9	1209.9	1168.8	1115.3	1071.3
7.5°	1710.7	1653.3	1544.4	1467.9	1424.0	1370.5	1299.7	1233.8	1166.9	1093.3	1030.2
10°	1905.6	1812.0	1673.4	1556.8	1496.6	1427.8	1330.3	1238.6	1150.6	1057.9	979.6
12.5°	2104.4	1970.6	1790.0	1639.0	1562.5	1477.5	1352.3	1238.6	1129.6	1022.6	929.9
15°	2301.3	2124.5	1899.9	1712.6	1619.9	1518.6	1367.6	1231.9	1103.8	983.4	880.2
17.5°	2469.5	2250.6	1980.2	1763.2	1654.3	1539.6	1366.6	1211.8	1069.4	939.4	829.5
20°	2600.4	2341.4	2036.6	1789.0	1666.7	1541.5	1351.3	1182.2	1030.2	894.5	781.8
22.5°	2689.3	2400.7	2065.2	1793.8	1662.9	1531.0	1327.4	1152.6	994.9	859.2	746.4
25°	2744.7	2430.3	2073.8	1787.1	1649.5	1512.9	1305.5	1126.8	971.9	841.0	735.9
27.5°	2755.2	2421.7	2056.6	1759.4	1618.0	1480.4	1273.9	1101.9	951.9	830.5	735.9
30°	2703.6	2366.3	1998.3	1697.3	1558.7	1424.0	1221.4	1057.0	916.5	805.6	719.6
32.5°	2605.2	2264.0	1901.8	1605.6	1470.8	1344.7	1149.7	993.0	857.3	755.0	677.6
35°	2462.8	2127.4	1776.6	1489.9	1359.0	1241.4	1049.3	906.0	777.0	682.4	610.7
37.5°	2289.8	1963.0	1630.4	1358.0	1233.8	1123.9	940.4	805.6	686.2	597.3	533.3
40°	2079.6	1785.2	1466.0	1212.8	1094.3	994.9	825.7	695.7	583.0	507.5	449.2
42.5°	1859.8	1586.4	1291.1	1050.3	945.2	850.6	700.5	583.9	483.6	421.5	375.6
45°	1633.3	1365.7	1107.6	893.6	814.2	708.2	569.6	475.0	393.7	347.9	311.6
47.5°	1378.1	1151.6	913.6	725.4	642.2	570.5	454.9	378.5	325.9	285.8	258.0
50°	1103.8	923.2	723.5	562.9	494.1	439.6	354.6	302.0	261.9	234.1	213.1
52.5°	848.6	706.3	544.7	412.9	369.9	328.8	276.2	239.9	211.2	190.2	174.9
55°	630.8	515.1	391.8	305.8	275.2	248.5	216.9	188.3	167.2	152.9	140.5
57.5°	444.4	359.3	275.2	221.7	205.5	188.3	164.4	145.3	130.9	119.5	109.9
60°	297.2	244.7	194.0	162.5	151.0	139.5	124.2	110.9	100.3	92.7	83.1
62.5°	199.7	164.4	135.7	116.6	108.9	101.3	90.8	81.2	73.6	65.9	58.3
65°	128.1	108.9	91.7	79.3	73.6	69.8	62.1	55.4	49.7	43.0	37.3
67.5°	78.4	67.9	57.3	49.7	46.8	44.0	39.2	34.4	30.6	25.8	22.0
70°	45.9	40.1	34.4	29.6	28.7	26.8	22.9	20.1	18.2	15.3	13.4
72.5°	26.8	23.9	20.1	18.2	17.2	15.3	14.3	12.4	10.5	9.6	8.6
75°	15.3	13.4	11.5	10.5	10.5	9.6	8.6	8.6	7.6	7.6	6.7
77.5°	9.6	8.6	7.6	7.6	7.6	6.7	6.7	6.7	6.7	5.7	5.7
80°	6.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
82.5°	3.8	3.8	3.8	3.8	3.8	4.8	4.8	4.8	4.8	4.8	5.7
85°	2.9	3.8	3.8	3.8	3.8	3.8	4.8	4.8	4.8	4.8	4.8
87.5°	2.9	3.8	3.8	3.8	3.8	3.8	4.8	4.8	4.8	4.8	4.8
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°	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4
2.5°	1087.6	1072.3	1025.5	1041.7	1012.1	988.2	986.3	971.9	947.1	933.7	927.0
5°	1037.9	1003.5	946.1	950.0	915.5	878.3	858.2	839.1	806.6	786.5	773.2
7.5°	976.7	929.9	862.0	857.3	820.9	776.0	747.3	720.6	685.2	659.4	643.2
10°	912.7	855.3	776.0	770.3	732.1	683.3	650.8	620.2	583.9	558.1	540.9
12.5°	853.4	787.5	708.2	693.8	656.6	606.9	571.5	539.0	503.6	481.7	461.6
15°	797.0	725.4	641.3	627.9	591.6	541.9	502.7	474.0	440.6	419.5	401.4
17.5°	740.7	667.1	583.9	568.6	534.2	486.4	452.0	421.5	390.9	370.8	354.6
20°	691.9	618.3	537.1	521.8	490.3	444.4	412.9	384.2	356.5	337.4	324.0
22.5°	660.4	588.7	515.1	501.7	472.1	431.0	401.4	376.5	352.6	334.5	324.0
25°	658.5	596.3	530.4	522.8	497.9	463.5	442.5	427.2	412.9	398.5	394.7
27.5°	669.9	619.3	563.9	561.9	541.9	518.9	509.4	504.6	497.0	492.2	498.9
30°	663.2	620.2	573.4	573.4	558.1	541.9	537.1	535.2	530.4	531.4	539.0
32.5°	627.9	588.7	543.8	544.7	535.2	517.0	514.2	513.2	507.5	506.5	512.2
35°	563.9	527.5	490.3	491.2	483.6	466.4	462.6	460.6	453.0	449.2	453.0
37.5°	490.3	460.6	425.3	425.3	417.6	404.3	400.4	396.6	391.8	388.0	388.0
40°	414.8	390.9	362.2	361.2	355.5	342.1	338.3	335.4	330.7	324.0	325.9
42.5°	350.7	328.8	305.8	303.9	300.1	288.6	284.8	281.0	276.2	270.5	270.5
45°	291.5	277.1	257.1	256.1	252.3	242.7	239.9	235.1	231.3	225.5	225.5
47.5°	242.7	231.3	215.0	214.1	211.2	202.6	199.7	195.9	192.1	188.3	188.3
50°	203.6	192.1	178.7	177.8	175.8	169.2	165.3	162.5	159.6	156.7	154.8
52.5°	167.2	157.7	147.2	146.2	144.3	137.6	134.8	132.8	130.0	125.2	125.2
55°	134.8	127.1	117.5	116.6	114.7	108.9	106.1	102.3	98.4	93.7	92.7
57.5°	105.1	98.4	90.8	89.8	87.0	82.2	77.4	73.6	69.8	65.9	64.0
60°	79.3	71.7	65.0	63.1	61.2	54.5	50.7	46.8	43.0	40.1	38.2
62.5°	53.5	48.7	41.1	40.1	38.2	34.4	29.6	27.7	25.8	23.9	22.9
65°	33.4	29.6	25.8	24.8	22.9	20.1	18.2	17.2	16.2	15.3	14.3
67.5°	20.1	18.2	15.3	15.3	14.3	13.4	11.5	11.5	10.5	10.5	9.6
70°	12.4	11.5	10.5	9.6	9.6	9.6	8.6	8.6	8.6	8.6	8.6
72.5°	8.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
75°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
77.5°	6.7	6.7	5.7	6.7	6.7	6.7	6.7	5.7	6.7	5.7	5.7
80°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
82.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	4.8	4.8	4.8	4.8
85°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	3.8
87.5°	4.8	4.8	4.8	4.8	4.8	3.8	3.8	3.8	3.8	2.9	2.9
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: P179841

CATALOG NUMBER: LDA6A65930D010TE LARH30NF 6LLWW1

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4	1133.4
2.5°	928.9	902.2	912.7	897.4	892.6	888.8	883.1	901.2
5°	767.4	738.7	745.4	730.1	723.5	716.8	710.1	724.4
7.5°	633.6	605.9	608.8	595.4	588.7	581.1	574.4	585.8
10°	529.5	503.6	504.6	492.2	485.5	477.8	472.1	480.7
12.5°	450.1	426.2	426.2	416.7	410.9	402.3	397.6	404.3
15°	389.9	368.9	368.9	359.3	354.6	346.9	342.1	348.8
17.5°	344.0	324.9	324.9	318.2	313.5	306.8	303.0	308.7
20°	313.5	297.2	298.2	291.5	287.7	280.0	278.1	282.9
22.5°	316.3	301.0	303.0	298.2	294.4	288.6	286.7	293.4
25°	395.7	384.2	390.9	390.9	392.8	384.2	388.0	398.5
27.5°	508.4	502.7	513.2	509.4	517.0	517.0	520.8	534.2
30°	549.5	544.7	556.2	555.3	562.9	561.0	562.9	575.3
32.5°	519.9	515.1	524.7	523.7	529.5	524.7	525.6	536.1
35°	456.8	452.0	458.7	457.8	461.6	455.9	458.7	464.5
37.5°	389.9	385.1	389.0	388.0	389.0	382.3	386.1	389.0
40°	327.8	322.1	327.8	324.0	324.9	318.2	319.2	323.0
42.5°	274.3	267.6	272.4	272.4	272.4	267.6	268.5	272.4
45°	228.4	223.6	226.5	225.5	226.5	222.7	225.5	229.4
47.5°	189.2	185.4	187.3	186.4	186.4	182.5	183.5	183.5
50°	155.8	152.0	152.9	152.0	149.1	144.3	143.4	144.3
52.5°	123.3	118.5	118.5	116.6	114.7	110.9	110.9	111.8
55°	90.8	87.0	87.0	86.0	84.1	81.2	81.2	83.1
57.5°	61.2	58.3	59.3	58.3	58.3	54.5	56.4	56.4
60°	37.3	35.4	35.4	34.4	32.5	31.5	30.6	32.5
62.5°	22.0	21.0	21.0	20.1	20.1	19.1	19.1	19.1
65°	14.3	13.4	13.4	12.4	12.4	11.5	10.5	11.5
67.5°	9.6	8.6	8.6	8.6	8.6	7.6	7.6	7.6
70°	8.6	7.6	7.6	7.6	7.6	6.7	6.7	6.7
72.5°	7.6	6.7	7.6	6.7	6.7	6.7	6.7	6.7
75°	6.7	6.7	6.7	5.7	5.7	5.7	5.7	5.7
77.5°	5.7	5.7	5.7	5.7	5.7	4.8	4.8	4.8
80°	5.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8
82.5°	4.8	4.8	4.8	4.8	4.8	3.8	3.8	3.8
85°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
87.5°	2.9	2.9	2.9	2.9	2.9	1.9	1.9	1.9
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)