

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: P212711

Luminaire Tested: **LD4B15D010 EU4B10209027 4LBSWLI1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P212711
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 EU4B10209027 4LBSWL1
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1114.9 lumens
Efficiency: N/A
Efficacy: 77.5 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

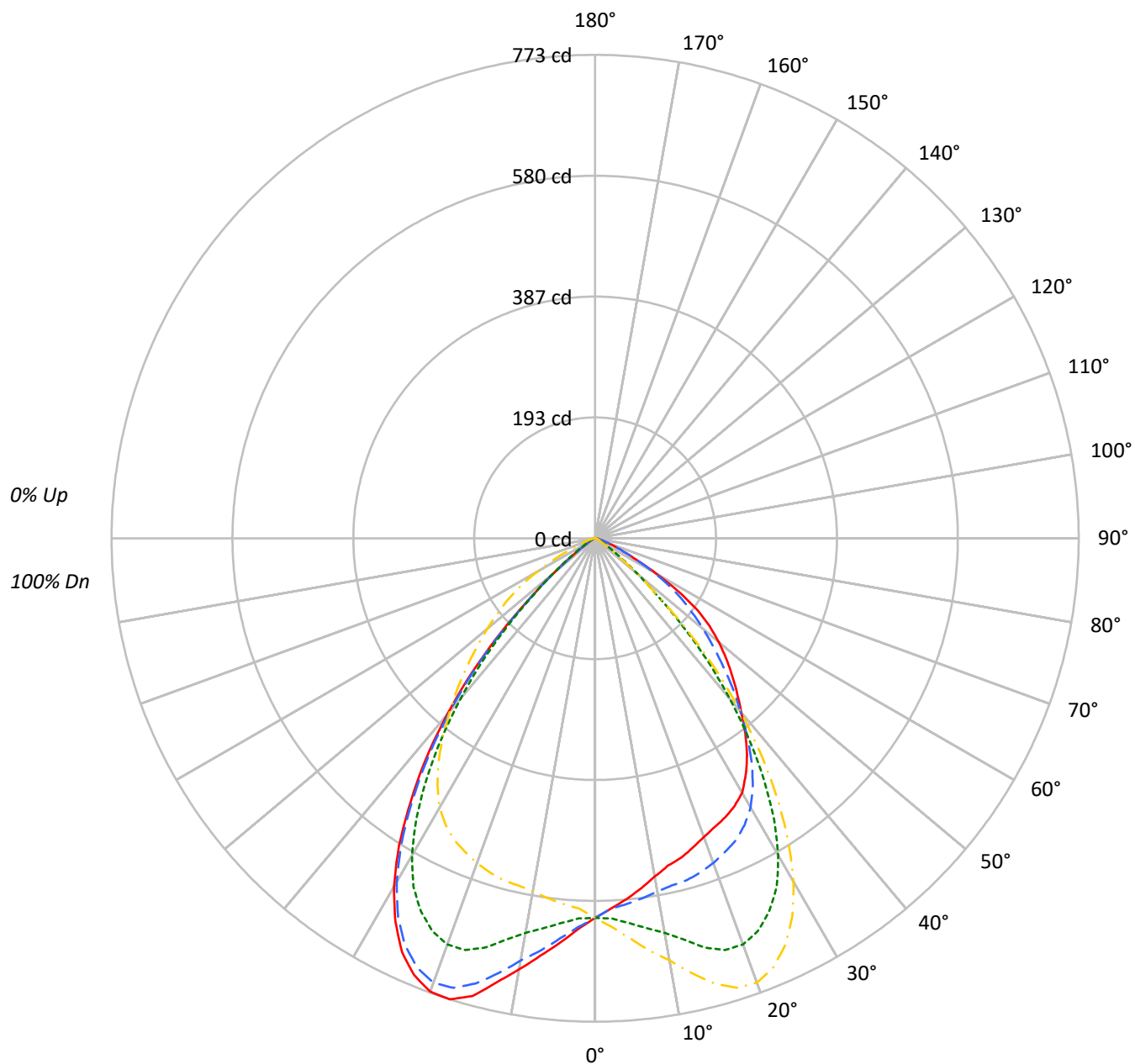
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	112	109	106	103	110	107	104	102	103	100	99	99	97	96	95	94	93	91		
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	83	82		
3	98	90	84	80	96	89	83	79	86	81	78	84	80	76	81	78	75	73		
4	92	83	76	71	90	81	75	70	79	74	69	77	72	69	75	71	68	66		
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	60		
6	80	70	62	57	79	69	62	57	67	61	56	66	60	56	64	59	56	54		
7	75	64	57	52	74	63	57	52	62	56	51	61	55	51	59	55	51	49		
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45		
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	52	46	43	41		
10	63	51	44	40	62	51	44	40	50	44	40	49	43	39	48	43	39	38		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	74858	74858	74858	74858
5°	71678	76444	80407	76444
10°	68786	80234	87661	80234
15°	67577	86515	96756	86515
20°	66720	90715	101242	90715
25°	67000	89593	99405	89593
30°	66912	83363	91581	83363
35°	63739	70741	77382	70741
40°	58481	53828	59383	53828
45°	53988	34259	36928	34259
50°	49393	16618	16157	16618
55°	42751	7247	5183	7247
60°	27679	3552	2368	3552
65°	14505	2335	1868	2335
70°	7790	1731	1443	1731
75°	4194	1525	1144	1525
80°	2841	1137	568	1137
85°	2264	1132	0	1132



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.2	5.3
10°-20°	185.1	16.6
20°-30°	287.8	25.8
30°-40°	290.7	26.1
40°-50°	184.0	16.5
50°-60°	77.2	6.9
60°-70°	24.5	2.2
70°-80°	5.6	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°	532.0	47.7
0°-40°	822.7	73.8
0°-60°	1084.0	97.2
0°-90°	1114.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1114.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	607	607	607	607	607	
5°	579	617	649	617	579	54
15°	529	678	758	678	529	149
25°	492	658	730	658	492	227
35°	423	470	514	470	423	263
45°	310	196	212	196	310	239
55°	199	34	24	34	199	172
65°	50	8	6	8	50	55
75°	9	3	2	3	9	11
85°	2	1	0	1	2	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°	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9
2.5°	592.5	586.9	591.7	593.3	593.3	592.5	594.1	592.5	590.1	599.7	592.5
5°	578.9	574.9	578.9	580.5	581.3	582.1	583.7	583.7	582.9	591.7	586.9
7.5°	564.4	562.0	565.2	567.7	570.9	570.1	572.5	573.3	574.9	585.3	580.5
10°	549.2	546.8	550.8	552.4	556.4	557.2	558.8	561.2	564.4	574.9	573.3
12.5°	536.4	535.6	538.0	541.2	545.2	546.0	547.6	551.6	556.4	567.7	568.5
15°	529.2	528.4	530.8	534.0	537.2	538.8	540.4	546.0	550.8	562.8	566.0
17.5°	518.7	518.7	521.1	524.4	528.4	530.0	532.4	538.0	544.4	556.4	560.4
20°	508.3	509.1	510.7	513.9	517.9	519.5	522.0	527.6	534.8	546.8	552.4
22.5°	499.5	501.9	502.7	505.1	509.1	511.5	512.3	518.7	525.2	535.6	542.8
25°	492.3	495.5	495.5	497.1	501.9	502.7	503.5	509.9	515.5	525.2	532.4
27.5°	482.7	485.9	485.9	488.3	491.5	493.1	493.1	498.7	504.3	511.5	517.1
30°	469.8	472.2	472.2	473.0	476.3	477.9	477.1	482.7	486.7	491.5	497.1
32.5°	448.2	452.2	450.6	453.0	454.6	456.2	454.6	459.4	462.6	467.4	469.0
35°	423.3	426.5	424.1	425.7	428.9	428.9	428.1	431.4	433.0	435.4	436.2
37.5°	394.5	396.9	395.3	396.1	397.7	398.5	396.9	400.1	400.1	400.9	399.3
40°	363.2	367.2	364.8	364.8	366.4	367.2	364.8	366.4	368.0	364.0	360.8
42.5°	335.9	339.9	337.5	337.5	337.5	338.3	335.1	335.9	335.9	330.3	325.5
45°	309.5	312.7	310.3	307.9	308.7	309.5	306.3	305.5	303.1	296.7	289.4
47.5°	283.8	287.0	283.8	282.2	282.2	282.2	278.2	275.8	272.6	263.8	255.0
50°	257.4	260.6	258.2	256.6	255.0	255.0	251.8	248.5	243.7	234.9	225.3
52.5°	230.1	232.5	230.1	228.5	226.9	226.9	222.9	220.5	214.9	206.1	195.6
55°	198.8	200.4	198.0	196.4	195.6	195.6	192.4	190.0	185.2	178.0	168.4
57.5°	157.1	160.4	156.3	157.9	157.9	157.1	154.7	153.9	152.3	145.9	138.7
60°	112.2	112.2	111.4	114.7	113.9	115.5	113.9	114.7	115.5	110.6	105.8
62.5°	73.8	76.2	74.6	76.2	77.8	77.8	77.0	78.6	80.2	77.8	75.4
65°	49.7	49.7	49.7	50.5	50.5	51.3	50.5	51.3	52.1	51.3	49.7
67.5°	32.9	33.7	32.9	33.7	32.9	33.7	33.7	33.7	34.5	33.7	32.9
70°	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	22.4	21.6	20.8
72.5°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
75°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
77.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
80°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.2	4.0	3.2	3.2
82.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
85°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.8	1.6	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9
2.5°	596.5	594.1	606.1	595.7	601.3	600.5	601.3	606.1	606.1	608.5	607.7
5°	593.3	590.9	604.5	596.5	602.9	602.9	605.3	612.6	612.6	617.4	618.2
7.5°	588.5	589.3	603.7	598.9	606.1	606.9	610.9	619.8	622.2	628.6	631.8
10°	582.9	586.1	601.3	599.7	609.3	610.1	618.2	628.6	631.8	640.6	646.2
12.5°	580.5	586.1	603.7	605.3	615.0	619.0	627.8	641.4	647.0	657.5	665.5
15°	579.7	587.7	606.9	612.6	623.8	629.4	641.4	657.5	663.9	677.5	687.1
17.5°	575.7	586.1	606.9	615.8	627.8	633.4	648.6	667.1	675.1	690.3	701.5
20°	568.5	579.7	600.5	611.7	624.6	632.6	647.8	667.1	675.1	691.1	704.0
22.5°	558.8	570.1	590.1	602.9	614.2	623.0	639.0	657.5	664.7	679.9	692.7
25°	546.8	558.0	574.9	587.7	598.1	606.1	619.8	639.0	643.8	658.3	671.9
27.5°	530.0	540.4	553.2	565.2	574.9	581.3	593.3	610.1	614.2	628.6	639.8
30°	507.5	513.9	525.2	533.2	540.4	546.8	555.6	570.9	572.5	585.3	595.7
32.5°	477.1	480.3	488.3	492.3	498.7	501.1	508.3	521.1	519.5	531.6	540.4
35°	440.2	441.8	441.8	446.6	448.2	449.0	454.6	461.8	459.4	469.8	476.3
37.5°	400.1	399.3	394.5	394.5	395.3	392.9	395.3	398.5	395.3	403.3	408.9
40°	359.2	354.4	345.6	340.8	338.3	337.5	332.7	336.7	328.7	334.3	338.3
42.5°	319.9	311.9	298.3	288.6	284.6	280.6	272.6	272.6	262.2	266.2	267.0
45°	279.8	266.2	247.7	238.9	228.5	222.1	211.7	201.2	194.0	196.4	194.0
47.5°	242.9	226.9	205.3	190.0	178.0	169.2	154.7	142.7	135.5	132.3	129.1
50°	210.9	194.8	170.0	150.7	138.7	128.3	113.9	100.2	91.4	86.6	84.2
52.5°	182.0	165.2	141.1	121.1	108.2	98.6	82.6	69.0	59.3	53.7	50.5
55°	154.7	139.5	117.1	98.6	86.6	77.0	60.9	48.1	39.3	33.7	29.7
57.5°	127.5	113.9	95.4	77.8	67.3	58.5	44.9	33.7	26.5	21.6	18.4
60°	97.8	87.4	72.2	58.5	49.7	42.5	32.1	23.3	18.4	14.4	12.8
62.5°	69.0	62.5	51.3	41.7	36.1	30.5	22.4	16.8	12.8	10.4	9.6
65°	46.5	41.7	35.3	28.1	24.1	20.8	16.0	12.0	9.6	8.0	7.2
67.5°	30.5	28.1	23.3	19.2	16.8	14.4	11.2	8.8	7.2	6.4	5.6
70°	20.0	18.4	15.2	12.8	12.0	10.4	8.0	6.4	5.6	4.8	4.8
72.5°	12.8	11.2	10.4	8.8	8.0	7.2	5.6	4.8	4.0	4.0	4.0
75°	8.0	7.2	6.4	5.6	5.6	4.8	4.0	4.0	3.2	3.2	3.2
77.5°	4.8	4.8	4.0	4.0	3.2	3.2	3.2	2.4	2.4	2.4	2.4
80°	3.2	3.2	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6
82.5°	1.6	1.6	1.6	1.6	1.6	1.6	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9
2.5°	611.7	613.4	611.7	616.6	608.5	617.4	614.2	615.8	622.2	619.8	622.2
5°	623.8	627.0	627.0	632.6	625.4	635.8	632.6	635.8	642.2	642.2	645.4
7.5°	639.0	643.0	644.6	650.2	643.0	655.8	652.6	656.6	664.7	664.7	667.1
10°	655.0	659.9	663.1	669.5	661.5	675.9	672.7	678.3	685.5	686.3	690.3
12.5°	675.1	681.5	685.5	691.1	685.5	699.9	696.7	702.3	712.0	712.8	717.6
15°	697.5	705.6	710.4	716.8	710.4	726.4	723.2	729.6	736.8	740.0	744.8
17.5°	712.0	721.6	725.6	732.8	726.4	742.4	738.4	747.2	753.7	755.3	760.9
20°	714.4	723.2	728.8	734.4	728.8	744.8	740.8	748.1	756.1	757.7	761.7
22.5°	704.0	711.2	717.6	722.4	717.6	733.6	728.0	736.0	743.2	744.8	748.1
25°	679.9	688.7	695.1	699.1	694.3	709.6	704.8	712.0	718.4	721.6	722.4
27.5°	646.2	654.2	660.7	663.1	659.9	674.3	667.9	676.7	682.3	683.9	686.3
30°	600.5	607.7	614.2	615.8	613.4	623.8	620.6	628.6	634.2	635.8	637.4
32.5°	544.4	551.6	555.6	557.2	554.8	565.2	562.0	568.5	574.9	574.9	574.9
35°	481.1	487.5	489.9	494.7	489.1	499.5	496.3	501.9	507.5	507.5	508.3
37.5°	412.9	417.7	419.3	424.1	418.5	428.1	425.7	430.5	435.4	434.6	436.2
40°	339.9	344.8	346.4	350.4	345.6	353.6	352.0	356.8	360.8	360.8	360.8
42.5°	269.4	272.6	272.6	276.6	271.8	279.0	279.0	282.2	286.2	285.4	285.4
45°	195.6	194.8	196.4	195.6	195.6	202.0	202.0	203.6	206.9	205.3	206.1
47.5°	129.9	130.7	127.5	129.9	126.7	132.3	132.3	132.3	134.7	133.1	134.7
50°	82.6	80.2	78.6	78.6	77.8	81.8	80.2	81.0	82.6	81.0	82.6
52.5°	46.5	45.7	44.1	44.9	43.3	44.1	44.1	44.1	44.9	44.1	45.7
55°	27.3	24.9	24.1	24.1	23.3	24.1	23.3	23.3	23.3	22.4	23.3
57.5°	16.0	15.2	14.4	14.4	13.6	13.6	13.6	13.6	13.6	13.6	13.6
60°	11.2	10.4	10.4	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
62.5°	8.8	8.0	8.0	8.0	7.2	7.2	7.2	7.2	7.2	8.0	7.2
65°	6.4	6.4	6.4	6.4	6.4	6.4	5.6	6.4	6.4	6.4	6.4
67.5°	5.6	5.6	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
70°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
72.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
75°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	1.6	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



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°	185°	190°	195°
0°	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9
2.5°	624.6	621.4	614.2	619.0	619.8	616.6	620.6	625.4	620.6	616.6	619.8
5°	647.8	645.4	639.0	643.0	643.8	643.0	645.4	649.4	645.4	643.0	643.8
7.5°	671.1	669.5	662.3	667.1	668.7	667.1	669.5	673.5	669.5	667.1	668.7
10°	693.5	692.7	685.5	691.9	692.7	691.1	693.5	699.9	693.5	691.1	692.7
12.5°	719.2	720.8	712.8	720.0	720.8	719.2	722.4	727.2	722.4	719.2	720.8
15°	748.9	748.1	741.6	747.2	748.9	747.2	751.3	757.7	751.3	747.2	748.9
17.5°	763.3	763.3	758.5	764.1	764.9	764.9	768.1	772.9	768.1	764.9	764.9
20°	764.1	764.9	759.3	765.7	765.7	765.7	768.9	771.3	768.9	765.7	765.7
22.5°	751.3	752.1	746.4	752.1	752.1	752.9	754.5	756.1	754.5	752.9	752.1
25°	726.4	727.2	722.4	727.2	726.4	726.4	728.0	730.4	728.0	726.4	726.4
27.5°	689.5	690.3	683.9	689.5	688.7	687.9	690.3	691.1	690.3	687.9	688.7
30°	640.6	641.4	635.8	640.6	639.8	639.0	642.2	643.0	642.2	639.0	639.8
32.5°	582.1	580.5	576.5	580.5	579.7	579.7	581.3	583.7	581.3	579.7	579.7
35°	511.5	511.5	509.1	512.3	509.9	513.1	513.1	513.9	513.1	513.1	509.9
37.5°	439.4	439.4	437.8	439.4	438.6	441.8	441.8	444.2	441.8	441.8	438.6
40°	364.0	364.0	362.4	364.0	366.4	366.4	365.6	368.8	365.6	366.4	366.4
42.5°	287.8	287.8	287.0	291.0	291.0	291.0	288.6	291.8	288.6	291.0	291.0
45°	209.3	207.7	206.9	206.9	207.7	210.9	207.7	211.7	207.7	210.9	207.7
47.5°	133.1	133.9	134.7	137.1	135.5	134.7	134.7	137.1	134.7	134.7	135.5
50°	81.8	82.6	82.6	84.2	81.8	83.4	82.6	84.2	82.6	83.4	81.8
52.5°	44.9	44.9	44.9	46.5	44.9	45.7	44.9	46.5	44.9	45.7	44.9
55°	23.3	23.3	23.3	24.1	23.3	23.3	23.3	24.1	23.3	23.3	23.3
57.5°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
60°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
62.5°	8.0	7.2	7.2	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
65°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
67.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
70°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
72.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
75°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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



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CANDELA DISTRIBUTION (continued):

	200°	202.5°	205°	210°	215°	220°	225°	230°	235°	240°	245°
0°	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9
2.5°	619.0	614.2	621.4	624.6	622.2	619.8	622.2	615.8	614.2	617.4	608.5
5°	643.0	639.0	645.4	647.8	645.4	642.2	642.2	635.8	632.6	635.8	625.4
7.5°	667.1	662.3	669.5	671.1	667.1	664.7	664.7	656.6	652.6	655.8	643.0
10°	691.9	685.5	692.7	693.5	690.3	686.3	685.5	678.3	672.7	675.9	661.5
12.5°	720.0	712.8	720.8	719.2	717.6	712.8	712.0	702.3	696.7	699.9	685.5
15°	747.2	741.6	748.1	748.9	744.8	740.0	736.8	729.6	723.2	726.4	710.4
17.5°	764.1	758.5	763.3	763.3	760.9	755.3	753.7	747.2	738.4	742.4	726.4
20°	765.7	759.3	764.9	764.1	761.7	757.7	756.1	748.1	740.8	744.8	728.8
22.5°	752.1	746.4	752.1	751.3	748.1	744.8	743.2	736.0	728.0	733.6	717.6
25°	727.2	722.4	727.2	726.4	722.4	721.6	718.4	712.0	704.8	709.6	694.3
27.5°	689.5	683.9	690.3	689.5	686.3	683.9	682.3	676.7	667.9	674.3	659.9
30°	640.6	635.8	641.4	640.6	637.4	635.8	634.2	628.6	620.6	623.8	613.4
32.5°	580.5	576.5	580.5	582.1	574.9	574.9	574.9	568.5	562.0	565.2	554.8
35°	512.3	509.1	511.5	511.5	508.3	507.5	507.5	501.9	496.3	499.5	489.1
37.5°	439.4	437.8	439.4	439.4	436.2	434.6	435.4	430.5	425.7	428.1	418.5
40°	364.0	362.4	364.0	364.0	360.8	360.8	360.8	356.8	352.0	353.6	345.6
42.5°	291.0	287.0	287.8	287.8	285.4	285.4	286.2	282.2	279.0	279.0	271.8
45°	206.9	206.9	207.7	209.3	206.1	205.3	206.9	203.6	202.0	202.0	195.6
47.5°	137.1	134.7	133.9	133.1	134.7	133.1	134.7	132.3	132.3	132.3	126.7
50°	84.2	82.6	82.6	81.8	82.6	81.0	82.6	81.0	80.2	81.8	77.8
52.5°	46.5	44.9	44.9	44.9	45.7	44.1	44.9	44.1	44.1	44.1	43.3
55°	24.1	23.3	23.3	23.3	23.3	22.4	23.3	23.3	23.3	24.1	23.3
57.5°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
60°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
62.5°	8.0	7.2	7.2	8.0	7.2	8.0	7.2	7.2	7.2	7.2	7.2
65°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	5.6	6.4	6.4
67.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
70°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
72.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
75°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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



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CANDELA DISTRIBUTION (continued):

	247.5°	250°	255°	260°	265°	270°	275°	280°	285°	290°	292.5°
0°	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9
2.5°	616.6	611.7	613.4	611.7	607.7	608.5	606.1	606.1	601.3	600.5	601.3
5°	632.6	627.0	627.0	623.8	618.2	617.4	612.6	612.6	605.3	602.9	602.9
7.5°	650.2	644.6	643.0	639.0	631.8	628.6	622.2	619.8	610.9	606.9	606.1
10°	669.5	663.1	659.9	655.0	646.2	640.6	631.8	628.6	618.2	610.1	609.3
12.5°	691.1	685.5	681.5	675.1	665.5	657.5	647.0	641.4	627.8	619.0	615.0
15°	716.8	710.4	705.6	697.5	687.1	677.5	663.9	657.5	641.4	629.4	623.8
17.5°	732.8	725.6	721.6	712.0	701.5	690.3	675.1	667.1	648.6	633.4	627.8
20°	734.4	728.8	723.2	714.4	704.0	691.1	675.1	667.1	647.8	632.6	624.6
22.5°	722.4	717.6	711.2	704.0	692.7	679.9	664.7	657.5	639.0	623.0	614.2
25°	699.1	695.1	688.7	679.9	671.9	658.3	643.8	639.0	619.8	606.1	598.1
27.5°	663.1	660.7	654.2	646.2	639.8	628.6	614.2	610.1	593.3	581.3	574.9
30°	615.8	614.2	607.7	600.5	595.7	585.3	572.5	570.9	555.6	546.8	540.4
32.5°	557.2	555.6	551.6	544.4	540.4	531.6	519.5	521.1	508.3	501.1	498.7
35°	494.7	489.9	487.5	481.1	476.3	469.8	459.4	461.8	454.6	449.0	448.2
37.5°	424.1	419.3	417.7	412.9	408.9	403.3	395.3	398.5	395.3	392.9	395.3
40°	350.4	346.4	344.8	339.9	338.3	334.3	328.7	336.7	332.7	337.5	338.3
42.5°	276.6	272.6	272.6	269.4	267.0	266.2	262.2	272.6	272.6	280.6	284.6
45°	195.6	196.4	194.8	195.6	194.0	196.4	194.0	201.2	211.7	222.1	228.5
47.5°	129.9	127.5	130.7	129.9	129.1	132.3	135.5	142.7	154.7	169.2	178.0
50°	78.6	78.6	80.2	82.6	84.2	86.6	91.4	100.2	113.9	128.3	138.7
52.5°	44.9	44.1	45.7	46.5	50.5	53.7	59.3	69.0	82.6	98.6	108.2
55°	24.1	24.1	24.9	27.3	29.7	33.7	39.3	48.1	60.9	77.0	86.6
57.5°	14.4	14.4	15.2	16.0	18.4	21.6	26.5	33.7	44.9	58.5	67.3
60°	9.6	10.4	10.4	11.2	12.8	14.4	18.4	23.3	32.1	42.5	49.7
62.5°	8.0	8.0	8.0	8.8	9.6	10.4	12.8	16.8	22.4	30.5	36.1
65°	6.4	6.4	6.4	6.4	7.2	8.0	9.6	12.0	16.0	20.8	24.1
67.5°	4.8	4.8	5.6	5.6	5.6	6.4	7.2	8.8	11.2	14.4	16.8
70°	4.0	4.0	4.0	4.0	4.8	4.8	5.6	6.4	8.0	10.4	12.0
72.5°	3.2	3.2	3.2	3.2	4.0	4.0	4.0	4.8	5.6	7.2	8.0
75°	2.4	2.4	2.4	2.4	3.2	3.2	3.2	4.0	4.0	4.8	5.6
77.5°	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	3.2	3.2	3.2
80°	0.8	0.8	0.8	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	1.6
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



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CANDELA DISTRIBUTION (continued):

	295°	300°	305°	310°	315°	320°	325°	330°	335°	337.5°	340°
0°	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9	606.9
2.5°	595.7	606.1	594.1	596.5	592.5	599.7	590.1	592.5	594.1	592.5	593.3
5°	596.5	604.5	590.9	593.3	586.9	591.7	582.9	583.7	583.7	582.1	581.3
7.5°	598.9	603.7	589.3	588.5	580.5	585.3	574.9	573.3	572.5	570.1	570.9
10°	599.7	601.3	586.1	582.9	573.3	574.9	564.4	561.2	558.8	557.2	556.4
12.5°	605.3	603.7	586.1	580.5	568.5	567.7	556.4	551.6	547.6	546.0	545.2
15°	612.6	606.9	587.7	579.7	566.0	562.8	550.8	546.0	540.4	538.8	537.2
17.5°	615.8	606.9	586.1	575.7	560.4	556.4	544.4	538.0	532.4	530.0	528.4
20°	611.7	600.5	579.7	568.5	552.4	546.8	534.8	527.6	522.0	519.5	517.9
22.5°	602.9	590.1	570.1	558.8	542.8	535.6	525.2	518.7	512.3	511.5	509.1
25°	587.7	574.9	558.0	546.8	532.4	525.2	515.5	509.9	503.5	502.7	501.9
27.5°	565.2	553.2	540.4	530.0	517.1	511.5	504.3	498.7	493.1	493.1	491.5
30°	533.2	525.2	513.9	507.5	497.1	491.5	486.7	482.7	477.1	477.9	476.3
32.5°	492.3	488.3	480.3	477.1	469.0	467.4	462.6	459.4	454.6	456.2	454.6
35°	446.6	441.8	441.8	440.2	436.2	435.4	433.0	431.4	428.1	428.9	428.9
37.5°	394.5	394.5	399.3	400.1	399.3	400.9	400.1	400.1	396.9	398.5	397.7
40°	340.8	345.6	354.4	359.2	360.8	364.0	368.0	366.4	364.8	367.2	366.4
42.5°	288.6	298.3	311.9	319.9	325.5	330.3	335.9	335.9	335.1	338.3	337.5
45°	238.9	247.7	266.2	279.8	289.4	296.7	303.1	305.5	306.3	309.5	308.7
47.5°	190.0	205.3	226.9	242.9	255.0	263.8	272.6	275.8	278.2	282.2	282.2
50°	150.7	170.0	194.8	210.9	225.3	234.9	243.7	248.5	251.8	255.0	255.0
52.5°	121.1	141.1	165.2	182.0	195.6	206.1	214.9	220.5	222.9	226.9	226.9
55°	98.6	117.1	139.5	154.7	168.4	178.0	185.2	190.0	192.4	195.6	195.6
57.5°	77.8	95.4	113.9	127.5	138.7	145.9	152.3	153.9	154.7	157.1	157.9
60°	58.5	72.2	87.4	97.8	105.8	110.6	115.5	114.7	113.9	115.5	113.9
62.5°	41.7	51.3	62.5	69.0	75.4	77.8	80.2	78.6	77.0	77.8	77.8
65°	28.1	35.3	41.7	46.5	49.7	51.3	52.1	51.3	50.5	51.3	50.5
67.5°	19.2	23.3	28.1	30.5	32.9	33.7	34.5	33.7	33.7	33.7	32.9
70°	12.8	15.2	18.4	20.0	20.8	21.6	22.4	21.6	21.6	21.6	21.6
72.5°	8.8	10.4	11.2	12.8	13.6	13.6	13.6	13.6	13.6	13.6	13.6
75°	5.6	6.4	7.2	8.0	8.8	8.8	8.8	8.8	8.8	8.8	8.8
77.5°	4.0	4.0	4.8	4.8	5.6	5.6	5.6	5.6	5.6	5.6	5.6
80°	2.4	2.4	3.2	3.2	3.2	3.2	4.0	3.2	4.0	4.0	4.0
82.5°	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4
85°	0.8	0.8	0.8	0.8	0.8	0.8	1.6	0.8	1.6	1.6	1.6
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



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CANDELA DISTRIBUTION (continued):

	345°	350°	355°	360°
0°	606.9	606.9	606.9	606.9
2.5°	593.3	591.7	586.9	592.5
5°	580.5	578.9	574.9	578.9
7.5°	567.7	565.2	562.0	564.4
10°	552.4	550.8	546.8	549.2
12.5°	541.2	538.0	535.6	536.4
15°	534.0	530.8	528.4	529.2
17.5°	524.4	521.1	518.7	518.7
20°	513.9	510.7	509.1	508.3
22.5°	505.1	502.7	501.9	499.5
25°	497.1	495.5	495.5	492.3
27.5°	488.3	485.9	485.9	482.7
30°	473.0	472.2	472.2	469.8
32.5°	453.0	450.6	452.2	448.2
35°	425.7	424.1	426.5	423.3
37.5°	396.1	395.3	396.9	394.5
40°	364.8	364.8	367.2	363.2
42.5°	337.5	337.5	339.9	335.9
45°	307.9	310.3	312.7	309.5
47.5°	282.2	283.8	287.0	283.8
50°	256.6	258.2	260.6	257.4
52.5°	228.5	230.1	232.5	230.1
55°	196.4	198.0	200.4	198.8
57.5°	157.9	156.3	160.4	157.1
60°	114.7	111.4	112.2	112.2
62.5°	76.2	74.6	76.2	73.8
65°	50.5	49.7	49.7	49.7
67.5°	33.7	32.9	33.7	32.9
70°	21.6	21.6	21.6	21.6
72.5°	13.6	13.6	13.6	13.6
75°	8.8	8.8	8.8	8.8
77.5°	5.6	5.6	5.6	5.6
80°	4.0	4.0	4.0	4.0
82.5°	2.4	2.4	2.4	2.4
85°	1.6	1.6	1.6	1.6
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0



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





















(END OF REPORT)