

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: P179857

Luminaire Tested: **LDA6A65930D010TE LARH40FL 6LLWW1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P179857  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26685)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA6A65930D010TE LARH40FL 6LLWW1  
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 40° Flood  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4168.2 lumens  
Efficiency: N/A  
Efficacy: 53.4 lumens/watt  
Spacing Criteria (0/90/45): 2.12 / 1.05 / 1.48  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

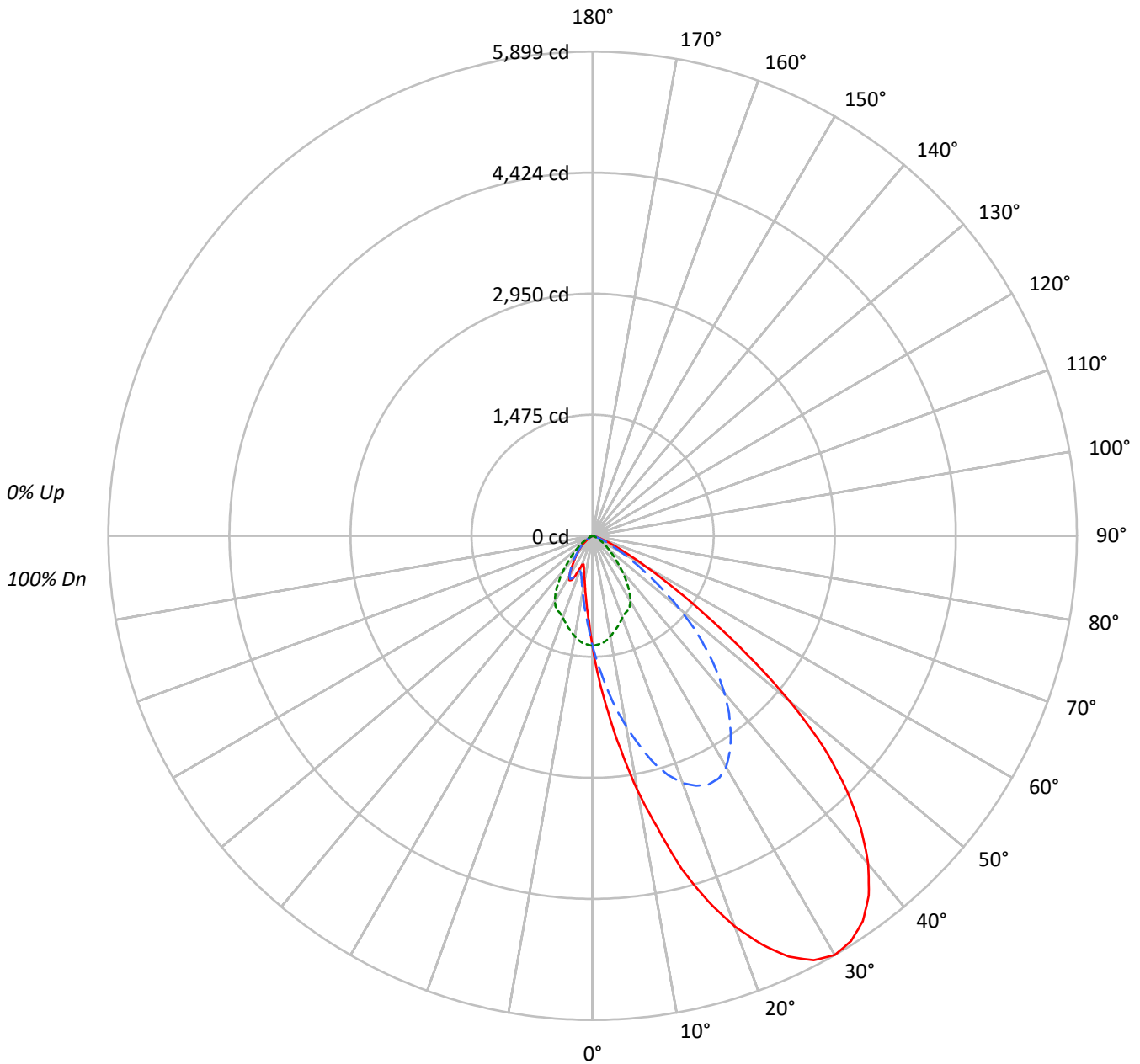
Input Watts (W): 78  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	73766	73766	73766
5°	118539	72309	46120
10°	175286	69265	30961
15°	238861	65517	22997
20°	295432	61827	21801
25°	342268	60868	35784
30°	373431	58319	35816
35°	383797	50400	28014
40°	373750	39667	21819
45°	338888	29336	17188
50°	267002	21679	11658
55°	159201	15436	6671
60°	81408	10273	2511
65°	38928	5448	1116
70°	18385	2452	1074
75°	7498	1610	1207
80°	3631	1799	1200
85°	1824	3019	1824



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.1	3.3
10°-20°	488.0	11.7
20°-30°	918.6	22.0
30°-40°	1118.6	26.8
40°-50°	931.1	22.3
50°-60°	445.9	10.7
60°-70°	107.1	2.6
70°-80°	16.9	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°	1544.7	37.1
0°-40°	2663.2	63.9
0°-60°	4040.3	96.9
0°-90°	4168.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4168.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1346	1346	1346	1346	1346	
5°	2154	1827	1314	956	838	236
15°	4209	2859	1154	524	405	1206
25°	5658	3342	1006	570	592	2599
35°	5735	2935	753	439	419	3553
45°	4371	1962	378	233	222	3310
55°	1666	809	162	91	70	1569
65°	300	175	42	13	9	343
75°	35	18	8	7	6	48
85°	3	3	5	4	3	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°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1740.3	1679.1	1698.2	1694.4	1690.6	1670.5	1656.2	1643.7	1612.2	1612.2	1572.1
5°	2154.1	2082.4	2100.5	2087.2	2070.0	2039.4	2011.7	1980.1	1921.8	1897.0	1827.2
7.5°	2627.1	2545.9	2562.1	2535.4	2499.1	2458.0	2413.0	2353.8	2261.1	2204.7	2096.7
10°	3148.9	3033.3	3042.8	3002.7	2942.5	2887.1	2844.0	2731.3	2599.4	2505.7	2354.8
12.5°	3643.0	3541.7	3544.5	3488.2	3401.2	3333.3	3268.4	3119.3	2943.4	2809.6	2610.9
15°	4208.7	4084.5	4054.9	3978.4	3864.7	3781.6	3692.7	3504.4	3283.7	3106.9	2859.3
17.5°	4664.6	4536.5	4517.4	4445.7	4283.3	4182.9	4071.1	3859.0	3579.0	3359.2	3055.3
20°	5064.1	4936.9	4904.5	4811.8	4625.4	4510.7	4376.0	4125.6	3819.8	3549.3	3206.2
22.5°	5390.9	5251.4	5205.5	5090.8	4883.4	4754.4	4590.0	4316.7	3975.6	3673.6	3296.1
25°	5658.5	5499.8	5441.5	5311.6	5078.4	4936.0	4755.4	4449.6	4077.8	3744.3	3341.9
27.5°	5829.5	5670.9	5606.9	5457.8	5195.9	5043.0	4846.2	4515.5	4114.1	3753.8	3332.4
30°	5899.3	5734.9	5662.3	5493.1	5211.2	5049.7	4844.2	4486.8	4067.3	3685.0	3252.1
32.5°	5856.3	5694.8	5613.6	5430.1	5136.7	4962.8	4757.3	4376.0	3944.0	3548.4	3112.6
35°	5734.9	5575.3	5491.2	5295.3	4989.5	4807.9	4603.4	4208.7	3772.0	3367.8	2934.8
37.5°	5525.6	5374.6	5278.1	5084.1	4776.4	4591.0	4388.4	3989.9	3543.6	3163.2	2729.4
40°	5222.7	5079.3	4983.8	4776.4	4485.9	4298.6	4107.4	3703.2	3282.7	2911.9	2493.3
42.5°	4836.6	4704.7	4613.0	4411.3	4134.2	3949.8	3774.9	3386.9	2986.4	2633.8	2238.2
45°	4371.2	4256.5	4166.7	3999.4	3726.1	3551.2	3393.6	3041.9	2652.9	2328.9	1962.0
47.5°	3823.6	3729.0	3642.0	3490.1	3243.5	3078.2	2948.2	2626.2	2296.5	1991.6	1679.1
50°	3130.7	3062.9	2995.0	2837.4	2663.4	2519.1	2424.5	2137.8	1871.2	1632.3	1373.3
52.5°	2360.5	2319.4	2271.6	2158.8	2042.2	1958.2	1874.1	1656.2	1456.4	1278.7	1077.0
55°	1665.7	1644.7	1607.4	1561.6	1472.7	1415.3	1342.7	1231.8	1077.0	957.6	809.4
57.5°	1125.8	1120.0	1094.2	1066.5	1017.8	998.7	937.5	865.8	778.9	690.0	584.9
60°	742.5	730.1	724.4	709.1	671.8	656.5	634.6	588.7	535.2	473.1	408.1
62.5°	477.8	471.1	466.4	459.7	436.7	436.7	414.8	393.7	353.6	315.4	273.3
65°	300.1	294.3	293.4	288.6	280.0	276.2	259.9	244.6	225.5	204.5	174.9
67.5°	193.0	184.4	179.7	176.8	171.1	164.4	158.6	152.0	136.7	124.2	105.1
70°	114.7	107.0	106.1	107.0	100.3	99.4	93.7	88.9	78.4	70.7	59.3
72.5°	65.0	61.2	60.2	60.2	56.4	55.4	51.6	48.7	43.0	37.3	32.5
75°	35.4	32.5	32.5	32.5	30.6	29.6	27.7	26.8	22.9	21.0	18.2
77.5°	20.1	19.1	19.1	18.2	17.2	16.2	15.3	15.3	13.4	12.4	11.5
80°	11.5	11.5	11.5	11.5	10.5	10.5	9.6	9.6	8.6	8.6	7.6
82.5°	6.7	6.7	6.7	6.7	6.7	6.7	5.7	5.7	5.7	5.7	4.8
85°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	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°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1553.9	1525.2	1523.3	1481.3	1454.5	1432.5	1416.3	1396.2	1351.3	1326.5	1308.3
5°	1778.5	1719.2	1688.7	1612.2	1570.2	1532.9	1487.0	1439.2	1365.6	1314.0	1272.0
7.5°	2011.7	1913.2	1848.2	1734.5	1677.2	1618.9	1541.5	1464.1	1363.7	1286.3	1222.3
10°	2228.6	2089.1	1985.9	1833.0	1758.4	1682.0	1573.0	1468.9	1343.7	1244.3	1160.2
12.5°	2441.7	2258.2	2115.8	1921.8	1831.0	1736.4	1596.9	1466.0	1318.8	1199.4	1100.9
15°	2645.3	2415.0	2233.4	1999.2	1893.2	1779.4	1612.2	1457.4	1290.1	1154.4	1042.6
17.5°	2807.7	2534.4	2316.5	2047.0	1927.6	1798.6	1606.5	1432.5	1251.0	1106.7	984.3
20°	2919.5	2610.9	2362.4	2066.1	1935.2	1796.6	1584.5	1398.1	1209.9	1059.8	935.6
22.5°	2979.8	2645.3	2374.8	2060.4	1923.7	1778.5	1557.7	1366.6	1177.4	1027.3	908.8
25°	3001.7	2648.1	2361.4	2035.6	1897.9	1749.8	1526.2	1337.0	1151.6	1006.3	895.5
27.5°	2975.9	2608.0	2312.7	1984.0	1844.4	1698.2	1475.5	1294.9	1113.3	975.7	871.6
30°	2888.0	2514.3	2217.1	1892.2	1755.6	1615.1	1395.3	1217.5	1051.2	921.3	821.9
32.5°	2748.5	2376.7	2082.4	1766.1	1634.2	1499.4	1289.2	1120.0	965.2	842.9	754.0
35°	2575.5	2212.4	1925.7	1618.9	1494.7	1367.6	1167.8	1008.2	863.0	753.1	666.1
37.5°	2379.6	2029.8	1752.7	1470.8	1344.6	1225.2	1031.2	894.5	755.0	654.6	575.3
40°	2159.8	1820.5	1568.2	1294.0	1183.1	1074.2	894.5	770.3	643.2	554.3	485.5
42.5°	1924.7	1608.4	1375.2	1128.6	1017.8	918.4	756.9	645.1	532.3	458.7	404.2
45°	1675.3	1396.2	1172.6	951.8	851.5	765.5	618.3	517.0	434.8	378.4	337.3
47.5°	1414.4	1167.8	969.0	777.0	688.1	613.5	495.0	417.6	352.6	311.5	280.0
50°	1151.6	931.8	774.1	610.7	534.2	475.0	387.0	333.5	285.7	254.2	230.3
52.5°	900.2	720.6	592.5	460.6	402.3	361.2	302.0	264.7	228.4	204.5	186.4
55°	665.1	542.8	432.9	334.5	300.1	274.3	232.2	205.5	179.7	161.5	148.1
57.5°	480.7	389.0	308.7	245.6	222.7	205.5	174.9	156.7	138.6	125.2	114.7
60°	337.3	268.5	217.9	179.7	163.4	152.0	130.0	118.5	105.1	93.7	83.1
62.5°	221.7	180.6	152.0	127.1	117.5	108.9	93.7	85.1	73.6	65.9	56.4
65°	144.3	118.5	101.3	85.1	77.4	73.6	63.1	56.4	48.7	42.0	36.3
67.5°	87.9	73.6	64.0	53.5	49.7	45.9	39.2	34.4	29.6	24.8	22.0
70°	48.7	43.0	37.3	31.5	28.7	26.8	22.9	21.0	17.2	15.3	12.4
72.5°	28.7	24.8	22.0	18.2	17.2	16.2	13.4	12.4	10.5	9.6	8.6
75°	17.2	14.3	13.4	11.5	10.5	10.5	9.6	8.6	7.6	7.6	6.7
77.5°	10.5	9.6	8.6	7.6	7.6	7.6	6.7	6.7	6.7	5.7	5.7
80°	6.7	6.7	6.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
82.5°	4.8	4.8	4.8	3.8	4.8	3.8	4.8	4.8	4.8	4.8	4.8
85°	2.9	2.9	3.8	3.8	3.8	3.8	3.8	4.8	4.8	4.8	4.8
87.5°	2.9	2.9	3.8	3.8	3.8	3.8	3.8	4.8	4.8	4.8	3.8
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°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1287.3	1251.9	1226.1	1207.0	1213.7	1180.2	1169.7	1133.4	1120.0	1120.0	1100.9
5°	1229.0	1172.6	1128.6	1100.9	1099.0	1051.2	1026.4	980.5	955.7	937.5	919.3
7.5°	1159.2	1086.6	1028.3	994.8	985.3	928.9	895.5	849.6	812.3	788.4	766.4
10°	1084.7	997.7	931.8	893.5	879.2	818.0	774.1	732.0	691.9	667.1	644.1
12.5°	1013.0	918.4	845.8	806.6	788.4	725.3	680.4	636.5	598.2	572.4	549.5
15°	947.1	846.7	770.3	731.1	711.0	648.9	604.0	561.0	523.7	499.8	478.8
17.5°	884.9	782.7	706.2	668.0	646.0	588.7	545.7	503.6	470.2	448.2	429.1
20°	838.1	736.8	666.1	632.6	610.7	557.2	519.9	483.6	455.9	439.6	421.4
22.5°	818.0	724.4	664.2	633.6	618.3	575.3	549.5	523.7	505.5	502.7	491.2
25°	815.2	733.0	683.3	657.5	647.9	615.4	600.2	583.9	570.5	574.4	576.3
27.5°	802.8	726.3	685.2	663.2	655.6	628.8	617.4	602.1	592.5	597.3	599.2
30°	759.8	689.0	650.8	632.6	625.0	598.2	588.7	571.5	563.8	564.8	563.8
32.5°	692.9	626.0	590.6	574.4	565.8	541.9	531.3	516.1	504.6	503.6	501.7
35°	611.6	551.4	518.9	504.6	496.0	475.9	466.4	452.0	438.6	437.7	435.8
37.5°	528.5	475.0	447.2	434.8	427.2	410.9	399.5	389.9	381.3	377.5	376.5
40°	448.2	400.4	380.4	370.8	365.1	347.9	342.1	332.6	325.9	322.1	321.1
42.5°	372.7	339.3	323.0	314.4	309.6	297.2	290.5	282.9	276.2	272.4	271.4
45°	316.3	288.6	273.3	266.6	262.8	251.3	246.6	238.9	233.2	230.3	229.4
47.5°	263.8	241.8	231.3	223.6	222.7	213.1	206.4	200.7	195.0	192.1	191.1
50°	216.0	197.8	189.2	184.4	183.5	173.9	169.2	164.4	159.6	156.7	154.8
52.5°	177.8	160.6	154.8	148.1	147.2	138.6	134.7	130.0	125.2	121.4	118.5
55°	140.5	127.1	121.4	115.6	114.7	105.1	101.3	95.6	90.8	87.0	83.1
57.5°	107.0	96.5	90.8	85.1	84.1	77.4	70.7	65.9	61.2	56.4	53.5
60°	78.4	67.9	61.2	58.3	55.4	48.7	44.0	40.1	36.3	33.4	30.6
62.5°	51.6	44.0	39.2	35.4	33.4	28.7	25.8	22.9	21.0	20.1	19.1
65°	31.5	26.8	22.9	21.0	21.0	18.2	16.2	14.3	13.4	13.4	12.4
67.5°	19.1	16.2	14.3	13.4	12.4	11.5	10.5	10.5	9.6	9.6	8.6
70°	11.5	10.5	9.6	8.6	8.6	8.6	8.6	8.6	7.6	7.6	7.6
72.5°	8.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	6.7	6.7	6.7
75°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	5.7
77.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
80°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	4.8	4.8	4.8
82.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
85°	4.8	4.8	4.8	4.8	4.8	4.8	3.8	3.8	3.8	3.8	3.8
87.5°	4.8	3.8	3.8	3.8	3.8	3.8	2.9	2.9	2.9	2.9	1.9
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: P179857

CATALOG NUMBER: LDA6A65930D010TE LARH40FL 6LLWW1

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6	1345.6
2.5°	1091.4	1099.0	1087.5	1079.9	1072.3	1078.0	1051.2	1039.8
5°	902.1	893.5	887.8	881.1	869.7	871.6	848.6	838.1
7.5°	746.4	740.6	726.3	718.7	707.2	707.2	686.2	677.6
10°	623.1	614.5	601.1	594.4	583.9	575.3	564.8	556.2
12.5°	529.4	519.9	508.4	502.7	492.2	485.5	475.0	476.9
15°	459.7	450.1	439.6	433.9	425.3	418.6	410.0	405.2
17.5°	410.9	402.3	393.7	388.0	381.3	375.6	367.9	367.0
20°	407.1	400.4	395.6	391.8	386.1	382.3	378.4	373.7
22.5°	487.4	488.3	489.3	489.3	490.3	490.3	491.2	481.7
25°	575.3	585.8	585.8	588.7	597.3	597.3	595.4	591.6
27.5°	598.2	608.8	605.9	607.8	616.4	618.3	611.6	612.6
30°	560.0	569.6	563.8	564.8	570.5	570.5	561.9	565.8
32.5°	496.0	501.7	494.1	494.1	498.9	497.9	492.2	492.2
35°	428.1	431.0	424.3	427.2	427.2	424.3	418.6	418.6
37.5°	369.8	370.8	364.1	365.1	365.1	362.2	356.5	356.5
40°	314.4	317.3	311.5	313.5	311.5	308.7	305.8	304.9
42.5°	265.7	267.6	262.8	265.7	264.7	264.7	263.8	264.7
45°	223.6	225.5	221.7	223.6	224.6	223.6	220.8	221.7
47.5°	185.4	187.3	187.3	185.4	184.4	179.7	176.8	176.8
50°	150.0	149.1	148.1	145.3	142.4	139.5	136.7	136.7
52.5°	112.8	110.9	109.9	107.0	106.1	103.2	103.2	100.3
55°	77.4	76.5	76.5	73.6	73.6	70.7	69.8	69.8
57.5°	48.7	46.8	47.8	45.9	44.9	42.0	42.0	41.1
60°	27.7	26.8	26.8	25.8	24.8	22.9	22.9	22.9
62.5°	18.2	17.2	17.2	16.2	16.2	15.3	15.3	14.3
65°	11.5	10.5	10.5	9.6	9.6	8.6	8.6	8.6
67.5°	8.6	7.6	7.6	7.6	7.6	7.6	6.7	6.7
70°	7.6	7.6	6.7	6.7	6.7	6.7	6.7	6.7
72.5°	6.7	6.7	6.7	6.7	5.7	5.7	5.7	5.7
75°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
77.5°	5.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8
80°	4.8	4.8	4.8	4.8	4.8	4.8	3.8	3.8
82.5°	4.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
85°	3.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9
87.5°	1.9	1.9	1.9	1.9	1.0	1.0	1.0	1.0
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)