

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: P212710

Luminaire Tested: **LD4B15D010 EU4B10209024 4LBSWLI1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P212710
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 EU4B10209024 4LBSWLI1
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 980.9 lumens
Efficiency: N/A
Efficacy: 68.2 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

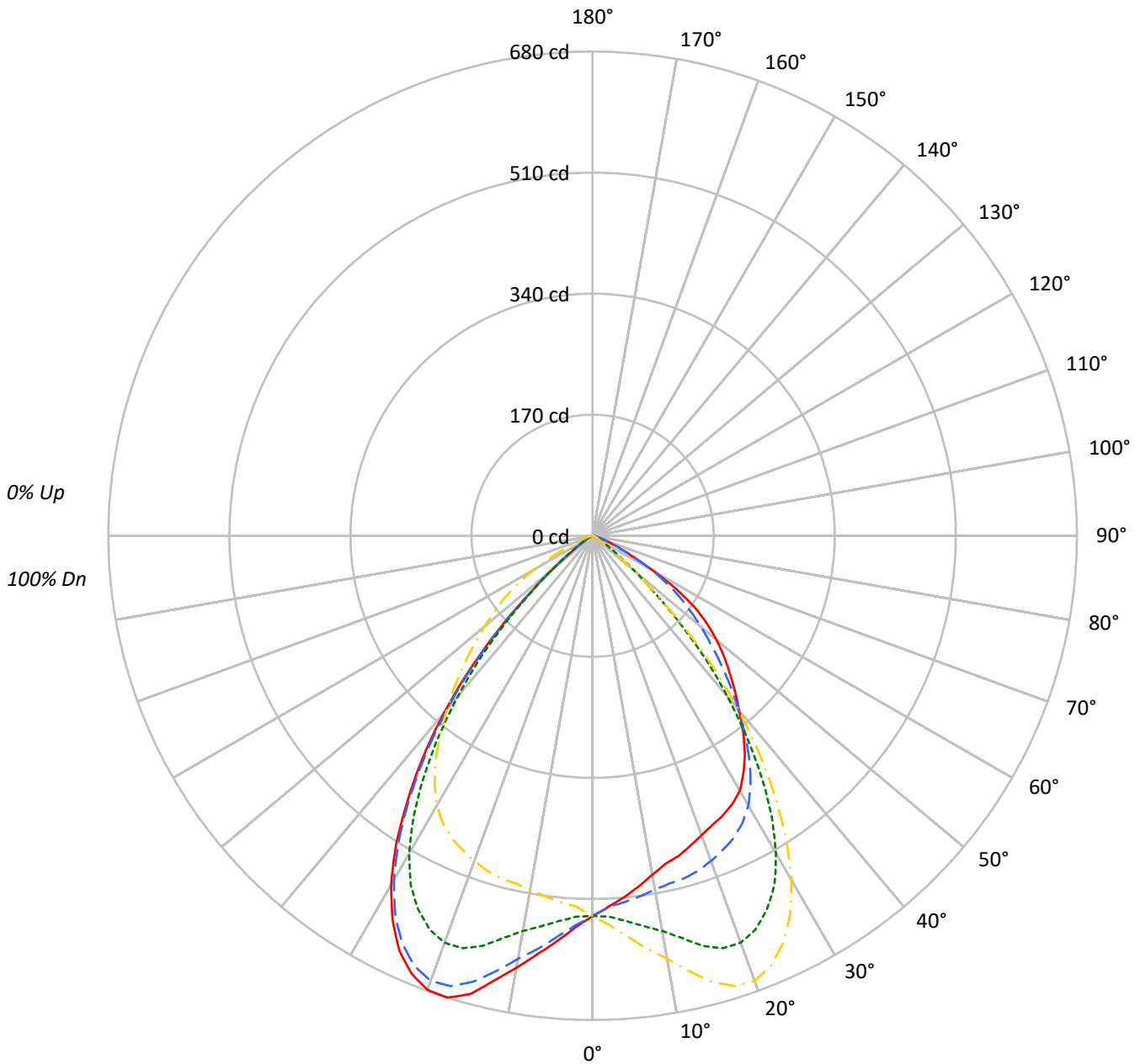
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	65867	65867	65867	65867
5°	63060	67257	70749	67257
10°	60520	70590	77128	70590
15°	59456	76120	85123	76120
20°	58700	79820	89074	79820
25°	58944	78814	87456	78814
30°	58879	73336	80571	73336
35°	56090	62249	68091	62249
40°	51445	47371	52250	47371
45°	47499	30143	32480	30143
50°	43444	14622	14219	14622
55°	37612	6365	4559	6365
60°	24373	3133	2097	3133
65°	12754	2072	1634	2072
70°	6852	1515	1262	1515
75°	3717	1334	1001	1334
80°	2486	994	497	994
85°	1981	991	0	991



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.1	5.3
10°-20°	162.9	16.6
20°-30°	253.2	25.8
30°-40°	255.7	26.1
40°-50°	161.9	16.5
50°-60°	68.0	6.9
60°-70°	21.5	2.2
70°-80°	4.9	0.5
80°-90°	0.7	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°	468.1	47.7
0°-40°	723.8	73.8
0°-60°	953.7	97.2
0°-90°	980.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	980.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	534	534	534	534	534	
5°	509	543	571	543	509	48
15°	466	596	667	596	466	131
25°	433	579	643	579	433	199
35°	372	413	452	413	372	231
45°	272	173	186	173	272	210
55°	175	30	21	30	175	151
65°	44	7	6	7	44	48
75°	8	3	2	3	8	9
85°	1	1	0	1	1	1
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°	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0
2.5°	521.3	516.4	520.6	522.0	522.0	521.3	522.7	521.3	519.2	527.6	521.3
5°	509.3	505.8	509.3	510.7	511.4	512.1	513.5	513.5	512.8	520.6	516.4
7.5°	496.6	494.5	497.3	499.4	502.2	501.5	503.7	504.4	505.8	514.9	510.7
10°	483.2	481.1	484.6	486.0	489.6	490.3	491.7	493.8	496.6	505.8	504.4
12.5°	471.9	471.2	473.3	476.1	479.7	480.4	481.8	485.3	489.6	499.4	500.1
15°	465.6	464.9	467.0	469.8	472.6	474.0	475.4	480.4	484.6	495.2	498.0
17.5°	456.4	456.4	458.5	461.3	464.9	466.3	468.4	473.3	479.0	489.6	493.1
20°	447.2	447.9	449.3	452.2	455.7	457.1	459.2	464.2	470.5	481.1	486.0
22.5°	439.5	441.6	442.3	444.4	447.9	450.0	450.8	456.4	462.0	471.2	477.6
25°	433.1	435.9	435.9	437.4	441.6	442.3	443.0	448.6	453.6	462.0	468.4
27.5°	424.7	427.5	427.5	429.6	432.4	433.8	433.8	438.8	443.7	450.0	455.0
30°	413.4	415.5	415.5	416.2	419.0	420.4	419.7	424.7	428.2	432.4	437.4
32.5°	394.3	397.8	396.4	398.6	400.0	401.4	400.0	404.2	407.0	411.3	412.7
35°	372.5	375.3	373.2	374.6	377.4	377.4	376.7	379.5	380.9	383.0	383.7
37.5°	347.1	349.2	347.8	348.5	349.9	350.6	349.2	352.0	352.0	352.7	351.3
40°	319.5	323.1	321.0	321.0	322.4	323.1	321.0	322.4	323.8	320.3	317.4
42.5°	295.6	299.1	297.0	297.0	297.0	297.7	294.9	295.6	295.6	290.6	286.4
45°	272.3	275.1	273.0	270.9	271.6	272.3	269.5	268.8	266.6	261.0	254.7
47.5°	249.7	252.5	249.7	248.3	248.3	248.3	244.8	242.7	239.8	232.1	224.3
50°	226.4	229.3	227.1	225.7	224.3	224.3	221.5	218.7	214.4	206.7	198.2
52.5°	202.5	204.6	202.5	201.0	199.6	199.6	196.1	194.0	189.0	181.3	172.1
55°	174.9	176.4	174.2	172.8	172.1	172.1	169.3	167.2	162.9	156.6	148.1
57.5°	138.3	141.1	137.6	139.0	139.0	138.3	136.1	135.4	134.0	128.4	122.0
60°	98.8	98.8	98.1	100.9	100.2	101.6	100.2	100.9	101.6	97.3	93.1
62.5°	64.9	67.0	65.6	67.0	68.4	68.4	67.7	69.1	70.5	68.4	66.3
65°	43.7	43.7	43.7	44.4	44.4	45.1	44.4	45.1	45.9	45.1	43.7
67.5°	28.9	29.6	28.9	29.6	28.9	29.6	29.6	29.6	30.3	29.6	28.9
70°	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.8	19.0	18.3
72.5°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
75°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
77.5°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
80°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.8	3.5	2.8	2.8
82.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
85°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.7	1.4	0.7	0.7
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0
2.5°	524.8	522.7	533.3	524.1	529.1	528.4	529.1	533.3	533.3	535.4	534.7
5°	522.0	519.9	531.9	524.8	530.5	530.5	532.6	538.9	538.9	543.2	543.9
7.5°	517.8	518.5	531.2	526.9	533.3	534.0	537.5	545.3	547.4	553.0	555.9
10°	512.8	515.7	529.1	527.6	536.1	536.8	543.9	553.0	555.9	563.6	568.6
12.5°	510.7	515.7	531.2	532.6	541.0	544.6	552.3	564.3	569.3	578.4	585.5
15°	510.0	517.1	534.0	538.9	548.8	553.7	564.3	578.4	584.1	596.1	604.5
17.5°	506.5	515.7	534.0	541.8	552.3	557.3	570.7	586.9	594.0	607.4	617.2
20°	500.1	510.0	528.4	538.2	549.5	556.6	570.0	586.9	594.0	608.1	619.3
22.5°	491.7	501.5	519.2	530.5	540.3	548.1	562.2	578.4	584.8	598.2	609.5
25°	481.1	491.0	505.8	517.1	526.2	533.3	545.3	562.2	566.4	579.1	591.1
27.5°	466.3	475.4	486.7	497.3	505.8	511.4	522.0	536.8	540.3	553.0	562.9
30°	446.5	452.2	462.0	469.1	475.4	481.1	488.8	502.2	503.7	514.9	524.1
32.5°	419.7	422.5	429.6	433.1	438.8	440.9	447.2	458.5	457.1	467.7	475.4
35°	387.3	388.7	388.7	392.9	394.3	395.0	400.0	406.3	404.2	413.4	419.0
37.5°	352.0	351.3	347.1	347.1	347.8	345.6	347.8	350.6	347.8	354.8	359.8
40°	316.0	311.8	304.0	299.8	297.7	297.0	292.7	296.3	289.2	294.2	297.7
42.5°	281.5	274.4	262.4	253.9	250.4	246.9	239.8	239.8	230.7	234.2	234.9
45°	246.2	234.2	218.0	210.2	201.0	195.4	186.2	177.1	170.7	172.8	170.7
47.5°	213.7	199.6	180.6	167.2	156.6	148.8	136.1	125.6	119.2	116.4	113.6
50°	185.5	171.4	149.5	132.6	122.0	112.9	100.2	88.2	80.4	76.2	74.1
52.5°	160.1	145.3	124.2	106.5	95.2	86.8	72.7	60.7	52.2	47.3	44.4
55°	136.1	122.7	103.0	86.8	76.2	67.7	53.6	42.3	34.6	29.6	26.1
57.5°	112.2	100.2	83.9	68.4	59.3	51.5	39.5	29.6	23.3	19.0	16.2
60°	86.1	76.9	63.5	51.5	43.7	37.4	28.2	20.5	16.2	12.7	11.3
62.5°	60.7	55.0	45.1	36.7	31.7	26.8	19.8	14.8	11.3	9.2	8.5
65°	40.9	36.7	31.0	24.7	21.2	18.3	14.1	10.6	8.5	7.1	6.3
67.5°	26.8	24.7	20.5	16.9	14.8	12.7	9.9	7.8	6.3	5.6	4.9
70°	17.6	16.2	13.4	11.3	10.6	9.2	7.1	5.6	4.9	4.2	4.2
72.5°	11.3	9.9	9.2	7.8	7.1	6.3	4.9	4.2	3.5	3.5	3.5
75°	7.1	6.3	5.6	4.9	4.9	4.2	3.5	3.5	2.8	2.8	2.8
77.5°	4.2	4.2	3.5	3.5	2.8	2.8	2.8	2.1	2.1	2.1	2.1
80°	2.8	2.8	2.1	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.7	0.7	0.7
85°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0
2.5°	538.2	539.6	538.2	542.5	535.4	543.2	540.3	541.8	547.4	545.3	547.4
5°	548.8	551.6	551.6	556.6	550.2	559.4	556.6	559.4	565.0	565.0	567.9
7.5°	562.2	565.7	567.1	572.1	565.7	577.0	574.2	577.7	584.8	584.8	586.9
10°	576.3	580.6	583.4	589.0	582.0	594.7	591.8	596.8	603.1	603.8	607.4
12.5°	594.0	599.6	603.1	608.1	603.1	615.8	613.0	617.9	626.4	627.1	631.3
15°	613.7	620.8	625.0	630.6	625.0	639.1	636.3	641.9	648.3	651.1	655.3
17.5°	626.4	634.9	638.4	644.7	639.1	653.2	649.7	657.4	663.1	664.5	669.4
20°	628.5	636.3	641.2	646.2	641.2	655.3	651.8	658.1	665.2	666.6	670.1
22.5°	619.3	625.7	631.3	635.6	631.3	645.4	640.5	647.6	653.9	655.3	658.1
25°	598.2	605.9	611.6	615.1	610.9	624.3	620.1	626.4	632.0	634.9	635.6
27.5°	568.6	575.6	581.3	583.4	580.6	593.2	587.6	595.4	600.3	601.7	603.8
30°	528.4	534.7	540.3	541.8	539.6	548.8	546.0	553.0	558.0	559.4	560.8
32.5°	479.0	485.3	488.8	490.3	488.1	497.3	494.5	500.1	505.8	505.8	505.8
35°	423.2	428.9	431.0	435.2	430.3	439.5	436.6	441.6	446.5	446.5	447.2
37.5°	363.3	367.5	368.9	373.2	368.2	376.7	374.6	378.8	383.0	382.3	383.7
40°	299.1	303.3	304.7	308.3	304.0	311.1	309.7	313.9	317.4	317.4	317.4
42.5°	237.0	239.8	239.8	243.4	239.1	245.5	245.5	248.3	251.8	251.1	251.1
45°	172.1	171.4	172.8	172.1	172.1	177.8	177.8	179.2	182.0	180.6	181.3
47.5°	114.3	115.0	112.2	114.3	111.5	116.4	116.4	116.4	118.5	117.1	118.5
50°	72.7	70.5	69.1	69.1	68.4	72.0	70.5	71.2	72.7	71.2	72.7
52.5°	40.9	40.2	38.8	39.5	38.1	38.8	38.8	38.8	39.5	38.8	40.2
55°	24.0	21.9	21.2	21.2	20.5	21.2	20.5	20.5	20.5	19.8	20.5
57.5°	14.1	13.4	12.7	12.7	12.0	12.0	12.0	12.0	12.0	12.0	12.0
60°	9.9	9.2	9.2	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
62.5°	7.8	7.1	7.1	7.1	6.3	6.3	6.3	6.3	6.3	7.1	6.3
65°	5.6	5.6	5.6	5.6	5.6	5.6	4.9	5.6	5.6	5.6	5.6
67.5°	4.9	4.9	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
70°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
72.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.0	0.7	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°	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0
2.5°	549.5	546.7	540.3	544.6	545.3	542.5	546.0	550.2	546.0	542.5	545.3
5°	570.0	567.9	562.2	565.7	566.4	565.7	567.9	571.4	567.9	565.7	566.4
7.5°	590.4	589.0	582.7	586.9	588.3	586.9	589.0	592.5	589.0	586.9	588.3
10°	610.2	609.5	603.1	608.8	609.5	608.1	610.2	615.8	610.2	608.1	609.5
12.5°	632.8	634.2	627.1	633.5	634.2	632.8	635.6	639.8	635.6	632.8	634.2
15°	658.9	658.1	652.5	657.4	658.9	657.4	661.0	666.6	661.0	657.4	658.9
17.5°	671.5	671.5	667.3	672.3	673.0	673.0	675.8	680.0	675.8	673.0	673.0
20°	672.3	673.0	668.0	673.7	673.7	673.7	676.5	678.6	676.5	673.7	673.7
22.5°	661.0	661.7	656.7	661.7	661.7	662.4	663.8	665.2	663.8	662.4	661.7
25°	639.1	639.8	635.6	639.8	639.1	639.1	640.5	642.6	640.5	639.1	639.1
27.5°	606.7	607.4	601.7	606.7	605.9	605.2	607.4	608.1	607.4	605.2	605.9
30°	563.6	564.3	559.4	563.6	562.9	562.2	565.0	565.7	565.0	562.2	562.9
32.5°	512.1	510.7	507.2	510.7	510.0	510.0	511.4	513.5	511.4	510.0	510.0
35°	450.0	450.0	447.9	450.8	448.6	451.5	451.5	452.2	451.5	451.5	448.6
37.5°	386.6	386.6	385.2	386.6	385.9	388.7	388.7	390.8	388.7	388.7	385.9
40°	320.3	320.3	318.8	320.3	322.4	322.4	321.7	324.5	321.7	322.4	322.4
42.5°	253.2	253.2	252.5	256.1	256.1	256.1	253.9	256.8	253.9	256.1	256.1
45°	184.1	182.7	182.0	182.0	182.7	185.5	182.7	186.2	182.7	185.5	182.7
47.5°	117.1	117.8	118.5	120.6	119.2	118.5	118.5	120.6	118.5	118.5	119.2
50°	72.0	72.7	72.7	74.1	72.0	73.4	72.7	74.1	72.7	73.4	72.0
52.5°	39.5	39.5	39.5	40.9	39.5	40.2	39.5	40.9	39.5	40.2	39.5
55°	20.5	20.5	20.5	21.2	20.5	20.5	20.5	21.2	20.5	20.5	20.5
57.5°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
60°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
62.5°	7.1	6.3	6.3	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
65°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
67.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
70°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
72.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0
2.5°	544.6	540.3	546.7	549.5	547.4	545.3	547.4	541.8	540.3	543.2	535.4
5°	565.7	562.2	567.9	570.0	567.9	565.0	565.0	559.4	556.6	559.4	550.2
7.5°	586.9	582.7	589.0	590.4	586.9	584.8	584.8	577.7	574.2	577.0	565.7
10°	608.8	603.1	609.5	610.2	607.4	603.8	603.1	596.8	591.8	594.7	582.0
12.5°	633.5	627.1	634.2	632.8	631.3	627.1	626.4	617.9	613.0	615.8	603.1
15°	657.4	652.5	658.1	658.9	655.3	651.1	648.3	641.9	636.3	639.1	625.0
17.5°	672.3	667.3	671.5	671.5	669.4	664.5	663.1	657.4	649.7	653.2	639.1
20°	673.7	668.0	673.0	672.3	670.1	666.6	665.2	658.1	651.8	655.3	641.2
22.5°	661.7	656.7	661.7	661.0	658.1	655.3	653.9	647.6	640.5	645.4	631.3
25°	639.8	635.6	639.8	639.1	635.6	634.9	632.0	626.4	620.1	624.3	610.9
27.5°	606.7	601.7	607.4	606.7	603.8	601.7	600.3	595.4	587.6	593.2	580.6
30°	563.6	559.4	564.3	563.6	560.8	559.4	558.0	553.0	546.0	548.8	539.6
32.5°	510.7	507.2	510.7	512.1	505.8	505.8	505.8	500.1	494.5	497.3	488.1
35°	450.8	447.9	450.0	450.0	447.2	446.5	446.5	441.6	436.6	439.5	430.3
37.5°	386.6	385.2	386.6	386.6	383.7	382.3	383.0	378.8	374.6	376.7	368.2
40°	320.3	318.8	320.3	320.3	317.4	317.4	317.4	313.9	309.7	311.1	304.0
42.5°	256.1	252.5	253.2	253.2	251.1	251.1	251.8	248.3	245.5	245.5	239.1
45°	182.0	182.0	182.7	184.1	181.3	180.6	182.0	179.2	177.8	177.8	172.1
47.5°	120.6	118.5	117.8	117.1	118.5	117.1	118.5	116.4	116.4	116.4	111.5
50°	74.1	72.7	72.7	72.0	72.7	71.2	72.7	71.2	70.5	72.0	68.4
52.5°	40.9	39.5	39.5	39.5	40.2	38.8	39.5	38.8	38.8	38.8	38.1
55°	21.2	20.5	20.5	20.5	20.5	19.8	20.5	20.5	20.5	21.2	20.5
57.5°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
60°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
62.5°	7.1	6.3	6.3	7.1	6.3	7.1	6.3	6.3	6.3	6.3	6.3
65°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.9	5.6	5.6
67.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
70°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
72.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0
2.5°	542.5	538.2	539.6	538.2	534.7	535.4	533.3	533.3	529.1	528.4	529.1
5°	556.6	551.6	551.6	548.8	543.9	543.2	538.9	538.9	532.6	530.5	530.5
7.5°	572.1	567.1	565.7	562.2	555.9	553.0	547.4	545.3	537.5	534.0	533.3
10°	589.0	583.4	580.6	576.3	568.6	563.6	555.9	553.0	543.9	536.8	536.1
12.5°	608.1	603.1	599.6	594.0	585.5	578.4	569.3	564.3	552.3	544.6	541.0
15°	630.6	625.0	620.8	613.7	604.5	596.1	584.1	578.4	564.3	553.7	548.8
17.5°	644.7	638.4	634.9	626.4	617.2	607.4	594.0	586.9	570.7	557.3	552.3
20°	646.2	641.2	636.3	628.5	619.3	608.1	594.0	586.9	570.0	556.6	549.5
22.5°	635.6	631.3	625.7	619.3	609.5	598.2	584.8	578.4	562.2	548.1	540.3
25°	615.1	611.6	605.9	598.2	591.1	579.1	566.4	562.2	545.3	533.3	526.2
27.5°	583.4	581.3	575.6	568.6	562.9	553.0	540.3	536.8	522.0	511.4	505.8
30°	541.8	540.3	534.7	528.4	524.1	514.9	503.7	502.2	488.8	481.1	475.4
32.5°	490.3	488.8	485.3	479.0	475.4	467.7	457.1	458.5	447.2	440.9	438.8
35°	435.2	431.0	428.9	423.2	419.0	413.4	404.2	406.3	400.0	395.0	394.3
37.5°	373.2	368.9	367.5	363.3	359.8	354.8	347.8	350.6	347.8	345.6	347.8
40°	308.3	304.7	303.3	299.1	297.7	294.2	289.2	296.3	292.7	297.0	297.7
42.5°	243.4	239.8	239.8	237.0	234.9	234.2	230.7	239.8	239.8	246.9	250.4
45°	172.1	172.8	171.4	172.1	170.7	172.8	170.7	177.1	186.2	195.4	201.0
47.5°	114.3	112.2	115.0	114.3	113.6	116.4	119.2	125.6	136.1	148.8	156.6
50°	69.1	69.1	70.5	72.7	74.1	76.2	80.4	88.2	100.2	112.9	122.0
52.5°	39.5	38.8	40.2	40.9	44.4	47.3	52.2	60.7	72.7	86.8	95.2
55°	21.2	21.2	21.9	24.0	26.1	29.6	34.6	42.3	53.6	67.7	76.2
57.5°	12.7	12.7	13.4	14.1	16.2	19.0	23.3	29.6	39.5	51.5	59.3
60°	8.5	9.2	9.2	9.9	11.3	12.7	16.2	20.5	28.2	37.4	43.7
62.5°	7.1	7.1	7.1	7.8	8.5	9.2	11.3	14.8	19.8	26.8	31.7
65°	5.6	5.6	5.6	5.6	6.3	7.1	8.5	10.6	14.1	18.3	21.2
67.5°	4.2	4.2	4.9	4.9	4.9	5.6	6.3	7.8	9.9	12.7	14.8
70°	3.5	3.5	3.5	3.5	4.2	4.2	4.9	5.6	7.1	9.2	10.6
72.5°	2.8	2.8	2.8	2.8	3.5	3.5	3.5	4.2	4.9	6.3	7.1
75°	2.1	2.1	2.1	2.1	2.8	2.8	2.8	3.5	3.5	4.2	4.9
77.5°	1.4	1.4	1.4	1.4	2.1	2.1	2.1	2.1	2.8	2.8	2.8
80°	0.7	0.7	0.7	1.4	1.4	1.4	1.4	1.4	1.4	2.1	2.1
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.4	1.4
85°	0.0	0.0	0.7	0.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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



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CANDELA DISTRIBUTION (continued):

	295°	300°	305°	310°	315°	320°	325°	330°	335°	337.5°	340°
0°	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0	534.0
2.5°	524.1	533.3	522.7	524.8	521.3	527.6	519.2	521.3	522.7	521.3	522.0
5°	524.8	531.9	519.9	522.0	516.4	520.6	512.8	513.5	513.5	512.1	511.4
7.5°	526.9	531.2	518.5	517.8	510.7	514.9	505.8	504.4	503.7	501.5	502.2
10°	527.6	529.1	515.7	512.8	504.4	505.8	496.6	493.8	491.7	490.3	489.6
12.5°	532.6	531.2	515.7	510.7	500.1	499.4	489.6	485.3	481.8	480.4	479.7
15°	538.9	534.0	517.1	510.0	498.0	495.2	484.6	480.4	475.4	474.0	472.6
17.5°	541.8	534.0	515.7	506.5	493.1	489.6	479.0	473.3	468.4	466.3	464.9
20°	538.2	528.4	510.0	500.1	486.0	481.1	470.5	464.2	459.2	457.1	455.7
22.5°	530.5	519.2	501.5	491.7	477.6	471.2	462.0	456.4	450.8	450.0	447.9
25°	517.1	505.8	491.0	481.1	468.4	462.0	453.6	448.6	443.0	442.3	441.6
27.5°	497.3	486.7	475.4	466.3	455.0	450.0	443.7	438.8	433.8	433.8	432.4
30°	469.1	462.0	452.2	446.5	437.4	432.4	428.2	424.7	419.7	420.4	419.0
32.5°	433.1	429.6	422.5	419.7	412.7	411.3	407.0	404.2	400.0	401.4	400.0
35°	392.9	388.7	388.7	387.3	383.7	383.0	380.9	379.5	376.7	377.4	377.4
37.5°	347.1	347.1	351.3	352.0	351.3	352.7	352.0	352.0	349.2	350.6	349.9
40°	299.8	304.0	311.8	316.0	317.4	320.3	323.8	322.4	321.0	323.1	322.4
42.5°	253.9	262.4	274.4	281.5	286.4	290.6	295.6	295.6	294.9	297.7	297.0
45°	210.2	218.0	234.2	246.2	254.7	261.0	266.6	268.8	269.5	272.3	271.6
47.5°	167.2	180.6	199.6	213.7	224.3	232.1	239.8	242.7	244.8	248.3	248.3
50°	132.6	149.5	171.4	185.5	198.2	206.7	214.4	218.7	221.5	224.3	224.3
52.5°	106.5	124.2	145.3	160.1	172.1	181.3	189.0	194.0	196.1	199.6	199.6
55°	86.8	103.0	122.7	136.1	148.1	156.6	162.9	167.2	169.3	172.1	172.1
57.5°	68.4	83.9	100.2	112.2	122.0	128.4	134.0	135.4	136.1	138.3	139.0
60°	51.5	63.5	76.9	86.1	93.1	97.3	101.6	100.9	100.2	101.6	100.2
62.5°	36.7	45.1	55.0	60.7	66.3	68.4	70.5	69.1	67.7	68.4	68.4
65°	24.7	31.0	36.7	40.9	43.7	45.1	45.9	45.1	44.4	45.1	44.4
67.5°	16.9	20.5	24.7	26.8	28.9	29.6	30.3	29.6	29.6	29.6	28.9
70°	11.3	13.4	16.2	17.6	18.3	19.0	19.8	19.0	19.0	19.0	19.0
72.5°	7.8	9.2	9.9	11.3	12.0	12.0	12.0	12.0	12.0	12.0	12.0
75°	4.9	5.6	6.3	7.1	7.8	7.8	7.8	7.8	7.8	7.8	7.8
77.5°	3.5	3.5	4.2	4.2	4.9	4.9	4.9	4.9	4.9	4.9	4.9
80°	2.1	2.1	2.8	2.8	2.8	2.8	3.5	2.8	3.5	3.5	3.5
82.5°	1.4	1.4	1.4	1.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1
85°	0.7	0.7	0.7	0.7	0.7	0.7	1.4	0.7	1.4	1.4	1.4
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°	534.0	534.0	534.0	534.0
2.5°	522.0	520.6	516.4	521.3
5°	510.7	509.3	505.8	509.3
7.5°	499.4	497.3	494.5	496.6
10°	486.0	484.6	481.1	483.2
12.5°	476.1	473.3	471.2	471.9
15°	469.8	467.0	464.9	465.6
17.5°	461.3	458.5	456.4	456.4
20°	452.2	449.3	447.9	447.2
22.5°	444.4	442.3	441.6	439.5
25°	437.4	435.9	435.9	433.1
27.5°	429.6	427.5	427.5	424.7
30°	416.2	415.5	415.5	413.4
32.5°	398.6	396.4	397.8	394.3
35°	374.6	373.2	375.3	372.5
37.5°	348.5	347.8	349.2	347.1
40°	321.0	321.0	323.1	319.5
42.5°	297.0	297.0	299.1	295.6
45°	270.9	273.0	275.1	272.3
47.5°	248.3	249.7	252.5	249.7
50°	225.7	227.1	229.3	226.4
52.5°	201.0	202.5	204.6	202.5
55°	172.8	174.2	176.4	174.9
57.5°	139.0	137.6	141.1	138.3
60°	100.9	98.1	98.8	98.8
62.5°	67.0	65.6	67.0	64.9
65°	44.4	43.7	43.7	43.7
67.5°	29.6	28.9	29.6	28.9
70°	19.0	19.0	19.0	19.0
72.5°	12.0	12.0	12.0	12.0
75°	7.8	7.8	7.8	7.8
77.5°	4.9	4.9	4.9	4.9
80°	3.5	3.5	3.5	3.5
82.5°	2.1	2.1	2.1	2.1
85°	1.4	1.4	1.4	1.4
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)