

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: P212723

Luminaire Tested: **LD4B20D010 EU4B10209024 4LBSWLI1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P212723
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: LD4B20D010 EU4B10209024 4LBSWL11
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: 1328.0 lumens
Efficiency: N/A
Efficacy: 63.8 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

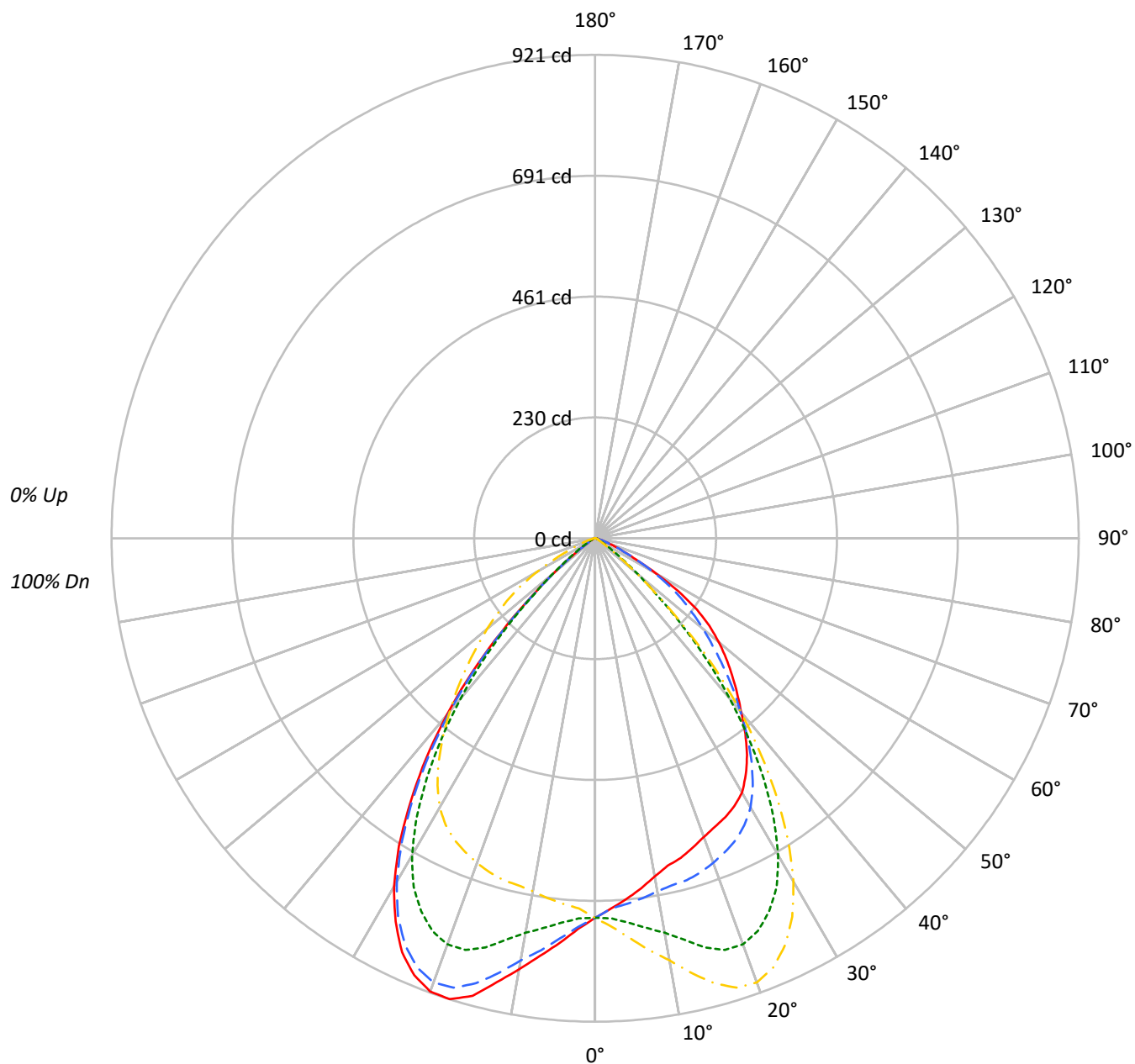
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	89179	89179	89179	89179
5°	85372	91055	95785	91055
10°	81938	95577	104420	95577
15°	80487	103051	115246	103051
20°	79479	108055	120590	108055
25°	79807	106714	118404	106714
30°	79702	99300	109085	99300
35°	75936	84263	92183	84263
40°	69656	64117	70734	64117
45°	64297	40818	43976	40818
50°	58834	19784	19247	19784
55°	50923	8623	6172	8623
60°	32983	4243	2837	4243
65°	17278	2802	2218	2802
70°	9304	2056	1731	2056
75°	5004	1811	1382	1811
80°	3410	1350	710	1350
85°	2689	1415	0	1415



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.5	5.3
10°-20°	220.5	16.6
20°-30°	342.8	25.8
30°-40°	346.2	26.1
40°-50°	219.2	16.5
50°-60°	92.0	6.9
60°-70°	29.2	2.2
70°-80°	6.7	0.5
80°-90°	1.0	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°	633.7	47.7
0°-40°	980.0	73.8
0°-60°	1291.2	97.2
0°-90°	1328.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1328.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	723	723	723	723	723	
5°	690	735	774	735	690	65
15°	630	807	902	807	630	178
25°	586	784	870	784	586	270
35°	504	560	612	560	504	313
45°	369	234	252	234	369	285
55°	237	40	29	40	237	204
65°	59	10	8	10	59	65
75°	10	4	3	4	10	13
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°	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
2.5°	705.8	699.1	704.8	706.7	706.7	705.8	707.7	705.8	702.9	714.4	705.8
5°	689.5	684.8	689.5	691.4	692.4	693.3	695.3	695.3	694.3	704.8	699.1
7.5°	672.3	669.5	673.3	676.2	680.0	679.0	681.9	682.8	684.8	697.2	691.4
10°	654.2	651.3	656.1	658.0	662.8	663.7	665.7	668.5	672.3	684.8	682.8
12.5°	638.9	638.0	640.8	644.6	649.4	650.4	652.3	657.1	662.8	676.2	677.1
15°	630.3	629.4	632.2	636.0	639.9	641.8	643.7	650.4	656.1	670.4	674.2
17.5°	617.9	617.9	620.8	624.6	629.4	631.3	634.1	640.8	648.5	662.8	667.6
20°	605.5	606.4	608.4	612.2	616.9	618.9	621.7	628.4	637.0	651.3	658.0
22.5°	595.0	597.8	598.8	601.7	606.4	609.3	610.3	617.9	625.5	638.0	646.6
25°	586.4	590.2	590.2	592.1	597.8	598.8	599.8	607.4	614.1	625.5	634.1
27.5°	574.9	578.7	578.7	581.6	585.4	587.3	587.3	594.0	600.7	609.3	616.0
30°	559.6	562.5	562.5	563.5	567.3	569.2	568.2	574.9	579.7	585.4	592.1
32.5°	533.9	538.6	536.7	539.6	541.5	543.4	541.5	547.2	551.1	556.8	558.7
35°	504.3	508.1	505.2	507.1	510.9	510.9	510.0	513.8	515.7	518.6	519.5
37.5°	469.9	472.7	470.8	471.8	473.7	474.6	472.7	476.6	476.6	477.5	475.6
40°	432.6	437.4	434.5	434.5	436.4	437.4	434.5	436.4	438.4	433.6	429.8
42.5°	400.2	404.9	402.1	402.1	402.1	403.0	399.2	400.2	400.2	393.5	387.7
45°	368.6	372.5	369.6	366.7	367.7	368.6	364.8	363.9	361.0	353.4	344.8
47.5°	338.1	341.9	338.1	336.2	336.2	336.2	331.4	328.5	324.7	314.2	303.7
50°	306.6	310.4	307.5	305.6	303.7	303.7	299.9	296.1	290.3	279.8	268.4
52.5°	274.1	277.0	274.1	272.2	270.3	270.3	265.5	262.6	255.9	245.4	233.0
55°	236.8	238.8	235.9	234.0	233.0	233.0	229.2	226.3	220.6	212.0	200.6
57.5°	187.2	191.0	186.2	188.1	188.1	187.2	184.3	183.4	181.5	173.8	165.2
60°	133.7	133.7	132.7	136.6	135.6	137.5	135.6	136.6	137.5	131.8	126.1
62.5°	87.9	90.7	88.8	90.7	92.6	92.6	91.7	93.6	95.5	92.6	89.8
65°	59.2	59.2	59.2	60.2	60.2	61.1	60.2	61.1	62.1	61.1	59.2
67.5°	39.2	40.1	39.2	40.1	39.2	40.1	40.1	40.1	41.1	40.1	39.2
70°	25.8	25.8	25.8	25.8	25.8	25.8	25.8	25.8	26.7	25.8	24.8
72.5°	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
75°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
77.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
80°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	3.8	4.8	3.8	3.8
82.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
85°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.0	1.9	1.0	1.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
2.5°	710.5	707.7	722.0	709.6	716.3	715.3	716.3	722.0	722.0	724.9	723.9
5°	706.7	703.9	720.1	710.5	718.2	718.2	721.0	729.6	729.6	735.4	736.3
7.5°	701.0	701.9	719.1	713.4	722.0	723.0	727.7	738.2	741.1	748.7	752.6
10°	694.3	698.1	716.3	714.4	725.8	726.8	736.3	748.7	752.6	763.1	769.8
12.5°	691.4	698.1	719.1	721.0	732.5	737.3	747.8	764.0	770.7	783.1	792.7
15°	690.5	700.0	723.0	729.6	743.0	749.7	764.0	783.1	790.8	807.0	818.5
17.5°	685.7	698.1	723.0	733.5	747.8	754.5	772.6	794.6	804.1	822.3	835.6
20°	677.1	690.5	715.3	728.7	744.0	753.5	771.7	794.6	804.1	823.2	838.5
22.5°	665.7	679.0	702.9	718.2	731.6	742.1	761.2	783.1	791.7	809.9	825.1
25°	651.3	664.7	684.8	700.0	712.4	722.0	738.2	761.2	766.9	784.1	800.3
27.5°	631.3	643.7	659.0	673.3	684.8	692.4	706.7	726.8	731.6	748.7	762.1
30°	604.5	612.2	625.5	635.1	643.7	651.3	661.8	680.0	681.9	697.2	709.6
32.5°	568.2	572.1	581.6	586.4	594.0	596.9	605.5	620.8	618.9	633.2	643.7
35°	524.3	526.2	526.2	531.9	533.9	534.8	541.5	550.1	547.2	559.6	567.3
37.5°	476.6	475.6	469.9	469.9	470.8	468.0	470.8	474.6	470.8	480.4	487.1
40°	427.9	422.1	411.6	405.9	403.0	402.1	396.3	401.1	391.6	398.2	403.0
42.5°	381.1	371.5	355.3	343.8	339.0	334.3	324.7	324.7	312.3	317.1	318.0
45°	333.3	317.1	295.1	284.6	272.2	264.5	252.1	239.7	231.1	234.0	231.1
47.5°	289.4	270.3	244.5	226.3	212.0	201.5	184.3	170.0	161.4	157.6	153.8
50°	251.2	232.1	202.5	179.5	165.2	152.8	135.6	119.4	108.9	103.1	100.3
52.5°	216.8	196.7	168.1	144.2	128.9	117.5	98.4	82.1	70.7	64.0	60.2
55°	184.3	166.2	139.4	117.5	103.1	91.7	72.6	57.3	46.8	40.1	35.3
57.5°	151.8	135.6	113.6	92.6	80.2	69.7	53.5	40.1	31.5	25.8	22.0
60°	116.5	104.1	86.0	69.7	59.2	50.6	38.2	27.7	22.0	17.2	15.3
62.5°	82.1	74.5	61.1	49.7	43.0	36.3	26.7	20.1	15.3	12.4	11.5
65°	55.4	49.7	42.0	33.4	28.7	24.8	19.1	14.3	11.5	9.6	8.6
67.5°	36.3	33.4	27.7	22.9	20.1	17.2	13.4	10.5	8.6	7.6	6.7
70°	23.9	22.0	18.1	15.3	14.3	12.4	9.6	7.6	6.7	5.7	5.7
72.5°	15.3	13.4	12.4	10.5	9.6	8.6	6.7	5.7	4.8	4.8	4.8
75°	9.6	8.6	7.6	6.7	6.7	5.7	4.8	4.8	3.8	3.8	3.8
77.5°	5.7	5.7	4.8	4.8	3.8	3.8	3.8	2.9	2.9	2.9	2.9
80°	3.8	3.8	2.9	2.9	2.9	2.9	1.9	1.9	1.9	1.9	1.9
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.0	1.0	1.0	1.0	1.0
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
2.5°	728.7	730.6	728.7	734.4	724.9	735.4	731.6	733.5	741.1	738.2	741.1
5°	743.0	746.8	746.8	753.5	744.9	757.3	753.5	757.3	765.0	765.0	768.8
7.5°	761.2	765.9	767.8	774.5	765.9	781.2	777.4	782.2	791.7	791.7	794.6
10°	780.3	786.0	789.8	797.4	787.9	805.1	801.3	808.0	816.5	817.5	822.3
12.5°	804.1	811.8	816.5	823.2	816.5	833.7	829.9	836.6	848.1	849.0	854.7
15°	830.9	840.4	846.2	853.8	846.2	865.3	861.4	869.1	877.7	881.5	887.2
17.5°	848.1	859.5	864.3	872.9	865.3	884.4	879.6	890.1	897.7	899.6	906.3
20°	850.9	861.4	868.1	874.8	868.1	887.2	882.4	891.0	900.6	902.5	907.3
22.5°	838.5	847.1	854.7	860.5	854.7	873.8	867.2	876.7	885.3	887.2	891.0
25°	809.9	820.4	828.0	832.8	827.1	845.2	839.5	848.1	855.7	859.5	860.5
27.5°	769.8	779.3	786.9	789.8	786.0	803.2	795.5	806.0	812.7	814.6	817.5
30°	715.3	723.9	731.6	733.5	730.6	743.0	739.2	748.7	755.4	757.3	759.2
32.5°	648.5	657.1	661.8	663.7	660.9	673.3	669.5	677.1	684.8	684.8	684.8
35°	573.0	580.7	583.5	589.3	582.6	595.0	591.2	597.8	604.5	604.5	605.5
37.5°	491.8	497.6	499.5	505.2	498.5	510.0	507.1	512.8	518.6	517.6	519.5
40°	404.9	410.7	412.6	417.3	411.6	421.2	419.3	425.0	429.8	429.8	429.8
42.5°	320.9	324.7	324.7	329.5	323.8	332.3	332.3	336.2	340.9	340.0	340.0
45°	233.0	232.1	234.0	233.0	233.0	240.7	240.7	242.6	246.4	244.5	245.4
47.5°	154.7	155.7	151.8	154.7	150.9	157.6	157.6	157.6	160.4	158.5	160.4
50°	98.4	95.5	93.6	93.6	92.6	97.4	95.5	96.5	98.4	96.5	98.4
52.5°	55.4	54.4	52.5	53.5	51.6	52.5	52.5	52.5	53.5	52.5	54.4
55°	32.5	29.6	28.7	28.7	27.7	28.7	27.7	27.7	27.7	26.7	27.7
57.5°	19.1	18.1	17.2	17.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
60°	13.4	12.4	12.4	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
62.5°	10.5	9.6	9.6	9.6	8.6	8.6	8.6	8.6	8.6	9.6	8.6
65°	7.6	7.6	7.6	7.6	7.6	7.6	6.7	7.6	7.6	7.6	7.6
67.5°	6.7	6.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
70°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
72.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
75°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
85°	0.0	1.0	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):

	150°	155°	157.5°	160°	165°	170°	175°	180°	185°	190°	195°
0°	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
2.5°	744.0	740.1	731.6	737.3	738.2	734.4	739.2	744.9	739.2	734.4	738.2
5°	771.7	768.8	761.2	765.9	766.9	765.9	768.8	773.6	768.8	765.9	766.9
7.5°	799.4	797.4	788.9	794.6	796.5	794.6	797.4	802.2	797.4	794.6	796.5
10°	826.1	825.1	816.5	824.2	825.1	823.2	826.1	833.7	826.1	823.2	825.1
12.5°	856.7	858.6	849.0	857.6	858.6	856.7	860.5	866.2	860.5	856.7	858.6
15°	892.0	891.0	883.4	890.1	892.0	890.1	894.9	902.5	894.9	890.1	892.0
17.5°	909.2	909.2	903.5	910.1	911.1	911.1	914.9	920.6	914.9	911.1	911.1
20°	910.1	911.1	904.4	912.1	912.1	912.1	915.9	918.7	915.9	912.1	912.1
22.5°	894.9	895.8	889.1	895.8	895.8	896.8	898.7	900.6	898.7	896.8	895.8
25°	865.3	866.2	860.5	866.2	865.3	865.3	867.2	870.0	867.2	865.3	865.3
27.5°	821.3	822.3	814.6	821.3	820.4	819.4	822.3	823.2	822.3	819.4	820.4
30°	763.1	764.0	757.3	763.1	762.1	761.2	765.0	765.9	765.0	761.2	762.1
32.5°	693.3	691.4	686.7	691.4	690.5	690.5	692.4	695.3	692.4	690.5	690.5
35°	609.3	609.3	606.4	610.3	607.4	611.2	611.2	612.2	611.2	611.2	607.4
37.5°	523.4	523.4	521.4	523.4	522.4	526.2	526.2	529.1	526.2	526.2	522.4
40°	433.6	433.6	431.7	433.6	436.4	436.4	435.5	439.3	435.5	436.4	436.4
42.5°	342.9	342.9	341.9	346.7	346.7	346.7	343.8	347.6	343.8	346.7	346.7
45°	249.3	247.4	246.4	246.4	247.4	251.2	247.4	252.1	247.4	251.2	247.4
47.5°	158.5	159.5	160.4	163.3	161.4	160.4	160.4	163.3	160.4	160.4	161.4
50°	97.4	98.4	98.4	100.3	97.4	99.3	98.4	100.3	98.4	99.3	97.4
52.5°	53.5	53.5	53.5	55.4	53.5	54.4	53.5	55.4	53.5	54.4	53.5
55°	27.7	27.7	27.7	28.7	27.7	27.7	27.7	28.7	27.7	27.7	27.7
57.5°	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
60°	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
62.5°	9.6	8.6	8.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
65°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
67.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
70°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
72.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
75°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
2.5°	737.3	731.6	740.1	744.0	741.1	738.2	741.1	733.5	731.6	735.4	724.9
5°	765.9	761.2	768.8	771.7	768.8	765.0	765.0	757.3	753.5	757.3	744.9
7.5°	794.6	788.9	797.4	799.4	794.6	791.7	791.7	782.2	777.4	781.2	765.9
10°	824.2	816.5	825.1	826.1	822.3	817.5	816.5	808.0	801.3	805.1	787.9
12.5°	857.6	849.0	858.6	856.7	854.7	849.0	848.1	836.6	829.9	833.7	816.5
15°	890.1	883.4	891.0	892.0	887.2	881.5	877.7	869.1	861.4	865.3	846.2
17.5°	910.1	903.5	909.2	909.2	906.3	899.6	897.7	890.1	879.6	884.4	865.3
20°	912.1	904.4	911.1	910.1	907.3	902.5	900.6	891.0	882.4	887.2	868.1
22.5°	895.8	889.1	895.8	894.9	891.0	887.2	885.3	876.7	867.2	873.8	854.7
25°	866.2	860.5	866.2	865.3	860.5	859.5	855.7	848.1	839.5	845.2	827.1
27.5°	821.3	814.6	822.3	821.3	817.5	814.6	812.7	806.0	795.5	803.2	786.0
30°	763.1	757.3	764.0	763.1	759.2	757.3	755.4	748.7	739.2	743.0	730.6
32.5°	691.4	686.7	691.4	693.3	684.8	684.8	684.8	677.1	669.5	673.3	660.9
35°	610.3	606.4	609.3	609.3	605.5	604.5	604.5	597.8	591.2	595.0	582.6
37.5°	523.4	521.4	523.4	523.4	519.5	517.6	518.6	512.8	507.1	510.0	498.5
40°	433.6	431.7	433.6	433.6	429.8	429.8	429.8	425.0	419.3	421.2	411.6
42.5°	346.7	341.9	342.9	342.9	340.0	340.0	340.9	336.2	332.3	332.3	323.8
45°	246.4	246.4	247.4	249.3	245.4	244.5	246.4	242.6	240.7	240.7	233.0
47.5°	163.3	160.4	159.5	158.5	160.4	158.5	160.4	157.6	157.6	157.6	150.9
50°	100.3	98.4	98.4	97.4	98.4	96.5	98.4	96.5	95.5	97.4	92.6
52.5°	55.4	53.5	53.5	53.5	54.4	52.5	53.5	52.5	52.5	52.5	51.6
55°	28.7	27.7	27.7	27.7	27.7	26.7	27.7	27.7	27.7	28.7	27.7
57.5°	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
60°	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
62.5°	9.6	8.6	8.6	9.6	8.6	9.6	8.6	8.6	8.6	8.6	8.6
65°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	6.7	7.6	7.6
67.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
70°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
72.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
75°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
2.5°	734.4	728.7	730.6	728.7	723.9	724.9	722.0	722.0	716.3	715.3	716.3
5°	753.5	746.8	746.8	743.0	736.3	735.4	729.6	729.6	721.0	718.2	718.2
7.5°	774.5	767.8	765.9	761.2	752.6	748.7	741.1	738.2	727.7	723.0	722.0
10°	797.4	789.8	786.0	780.3	769.8	763.1	752.6	748.7	736.3	726.8	725.8
12.5°	823.2	816.5	811.8	804.1	792.7	783.1	770.7	764.0	747.8	737.3	732.5
15°	853.8	846.2	840.4	830.9	818.5	807.0	790.8	783.1	764.0	749.7	743.0
17.5°	872.9	864.3	859.5	848.1	835.6	822.3	804.1	794.6	772.6	754.5	747.8
20°	874.8	868.1	861.4	850.9	838.5	823.2	804.1	794.6	771.7	753.5	744.0
22.5°	860.5	854.7	847.1	838.5	825.1	809.9	791.7	783.1	761.2	742.1	731.6
25°	832.8	828.0	820.4	809.9	800.3	784.1	766.9	761.2	738.2	722.0	712.4
27.5°	789.8	786.9	779.3	769.8	762.1	748.7	731.6	726.8	706.7	692.4	684.8
30°	733.5	731.6	723.9	715.3	709.6	697.2	681.9	680.0	661.8	651.3	643.7
32.5°	663.7	661.8	657.1	648.5	643.7	633.2	618.9	620.8	605.5	596.9	594.0
35°	589.3	583.5	580.7	573.0	567.3	559.6	547.2	550.1	541.5	534.8	533.9
37.5°	505.2	499.5	497.6	491.8	487.1	480.4	470.8	474.6	470.8	468.0	470.8
40°	417.3	412.6	410.7	404.9	403.0	398.2	391.6	401.1	396.3	402.1	403.0
42.5°	329.5	324.7	324.7	320.9	318.0	317.1	312.3	324.7	324.7	334.3	339.0
45°	233.0	234.0	232.1	233.0	231.1	234.0	231.1	239.7	252.1	264.5	272.2
47.5°	154.7	151.8	155.7	154.7	153.8	157.6	161.4	170.0	184.3	201.5	212.0
50°	93.6	93.6	95.5	98.4	100.3	103.1	108.9	119.4	135.6	152.8	165.2
52.5°	53.5	52.5	54.4	55.4	60.2	64.0	70.7	82.1	98.4	117.5	128.9
55°	28.7	28.7	29.6	32.5	35.3	40.1	46.8	57.3	72.6	91.7	103.1
57.5°	17.2	17.2	18.1	19.1	22.0	25.8	31.5	40.1	53.5	69.7	80.2
60°	11.5	12.4	12.4	13.4	15.3	17.2	22.0	27.7	38.2	50.6	59.2
62.5°	9.6	9.6	9.6	10.5	11.5	12.4	15.3	20.1	26.7	36.3	43.0
65°	7.6	7.6	7.6	7.6	8.6	9.6	11.5	14.3	19.1	24.8	28.7
67.5°	5.7	5.7	6.7	6.7	6.7	7.6	8.6	10.5	13.4	17.2	20.1
70°	4.8	4.8	4.8	4.8	5.7	5.7	6.7	7.6	9.6	12.4	14.3
72.5°	3.8	3.8	3.8	3.8	4.8	4.8	4.8	5.7	6.7	8.6	9.6
75°	2.9	2.9	2.9	2.9	3.8	3.8	3.8	4.8	4.8	5.7	6.7
77.5°	1.9	1.9	1.9	1.9	2.9	2.9	2.9	2.9	3.8	3.8	3.8
80°	1.0	1.0	1.0	1.9	1.9	1.9	1.9	1.9	1.9	2.9	2.9
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.9
85°	0.0	0.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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):

	295°	300°	305°	310°	315°	320°	325°	330°	335°	337.5°	340°
0°	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
2.5°	709.6	722.0	707.7	710.5	705.8	714.4	702.9	705.8	707.7	705.8	706.7
5°	710.5	720.1	703.9	706.7	699.1	704.8	694.3	695.3	695.3	693.3	692.4
7.5°	713.4	719.1	701.9	701.0	691.4	697.2	684.8	682.8	681.9	679.0	680.0
10°	714.4	716.3	698.1	694.3	682.8	684.8	672.3	668.5	665.7	663.7	662.8
12.5°	721.0	719.1	698.1	691.4	677.1	676.2	662.8	657.1	652.3	650.4	649.4
15°	729.6	723.0	700.0	690.5	674.2	670.4	656.1	650.4	643.7	641.8	639.9
17.5°	733.5	723.0	698.1	685.7	667.6	662.8	648.5	640.8	634.1	631.3	629.4
20°	728.7	715.3	690.5	677.1	658.0	651.3	637.0	628.4	621.7	618.9	616.9
22.5°	718.2	702.9	679.0	665.7	646.6	638.0	625.5	617.9	610.3	609.3	606.4
25°	700.0	684.8	664.7	651.3	634.1	625.5	614.1	607.4	599.8	598.8	597.8
27.5°	673.3	659.0	643.7	631.3	616.0	609.3	600.7	594.0	587.3	587.3	585.4
30°	635.1	625.5	612.2	604.5	592.1	585.4	579.7	574.9	568.2	569.2	567.3
32.5°	586.4	581.6	572.1	568.2	558.7	556.8	551.1	547.2	541.5	543.4	541.5
35°	531.9	526.2	526.2	524.3	519.5	518.6	515.7	513.8	510.0	510.9	510.9
37.5°	469.9	469.9	475.6	476.6	475.6	477.5	476.6	476.6	472.7	474.6	473.7
40°	405.9	411.6	422.1	427.9	429.8	433.6	438.4	436.4	434.5	437.4	436.4
42.5°	343.8	355.3	371.5	381.1	387.7	393.5	400.2	400.2	399.2	403.0	402.1
45°	284.6	295.1	317.1	333.3	344.8	353.4	361.0	363.9	364.8	368.6	367.7
47.5°	226.3	244.5	270.3	289.4	303.7	314.2	324.7	328.5	331.4	336.2	336.2
50°	179.5	202.5	232.1	251.2	268.4	279.8	290.3	296.1	299.9	303.7	303.7
52.5°	144.2	168.1	196.7	216.8	233.0	245.4	255.9	262.6	265.5	270.3	270.3
55°	117.5	139.4	166.2	184.3	200.6	212.0	220.6	226.3	229.2	233.0	233.0
57.5°	92.6	113.6	135.6	151.8	165.2	173.8	181.5	183.4	184.3	187.2	188.1
60°	69.7	86.0	104.1	116.5	126.1	131.8	137.5	136.6	135.6	137.5	135.6
62.5°	49.7	61.1	74.5	82.1	89.8	92.6	95.5	93.6	91.7	92.6	92.6
65°	33.4	42.0	49.7	55.4	59.2	61.1	62.1	61.1	60.2	61.1	60.2
67.5°	22.9	27.7	33.4	36.3	39.2	40.1	41.1	40.1	40.1	40.1	39.2
70°	15.3	18.1	22.0	23.9	24.8	25.8	26.7	25.8	25.8	25.8	25.8
72.5°	10.5	12.4	13.4	15.3	16.2	16.2	16.2	16.2	16.2	16.2	16.2
75°	6.7	7.6	8.6	9.6	10.5	10.5	10.5	10.5	10.5	10.5	10.5
77.5°	4.8	4.8	5.7	5.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
80°	2.9	2.9	3.8	3.8	3.8	3.8	4.8	3.8	4.8	4.8	4.8
82.5°	1.9	1.9	1.9	1.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.0	1.9	1.9	1.9
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°	723.0	723.0	723.0	723.0
2.5°	706.7	704.8	699.1	705.8
5°	691.4	689.5	684.8	689.5
7.5°	676.2	673.3	669.5	672.3
10°	658.0	656.1	651.3	654.2
12.5°	644.6	640.8	638.0	638.9
15°	636.0	632.2	629.4	630.3
17.5°	624.6	620.8	617.9	617.9
20°	612.2	608.4	606.4	605.5
22.5°	601.7	598.8	597.8	595.0
25°	592.1	590.2	590.2	586.4
27.5°	581.6	578.7	578.7	574.9
30°	563.5	562.5	562.5	559.6
32.5°	539.6	536.7	538.6	533.9
35°	507.1	505.2	508.1	504.3
37.5°	471.8	470.8	472.7	469.9
40°	434.5	434.5	437.4	432.6
42.5°	402.1	402.1	404.9	400.2
45°	366.7	369.6	372.5	368.6
47.5°	336.2	338.1	341.9	338.1
50°	305.6	307.5	310.4	306.6
52.5°	272.2	274.1	277.0	274.1
55°	234.0	235.9	238.8	236.8
57.5°	188.1	186.2	191.0	187.2
60°	136.6	132.7	133.7	133.7
62.5°	90.7	88.8	90.7	87.9
65°	60.2	59.2	59.2	59.2
67.5°	40.1	39.2	40.1	39.2
70°	25.8	25.8	25.8	25.8
72.5°	16.2	16.2	16.2	16.2
75°	10.5	10.5	10.5	10.5
77.5°	6.7	6.7	6.7	6.7
80°	4.8	4.8	4.8	4.8
82.5°	2.9	2.9	2.9	2.9
85°	1.9	1.9	1.9	1.9
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)