

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: P212712

Luminaire Tested: **LD4B15D010 EU4B10209030 4LBSWLI1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P212712
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29201)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10209030 4LBSWLI1
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1159.3 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.3 / 1.21
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

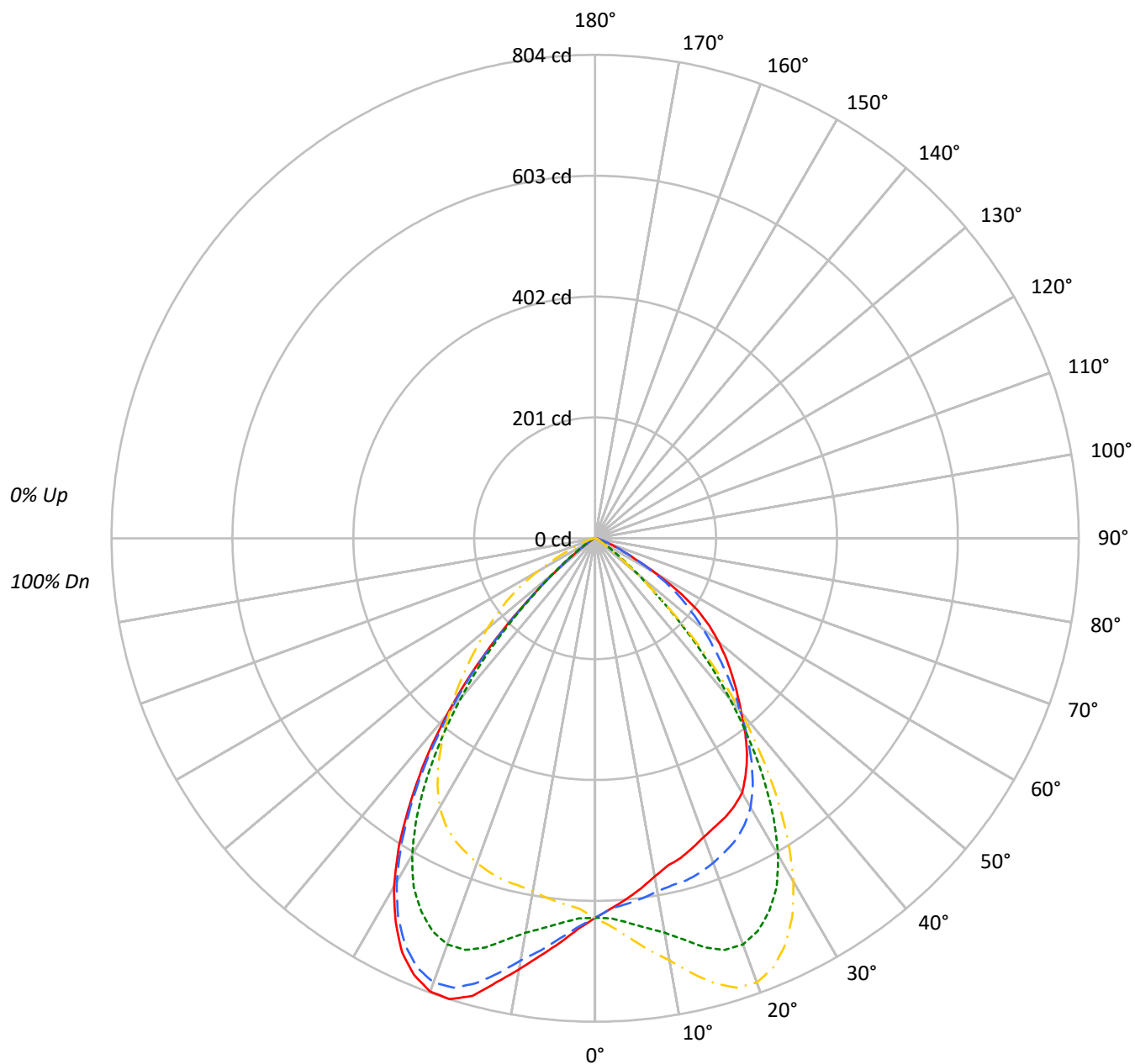
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWL11

Luminous Intensity Polar Plot





TEST NUMBER: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWLI1

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	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		100
1	112	109	106	103	110	107	104	102	103	100	99		99	97	96		91
2	105	99	94	90	103	97	93	89	94	90	87		91	88	85		82
3	98	90	84	80	96	89	83	79	86	81	78		84	80	76		73
4	92	83	76	71	90	81	75	70	79	74	69		77	72	69		66
5	86	76	69	63	84	75	68	63	73	67	62		71	66	62		60
6	80	70	62	57	79	69	62	57	67	61	56		66	60	56		54
7	75	64	57	52	74	63	57	52	62	56	51		61	55	51		49
8	71	59	52	47	69	59	52	47	57	51	47		56	51	47		45
9	66	55	48	43	65	54	48	43	53	47	43		52	47	43		41
10	63	51	44	40	62	51	44	40	50	44	40		49	43	39		38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	77843	77843	77843	77843
5°	74525	79490	83613	79490
10°	71529	83428	91156	83428
15°	70259	89962	100612	89962
20°	69385	94338	105272	94338
25°	69668	93158	103366	93158
30°	69590	86681	95227	86681
35°	66284	73572	80468	73572
40°	60816	55985	61750	55985
45°	56134	35637	38394	35637
50°	51350	17270	16791	17270
55°	44472	7527	5376	7527
60°	28789	3700	2467	3700
65°	15089	2422	1955	2422
70°	8114	1803	1515	1803
75°	4384	1573	1191	1573
80°	2983	1208	568	1208
85°	2406	1132	0	1132



TEST NUMBER: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWLI1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.5	5.3
10°-20°	192.5	16.6
20°-30°	299.2	25.8
30°-40°	302.2	26.1
40°-50°	191.4	16.5
50°-60°	80.3	6.9
60°-70°	25.5	2.2
70°-80°	5.8	0.5
80°-90°	0.8	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°	553.2	47.7
0°-40°	855.5	73.8
0°-60°	1127.2	97.2
0°-90°	1159.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1159.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	631	631	631	631	631	
5°	602	642	675	642	602	57
15°	550	704	788	704	550	155
25°	512	684	760	684	512	236
35°	440	489	534	489	440	273
45°	322	204	220	204	322	248
55°	207	35	25	35	207	179
65°	52	8	7	8	52	57
75°	9	3	2	3	9	11
85°	2	1	0	1	2	2
90°	0	0	0	0	0	



TEST NUMBER: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWLI1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1
2.5°	616.1	610.3	615.3	616.9	616.9	616.1	617.8	616.1	613.6	623.6	616.1
5°	601.9	597.8	601.9	603.6	604.4	605.3	606.9	606.9	606.1	615.3	610.3
7.5°	586.9	584.4	587.8	590.3	593.6	592.8	595.3	596.1	597.8	608.6	603.6
10°	571.1	568.6	572.8	574.4	578.6	579.4	581.1	583.6	586.9	597.8	596.1
12.5°	557.8	556.9	559.4	562.8	566.9	567.8	569.4	573.6	578.6	590.3	591.1
15°	550.2	549.4	551.9	555.3	558.6	560.3	561.9	567.8	572.8	585.3	588.6
17.5°	539.4	539.4	541.9	545.2	549.4	551.1	553.6	559.4	566.1	578.6	582.8
20°	528.6	529.4	531.1	534.4	538.6	540.2	542.7	548.6	556.1	568.6	574.4
22.5°	519.4	521.9	522.7	525.2	529.4	531.9	532.7	539.4	546.1	556.9	564.4
25°	511.9	515.2	515.2	516.9	521.9	522.7	523.6	530.2	536.1	546.1	553.6
27.5°	501.9	505.2	505.2	507.7	511.1	512.7	512.7	518.6	524.4	531.9	537.7
30°	488.6	491.1	491.1	491.9	495.2	496.9	496.1	501.9	506.1	511.1	516.9
32.5°	466.0	470.2	468.5	471.0	472.7	474.4	472.7	477.7	481.1	486.1	487.7
35°	440.2	443.5	441.0	442.7	446.0	446.0	445.2	448.5	450.2	452.7	453.5
37.5°	410.2	412.7	411.0	411.9	413.5	414.4	412.7	416.0	416.0	416.9	415.2
40°	377.7	381.8	379.3	379.3	381.0	381.8	379.3	381.0	382.7	378.5	375.2
42.5°	349.3	353.5	351.0	351.0	351.0	351.8	348.5	349.3	349.3	343.5	338.5
45°	321.8	325.1	322.6	320.1	321.0	321.8	318.5	317.6	315.1	308.5	301.0
47.5°	295.1	298.5	295.1	293.5	293.5	293.5	289.3	286.8	283.5	274.3	265.1
50°	267.6	271.0	268.5	266.8	265.1	265.1	261.8	258.5	253.4	244.3	234.3
52.5°	239.3	241.8	239.3	237.6	235.9	235.9	231.8	229.3	223.4	214.3	203.4
55°	206.8	208.4	205.9	204.3	203.4	203.4	200.1	197.6	192.6	185.1	175.1
57.5°	163.4	166.7	162.6	164.2	164.2	163.4	160.9	160.1	158.4	151.7	144.2
60°	116.7	116.7	115.9	119.2	118.4	120.1	118.4	119.2	120.1	115.1	110.0
62.5°	76.7	79.2	77.5	79.2	80.9	80.9	80.0	81.7	83.4	80.9	78.4
65°	51.7	51.7	51.7	52.5	52.5	53.4	52.5	53.4	54.2	53.4	51.7
67.5°	34.2	35.0	34.2	35.0	34.2	35.0	35.0	35.0	35.8	35.0	34.2
70°	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	23.3	22.5	21.7
72.5°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
75°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
77.5°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
80°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.3	4.2	3.3	3.3
82.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
85°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.8	1.7	0.8	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWLI1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1
2.5°	620.3	617.8	630.3	619.4	625.3	624.4	625.3	630.3	630.3	632.8	632.0
5°	616.9	614.4	628.6	620.3	627.0	627.0	629.5	637.0	637.0	642.0	642.8
7.5°	611.9	612.8	627.8	622.8	630.3	631.1	635.3	644.5	647.0	653.6	657.0
10°	606.1	609.4	625.3	623.6	633.6	634.5	642.8	653.6	657.0	666.1	672.0
12.5°	603.6	609.4	627.8	629.5	639.5	643.6	652.8	667.0	672.8	683.6	692.0
15°	602.8	611.1	631.1	637.0	648.6	654.5	667.0	683.6	690.3	704.5	714.5
17.5°	598.6	609.4	631.1	640.3	652.8	658.6	674.5	693.6	702.0	717.8	729.5
20°	591.1	602.8	624.4	636.1	649.5	657.8	673.6	693.6	702.0	718.7	732.0
22.5°	581.1	592.8	613.6	627.0	638.6	647.8	664.5	683.6	691.1	707.0	720.3
25°	568.6	580.3	597.8	611.1	621.9	630.3	644.5	664.5	669.5	684.5	698.7
27.5°	551.1	561.9	575.3	587.8	597.8	604.4	616.9	634.5	638.6	653.6	665.3
30°	527.7	534.4	546.1	554.4	561.9	568.6	577.8	593.6	595.3	608.6	619.4
32.5°	496.1	499.4	507.7	511.9	518.6	521.1	528.6	541.9	540.2	552.8	561.9
35°	457.7	459.4	459.4	464.4	466.0	466.9	472.7	480.2	477.7	488.6	495.2
37.5°	416.0	415.2	410.2	410.2	411.0	408.5	411.0	414.4	411.0	419.4	425.2
40°	373.5	368.5	359.3	354.3	351.8	351.0	346.0	350.2	341.8	347.7	351.8
42.5°	332.7	324.3	310.1	300.1	296.0	291.8	283.5	283.5	272.6	276.8	277.6
45°	291.0	276.8	257.6	248.4	237.6	230.9	220.1	209.3	201.8	204.3	201.8
47.5°	252.6	235.9	213.4	197.6	185.1	175.9	160.9	148.4	140.9	137.6	134.2
50°	219.3	202.6	176.7	156.7	144.2	133.4	118.4	104.2	95.0	90.0	87.5
52.5°	189.3	171.7	146.7	125.9	112.6	102.5	85.9	71.7	61.7	55.9	52.5
55°	160.9	145.1	121.7	102.5	90.0	80.0	63.4	50.0	40.9	35.0	30.8
57.5°	132.6	118.4	99.2	80.9	70.0	60.9	46.7	35.0	27.5	22.5	19.2
60°	101.7	90.9	75.0	60.9	51.7	44.2	33.3	24.2	19.2	15.0	13.3
62.5°	71.7	65.0	53.4	43.4	37.5	31.7	23.3	17.5	13.3	10.8	10.0
65°	48.4	43.4	36.7	29.2	25.0	21.7	16.7	12.5	10.0	8.3	7.5
67.5°	31.7	29.2	24.2	20.0	17.5	15.0	11.7	9.2	7.5	6.7	5.8
70°	20.8	19.2	15.8	13.3	12.5	10.8	8.3	6.7	5.8	5.0	5.0
72.5°	13.3	11.7	10.8	9.2	8.3	7.5	5.8	5.0	4.2	4.2	4.2
75°	8.3	7.5	6.7	5.8	5.8	5.0	4.2	4.2	3.3	3.3	3.3
77.5°	5.0	5.0	4.2	4.2	3.3	3.3	3.3	2.5	2.5	2.5	2.5
80°	3.3	3.3	2.5	2.5	2.5	2.5	1.7	1.7	1.7	1.7	1.7
82.5°	1.7	1.7	1.7	1.7	1.7	1.7	0.8	0.8	0.8	0.8	0.8
85°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWLI1

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1
2.5°	636.1	637.8	636.1	641.1	632.8	642.0	638.6	640.3	647.0	644.5	647.0
5°	648.6	652.0	652.0	657.8	650.3	661.1	657.8	661.1	667.8	667.8	671.1
7.5°	664.5	668.6	670.3	676.1	668.6	682.0	678.6	682.8	691.1	691.1	693.6
10°	681.1	686.1	689.5	696.1	687.8	702.8	699.5	705.3	712.8	713.7	717.8
12.5°	702.0	708.7	712.8	718.7	712.8	727.8	724.5	730.3	740.3	741.2	746.2
15°	725.3	733.7	738.7	745.3	738.7	755.3	752.0	758.7	766.2	769.5	774.5
17.5°	740.3	750.3	754.5	762.0	755.3	772.0	767.8	777.0	783.7	785.4	791.2
20°	742.8	752.0	757.8	763.7	757.8	774.5	770.3	777.9	786.2	787.9	792.0
22.5°	732.0	739.5	746.2	751.2	746.2	762.8	757.0	765.3	772.9	774.5	777.9
25°	707.0	716.2	722.8	727.0	722.0	737.8	732.8	740.3	747.0	750.3	751.2
27.5°	672.0	680.3	687.0	689.5	686.1	701.2	694.5	703.7	709.5	711.2	713.7
30°	624.4	632.0	638.6	640.3	637.8	648.6	645.3	653.6	659.5	661.1	662.8
32.5°	566.1	573.6	577.8	579.4	576.9	587.8	584.4	591.1	597.8	597.8	597.8
35°	500.2	506.9	509.4	514.4	508.6	519.4	516.1	521.9	527.7	527.7	528.6
37.5°	429.4	434.4	436.0	441.0	435.2	445.2	442.7	447.7	452.7	451.9	453.5
40°	353.5	358.5	360.2	364.3	359.3	367.7	366.0	371.0	375.2	375.2	375.2
42.5°	280.1	283.5	283.5	287.6	282.6	290.1	290.1	293.5	297.6	296.8	296.8
45°	203.4	202.6	204.3	203.4	203.4	210.1	210.1	211.8	215.1	213.4	214.3
47.5°	135.1	135.9	132.6	135.1	131.7	137.6	137.6	137.6	140.1	138.4	140.1
50°	85.9	83.4	81.7	81.7	80.9	85.0	83.4	84.2	85.9	84.2	85.9
52.5°	48.4	47.5	45.9	46.7	45.0	45.9	45.9	45.9	46.7	45.9	47.5
55°	28.3	25.8	25.0	25.0	24.2	25.0	24.2	24.2	24.2	23.3	24.2
57.5°	16.7	15.8	15.0	15.0	14.2	14.2	14.2	14.2	14.2	14.2	14.2
60°	11.7	10.8	10.8	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
62.5°	9.2	8.3	8.3	8.3	7.5	7.5	7.5	7.5	7.5	8.3	7.5
65°	6.7	6.7	6.7	6.7	6.7	6.7	5.8	6.7	6.7	6.7	6.7
67.5°	5.8	5.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
72.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	1.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWLI1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°	185°	190°	195°
0°	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1
2.5°	649.5	646.1	638.6	643.6	644.5	641.1	645.3	650.3	645.3	641.1	644.5
5°	673.6	671.1	664.5	668.6	669.5	668.6	671.1	675.3	671.1	668.6	669.5
7.5°	697.8	696.1	688.6	693.6	695.3	693.6	696.1	700.3	696.1	693.6	695.3
10°	721.2	720.3	712.8	719.5	720.3	718.7	721.2	727.8	721.2	718.7	720.3
12.5°	747.8	749.5	741.2	748.7	749.5	747.8	751.2	756.2	751.2	747.8	749.5
15°	778.7	777.9	771.2	777.0	778.7	777.0	781.2	787.9	781.2	777.0	778.7
17.5°	793.7	793.7	788.7	794.5	795.4	795.4	798.7	803.7	798.7	795.4	795.4
20°	794.5	795.4	789.5	796.2	796.2	796.2	799.5	802.0	799.5	796.2	796.2
22.5°	781.2	782.0	776.2	782.0	782.0	782.9	784.5	786.2	784.5	782.9	782.0
25°	755.3	756.2	751.2	756.2	755.3	755.3	757.0	759.5	757.0	755.3	755.3
27.5°	717.0	717.8	711.2	717.0	716.2	715.3	717.8	718.7	717.8	715.3	716.2
30°	666.1	667.0	661.1	666.1	665.3	664.5	667.8	668.6	667.8	664.5	665.3
32.5°	605.3	603.6	599.4	603.6	602.8	602.8	604.4	606.9	604.4	602.8	602.8
35°	531.9	531.9	529.4	532.7	530.2	533.6	533.6	534.4	533.6	533.6	530.2
37.5°	456.9	456.9	455.2	456.9	456.0	459.4	459.4	461.9	459.4	459.4	456.0
40°	378.5	378.5	376.8	378.5	381.0	381.0	380.2	383.5	380.2	381.0	381.0
42.5°	299.3	299.3	298.5	302.6	302.6	302.6	300.1	303.5	300.1	302.6	302.6
45°	217.6	215.9	215.1	215.1	215.9	219.3	215.9	220.1	215.9	219.3	215.9
47.5°	138.4	139.2	140.1	142.6	140.9	140.1	140.1	142.6	140.1	140.1	140.9
50°	85.0	85.9	85.9	87.5	85.0	86.7	85.9	87.5	85.9	86.7	85.0
52.5°	46.7	46.7	46.7	48.4	46.7	47.5	46.7	48.4	46.7	47.5	46.7
55°	24.2	24.2	24.2	25.0	24.2	24.2	24.2	25.0	24.2	24.2	24.2
57.5°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
60°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
62.5°	8.3	7.5	7.5	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
65°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
67.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
72.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWLI1

CANDELA DISTRIBUTION (continued):

	200°	202.5°	205°	210°	215°	220°	225°	230°	235°	240°	245°
0°	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1
2.5°	643.6	638.6	646.1	649.5	647.0	644.5	647.0	640.3	638.6	642.0	632.8
5°	668.6	664.5	671.1	673.6	671.1	667.8	667.8	661.1	657.8	661.1	650.3
7.5°	693.6	688.6	696.1	697.8	693.6	691.1	691.1	682.8	678.6	682.0	668.6
10°	719.5	712.8	720.3	721.2	717.8	713.7	712.8	705.3	699.5	702.8	687.8
12.5°	748.7	741.2	749.5	747.8	746.2	741.2	740.3	730.3	724.5	727.8	712.8
15°	777.0	771.2	777.9	778.7	774.5	769.5	766.2	758.7	752.0	755.3	738.7
17.5°	794.5	788.7	793.7	793.7	791.2	785.4	783.7	777.0	767.8	772.0	755.3
20°	796.2	789.5	795.4	794.5	792.0	787.9	786.2	777.9	770.3	774.5	757.8
22.5°	782.0	776.2	782.0	781.2	777.9	774.5	772.9	765.3	757.0	762.8	746.2
25°	756.2	751.2	756.2	755.3	751.2	750.3	747.0	740.3	732.8	737.8	722.0
27.5°	717.0	711.2	717.8	717.0	713.7	711.2	709.5	703.7	694.5	701.2	686.1
30°	666.1	661.1	667.0	666.1	662.8	661.1	659.5	653.6	645.3	648.6	637.8
32.5°	603.6	599.4	603.6	605.3	597.8	597.8	597.8	591.1	584.4	587.8	576.9
35°	532.7	529.4	531.9	531.9	528.6	527.7	527.7	521.9	516.1	519.4	508.6
37.5°	456.9	455.2	456.9	456.9	453.5	451.9	452.7	447.7	442.7	445.2	435.2
40°	378.5	376.8	378.5	378.5	375.2	375.2	375.2	371.0	366.0	367.7	359.3
42.5°	302.6	298.5	299.3	299.3	296.8	296.8	297.6	293.5	290.1	290.1	282.6
45°	215.1	215.1	215.9	217.6	214.3	213.4	215.1	211.8	210.1	210.1	203.4
47.5°	142.6	140.1	139.2	138.4	140.1	138.4	140.1	137.6	137.6	137.6	131.7
50°	87.5	85.9	85.9	85.0	85.9	84.2	85.9	84.2	83.4	85.0	80.9
52.5°	48.4	46.7	46.7	46.7	47.5	45.9	46.7	45.9	45.9	45.9	45.0
55°	25.0	24.2	24.2	24.2	24.2	23.3	24.2	24.2	24.2	25.0	24.2
57.5°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
60°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
62.5°	8.3	7.5	7.5	8.3	7.5	8.3	7.5	7.5	7.5	7.5	7.5
65°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	5.8	6.7	6.7
67.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
72.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWLI1

CANDELA DISTRIBUTION (continued):

	247.5°	250°	255°	260°	265°	270°	275°	280°	285°	290°	292.5°
0°	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1
2.5°	641.1	636.1	637.8	636.1	632.0	632.8	630.3	630.3	625.3	624.4	625.3
5°	657.8	652.0	652.0	648.6	642.8	642.0	637.0	637.0	629.5	627.0	627.0
7.5°	676.1	670.3	668.6	664.5	657.0	653.6	647.0	644.5	635.3	631.1	630.3
10°	696.1	689.5	686.1	681.1	672.0	666.1	657.0	653.6	642.8	634.5	633.6
12.5°	718.7	712.8	708.7	702.0	692.0	683.6	672.8	667.0	652.8	643.6	639.5
15°	745.3	738.7	733.7	725.3	714.5	704.5	690.3	683.6	667.0	654.5	648.6
17.5°	762.0	754.5	750.3	740.3	729.5	717.8	702.0	693.6	674.5	658.6	652.8
20°	763.7	757.8	752.0	742.8	732.0	718.7	702.0	693.6	673.6	657.8	649.5
22.5°	751.2	746.2	739.5	732.0	720.3	707.0	691.1	683.6	664.5	647.8	638.6
25°	727.0	722.8	716.2	707.0	698.7	684.5	669.5	664.5	644.5	630.3	621.9
27.5°	689.5	687.0	680.3	672.0	665.3	653.6	638.6	634.5	616.9	604.4	597.8
30°	640.3	638.6	632.0	624.4	619.4	608.6	595.3	593.6	577.8	568.6	561.9
32.5°	579.4	577.8	573.6	566.1	561.9	552.8	540.2	541.9	528.6	521.1	518.6
35°	514.4	509.4	506.9	500.2	495.2	488.6	477.7	480.2	472.7	466.9	466.0
37.5°	441.0	436.0	434.4	429.4	425.2	419.4	411.0	414.4	411.0	408.5	411.0
40°	364.3	360.2	358.5	353.5	351.8	347.7	341.8	350.2	346.0	351.0	351.8
42.5°	287.6	283.5	283.5	280.1	277.6	276.8	272.6	283.5	283.5	291.8	296.0
45°	203.4	204.3	202.6	203.4	201.8	204.3	201.8	209.3	220.1	230.9	237.6
47.5°	135.1	132.6	135.9	135.1	134.2	137.6	140.9	148.4	160.9	175.9	185.1
50°	81.7	81.7	83.4	85.9	87.5	90.0	95.0	104.2	118.4	133.4	144.2
52.5°	46.7	45.9	47.5	48.4	52.5	55.9	61.7	71.7	85.9	102.5	112.6
55°	25.0	25.0	25.8	28.3	30.8	35.0	40.9	50.0	63.4	80.0	90.0
57.5°	15.0	15.0	15.8	16.7	19.2	22.5	27.5	35.0	46.7	60.9	70.0
60°	10.0	10.8	10.8	11.7	13.3	15.0	19.2	24.2	33.3	44.2	51.7
62.5°	8.3	8.3	8.3	9.2	10.0	10.8	13.3	17.5	23.3	31.7	37.5
65°	6.7	6.7	6.7	6.7	7.5	8.3	10.0	12.5	16.7	21.7	25.0
67.5°	5.0	5.0	5.8	5.8	5.8	6.7	7.5	9.2	11.7	15.0	17.5
70°	4.2	4.2	4.2	4.2	5.0	5.0	5.8	6.7	8.3	10.8	12.5
72.5°	3.3	3.3	3.3	3.3	4.2	4.2	4.2	5.0	5.8	7.5	8.3
75°	2.5	2.5	2.5	2.5	3.3	3.3	3.3	4.2	4.2	5.0	5.8
77.5°	1.7	1.7	1.7	1.7	2.5	2.5	2.5	2.5	3.3	3.3	3.3
80°	0.8	0.8	0.8	1.7	1.7	1.7	1.7	1.7	1.7	2.5	2.5
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.7	1.7
85°	0.0	0.0	0.8	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWL11

CANDELA DISTRIBUTION (continued):

	295°	300°	305°	310°	315°	320°	325°	330°	335°	337.5°	340°
0°	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1	631.1
2.5°	619.4	630.3	617.8	620.3	616.1	623.6	613.6	616.1	617.8	616.1	616.9
5°	620.3	628.6	614.4	616.9	610.3	615.3	606.1	606.9	606.9	605.3	604.4
7.5°	622.8	627.8	612.8	611.9	603.6	608.6	597.8	596.1	595.3	592.8	593.6
10°	623.6	625.3	609.4	606.1	596.1	597.8	586.9	583.6	581.1	579.4	578.6
12.5°	629.5	627.8	609.4	603.6	591.1	590.3	578.6	573.6	569.4	567.8	566.9
15°	637.0	631.1	611.1	602.8	588.6	585.3	572.8	567.8	561.9	560.3	558.6
17.5°	640.3	631.1	609.4	598.6	582.8	578.6	566.1	559.4	553.6	551.1	549.4
20°	636.1	624.4	602.8	591.1	574.4	568.6	556.1	548.6	542.7	540.2	538.6
22.5°	627.0	613.6	592.8	581.1	564.4	556.9	546.1	539.4	532.7	531.9	529.4
25°	611.1	597.8	580.3	568.6	553.6	546.1	536.1	530.2	523.6	522.7	521.9
27.5°	587.8	575.3	561.9	551.1	537.7	531.9	524.4	518.6	512.7	512.7	511.1
30°	554.4	546.1	534.4	527.7	516.9	511.1	506.1	501.9	496.1	496.9	495.2
32.5°	511.9	507.7	499.4	496.1	487.7	486.1	481.1	477.7	472.7	474.4	472.7
35°	464.4	459.4	459.4	457.7	453.5	452.7	450.2	448.5	445.2	446.0	446.0
37.5°	410.2	410.2	415.2	416.0	415.2	416.9	416.0	416.0	412.7	414.4	413.5
40°	354.3	359.3	368.5	373.5	375.2	378.5	382.7	381.0	379.3	381.8	381.0
42.5°	300.1	310.1	324.3	332.7	338.5	343.5	349.3	349.3	348.5	351.8	351.0
45°	248.4	257.6	276.8	291.0	301.0	308.5	315.1	317.6	318.5	321.8	321.0
47.5°	197.6	213.4	235.9	252.6	265.1	274.3	283.5	286.8	289.3	293.5	293.5
50°	156.7	176.7	202.6	219.3	234.3	244.3	253.4	258.5	261.8	265.1	265.1
52.5°	125.9	146.7	171.7	189.3	203.4	214.3	223.4	229.3	231.8	235.9	235.9
55°	102.5	121.7	145.1	160.9	175.1	185.1	192.6	197.6	200.1	203.4	203.4
57.5°	80.9	99.2	118.4	132.6	144.2	151.7	158.4	160.1	160.9	163.4	164.2
60°	60.9	75.0	90.9	101.7	110.0	115.1	120.1	119.2	118.4	120.1	118.4
62.5°	43.4	53.4	65.0	71.7	78.4	80.9	83.4	81.7	80.0	80.9	80.9
65°	29.2	36.7	43.4	48.4	51.7	53.4	54.2	53.4	52.5	53.4	52.5
67.5°	20.0	24.2	29.2	31.7	34.2	35.0	35.8	35.0	35.0	35.0	34.2
70°	13.3	15.8	19.2	20.8	21.7	22.5	23.3	22.5	22.5	22.5	22.5
72.5°	9.2	10.8	11.7	13.3	14.2	14.2	14.2	14.2	14.2	14.2	14.2
75°	5.8	6.7	7.5	8.3	9.2	9.2	9.2	9.2	9.2	9.2	9.2
77.5°	4.2	4.2	5.0	5.0	5.8	5.8	5.8	5.8	5.8	5.8	5.8
80°	2.5	2.5	3.3	3.3	3.3	3.3	4.2	3.3	4.2	4.2	4.2
82.5°	1.7	1.7	1.7	1.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5
85°	0.8	0.8	0.8	0.8	0.8	0.8	1.7	0.8	1.7	1.7	1.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P212712

CATALOG NUMBER: LD4B15D010 EU4B10209030 4LBSWLI1

CANDELA DISTRIBUTION (continued):

	345°	350°	355°	360°
0°	631.1	631.1	631.1	631.1
2.5°	616.9	615.3	610.3	616.1
5°	603.6	601.9	597.8	601.9
7.5°	590.3	587.8	584.4	586.9
10°	574.4	572.8	568.6	571.1
12.5°	562.8	559.4	556.9	557.8
15°	555.3	551.9	549.4	550.2
17.5°	545.2	541.9	539.4	539.4
20°	534.4	531.1	529.4	528.6
22.5°	525.2	522.7	521.9	519.4
25°	516.9	515.2	515.2	511.9
27.5°	507.7	505.2	505.2	501.9
30°	491.9	491.1	491.1	488.6
32.5°	471.0	468.5	470.2	466.0
35°	442.7	441.0	443.5	440.2
37.5°	411.9	411.0	412.7	410.2
40°	379.3	379.3	381.8	377.7
42.5°	351.0	351.0	353.5	349.3
45°	320.1	322.6	325.1	321.8
47.5°	293.5	295.1	298.5	295.1
50°	266.8	268.5	271.0	267.6
52.5°	237.6	239.3	241.8	239.3
55°	204.3	205.9	208.4	206.8
57.5°	164.2	162.6	166.7	163.4
60°	119.2	115.9	116.7	116.7
62.5°	79.2	77.5	79.2	76.7
65°	52.5	51.7	51.7	51.7
67.5°	35.0	34.2	35.0	34.2
70°	22.5	22.5	22.5	22.5
72.5°	14.2	14.2	14.2	14.2
75°	9.2	9.2	9.2	9.2
77.5°	5.8	5.8	5.8	5.8
80°	4.2	4.2	4.2	4.2
82.5°	2.5	2.5	2.5	2.5
85°	1.7	1.7	1.7	1.7
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°





















(END OF REPORT)