

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: P179834

Luminaire Tested: **LDA6A55935D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179834
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: LDA6A55935D010TE LARH30NF 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3524.1 lumens
Efficiency: N/A
Efficacy: 57.8 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

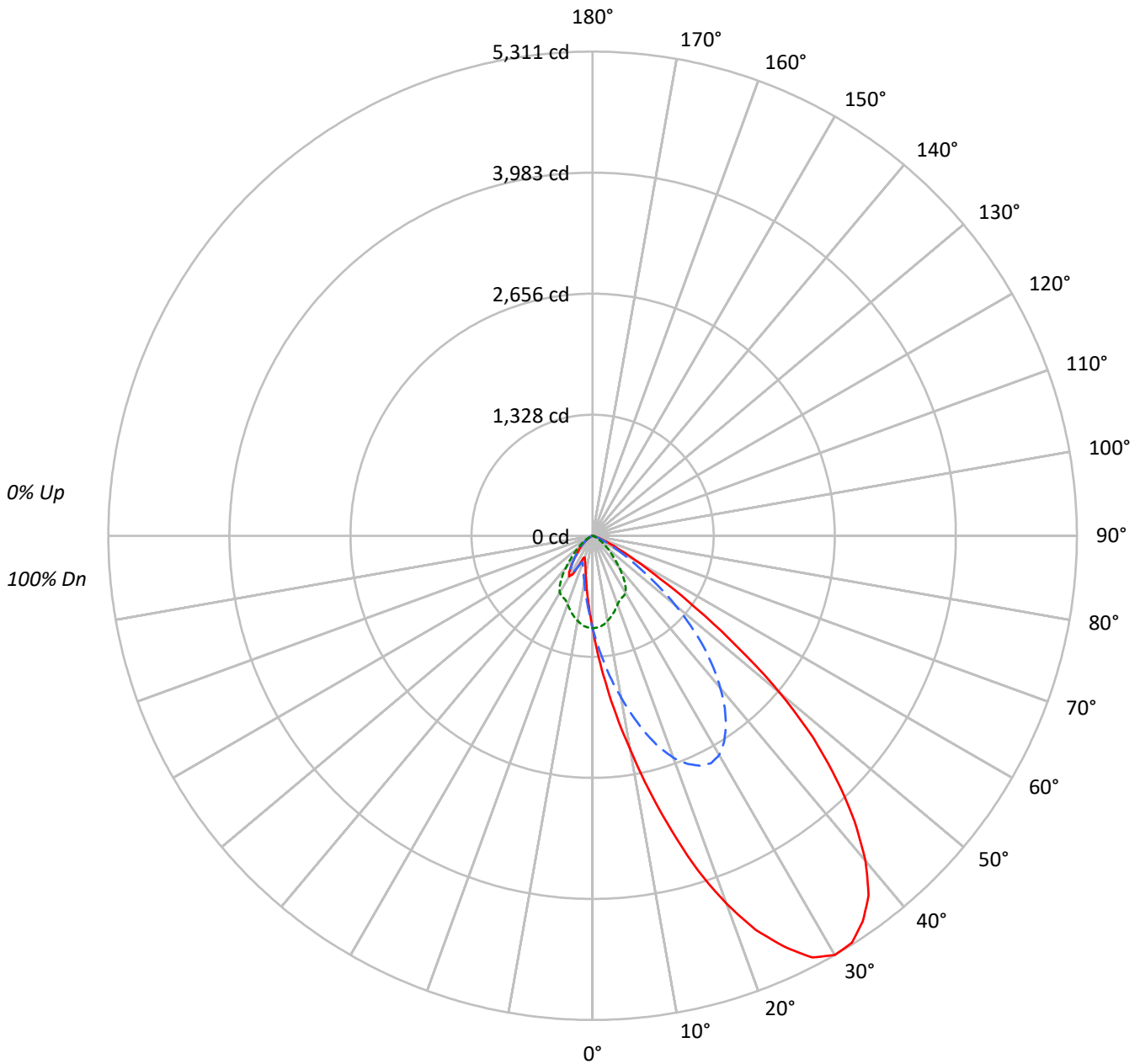
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	55593	55593	55593
5°	88317	54909	35665
10°	132507	52688	23942
15°	189888	49932	17713
20°	250657	46688	14765
25°	300852	45511	21570
30°	336172	45627	32581
35°	345624	40857	27813
40°	333053	32489	20682
45°	293527	24127	15909
50°	228905	17867	11010
55°	132392	13075	7111
60°	61870	9089	3191
65°	28953	4994	1336
70°	13432	2196	962
75°	5613	1440	1080
80°	2431	1610	1357
85°	566	2705	2139



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.9	3.0
10°-20°	384.9	10.9
20°-30°	762.1	21.6
30°-40°	985.3	28.0
40°-50°	809.6	23.0
50°-60°	374.3	10.6
60°-70°	85.5	2.4
70°-80°	13.9	0.4
80°-90°	3.6	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°	1251.9	35.5
0°-40°	2237.2	63.5
0°-60°	3421.1	97.1
0°-90°	3524.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3524.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1014	1014	1014	1014	1014	
5°	1605	1380	998	722	648	177
15°	3346	2238	880	394	312	977
25°	4974	2784	752	369	357	2290
35°	5164	2548	610	405	416	3198
45°	3786	1720	311	207	205	2881
55°	1385	670	137	88	74	1302
65°	223	137	38	14	10	256
75°	26	15	7	6	5	35
85°	1	3	4	4	3	2
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°	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1
2.5°	1287.7	1268.0	1280.0	1286.0	1255.2	1262.0	1265.5	1241.5	1234.7	1221.9	1184.2
5°	1604.9	1581.8	1591.2	1591.2	1545.9	1548.5	1546.8	1501.5	1476.7	1444.2	1380.0
7.5°	1978.6	1955.5	1957.2	1948.6	1884.5	1880.2	1852.9	1797.3	1748.6	1688.7	1592.9
10°	2380.4	2366.8	2358.2	2336.8	2252.2	2237.7	2197.5	2109.4	2029.0	1937.5	1802.4
12.5°	2852.4	2825.1	2800.3	2766.1	2655.8	2628.4	2572.0	2444.6	2326.6	2198.3	2019.6
15°	3345.8	3324.4	3284.2	3230.4	3089.3	3045.7	2972.1	2801.1	2654.1	2466.8	2237.7
17.5°	3856.3	3816.9	3757.9	3681.8	3511.7	3450.1	3358.6	3139.7	2944.8	2711.3	2434.3
20°	4296.6	4265.8	4184.6	4086.3	3891.3	3809.2	3701.5	3433.0	3194.4	2917.4	2591.6
22.5°	4678.8	4637.8	4537.7	4418.9	4200.8	4099.1	3977.7	3677.6	3386.8	3065.3	2707.1
25°	4973.8	4943.0	4824.2	4685.6	4446.2	4328.2	4194.0	3853.7	3531.3	3178.2	2784.0
27.5°	5214.1	5161.9	5029.4	4872.9	4614.7	4477.0	4335.1	3962.3	3613.4	3235.5	2813.1
30°	5310.7	5256.8	5116.6	4943.0	4669.4	4518.1	4371.8	3974.3	3607.4	3215.8	2778.0
32.5°	5292.7	5232.0	5082.4	4898.6	4619.0	4457.4	4309.4	3896.4	3521.9	3126.9	2683.1
35°	5164.5	5114.0	4959.3	4766.9	4488.1	4318.0	4163.2	3754.5	3379.1	2989.2	2548.0
37.5°	4971.2	4899.4	4754.9	4561.7	4266.7	4108.5	3955.4	3551.9	3185.0	2798.6	2379.6
40°	4654.0	4567.7	4423.1	4254.7	3974.3	3816.9	3677.6	3300.5	2939.6	2578.8	2178.7
42.5°	4254.7	4187.2	4052.9	3879.3	3622.0	3471.5	3346.6	2984.1	2664.3	2330.0	1957.2
45°	3786.1	3721.2	3606.6	3450.1	3217.5	3086.7	2972.1	2649.8	2361.6	2056.4	1720.4
47.5°	3279.1	3215.0	3114.9	2977.3	2769.5	2656.6	2556.6	2292.4	2020.5	1753.7	1458.7
50°	2684.0	2595.9	2541.2	2425.8	2252.2	2156.4	2079.5	1842.6	1641.7	1427.1	1181.7
52.5°	2003.4	1975.2	1896.5	1815.3	1693.0	1622.0	1571.6	1419.4	1252.6	1097.0	909.8
55°	1385.2	1359.5	1311.6	1262.0	1180.0	1144.1	1106.4	1014.1	902.9	796.9	669.5
57.5°	875.6	894.4	863.6	835.4	785.8	773.0	743.9	690.0	621.6	554.9	475.4
60°	564.3	574.6	554.9	538.7	511.3	501.1	487.4	454.9	413.8	375.4	321.5
62.5°	357.4	362.5	351.4	342.0	326.6	322.4	312.9	294.1	269.3	246.3	212.1
65°	223.2	227.4	219.7	213.8	204.4	205.2	196.7	185.5	171.0	156.5	136.8
67.5°	137.7	140.2	135.1	131.7	125.7	125.7	120.6	113.7	104.3	95.8	82.9
70°	83.8	84.6	81.2	79.5	75.2	74.4	71.8	66.7	60.7	54.7	47.0
72.5°	48.7	49.6	47.0	45.3	42.8	42.8	41.0	38.5	35.9	30.8	26.5
75°	26.5	27.4	25.7	24.8	23.1	23.9	22.2	21.4	18.8	17.1	15.4
77.5°	13.7	14.5	13.7	12.8	12.8	12.8	12.0	11.1	11.1	9.4	9.4
80°	7.7	7.7	7.7	7.7	7.7	6.8	6.8	6.8	6.8	6.8	6.0
82.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	3.4
85°	0.9	0.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.6	2.6
87.5°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	1.7	1.7	1.7	2.6
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°	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1
2.5°	1173.1	1172.3	1132.9	1115.8	1102.2	1080.8	1065.4	1049.1	1034.6	1008.1	985.9
5°	1347.6	1323.6	1258.6	1217.6	1191.9	1157.7	1120.1	1082.5	1045.7	997.8	958.5
7.5°	1530.5	1479.2	1381.8	1313.3	1274.0	1226.1	1162.9	1103.9	1044.0	978.2	921.7
10°	1705.0	1621.2	1497.2	1392.9	1339.0	1277.4	1190.2	1108.1	1029.5	946.5	876.4
12.5°	1882.8	1763.1	1601.5	1466.4	1398.0	1321.9	1209.9	1108.1	1010.7	914.9	832.0
15°	2058.9	1900.8	1699.8	1532.2	1449.3	1358.7	1223.6	1102.2	987.6	879.8	787.5
17.5°	2209.4	2013.6	1771.7	1577.6	1480.1	1377.5	1222.7	1084.2	956.8	840.5	742.2
20°	2326.6	2094.9	1822.1	1600.6	1491.2	1379.2	1209.0	1057.7	921.7	800.3	699.4
22.5°	2406.1	2147.9	1847.8	1604.9	1487.8	1369.8	1187.7	1031.2	890.1	768.7	667.8
25°	2455.7	2174.4	1855.4	1598.9	1475.8	1353.5	1168.0	1008.1	869.6	752.4	658.4
27.5°	2465.1	2166.7	1840.1	1574.1	1447.6	1324.5	1139.8	985.9	851.6	743.0	658.4
30°	2418.9	2117.1	1787.9	1518.6	1394.6	1274.0	1092.7	945.7	820.0	720.8	643.8
32.5°	2330.9	2025.6	1701.5	1436.5	1315.9	1203.0	1028.6	888.4	767.0	675.5	606.2
35°	2203.5	1903.3	1589.5	1333.0	1215.9	1110.7	938.8	810.6	695.2	610.5	546.4
37.5°	2048.7	1756.3	1458.7	1215.0	1103.9	1005.5	841.4	720.8	613.9	534.4	477.1
40°	1860.6	1597.2	1311.6	1085.1	979.0	890.1	738.8	622.5	521.6	454.0	401.9
42.5°	1663.9	1419.4	1155.2	939.7	845.6	761.0	626.7	522.4	432.7	377.1	336.0
45°	1461.3	1221.9	991.0	799.5	728.5	633.6	509.6	425.0	352.3	311.2	278.7
47.5°	1233.0	1030.3	817.4	649.0	574.6	510.5	407.0	338.6	291.6	255.7	230.9
50°	987.6	826.0	647.3	503.6	442.1	393.3	317.2	270.2	234.3	209.5	190.7
52.5°	759.3	631.9	487.4	369.4	330.9	294.1	247.1	214.6	189.0	170.2	156.5
55°	564.3	460.9	350.6	273.6	246.3	222.3	194.1	168.4	149.6	136.8	125.7
57.5°	397.6	321.5	246.3	198.4	183.8	168.4	147.1	130.0	117.1	106.9	98.3
60°	265.9	218.9	173.6	145.4	135.1	124.8	111.2	99.2	89.8	82.9	74.4
62.5°	178.7	147.1	121.4	104.3	97.5	90.6	81.2	72.7	65.8	59.0	52.2
65°	114.6	97.5	82.1	71.0	65.8	62.4	55.6	49.6	44.5	38.5	33.3
67.5°	70.1	60.7	51.3	44.5	41.9	39.3	35.1	30.8	27.4	23.1	19.7
70°	41.0	35.9	30.8	26.5	25.7	23.9	20.5	18.0	16.2	13.7	12.0
72.5°	23.9	21.4	18.0	16.2	15.4	13.7	12.8	11.1	9.4	8.6	7.7
75°	13.7	12.0	10.3	9.4	9.4	8.6	7.7	7.7	6.8	6.8	6.0
77.5°	8.6	7.7	6.8	6.8	6.8	6.0	6.0	6.0	6.0	5.1	5.1
80°	6.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
82.5°	3.4	3.4	3.4	3.4	3.4	4.3	4.3	4.3	4.3	4.3	5.1
85°	2.6	3.4	3.4	3.4	3.4	3.4	4.3	4.3	4.3	4.3	4.3
87.5°	2.6	3.4	3.4	3.4	3.4	3.4	4.3	4.3	4.3	4.3	4.3
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°	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1
2.5°	973.0	959.4	917.5	932.0	905.5	884.1	882.4	869.6	847.3	835.4	829.4
5°	928.6	897.8	846.5	849.9	819.1	785.8	767.8	750.7	721.7	703.7	691.7
7.5°	873.9	832.0	771.3	767.0	734.5	694.3	668.6	644.7	613.1	590.0	575.4
10°	816.6	765.3	694.3	689.2	655.0	611.4	582.3	554.9	522.4	499.3	484.0
12.5°	763.6	704.6	633.6	620.8	587.4	543.0	511.3	482.2	450.6	430.9	413.0
15°	713.1	649.0	573.7	561.8	529.3	484.8	449.8	424.1	394.2	375.4	359.1
17.5°	662.7	596.8	522.4	508.8	478.0	435.2	404.4	377.1	349.7	331.8	317.2
20°	619.1	553.2	480.5	466.9	438.6	397.6	369.4	343.7	318.9	301.8	289.9
22.5°	590.8	526.7	460.9	448.9	422.4	385.6	359.1	336.9	315.5	299.3	289.9
25°	589.1	533.5	474.6	467.7	445.5	414.7	395.9	382.2	369.4	356.6	353.1
27.5°	599.4	554.1	504.5	502.8	484.8	464.3	455.7	451.5	444.6	440.3	446.3
30°	593.4	554.9	513.0	513.0	499.3	484.8	480.5	478.8	474.6	475.4	482.2
32.5°	561.8	526.7	486.5	487.4	478.8	462.6	460.0	459.2	454.0	453.2	458.3
35°	504.5	472.0	438.6	439.5	432.7	417.3	413.8	412.1	405.3	401.9	405.3
37.5°	438.6	412.1	380.5	380.5	373.7	361.7	358.3	354.8	350.6	347.1	347.1
40°	371.1	349.7	324.1	323.2	318.1	306.1	302.7	300.1	295.8	289.9	291.6
42.5°	313.8	294.1	273.6	271.9	268.5	258.2	254.8	251.4	247.1	242.0	242.0
45°	260.8	248.0	230.0	229.2	225.7	217.2	214.6	210.3	206.9	201.8	201.8
47.5°	217.2	206.9	192.4	191.5	189.0	181.3	178.7	175.3	171.9	168.4	168.4
50°	182.1	171.9	159.9	159.0	157.3	151.3	147.9	145.4	142.8	140.2	138.5
52.5°	149.6	141.1	131.7	130.8	129.1	123.1	120.6	118.9	116.3	112.0	112.0
55°	120.6	113.7	105.2	104.3	102.6	97.5	94.9	91.5	88.1	83.8	82.9
57.5°	94.1	88.1	81.2	80.4	77.8	73.5	69.3	65.8	62.4	59.0	57.3
60°	71.0	64.1	58.1	56.4	54.7	48.7	45.3	41.9	38.5	35.9	34.2
62.5°	47.9	43.6	36.8	35.9	34.2	30.8	26.5	24.8	23.1	21.4	20.5
65°	29.9	26.5	23.1	22.2	20.5	18.0	16.2	15.4	14.5	13.7	12.8
67.5°	18.0	16.2	13.7	13.7	12.8	12.0	10.3	10.3	9.4	9.4	8.6
70°	11.1	10.3	9.4	8.6	8.6	8.6	7.7	7.7	7.7	7.7	7.7
72.5°	7.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
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	5.1	6.0	6.0	6.0	6.0	5.1	6.0	5.1	5.1
80°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
82.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.3	4.3	4.3	4.3
85°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	3.4
87.5°	4.3	4.3	4.3	4.3	4.3	3.4	3.4	3.4	3.4	2.6	2.6
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: P179834

CATALOG NUMBER: LDA6A55935D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1	1014.1
2.5°	831.1	807.2	816.6	802.9	798.6	795.2	790.1	806.3
5°	686.6	661.0	666.9	653.3	647.3	641.3	635.3	648.1
7.5°	566.9	542.1	544.7	532.7	526.7	519.9	513.9	524.1
10°	473.7	450.6	451.5	440.3	434.4	427.5	422.4	430.1
12.5°	402.7	381.4	381.4	372.8	367.7	360.0	355.7	361.7
15°	348.9	330.0	330.0	321.5	317.2	310.4	306.1	312.1
17.5°	307.8	290.7	290.7	284.7	280.5	274.5	271.0	276.2
20°	280.5	265.9	266.8	260.8	257.4	250.5	248.8	253.1
22.5°	283.0	269.3	271.0	266.8	263.4	258.2	256.5	262.5
25°	354.0	343.7	349.7	349.7	351.4	343.7	347.1	356.6
27.5°	454.9	449.8	459.2	455.7	462.6	462.6	466.0	478.0
30°	491.7	487.4	497.6	496.8	503.6	501.9	503.6	514.7
32.5°	465.1	460.9	469.4	468.6	473.7	469.4	470.3	479.7
35°	408.7	404.4	410.4	409.6	413.0	407.9	410.4	415.6
37.5°	348.9	344.6	348.0	347.1	348.0	342.0	345.4	348.0
40°	293.3	288.2	293.3	289.9	290.7	284.7	285.6	289.0
42.5°	245.4	239.4	243.7	243.7	243.7	239.4	240.3	243.7
45°	204.4	200.1	202.6	201.8	202.6	199.2	201.8	205.2
47.5°	169.3	165.9	167.6	166.7	166.7	163.3	164.2	164.2
50°	139.4	136.0	136.8	136.0	133.4	129.1	128.3	129.1
52.5°	110.3	106.0	106.0	104.3	102.6	99.2	99.2	100.0
55°	81.2	77.8	77.8	77.0	75.2	72.7	72.7	74.4
57.5°	54.7	52.2	53.0	52.2	52.2	48.7	50.4	50.4
60°	33.3	31.6	31.6	30.8	29.1	28.2	27.4	29.1
62.5°	19.7	18.8	18.8	18.0	18.0	17.1	17.1	17.1
65°	12.8	12.0	12.0	11.1	11.1	10.3	9.4	10.3
67.5°	8.6	7.7	7.7	7.7	7.7	6.8	6.8	6.8
70°	7.7	6.8	6.8	6.8	6.8	6.0	6.0	6.0
72.5°	6.8	6.0	6.8	6.0	6.0	6.0	6.0	6.0
75°	6.0	6.0	6.0	5.1	5.1	5.1	5.1	5.1
77.5°	5.1	5.1	5.1	5.1	5.1	4.3	4.3	4.3
80°	5.1	4.3	4.3	4.3	4.3	4.3	4.3	4.3
82.5°	4.3	4.3	4.3	4.3	4.3	3.4	3.4	3.4
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
87.5°	2.6	2.6	2.6	2.6	2.6	1.7	1.7	1.7
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)