

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: P179840

Luminaire Tested: **LDA6A65927D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179840
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: LDA6A65927D010TE LARH30NF 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3680.3 lumens
Efficiency: N/A
Efficacy: 47.2 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

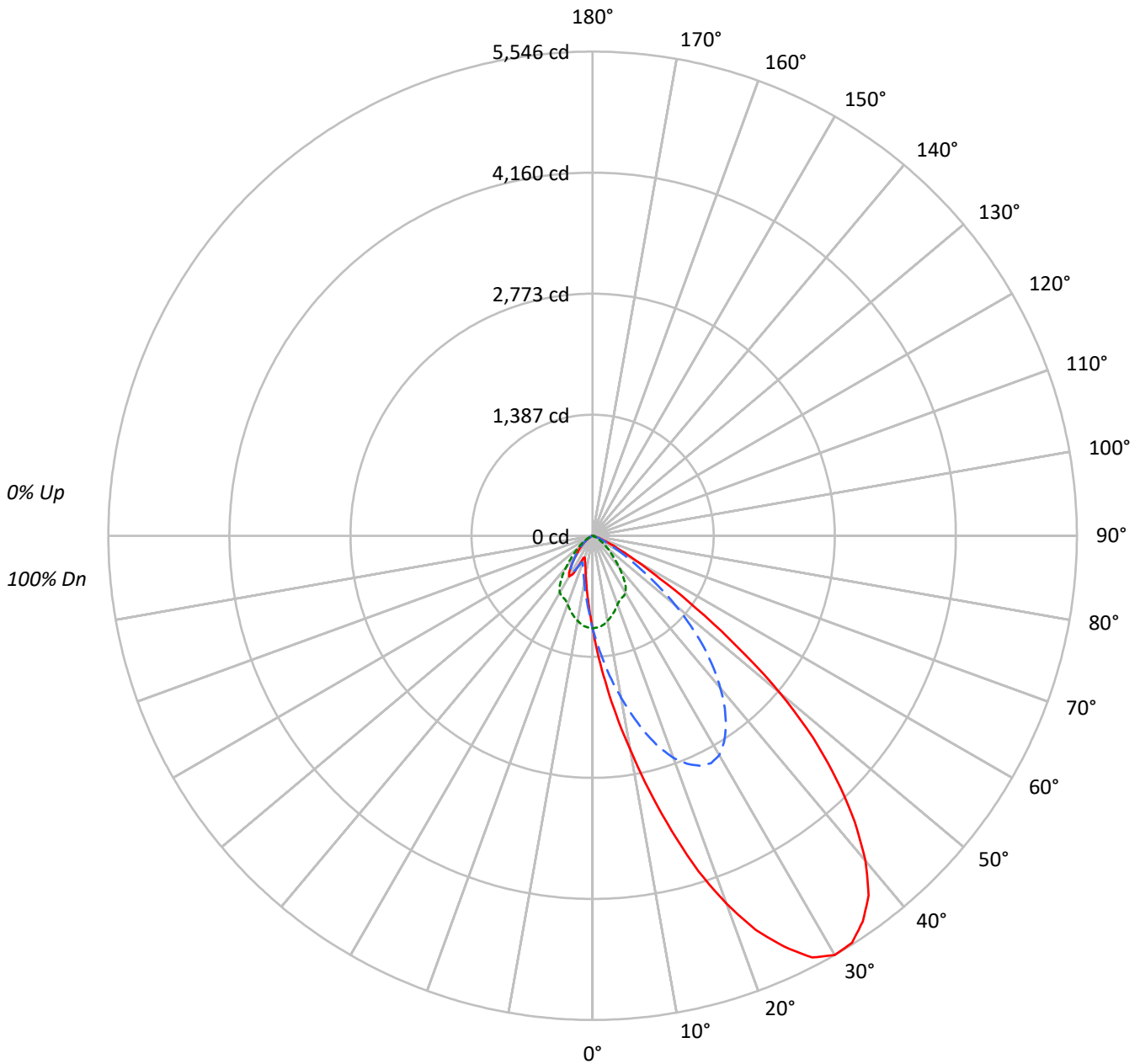
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	58055	58055	58055
5°	92230	57346	37244
10°	138380	55026	25000
15°	198304	52146	18496
20°	261764	48759	15419
25°	314183	47531	22525
30°	351073	47647	34024
35°	360943	42670	29045
40°	347816	33935	21598
45°	306536	25196	16614
50°	239045	18660	11496
55°	138260	13658	7426
60°	64611	9495	3333
65°	30237	5215	1388
70°	14025	2292	1010
75°	5867	1504	1144
80°	2526	1705	1421
85°	566	2830	2264



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.5	3.0
10°-20°	402.0	10.9
20°-30°	795.8	21.6
30°-40°	1029.0	28.0
40°-50°	845.5	23.0
50°-60°	390.9	10.6
60°-70°	89.2	2.4
70°-80°	14.6	0.4
80°-90°	3.7	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°	1307.3	35.5
0°-40°	2336.3	63.5
0°-60°	3572.7	97.1
0°-90°	3680.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3680.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1059	1059	1059	1059	1059	
5°	1676	1441	1042	754	677	185
15°	3494	2337	919	412	326	1021
25°	5194	2907	786	386	372	2392
35°	5393	2661	638	423	434	3339
45°	3954	1797	325	216	214	3009
55°	1447	699	143	92	78	1360
65°	233	143	40	15	11	267
75°	28	16	7	6	5	37
85°	1	3	4	4	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°	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0
2.5°	1344.8	1324.2	1336.7	1343.0	1310.8	1318.0	1321.6	1296.5	1289.4	1276.0	1236.7
5°	1676.0	1651.9	1661.8	1661.8	1614.4	1617.1	1615.3	1568.0	1542.1	1508.2	1441.2
7.5°	2066.3	2042.2	2043.9	2035.0	1968.0	1963.6	1935.0	1877.0	1826.1	1763.6	1663.5
10°	2485.9	2471.7	2462.7	2440.4	2352.0	2336.8	2294.9	2202.9	2118.9	2023.4	1882.3
12.5°	2978.8	2950.3	2924.4	2888.7	2773.5	2744.9	2686.0	2552.9	2429.7	2295.7	2109.1
15°	3494.1	3471.8	3429.8	3373.5	3226.2	3180.7	3103.9	2925.3	2771.7	2576.1	2336.8
17.5°	4027.2	3986.1	3924.5	3845.0	3667.3	3603.0	3507.5	3278.9	3075.3	2831.5	2542.2
20°	4487.0	4454.9	4370.0	4267.4	4063.8	3978.0	3865.5	3585.2	3336.0	3046.7	2706.5
22.5°	4886.2	4843.3	4738.8	4614.7	4387.0	4280.8	4154.0	3840.5	3536.9	3201.2	2827.0
25°	5194.2	5162.1	5038.0	4893.3	4643.3	4520.1	4379.9	4024.5	3687.8	3319.1	2907.4
27.5°	5445.1	5390.7	5252.3	5088.9	4819.2	4675.4	4527.2	4137.9	3773.6	3378.9	2937.8
30°	5546.1	5489.8	5343.4	5162.1	4876.3	4718.3	4565.6	4150.4	3767.3	3358.3	2901.2
32.5°	5527.3	5463.9	5307.6	5115.7	4823.7	4654.9	4500.4	4069.1	3678.0	3265.5	2802.0
35°	5393.4	5340.7	5179.1	4978.1	4687.0	4509.3	4347.7	3920.9	3528.9	3121.7	2661.0
37.5°	5191.6	5116.5	4965.6	4763.8	4455.8	4290.6	4130.7	3709.3	3326.2	2922.6	2485.1
40°	4860.3	4770.1	4619.2	4443.3	4150.4	3986.1	3840.5	3446.7	3069.9	2693.1	2275.2
42.5°	4443.3	4372.7	4232.5	4051.3	3782.5	3625.3	3495.0	3116.4	2782.4	2433.3	2043.9
45°	3953.9	3886.1	3766.4	3603.0	3360.1	3223.5	3103.9	2767.2	2466.3	2147.5	1796.6
47.5°	3424.4	3357.5	3253.0	3109.2	2892.2	2774.4	2669.9	2394.0	2110.0	1831.4	1523.4
50°	2802.9	2711.0	2653.8	2533.3	2352.0	2252.0	2171.6	1924.3	1714.4	1490.3	1234.0
52.5°	2092.2	2062.7	1980.5	1895.7	1768.0	1693.9	1641.2	1482.3	1308.2	1145.6	950.1
55°	1446.6	1419.8	1369.8	1318.0	1232.3	1194.8	1155.5	1059.0	942.9	832.2	699.2
57.5°	914.4	934.0	901.9	872.4	820.6	807.2	776.9	720.6	649.2	579.5	496.5
60°	589.3	600.1	579.5	562.6	534.0	523.3	509.0	475.0	432.2	392.0	335.7
62.5°	373.2	378.6	367.0	357.2	341.1	336.6	326.8	307.2	281.3	257.2	221.4
65°	233.1	237.5	229.5	223.2	213.4	214.3	205.4	193.8	178.6	163.4	142.9
67.5°	143.8	146.4	141.1	137.5	131.3	131.3	125.9	118.8	108.9	100.0	86.6
70°	87.5	88.4	84.8	83.0	78.6	77.7	75.0	69.6	63.4	57.1	49.1
72.5°	50.9	51.8	49.1	47.3	44.6	44.6	42.9	40.2	37.5	32.1	27.7
75°	27.7	28.6	26.8	25.9	24.1	25.0	23.2	22.3	19.6	17.9	16.1
77.5°	14.3	15.2	14.3	13.4	13.4	13.4	12.5	11.6	11.6	9.8	9.8
80°	8.0	8.0	8.0	8.0	8.0	7.1	7.1	7.1	7.1	7.1	6.3
82.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.6
85°	0.9	0.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.7	2.7
87.5°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.8	1.8	1.8	2.7
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°	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0
2.5°	1225.1	1224.2	1183.1	1165.3	1151.0	1128.7	1112.6	1095.6	1080.5	1052.8	1029.6
5°	1407.3	1382.3	1314.4	1271.5	1244.8	1209.0	1169.8	1130.5	1092.1	1042.1	1001.0
7.5°	1598.4	1544.8	1443.0	1371.6	1330.5	1280.5	1214.4	1152.8	1090.3	1021.5	962.6
10°	1780.5	1693.0	1563.5	1454.6	1398.3	1334.1	1243.0	1157.3	1075.1	988.5	915.3
12.5°	1966.3	1841.2	1672.5	1531.4	1460.0	1380.5	1263.5	1157.3	1055.5	955.4	868.8
15°	2150.2	1985.0	1775.2	1600.1	1513.5	1418.9	1277.8	1151.0	1031.3	918.8	822.4
17.5°	2307.4	2102.9	1850.2	1647.5	1545.7	1438.5	1276.9	1132.2	999.2	877.8	775.1
20°	2429.7	2187.7	1902.9	1671.6	1557.3	1440.3	1262.6	1104.6	962.6	835.8	730.4
22.5°	2512.7	2243.1	1929.6	1676.0	1553.7	1430.5	1240.3	1076.9	929.6	802.8	697.4
25°	2564.5	2270.7	1937.7	1669.8	1541.2	1413.5	1219.8	1052.8	908.1	785.8	687.6
27.5°	2574.3	2262.7	1921.6	1643.9	1511.7	1383.2	1190.3	1029.6	889.4	776.0	687.6
30°	2526.1	2210.9	1867.1	1585.9	1456.4	1330.5	1141.2	987.6	856.3	752.7	672.4
32.5°	2434.2	2115.4	1777.0	1500.1	1374.2	1256.4	1074.2	927.8	801.0	705.4	633.1
35°	2301.1	1987.7	1660.0	1392.1	1269.8	1159.9	980.4	846.5	726.0	637.6	570.6
37.5°	2139.5	1834.1	1523.4	1268.9	1152.8	1050.1	878.7	752.7	641.1	558.1	498.3
40°	1943.0	1668.0	1369.8	1133.1	1022.4	929.6	771.5	650.1	544.7	474.2	419.7
42.5°	1737.7	1482.3	1206.4	981.3	883.1	794.7	654.5	545.6	451.8	393.8	350.9
45°	1526.0	1276.0	1034.9	834.9	760.8	661.7	532.2	443.8	367.9	325.0	291.1
47.5°	1287.6	1076.0	853.7	677.7	600.1	533.1	425.0	353.6	304.5	267.0	241.1
50°	1031.3	862.6	676.0	525.9	461.7	410.8	331.3	282.2	244.7	218.8	199.1
52.5°	792.9	659.9	509.0	385.8	345.6	307.2	258.1	224.1	197.3	177.7	163.4
55°	589.3	481.3	366.1	285.7	257.2	232.2	202.7	175.9	156.3	142.9	131.3
57.5°	415.2	335.7	257.2	207.2	192.0	175.9	153.6	135.7	122.3	111.6	102.7
60°	277.7	228.6	181.3	151.8	141.1	130.4	116.1	103.6	93.8	86.6	77.7
62.5°	186.6	153.6	126.8	108.9	101.8	94.7	84.8	75.9	68.8	61.6	54.5
65°	119.7	101.8	85.7	74.1	68.8	65.2	58.0	51.8	46.4	40.2	34.8
67.5°	73.2	63.4	53.6	46.4	43.8	41.1	36.6	32.1	28.6	24.1	20.5
70°	42.9	37.5	32.1	27.7	26.8	25.0	21.4	18.8	17.0	14.3	12.5
72.5°	25.0	22.3	18.8	17.0	16.1	14.3	13.4	11.6	9.8	8.9	8.0
75°	14.3	12.5	10.7	9.8	9.8	8.9	8.0	8.0	7.1	7.1	6.3
77.5°	8.9	8.0	7.1	7.1	7.1	6.3	6.3	6.3	6.3	5.4	5.4
80°	6.3	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
82.5°	3.6	3.6	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	5.4
85°	2.7	3.6	3.6	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5
87.5°	2.7	3.6	3.6	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0
2.5°	1016.2	1001.9	958.1	973.3	945.6	923.3	921.5	908.1	884.9	872.4	866.2
5°	969.7	937.6	884.0	887.6	855.4	820.6	801.9	784.0	753.6	734.9	722.4
7.5°	912.6	868.8	805.4	801.0	767.0	725.1	698.3	673.3	640.2	616.1	600.9
10°	852.8	799.2	725.1	719.7	684.0	638.5	608.1	579.5	545.6	521.5	505.4
12.5°	797.4	735.8	661.7	648.3	613.4	567.0	534.0	503.6	470.6	450.0	431.3
15°	744.7	677.7	599.2	586.7	552.7	506.3	469.7	442.9	411.6	392.0	375.0
17.5°	692.0	623.3	545.6	531.3	499.2	454.5	422.4	393.8	365.2	346.5	331.3
20°	646.5	577.7	501.8	487.5	458.1	415.2	385.8	359.0	333.1	315.2	302.7
22.5°	617.0	550.1	481.3	468.8	441.1	402.7	375.0	351.8	329.5	312.5	302.7
25°	615.2	557.2	495.6	488.4	465.2	433.1	413.4	399.1	385.8	372.4	368.8
27.5°	626.0	578.6	526.8	525.0	506.3	484.9	475.9	471.5	464.3	459.9	466.1
30°	619.7	579.5	535.8	535.8	521.5	506.3	501.8	500.0	495.6	496.5	503.6
32.5°	586.7	550.1	508.1	509.0	500.0	483.1	480.4	479.5	474.2	473.3	478.6
35°	526.8	492.9	458.1	459.0	451.8	435.8	432.2	430.4	423.3	419.7	423.3
37.5°	458.1	430.4	397.4	397.4	390.2	377.7	374.1	370.6	366.1	362.5	362.5
40°	387.5	365.2	338.4	337.5	332.2	319.7	316.1	313.4	309.0	302.7	304.5
42.5°	327.7	307.2	285.7	284.0	280.4	269.7	266.1	262.5	258.1	252.7	252.7
45°	272.3	259.0	240.2	239.3	235.7	226.8	224.1	219.7	216.1	210.7	210.7
47.5°	226.8	216.1	200.9	200.0	197.3	189.3	186.6	183.1	179.5	175.9	175.9
50°	190.2	179.5	167.0	166.1	164.3	158.1	154.5	151.8	149.1	146.4	144.7
52.5°	156.3	147.3	137.5	136.6	134.8	128.6	125.9	124.1	121.4	117.0	117.0
55°	125.9	118.8	109.8	108.9	107.2	101.8	99.1	95.5	92.0	87.5	86.6
57.5°	98.2	92.0	84.8	83.9	81.3	76.8	72.3	68.8	65.2	61.6	59.8
60°	74.1	67.0	60.7	58.9	57.1	50.9	47.3	43.8	40.2	37.5	35.7
62.5°	50.0	45.5	38.4	37.5	35.7	32.1	27.7	25.9	24.1	22.3	21.4
65°	31.3	27.7	24.1	23.2	21.4	18.8	17.0	16.1	15.2	14.3	13.4
67.5°	18.8	17.0	14.3	14.3	13.4	12.5	10.7	10.7	9.8	9.8	8.9
70°	11.6	10.7	9.8	8.9	8.9	8.9	8.0	8.0	8.0	8.0	8.0
72.5°	8.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
75°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
77.5°	6.3	6.3	5.4	6.3	6.3	6.3	6.3	5.4	6.3	5.4	5.4
80°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
82.5°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	4.5	4.5	4.5	4.5
85°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.6
87.5°	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7	2.7
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: P179840

CATALOG NUMBER: LDA6A65927D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0	1059.0
2.5°	867.9	842.9	852.8	838.5	834.0	830.4	825.1	842.0
5°	717.0	690.2	696.5	682.2	676.0	669.7	663.5	676.8
7.5°	592.0	566.1	568.8	556.3	550.1	542.9	536.7	547.4
10°	494.7	470.6	471.5	459.9	453.6	446.5	441.1	449.1
12.5°	420.6	398.3	398.3	389.3	384.0	375.9	371.5	377.7
15°	364.3	344.7	344.7	335.7	331.3	324.1	319.7	325.9
17.5°	321.5	303.6	303.6	297.3	292.9	286.6	283.1	288.4
20°	292.9	277.7	278.6	272.3	268.8	261.6	259.8	264.3
22.5°	295.6	281.3	283.1	278.6	275.0	269.7	267.9	274.1
25°	369.7	359.0	365.2	365.2	367.0	359.0	362.5	372.4
27.5°	475.0	469.7	479.5	475.9	483.1	483.1	486.7	499.2
30°	513.4	509.0	519.7	518.8	525.9	524.2	525.9	537.5
32.5°	485.8	481.3	490.2	489.3	494.7	490.2	491.1	500.9
35°	426.8	422.4	428.6	427.7	431.3	425.9	428.6	434.0
37.5°	364.3	359.9	363.4	362.5	363.4	357.2	360.7	363.4
40°	306.3	300.9	306.3	302.7	303.6	297.3	298.2	301.8
42.5°	256.3	250.0	254.5	254.5	254.5	250.0	250.9	254.5
45°	213.4	208.9	211.6	210.7	211.6	208.1	210.7	214.3
47.5°	176.8	173.2	175.0	174.1	174.1	170.6	171.4	171.4
50°	145.5	142.0	142.9	142.0	139.3	134.8	133.9	134.8
52.5°	115.2	110.7	110.7	108.9	107.2	103.6	103.6	104.5
55°	84.8	81.3	81.3	80.4	78.6	75.9	75.9	77.7
57.5°	57.1	54.5	55.4	54.5	54.5	50.9	52.7	52.7
60°	34.8	33.0	33.0	32.1	30.4	29.5	28.6	30.4
62.5°	20.5	19.6	19.6	18.8	18.8	17.9	17.9	17.9
65°	13.4	12.5	12.5	11.6	11.6	10.7	9.8	10.7
67.5°	8.9	8.0	8.0	8.0	8.0	7.1	7.1	7.1
70°	8.0	7.1	7.1	7.1	7.1	6.3	6.3	6.3
72.5°	7.1	6.3	7.1	6.3	6.3	6.3	6.3	6.3
75°	6.3	6.3	6.3	5.4	5.4	5.4	5.4	5.4
77.5°	5.4	5.4	5.4	5.4	5.4	4.5	4.5	4.5
80°	5.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5
82.5°	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6
85°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
87.5°	2.7	2.7	2.7	2.7	2.7	1.8	1.8	1.8
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)