

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: P179836

Luminaire Tested: **LDA6A65827D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179836
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: LDA6A65827D010TE LARH30NF 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4628.2 lumens
Efficiency: N/A
Efficacy: 59.3 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

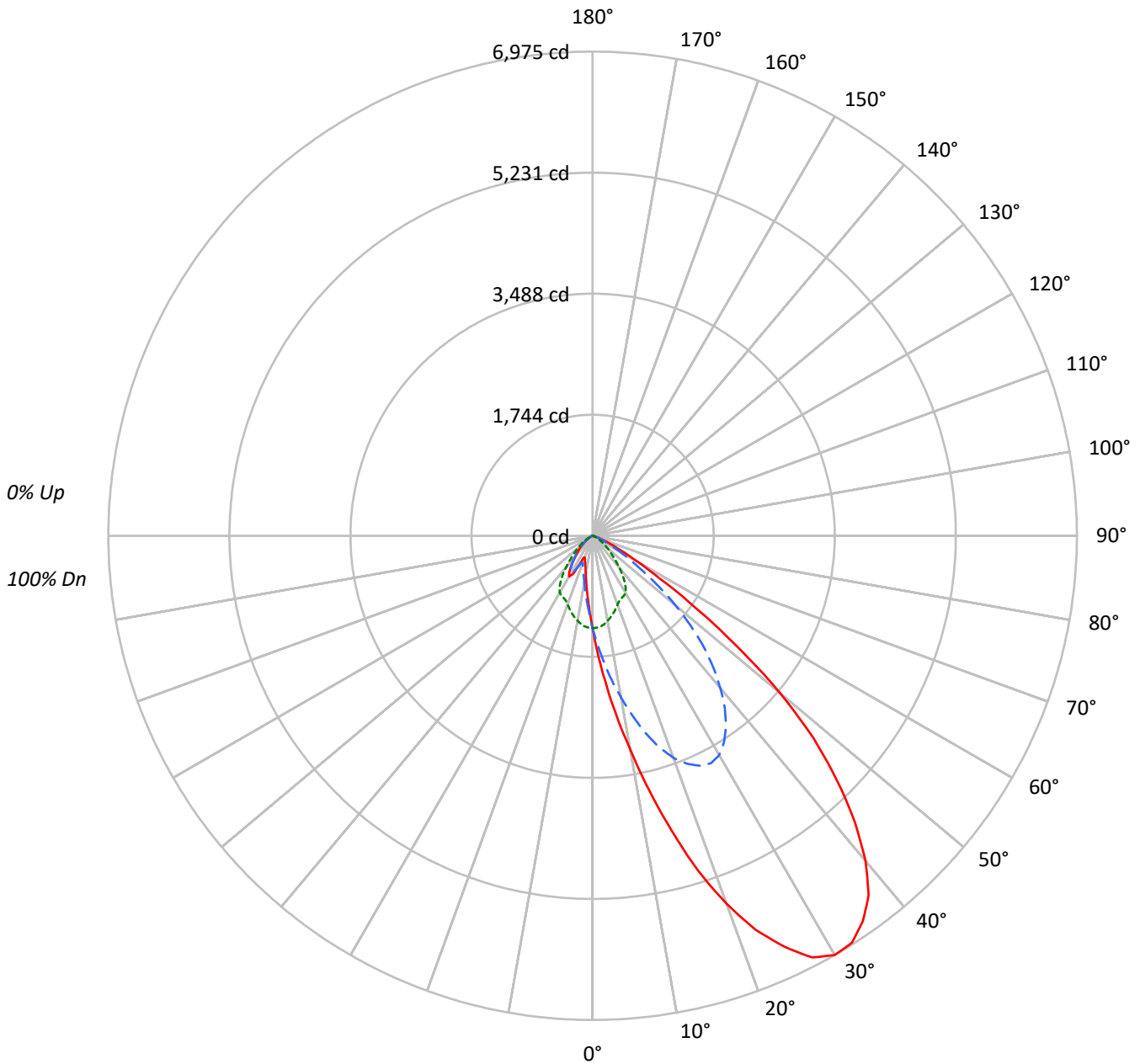
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	73010	73010	73010
5°	115991	72116	46841
10°	174028	69198	31440
15°	249383	65579	23263
20°	329192	61319	19392
25°	395110	59774	28326
30°	441498	59921	42791
35°	453906	53659	36520
40°	437398	42673	27165
45°	385497	31685	20894
50°	300621	23462	14464
55°	173872	17175	9338
60°	81254	11940	4188
65°	38020	6551	1751
70°	17631	2885	1266
75°	7371	1906	1419
80°	3189	2115	1768
85°	692	3522	2830



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.7	3.0
10°-20°	505.5	10.9
20°-30°	1000.8	21.6
30°-40°	1294.0	28.0
40°-50°	1063.3	23.0
50°-60°	491.6	10.6
60°-70°	112.2	2.4
70°-80°	18.3	0.4
80°-90°	4.7	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°	1644.1	35.5
0°-40°	2938.1	63.5
0°-60°	4492.9	97.1
0°-90°	4628.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4628.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1332	1332	1332	1332	1332	
5°	2108	1812	1310	948	851	233
15°	4394	2939	1156	518	410	1283
25°	6532	3656	988	485	468	3008
35°	6782	3346	802	532	546	4199
45°	4972	2259	409	272	270	3784
55°	1819	879	180	116	98	1710
65°	293	180	50	19	14	336
75°	35	20	9	8	7	46
85°	1	3	6	6	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°	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8
2.5°	1691.1	1665.3	1681.0	1688.9	1648.5	1657.5	1661.9	1630.5	1621.5	1604.7	1555.3
5°	2107.8	2077.4	2089.8	2089.8	2030.3	2033.6	2031.4	1971.9	1939.3	1896.6	1812.4
7.5°	2598.5	2568.2	2570.4	2559.2	2475.0	2469.3	2433.4	2360.4	2296.4	2217.8	2092.0
10°	3126.3	3108.3	3097.1	3069.0	2957.8	2938.7	2885.9	2770.3	2664.7	2544.6	2367.2
12.5°	3746.1	3710.2	3677.6	3632.7	3487.8	3451.9	3377.8	3210.5	3055.5	2887.1	2652.4
15°	4394.1	4366.0	4313.2	4242.5	4057.2	3999.9	3903.3	3678.7	3485.6	3239.7	2938.7
17.5°	5064.4	5012.8	4935.3	4835.4	4611.9	4531.0	4410.9	4123.4	3867.4	3560.8	3197.0
20°	5642.8	5602.3	5495.7	5366.5	5110.5	5002.7	4861.2	4508.6	4195.3	3831.5	3403.6
22.5°	6144.7	6090.8	5959.4	5803.3	5517.0	5383.4	5223.9	4829.7	4448.0	4025.7	3555.2
25°	6532.1	6491.7	6335.6	6153.7	5839.3	5684.3	5508.0	5061.1	4637.7	4174.0	3656.3
27.5°	6847.7	6779.2	6605.1	6399.6	6060.5	5879.7	5693.3	5203.7	4745.5	4249.2	3694.5
30°	6974.6	6903.8	6719.7	6491.7	6132.4	5933.6	5741.6	5219.4	4737.7	4223.4	3648.4
32.5°	6951.0	6871.2	6674.7	6433.3	6066.1	5853.9	5659.6	5117.2	4625.4	4106.6	3523.8
35°	6782.5	6716.3	6513.0	6260.4	5894.3	5670.8	5467.6	4930.8	4437.8	3925.8	3346.4
37.5°	6528.8	6434.4	6244.6	5990.9	5603.5	5395.7	5194.7	4664.7	4182.9	3675.4	3125.1
40°	6112.1	5998.7	5809.0	5587.7	5219.4	5012.8	4829.7	4334.5	3860.7	3386.8	2861.2
42.5°	5587.7	5499.0	5322.7	5094.8	4756.8	4559.1	4395.2	3919.0	3499.1	3060.0	2570.4
45°	4972.4	4887.0	4736.5	4531.0	4225.6	4053.8	3903.3	3480.0	3101.6	2700.7	2259.3
47.5°	4306.5	4222.2	4090.9	3910.1	3637.2	3489.0	3357.6	3010.6	2653.5	2303.1	1915.7
50°	3524.9	3409.2	3337.4	3185.8	2957.8	2832.0	2731.0	2419.9	2156.0	1874.2	1551.9
52.5°	2631.0	2594.0	2490.7	2384.0	2223.4	2130.2	2064.0	1864.1	1645.1	1440.7	1194.8
55°	1819.2	1785.5	1722.6	1657.5	1549.7	1502.5	1453.1	1331.8	1185.8	1046.6	879.3
57.5°	1149.9	1174.6	1134.2	1097.1	1032.0	1015.1	977.0	906.2	816.4	728.8	624.4
60°	741.1	754.6	728.8	707.5	671.5	658.0	640.1	597.4	543.5	493.0	422.2
62.5°	469.4	476.1	461.5	449.2	429.0	423.3	411.0	386.3	353.7	323.4	278.5
65°	293.1	298.7	288.6	280.7	268.4	269.5	258.3	243.7	224.6	205.5	179.7
67.5°	180.8	184.2	177.4	172.9	165.1	165.1	158.3	149.4	137.0	125.8	108.9
70°	110.0	111.2	106.7	104.4	98.8	97.7	94.3	87.6	79.7	71.9	61.8
72.5°	64.0	65.1	61.8	59.5	56.1	56.1	53.9	50.5	47.2	40.4	34.8
75°	34.8	35.9	33.7	32.6	30.3	31.4	29.2	28.1	24.7	22.5	20.2
77.5°	18.0	19.1	18.0	16.8	16.8	16.8	15.7	14.6	14.6	12.4	12.4
80°	10.1	10.1	10.1	10.1	10.1	9.0	9.0	9.0	9.0	9.0	7.9
82.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.5
85°	1.1	1.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	3.4	3.4
87.5°	0.0	0.0	1.1	1.1	1.1	1.1	1.1	2.2	2.2	2.2	3.4
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°	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8
2.5°	1540.7	1539.5	1487.9	1465.4	1447.5	1419.4	1399.2	1377.8	1358.8	1323.9	1294.7
5°	1769.7	1738.3	1653.0	1599.1	1565.4	1520.5	1471.0	1421.6	1373.4	1310.5	1258.8
7.5°	2010.1	1942.7	1814.7	1724.8	1673.2	1610.3	1527.2	1449.7	1371.1	1284.6	1210.5
10°	2239.1	2129.1	1966.3	1829.3	1758.5	1677.7	1563.1	1455.3	1352.0	1243.1	1151.0
12.5°	2472.7	2315.5	2103.3	1925.8	1836.0	1736.1	1589.0	1455.3	1327.3	1201.5	1092.6
15°	2704.0	2496.3	2232.4	2012.3	1903.4	1784.3	1606.9	1447.5	1297.0	1155.5	1034.2
17.5°	2901.7	2644.5	2326.7	2071.8	1943.8	1809.1	1605.8	1423.9	1256.6	1103.8	974.7
20°	3055.5	2751.2	2393.0	2102.1	1958.4	1811.3	1587.8	1389.1	1210.5	1051.1	918.6
22.5°	3159.9	2820.8	2426.7	2107.8	1953.9	1798.9	1559.8	1354.3	1169.0	1009.5	877.0
25°	3225.1	2855.6	2436.8	2099.9	1938.2	1777.6	1533.9	1323.9	1142.0	988.2	864.7
27.5°	3237.4	2845.5	2416.6	2067.3	1901.1	1739.4	1496.9	1294.7	1118.4	975.8	864.7
30°	3176.8	2780.4	2348.1	1994.3	1831.5	1673.2	1435.1	1242.0	1076.9	946.6	845.6
32.5°	3061.1	2660.2	2234.6	1886.5	1728.2	1580.0	1350.9	1166.7	1007.3	887.1	796.2
35°	2893.8	2499.7	2087.5	1750.7	1596.8	1458.7	1233.0	1064.5	912.9	801.8	717.6
37.5°	2690.6	2306.5	1915.7	1595.7	1449.7	1320.6	1105.0	946.6	806.3	701.8	626.6
40°	2443.5	2097.6	1722.6	1425.0	1285.8	1169.0	970.2	817.5	685.0	596.3	527.8
42.5°	2185.2	1864.1	1517.1	1234.1	1110.6	999.4	823.1	686.1	568.2	495.2	441.3
45°	1919.1	1604.7	1301.5	1049.9	956.7	832.1	669.3	558.1	462.6	408.7	366.1
47.5°	1619.3	1353.1	1073.5	852.3	754.6	670.4	534.5	444.7	382.9	335.8	303.2
50°	1297.0	1084.8	850.1	661.4	580.6	516.6	416.6	354.8	307.7	275.1	250.4
52.5°	997.2	829.9	640.1	485.1	434.6	386.3	324.5	281.9	248.2	223.5	205.5
55°	741.1	605.3	460.4	359.3	323.4	292.0	254.9	221.2	196.5	179.7	165.1
57.5°	522.2	422.2	323.4	260.5	241.4	221.2	193.1	170.7	153.8	140.4	129.1
60°	349.2	287.5	228.0	190.9	177.4	163.9	146.0	130.3	117.9	108.9	97.7
62.5°	234.7	193.1	159.5	137.0	128.0	119.0	106.7	95.4	86.5	77.5	68.5
65°	150.5	128.0	107.8	93.2	86.5	82.0	73.0	65.1	58.4	50.5	43.8
67.5°	92.1	79.7	67.4	58.4	55.0	51.7	46.0	40.4	35.9	30.3	25.8
70°	53.9	47.2	40.4	34.8	33.7	31.4	27.0	23.6	21.3	18.0	15.7
72.5°	31.4	28.1	23.6	21.3	20.2	18.0	16.8	14.6	12.4	11.2	10.1
75°	18.0	15.7	13.5	12.4	12.4	11.2	10.1	10.1	9.0	9.0	7.9
77.5°	11.2	10.1	9.0	9.0	9.0	7.9	7.9	7.9	7.9	6.7	6.7
80°	7.9	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
82.5°	4.5	4.5	4.5	4.5	4.5	5.6	5.6	5.6	5.6	5.6	6.7
85°	3.4	4.5	4.5	4.5	4.5	4.5	5.6	5.6	5.6	5.6	5.6
87.5°	3.4	4.5	4.5	4.5	4.5	4.5	5.6	5.6	5.6	5.6	5.6
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8
2.5°	1277.9	1259.9	1204.9	1224.0	1189.2	1161.1	1158.9	1142.0	1112.8	1097.1	1089.2
5°	1219.5	1179.1	1111.7	1116.2	1075.8	1032.0	1008.4	985.9	947.8	924.2	908.5
7.5°	1147.6	1092.6	1012.9	1007.3	964.6	911.8	878.1	846.7	805.1	774.8	755.7
10°	1072.4	1005.0	911.8	905.1	860.2	802.9	764.7	728.8	686.1	655.8	635.6
12.5°	1002.8	925.3	832.1	815.3	771.5	713.1	671.5	633.3	591.8	566.0	542.4
15°	936.5	852.3	753.5	737.8	695.1	636.7	590.7	557.0	517.7	493.0	471.6
17.5°	870.3	783.8	686.1	668.1	627.7	571.6	531.1	495.2	459.3	435.7	416.6
20°	813.0	726.5	631.1	613.1	576.1	522.2	485.1	451.4	418.9	396.4	380.7
22.5°	775.9	691.7	605.3	589.5	554.7	506.4	471.6	442.4	414.4	393.0	380.7
25°	773.7	700.7	623.2	614.2	585.0	544.6	519.9	502.0	485.1	468.3	463.8
27.5°	787.2	727.7	662.5	660.3	636.7	609.8	598.5	592.9	583.9	578.3	586.2
30°	779.3	728.8	673.8	673.8	655.8	636.7	631.1	628.8	623.2	624.4	633.3
32.5°	737.8	691.7	639.0	640.1	628.8	607.5	604.1	603.0	596.3	595.2	601.9
35°	662.5	619.9	576.1	577.2	568.2	548.0	543.5	541.3	532.3	527.8	532.3
37.5°	576.1	541.3	499.7	499.7	490.7	475.0	470.5	466.0	460.4	455.9	455.9
40°	487.4	459.3	425.6	424.5	417.7	402.0	397.5	394.2	388.5	380.7	382.9
42.5°	412.1	386.3	359.3	357.1	352.6	339.1	334.6	330.1	324.5	317.8	317.8
45°	342.5	325.7	302.1	300.9	296.5	285.2	281.9	276.2	271.8	265.0	265.0
47.5°	285.2	271.8	252.7	251.5	248.2	238.1	234.7	230.2	225.7	221.2	221.2
50°	239.2	225.7	210.0	208.9	206.6	198.8	194.3	190.9	187.5	184.2	181.9
52.5°	196.5	185.3	172.9	171.8	169.6	161.7	158.3	156.1	152.7	147.1	147.1
55°	158.3	149.4	138.1	137.0	134.8	128.0	124.6	120.2	115.7	110.0	108.9
57.5°	123.5	115.7	106.7	105.6	102.2	96.6	91.0	86.5	82.0	77.5	75.2
60°	93.2	84.2	76.4	74.1	71.9	64.0	59.5	55.0	50.5	47.2	44.9
62.5°	62.9	57.3	48.3	47.2	44.9	40.4	34.8	32.6	30.3	28.1	27.0
65°	39.3	34.8	30.3	29.2	27.0	23.6	21.3	20.2	19.1	18.0	16.8
67.5°	23.6	21.3	18.0	18.0	16.8	15.7	13.5	13.5	12.4	12.4	11.2
70°	14.6	13.5	12.4	11.2	11.2	11.2	10.1	10.1	10.1	10.1	10.1
72.5°	10.1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
75°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
77.5°	7.9	7.9	6.7	7.9	7.9	7.9	7.9	6.7	7.9	6.7	6.7
80°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
82.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	5.6	5.6	5.6	5.6
85°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.5
87.5°	5.6	5.6	5.6	5.6	5.6	4.5	4.5	4.5	4.5	3.4	3.4
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: P179836

CATALOG NUMBER: LDA6A65827D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8	1331.8
2.5°	1091.5	1060.1	1072.4	1054.4	1048.8	1044.3	1037.6	1058.9
5°	901.7	868.0	875.9	857.9	850.1	842.2	834.3	851.2
7.5°	744.5	711.9	715.3	699.6	691.7	682.7	674.9	688.4
10°	622.1	591.8	592.9	578.3	570.5	561.5	554.7	564.8
12.5°	528.9	500.8	500.8	489.6	482.9	472.8	467.1	475.0
15°	458.2	433.5	433.5	422.2	416.6	407.6	402.0	409.9
17.5°	404.3	381.8	381.8	373.9	368.3	360.5	356.0	362.7
20°	368.3	349.2	350.4	342.5	338.0	329.0	326.8	332.4
22.5°	371.7	353.7	356.0	350.4	345.9	339.1	336.9	344.7
25°	464.9	451.4	459.3	459.3	461.5	451.4	455.9	468.3
27.5°	597.4	590.7	603.0	598.5	607.5	607.5	612.0	627.7
30°	645.7	640.1	653.5	652.4	661.4	659.2	661.4	676.0
32.5°	610.9	605.3	616.5	615.4	622.1	616.5	617.6	630.0
35°	536.8	531.1	539.0	537.9	542.4	535.6	539.0	545.7
37.5°	458.2	452.5	457.0	455.9	457.0	449.2	453.7	457.0
40°	385.2	378.4	385.2	380.7	381.8	373.9	375.1	379.6
42.5°	322.3	314.4	320.0	320.0	320.0	314.4	315.5	320.0
45°	268.4	262.8	266.1	265.0	266.1	261.6	265.0	269.5
47.5°	222.3	217.8	220.1	219.0	219.0	214.5	215.6	215.6
50°	183.0	178.5	179.7	178.5	175.2	169.6	168.4	169.6
52.5°	144.9	139.2	139.2	137.0	134.8	130.3	130.3	131.4
55°	106.7	102.2	102.2	101.1	98.8	95.4	95.4	97.7
57.5°	71.9	68.5	69.6	68.5	68.5	64.0	66.3	66.3
60°	43.8	41.5	41.5	40.4	38.2	37.1	35.9	38.2
62.5°	25.8	24.7	24.7	23.6	23.6	22.5	22.5	22.5
65°	16.8	15.7	15.7	14.6	14.6	13.5	12.4	13.5
67.5°	11.2	10.1	10.1	10.1	10.1	9.0	9.0	9.0
70°	10.1	9.0	9.0	9.0	9.0	7.9	7.9	7.9
72.5°	9.0	7.9	9.0	7.9	7.9	7.9	7.9	7.9
75°	7.9	7.9	7.9	6.7	6.7	6.7	6.7	6.7
77.5°	6.7	6.7	6.7	6.7	6.7	5.6	5.6	5.6
80°	6.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6
82.5°	5.6	5.6	5.6	5.6	5.6	4.5	4.5	4.5
85°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
87.5°	3.4	3.4	3.4	3.4	3.4	2.2	2.2	2.2
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)