

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: P179622

Luminaire Tested: **LDA6A45835D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179622
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26668)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A45835D010TE LARH30NF 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3653.0 lumens
Efficiency: N/A
Efficacy: 68.9 lumens/watt
Spacing Criteria (0/90/45): 2.16 / 1.11 / 1.51
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

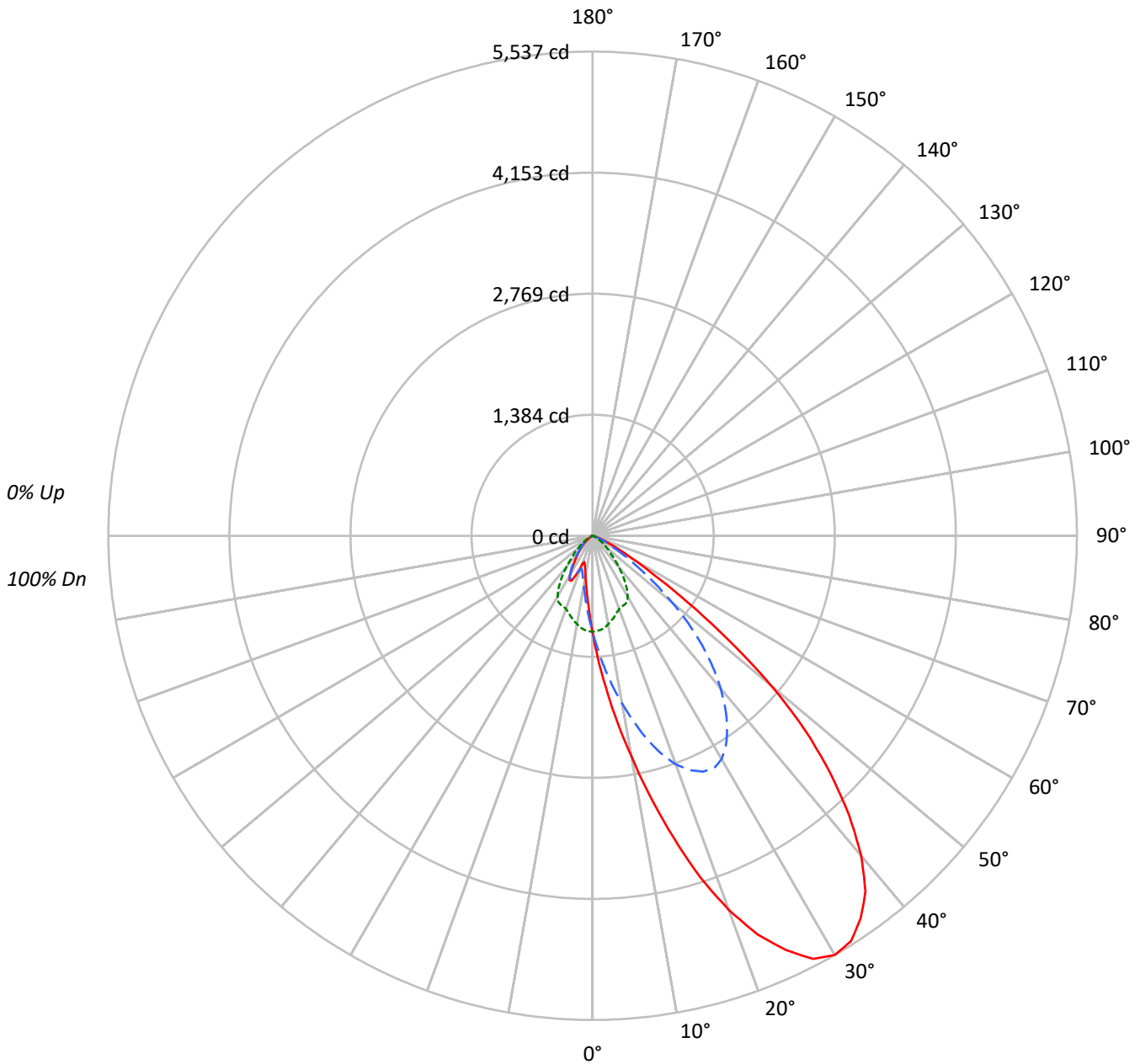
Input Watts (W): 53
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	98	98	96	95	95	93	92	90																			
2	104	98	92	88	102	96	91	87	93	89	85	89	86	83	87	84	81	80																			
3	97	88	82	76	94	87	81	76	84	79	75	81	77	73	79	75	72	70																			
4	90	80	72	67	87	78	72	66	76	70	66	74	69	65	72	68	64	62																			
5	83	72	65	59	81	71	64	59	69	63	58	67	62	57	66	61	57	55																			
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49																			
7	72	60	52	47	70	59	52	46	58	51	46	56	50	46	55	50	46	44																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39																			
9	63	50	43	38	61	50	43	38	49	42	37	48	42	37	47	41	37	35																			
10	59	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°	60308	60308	60308
5°	95873	59437	38416
10°	142688	57119	25946
15°	202754	54376	19523
20°	265416	51927	19952
25°	316028	52509	34484
30°	350478	50647	32480
35°	357550	43172	23892
40°	341755	33284	17676
45°	298054	23956	13335
50°	227233	17398	8870
55°	126849	12520	5161
60°	58340	8662	2083
65°	27500	4670	908
70°	13464	2244	962
75°	6354	1483	1059
80°	3157	1578	1263
85°	1887	2516	1258



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.4	3.1
10°-20°	415.0	11.4
20°-30°	830.1	22.7
30°-40°	1019.4	27.9
40°-50°	816.5	22.4
50°-60°	359.2	9.8
60°-70°	81.0	2.2
70°-80°	14.7	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°	1358.5	37.2
0°-40°	2377.9	65.1
0°-60°	3553.6	97.3
0°-90°	3653.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3653.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1100	1100	1100	1100	1100	
5°	1742	1499	1080	800	698	192
15°	3572	2409	958	446	344	1042
25°	5225	2976	868	540	570	2404
35°	5343	2682	645	389	357	3308
45°	3844	1771	309	189	172	2923
55°	1327	656	131	75	54	1261
65°	212	134	36	12	7	243
75°	30	17	7	6	5	38
85°	3	3	4	4	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°	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1
2.5°	1403.2	1367.2	1396.2	1371.2	1363.2	1360.2	1348.2	1340.2	1337.2	1309.2	1287.2
5°	1742.2	1700.2	1730.2	1693.2	1674.2	1664.2	1643.2	1617.2	1596.2	1543.2	1499.2
7.5°	2139.3	2094.3	2122.3	2069.3	2033.3	2015.3	1981.3	1931.3	1884.2	1799.2	1725.2
10°	2563.3	2526.3	2550.3	2476.3	2420.3	2391.3	2341.3	2277.3	2181.3	2057.3	1948.3
12.5°	3057.4	3004.4	3023.4	2924.4	2844.4	2803.4	2732.4	2632.3	2496.3	2327.3	2178.3
15°	3572.5	3522.5	3534.5	3408.4	3297.4	3240.4	3148.4	3006.4	2826.4	2605.3	2409.3
17.5°	4100.5	4032.5	4030.5	3880.5	3732.5	3660.5	3545.5	3358.4	3147.4	2857.4	2615.3
20°	4549.6	4490.6	4474.6	4318.6	4116.5	4032.5	3893.5	3661.5	3402.4	3066.4	2782.4
22.5°	4934.6	4866.6	4837.6	4654.6	4425.6	4327.6	4168.5	3887.5	3599.5	3219.4	2899.4
25°	5224.7	5168.7	5126.7	4920.6	4664.6	4554.6	4380.6	4076.5	3742.5	3326.4	2976.4
27.5°	5454.7	5379.7	5326.7	5101.7	4813.6	4697.6	4510.6	4180.5	3815.5	3369.4	2999.4
30°	5536.7	5461.7	5400.7	5160.7	4855.6	4728.6	4532.6	4182.5	3795.5	3337.4	2949.4
32.5°	5497.7	5419.7	5350.7	5099.7	4783.6	4650.6	4450.6	4095.5	3690.5	3230.4	2838.4
35°	5342.7	5280.7	5202.7	4949.7	4637.6	4492.6	4293.6	3929.5	3527.5	3063.4	2682.4
37.5°	5123.7	5027.7	4955.7	4707.6	4405.6	4257.6	4066.5	3716.5	3309.4	2863.4	2494.3
40°	4775.6	4678.6	4606.6	4367.6	4093.5	3944.5	3768.5	3434.5	3041.4	2626.3	2274.3
42.5°	4341.6	4251.6	4181.5	3959.5	3717.5	3572.5	3417.4	3108.4	2743.4	2363.3	2033.3
45°	3844.5	3757.5	3697.5	3504.5	3289.4	3161.4	3021.4	2748.4	2414.3	2069.3	1771.2
47.5°	3305.4	3216.4	3165.4	2992.4	2810.4	2694.4	2574.3	2338.3	2039.3	1743.2	1484.2
50°	2664.4	2578.3	2532.3	2387.3	2258.3	2151.3	2064.3	1875.2	1630.2	1397.2	1186.2
52.5°	1951.3	1884.2	1850.2	1750.2	1673.2	1593.2	1537.2	1405.2	1226.2	1061.1	902.1
55°	1327.2	1272.2	1256.2	1194.2	1152.2	1109.1	1069.1	992.1	871.1	762.1	656.1
57.5°	830.1	824.1	835.1	780.1	761.1	743.1	712.1	669.1	593.1	525.1	461.1
60°	532.1	526.1	521.1	501.1	492.1	479.1	464.1	439.1	392.1	352.0	310.0
62.5°	337.0	333.0	338.0	326.0	314.0	314.0	298.0	284.0	255.0	231.0	201.0
65°	212.0	211.0	214.0	206.0	200.0	197.0	189.0	181.0	163.0	148.0	134.0
67.5°	134.0	133.0	135.0	133.0	126.0	124.0	119.0	114.0	102.0	93.0	83.0
70°	84.0	83.0	84.0	82.0	78.0	76.0	73.0	69.0	65.0	55.0	50.0
72.5°	51.0	50.0	51.0	50.0	47.0	47.0	43.0	41.0	38.0	32.0	28.0
75°	30.0	30.0	30.0	29.0	27.0	27.0	25.0	24.0	22.0	19.0	17.0
77.5°	17.0	17.0	17.0	17.0	16.0	16.0	15.0	14.0	13.0	11.0	11.0
80°	10.0	10.0	10.0	10.0	9.0	10.0	9.0	9.0	8.0	7.0	7.0
82.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0
85°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
87.5°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
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°	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1
2.5°	1269.2	1237.2	1231.2	1197.2	1191.2	1172.2	1162.2	1144.2	1108.1	1089.1	1066.1
5°	1446.2	1396.2	1367.2	1306.2	1287.2	1255.2	1222.2	1178.2	1121.1	1080.1	1037.1
7.5°	1640.2	1558.2	1497.2	1407.2	1374.2	1327.2	1269.2	1200.2	1120.1	1059.1	998.1
10°	1835.2	1707.2	1613.2	1492.2	1444.2	1382.2	1298.2	1205.2	1105.1	1026.1	950.1
12.5°	2014.3	1854.2	1725.2	1571.2	1507.2	1431.2	1321.2	1205.2	1086.1	992.1	903.1
15°	2209.3	1998.3	1830.2	1642.2	1563.2	1473.2	1338.2	1201.2	1065.1	958.1	860.1
17.5°	2368.3	2117.3	1911.3	1692.2	1598.2	1495.2	1340.2	1185.2	1038.1	921.1	819.1
20°	2485.3	2207.3	1966.3	1721.2	1615.2	1503.2	1332.2	1164.2	1010.1	890.1	786.1
22.5°	2570.3	2261.3	1994.3	1731.2	1616.2	1499.2	1318.2	1146.2	991.1	874.1	775.1
25°	2621.3	2288.3	2003.3	1727.2	1608.2	1486.2	1302.2	1130.1	979.1	868.1	777.1
27.5°	2626.3	2277.3	1979.3	1697.2	1575.2	1453.2	1269.2	1099.1	953.1	851.1	764.1
30°	2569.3	2215.3	1916.3	1631.2	1508.2	1388.2	1207.2	1040.1	901.1	800.1	721.1
32.5°	2459.3	2106.3	1810.2	1531.2	1410.2	1293.2	1117.1	960.1	824.1	731.1	653.1
35°	2313.3	1968.3	1673.2	1411.2	1293.2	1182.2	1011.1	857.1	733.1	645.1	574.1
37.5°	2140.3	1807.2	1531.2	1278.2	1164.2	1061.1	896.1	756.1	637.1	556.1	491.1
40°	1943.3	1625.2	1366.2	1126.1	1024.1	924.1	774.1	646.1	535.1	465.1	410.1
42.5°	1730.2	1432.2	1193.2	970.1	877.1	786.1	650.1	534.1	438.1	381.1	338.0
45°	1496.2	1228.2	1013.1	818.1	729.1	654.1	526.1	430.1	357.0	309.0	279.0
47.5°	1246.2	1013.1	826.1	658.1	580.1	516.1	411.1	339.0	287.0	254.0	229.0
50°	995.1	801.1	645.1	500.1	441.1	387.1	318.0	269.0	229.0	204.0	188.0
52.5°	760.1	603.1	480.1	367.0	327.0	290.0	245.0	212.0	182.0	164.0	152.0
55°	551.1	435.1	342.0	269.0	242.0	221.0	188.0	164.0	145.0	131.0	121.0
57.5°	384.1	301.0	239.0	196.0	180.0	165.0	142.0	126.0	113.0	103.0	95.0
60°	260.0	204.0	167.0	142.0	132.0	122.0	107.0	96.0	86.0	79.0	71.0
62.5°	171.0	140.0	119.0	104.0	95.0	88.0	79.0	70.0	62.0	56.0	49.0
65°	111.0	92.0	82.0	70.0	66.0	61.0	53.0	48.0	41.0	36.0	31.0
67.5°	70.0	60.0	53.0	46.0	43.0	39.0	35.0	30.0	26.0	22.0	19.0
70°	42.0	37.0	32.0	28.0	26.0	24.0	21.0	18.0	15.0	14.0	12.0
72.5°	25.0	22.0	19.0	17.0	16.0	15.0	13.0	11.0	10.0	9.0	8.0
75°	15.0	14.0	12.0	10.0	10.0	9.0	9.0	8.0	7.0	7.0	6.0
77.5°	10.0	9.0	8.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0
80°	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
82.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0
85°	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
87.5°	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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°	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1
2.5°	1056.1	1026.1	1014.1	996.1	978.1	977.1	956.1	945.1	937.1	923.1	909.1
5°	1008.1	962.1	934.1	910.1	887.1	871.1	840.1	819.1	800.1	780.1	754.1
7.5°	952.1	893.1	853.1	823.1	796.1	771.1	733.1	705.1	681.1	662.1	630.1
10°	892.1	824.1	774.1	741.1	713.1	677.1	640.1	609.1	583.1	562.1	531.1
12.5°	836.1	761.1	705.1	671.1	642.1	603.1	565.1	533.1	505.1	485.1	457.1
15°	784.1	705.1	645.1	611.1	581.1	542.1	504.1	472.1	446.1	425.1	400.1
17.5°	738.1	655.1	596.1	565.1	534.1	498.1	460.1	430.1	404.1	385.1	365.0
20°	707.1	628.1	571.1	542.1	515.1	481.1	451.1	427.1	402.1	387.1	375.0
22.5°	702.1	632.1	583.1	559.1	538.1	513.1	495.1	483.1	466.1	459.1	459.1
25°	712.1	652.1	613.1	594.1	577.1	563.1	554.1	546.1	540.1	541.1	541.1
27.5°	706.1	652.1	620.1	602.1	587.1	578.1	569.1	564.1	558.1	561.1	561.1
30°	667.1	615.1	588.1	569.1	555.1	547.1	534.1	528.1	521.1	522.1	519.1
32.5°	602.1	553.1	527.1	509.1	494.1	486.1	472.1	465.1	456.1	456.1	450.1
35°	526.1	480.1	456.1	440.1	426.1	418.1	405.1	398.1	389.1	384.1	381.1
37.5°	446.1	406.1	384.1	372.0	361.0	353.0	341.0	336.0	327.0	323.0	319.0
40°	372.0	343.0	322.0	312.0	303.0	296.0	285.0	281.0	273.0	270.0	266.0
42.5°	308.0	286.0	269.0	261.0	251.0	247.0	239.0	235.0	228.0	225.0	221.0
45°	257.0	239.0	225.0	218.0	212.0	207.0	199.0	196.0	189.0	186.0	184.0
47.5°	212.0	198.0	187.0	181.0	178.0	172.0	165.0	162.0	157.0	154.0	151.0
50°	174.0	163.0	154.0	149.0	147.0	141.0	135.0	133.0	128.0	126.0	123.0
52.5°	142.0	133.0	125.0	121.0	117.0	113.0	108.0	106.0	101.0	98.0	94.0
55°	114.0	105.0	98.0	95.0	93.0	87.0	82.0	79.0	75.0	70.0	67.0
57.5°	88.0	80.0	74.0	70.0	69.0	63.0	59.0	54.0	49.0	46.0	43.0
60°	65.0	58.0	52.0	48.0	47.0	41.0	36.0	33.0	29.0	27.0	26.0
62.5°	43.0	38.0	33.0	31.0	29.0	25.0	22.0	20.0	18.0	17.0	16.0
65°	27.0	23.0	20.0	19.0	17.0	15.0	14.0	13.0	12.0	11.0	10.0
67.5°	16.0	14.0	12.0	12.0	11.0	10.0	10.0	9.0	8.0	8.0	8.0
70°	10.0	9.0	8.0	8.0	8.0	8.0	8.0	7.0	7.0	7.0	7.0
72.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0	6.0
75°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
77.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0
80°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
82.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0
85°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
87.5°	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	2.0
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: P179622

CATALOG NUMBER: LDA6A45835D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1	1100.1
2.5°	898.1	881.1	879.1	875.1	871.1	876.1	873.1	865.1
5°	745.1	724.1	720.1	714.1	708.1	710.1	705.1	698.1
7.5°	617.1	595.1	591.1	584.1	578.1	577.1	572.1	565.1
10°	513.1	496.1	492.1	485.1	478.1	477.1	471.1	466.1
12.5°	439.1	423.1	419.1	412.1	406.1	404.1	399.1	395.1
15°	384.1	369.0	365.0	359.0	352.0	352.0	348.0	344.0
17.5°	350.0	337.0	332.0	327.0	321.0	320.0	318.0	315.0
20°	364.0	352.0	350.0	344.0	345.0	345.0	343.0	342.0
22.5°	454.1	450.1	458.1	452.1	463.1	467.1	469.1	469.1
25°	545.1	546.1	554.1	551.1	561.1	569.1	573.1	570.1
27.5°	561.1	562.1	565.1	564.1	572.1	577.1	580.1	573.1
30°	515.1	514.1	513.1	512.1	517.1	519.1	520.1	513.1
32.5°	444.1	441.1	442.1	437.1	439.1	439.1	443.1	433.1
35°	373.0	369.0	369.0	364.0	364.0	364.0	367.0	357.0
37.5°	313.0	309.0	308.0	303.0	302.0	300.0	303.0	294.0
40°	261.0	257.0	258.0	252.0	253.0	252.0	252.0	247.0
42.5°	216.0	213.0	212.0	210.0	211.0	211.0	214.0	210.0
45°	179.0	176.0	175.0	174.0	175.0	175.0	176.0	172.0
47.5°	149.0	145.0	144.0	142.0	142.0	139.0	139.0	135.0
50°	120.0	114.0	113.0	110.0	109.0	107.0	107.0	104.0
52.5°	91.0	86.0	84.0	82.0	81.0	79.0	79.0	77.0
55°	64.0	59.0	58.0	57.0	56.0	55.0	56.0	54.0
57.5°	40.0	38.0	37.0	36.0	35.0	34.0	34.0	33.0
60°	24.0	22.0	22.0	21.0	20.0	19.0	19.0	19.0
62.5°	15.0	14.0	14.0	13.0	13.0	12.0	12.0	12.0
65°	10.0	9.0	9.0	8.0	8.0	7.0	7.0	7.0
67.5°	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0
70°	7.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
72.5°	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0
75°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
77.5°	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
80°	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
82.5°	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0
85°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0
87.5°	2.0	2.0	2.0	2.0	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)