

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332105

Luminaire Tested: **S123DIW-S340D1030U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332105
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D1030U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5014.5 lumens
Efficiency: N/A
Efficacy: 132.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

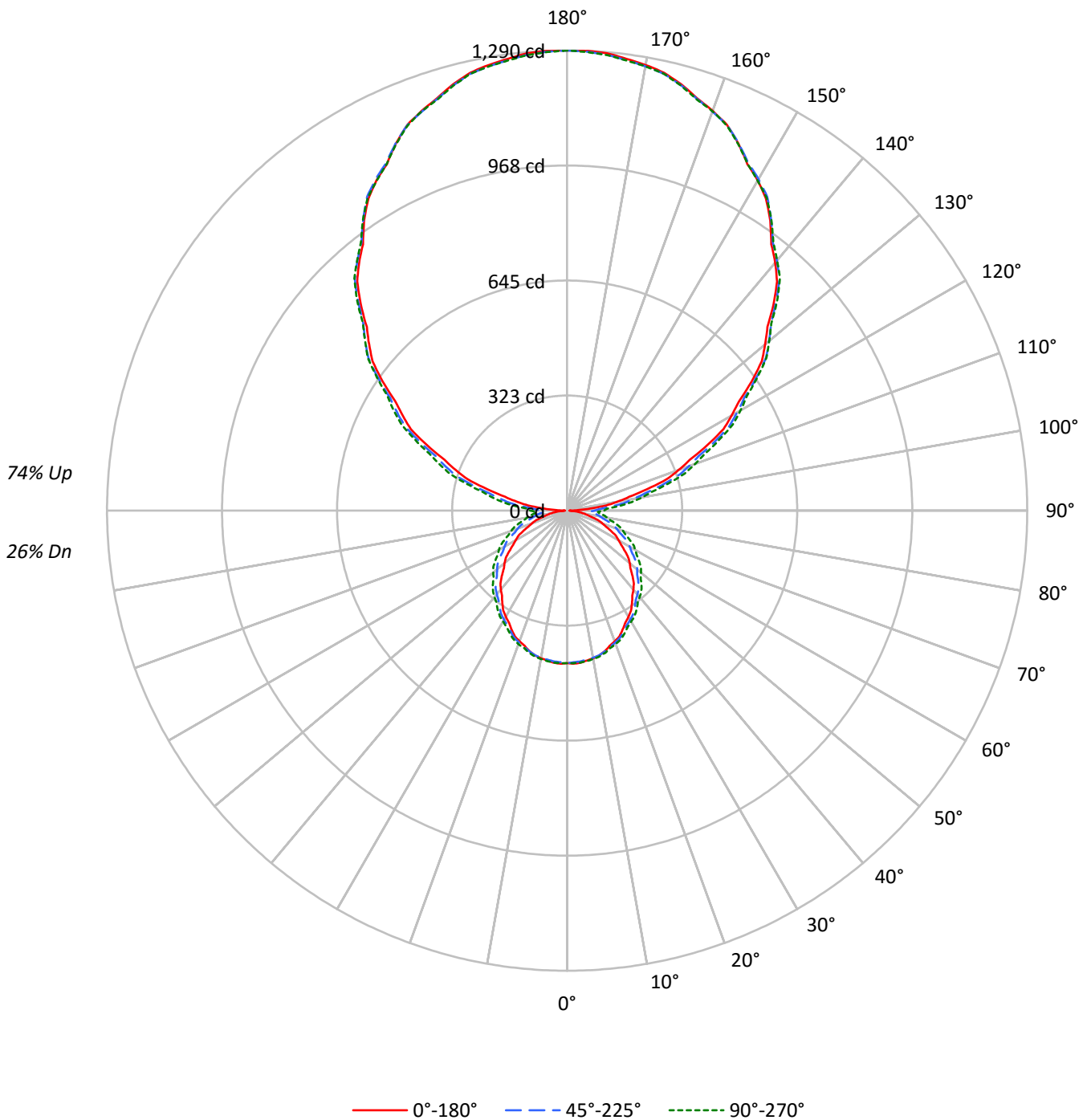
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	102	102	102	102	91	91	91	91	70	70	70	52	52	52	34	34	34	26
1	92	87	84	80	82	78	75	72	60	58	56	44	43	42	29	29	28	21
2	83	76	70	65	74	68	63	58	53	49	46	39	36	34	26	24	23	17
3	76	67	59	54	67	60	53	48	46	42	38	34	31	29	22	21	19	14
4	69	59	51	45	61	53	46	41	41	36	32	30	27	24	20	18	16	12
5	63	52	44	38	56	47	40	35	36	31	28	27	23	21	18	16	14	10
6	58	46	39	33	52	42	35	30	33	28	24	24	21	18	16	14	12	9
7	54	42	34	29	48	37	31	26	29	24	21	22	18	16	15	13	11	8
8	50	38	30	25	44	34	27	23	27	22	18	20	16	14	13	11	10	7
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	15	17	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	0.8
10°-20°	115.6	2.3
20°-30°	172.9	3.4
30°-40°	206.5	4.1
40°-50°	216.0	4.3
50°-60°	202.7	4.0
60°-70°	169.3	3.4
70°-80°	121.1	2.4
80°-90°	76.1	1.5
90°-100°	129.4	2.6
100°-110°	284.8	5.7
110°-120°	450.0	9.0
120°-130°	575.3	11.5
130°-140°	638.0	12.7
140°-150°	622.8	12.4
150°-160°	523.3	10.4
160°-170°	348.3	6.9
170°-180°	122.0	2.4
0°-30°	329.0	6.6
0°-40°	535.5	10.7
0°-60°	954.2	19.0
0°-90°	1320.7	26.3
90°-120°	864.1	17.2
90°-150°	2700.2	53.8
90°-180°	3694.0	73.7
0°-180°	5014.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	7	40	77	96	104	8
95°	65	90	121	139	144	71
105°	232	246	274	287	293	248
115°	433	442	456	468	471	428
125°	632	635	646	651	651	563
135°	818	824	828	832	833	631
145°	992	994	997	999	997	619
155°	1136	1136	1137	1140	1134	523
165°	1237	1234	1234	1239	1233	349
175°	1287	1283	1283	1288	1282	122
180°	1290	1290	1290	1290	1290	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.6	18.2	23.8	29.4	35.0	40.8	46.6	52.5	58.4	64.2	67.9
90°	7.1	14.4	21.7	29.0	36.4	44.1	52.3	60.6	68.8	77.0	81.4
92.5°	30.2	36.3	42.4	48.5	54.6	61.1	68.0	74.8	81.7	88.6	92.7
95°	64.9	70.5	76.1	81.7	87.4	93.6	100.5	107.3	114.2	121.1	125.2
97.5°	110.7	115.6	120.4	125.2	130.0	135.5	141.6	147.8	153.9	160.1	164.2
100°	142.0	146.6	151.3	156.0	160.6	165.9	171.8	177.7	183.6	189.5	193.1
102.5°	178.1	181.9	185.7	189.5	193.2	198.2	204.4	210.6	216.7	222.9	226.5
105°	231.7	234.6	237.5	240.5	243.4	248.1	254.6	261.1	267.6	274.0	276.9
107.5°	293.5	295.9	298.3	300.7	303.1	306.8	311.8	316.8	321.9	326.9	330.4
110°	332.1	334.4	336.7	339.0	341.3	344.8	349.4	354.0	358.5	363.1	366.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	372.6	374.4	376.2	378.0	379.8	382.7	386.8	390.9	394.9	399.0	402.7
115°	432.9	434.8	436.7	438.7	440.6	443.2	446.5	449.7	453.0	456.3	459.0
117.5°	494.0	495.2	496.4	497.7	498.9	500.9	503.8	506.8	509.7	512.6	515.0
120°	531.7	533.6	535.5	537.3	539.2	541.3	543.6	545.9	548.2	550.4	552.6
122.5°	571.4	572.7	574.0	575.2	576.5	578.4	581.1	583.8	586.4	589.1	590.8
125°	631.6	632.2	632.9	633.6	634.3	635.9	638.4	641.0	643.5	646.1	647.4
127.5°	687.5	688.8	690.2	691.5	692.8	694.5	696.5	698.5	700.5	702.5	703.2
130°	724.8	726.5	728.2	729.9	731.6	733.1	734.5	735.9	737.3	738.7	739.7
132.5°	761.7	763.5	765.2	767.0	768.8	770.3	771.4	772.6	773.7	774.9	775.7
135°	818.5	819.8	821.0	822.3	823.5	824.6	825.5	826.4	827.3	828.2	829.2
137.5°	871.1	872.1	873.2	874.2	875.3	876.4	877.6	878.9	880.1	881.3	882.0
140°	907.2	908.3	909.5	910.6	911.7	912.5	913.1	913.6	914.1	914.7	916.0
142.5°	940.4	941.5	942.5	943.6	944.6	945.4	945.8	946.3	946.8	947.2	948.4
145°	992.3	992.7	993.0	993.3	993.7	994.2	994.9	995.6	996.2	996.9	997.5
147.5°	1037.2	1038.0	1038.8	1039.7	1040.5	1041.2	1041.8	1042.5	1043.1	1043.7	1044.0
150°	1068.8	1069.3	1069.7	1070.2	1070.6	1071.1	1071.5	1072.0	1072.4	1072.9	1072.9
152.5°	1094.8	1095.4	1096.0	1096.7	1097.3	1097.7	1098.0	1098.3	1098.6	1098.8	1099.2
155°	1135.7	1135.7	1135.7	1135.7	1135.7	1135.8	1136.0	1136.3	1136.5	1136.7	1137.6
157.5°	1170.6	1170.3	1170.0	1169.7	1169.5	1169.4	1169.6	1169.8	1170.0	1170.1	1171.1
160°	1192.4	1192.0	1191.5	1191.1	1190.6	1190.4	1190.4	1190.4	1190.4	1190.4	1191.5
162.5°	1211.9	1211.3	1210.6	1210.0	1209.4	1209.1	1209.3	1209.5	1209.7	1209.9	1211.0
165°	1237.0	1236.3	1235.7	1235.0	1234.3	1234.0	1234.0	1234.0	1234.0	1234.0	1235.3
167.5°	1257.1	1256.2	1255.3	1254.4	1253.5	1253.1	1253.3	1253.5	1253.7	1253.8	1255.2
170°	1268.4	1267.5	1266.6	1265.7	1264.8	1264.4	1264.4	1264.4	1264.4	1264.4	1265.9
172.5°	1277.3	1276.4	1275.5	1274.6	1273.7	1273.3	1273.3	1273.3	1273.3	1273.3	1274.7
175°	1286.7	1285.8	1284.9	1284.0	1283.1	1282.6	1282.6	1282.6	1282.6	1282.6	1284.0
177.5°	1290.5	1289.8	1289.1	1288.3	1287.6	1287.3	1287.3	1287.3	1287.3	1287.3	1288.3
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	71.6	75.3	79.0	81.4	82.6	83.7	84.8	85.9
90°	85.8	90.2	94.7	97.6	99.1	100.6	102.1	103.5
92.5°	96.9	101.0	105.2	107.6	108.3	109.0	109.7	110.4
95°	129.3	133.4	137.5	140.1	141.1	142.2	143.2	144.3
97.5°	168.3	172.5	176.6	179.1	180.1	181.0	181.9	182.9
100°	196.8	200.5	204.2	206.8	208.2	209.7	211.2	212.7
102.5°	230.1	233.7	237.3	239.5	240.5	241.4	242.4	243.3
105°	279.8	282.7	285.6	287.8	289.2	290.5	291.9	293.3
107.5°	333.9	337.4	340.9	343.0	343.6	344.2	344.9	345.5
110°	370.3	373.9	377.5	379.5	379.9	380.2	380.6	381.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	406.4	410.1	413.8	416.0	416.8	417.6	418.5	419.3
115°	461.7	464.4	467.1	468.8	469.4	470.0	470.6	471.2
117.5°	517.4	519.8	522.3	523.6	523.7	523.9	524.1	524.3
120°	554.8	556.9	559.1	560.3	560.6	560.8	561.1	561.4
122.5°	592.5	594.2	596.0	596.9	597.0	597.0	597.1	597.2
125°	648.6	649.9	651.2	651.7	651.5	651.4	651.2	651.0
127.5°	704.0	704.8	705.6	705.8	705.5	705.2	704.8	704.5
130°	740.8	741.9	742.9	743.0	742.0	741.1	740.1	739.2
132.5°	776.5	777.3	778.1	778.3	777.8	777.2	776.7	776.2
135°	830.2	831.1	832.1	832.6	832.7	832.7	832.8	832.9
137.5°	882.7	883.4	884.1	884.3	883.9	883.6	883.2	882.9
140°	917.3	918.7	920.0	920.1	919.1	918.0	917.0	915.9
142.5°	949.6	950.7	951.9	952.1	951.4	950.7	950.0	949.3
145°	998.1	998.7	999.3	999.4	998.9	998.4	997.9	997.4
147.5°	1044.2	1044.5	1044.7	1044.3	1043.4	1042.4	1041.4	1040.4
150°	1072.9	1072.9	1072.9	1072.3	1071.2	1070.0	1068.9	1067.7
152.5°	1099.5	1099.9	1100.3	1099.9	1098.8	1097.6	1096.5	1095.4
155°	1138.5	1139.4	1140.3	1140.0	1138.4	1136.8	1135.3	1133.7
157.5°	1172.0	1173.0	1173.9	1173.8	1172.5	1171.3	1170.0	1168.7
160°	1192.7	1193.8	1194.9	1195.0	1194.1	1193.2	1192.3	1191.4
162.5°	1212.1	1213.2	1214.4	1214.2	1212.8	1211.3	1209.9	1208.4
165°	1236.7	1238.0	1239.4	1239.3	1237.7	1236.1	1234.5	1233.0
167.5°	1256.6	1258.0	1259.4	1259.4	1258.0	1256.6	1255.2	1253.8
170°	1267.5	1269.1	1270.7	1270.7	1269.1	1267.5	1265.9	1264.4
172.5°	1276.1	1277.5	1278.9	1278.8	1277.2	1275.6	1274.0	1272.5
175°	1285.3	1286.7	1288.0	1287.9	1286.3	1284.7	1283.2	1281.6
177.5°	1289.4	1290.5	1291.6	1291.5	1290.2	1289.0	1287.7	1286.5
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7

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