

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: P331486-930

Luminaire Tested: **S122DIW-S290D1240U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331486-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D1240U930-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4482.8 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

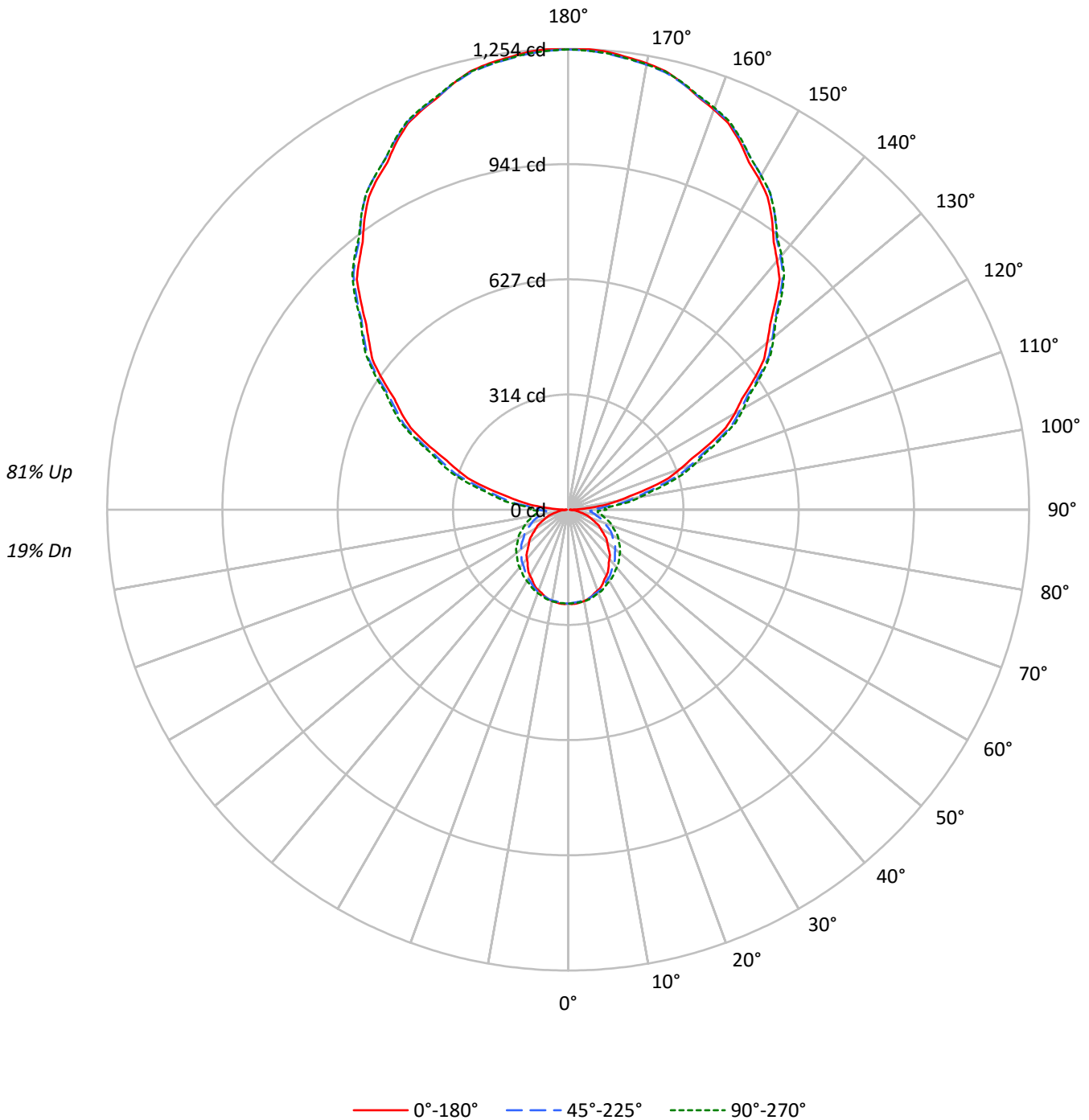
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19
1	90	86	82	78	79	76	73	70	57	55	53	40	38	37	24	23	22	15
2	82	75	69	63	72	66	61	57	50	46	43	34	32	31	21	19	18	12
3	75	65	58	52	65	58	52	47	43	39	36	30	28	25	18	17	15	10
4	68	58	50	44	60	51	44	39	38	34	30	27	24	22	16	14	13	8
5	62	51	43	37	55	45	38	33	34	29	26	24	21	18	14	13	11	7
6	57	45	38	32	50	40	34	29	31	26	22	21	18	16	13	11	10	6
7	53	41	33	28	46	36	30	25	27	23	19	19	16	14	12	10	9	6
8	49	37	29	24	43	33	26	22	25	20	17	18	14	12	11	9	8	5
9	45	33	26	21	40	30	23	19	23	18	15	16	13	11	10	8	7	4
10	42	30	23	19	37	27	21	17	21	16	13	15	12	10	9	7	6	4

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4127	4127	4127
5°	4146	3973	3957
10°	4121	3855	3812
15°	4063	3730	3659
20°	3992	3597	3511
25°	3922	3468	3376
30°	3821	3336	3241
35°	3720	3209	3148
40°	3615	3101	3051
45°	3512	3004	2971
50°	3404	2917	2891
55°	3289	2822	2810
60°	3151	2723	2724
65°	3006	2608	2622
70°	2844	2485	2512
75°	2639	2365	2410
80°	2312	2240	2305
85°	2005	2134	2226



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.2	0.5
10°-20°	69.4	1.5
20°-30°	105.2	2.3
30°-40°	128.2	2.9
40°-50°	137.9	3.1
50°-60°	133.9	3.0
60°-70°	116.9	2.6
70°-80°	90.0	2.0
80°-90°	65.4	1.5
90°-100°	121.0	2.7
100°-110°	276.9	6.2
110°-120°	441.5	9.8
120°-130°	565.4	12.6
130°-140°	626.7	14.0
140°-150°	610.7	13.6
150°-160°	511.5	11.4
160°-170°	339.3	7.6
170°-180°	118.6	2.6
0°-30°	198.9	4.4
0°-40°	327.1	7.3
0°-60°	598.8	13.4
0°-90°	871.2	19.4
90°-120°	839.4	18.7
90°-150°	2642.2	58.9
90°-180°	3612.0	80.6
0°-180°	4482.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	256	256	256	256	256	
5°	256	255	253	255	255	24
15°	244	245	245	248	248	69
25°	222	225	228	232	234	102
35°	192	198	205	213	216	120
45°	157	167	180	191	195	121
55°	120	134	153	166	171	108
65°	82	101	122	137	142	82
75°	46	66	90	105	111	48
85°	13	36	60	75	81	14
90°	5	40	86	98	104	5
95°	58	86	110	124	127	65
105°	229	243	264	279	284	242
115°	424	435	449	459	460	420
125°	616	625	634	641	643	550
135°	796	808	814	820	820	615
145°	966	974	980	983	981	603
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1251	1248	1245	1252	1246	119
180°	1253	1253	1253	1253	1253	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	257.1	256.8	256.7	256.4	256.2	255.9	255.4	255.0	254.5	254.0	254.4
5°	256.3	256.1	255.8	255.6	255.3	254.9	254.5	254.0	253.5	253.0	253.5
7.5°	254.0	253.8	253.6	253.5	253.3	253.1	252.7	252.3	251.9	251.5	252.2
10°	252.3	252.1	251.9	251.8	251.6	251.4	251.1	250.9	250.6	250.4	251.0
12.5°	249.2	249.3	249.3	249.4	249.4	249.3	249.2	249.0	248.7	248.6	249.2
15°	244.4	244.6	244.8	244.9	245.1	245.2	245.2	245.2	245.2	245.2	245.9
17.5°	238.2	238.6	238.9	239.3	239.6	239.9	240.2	240.4	240.7	241.0	241.7
20°	234.1	234.5	234.9	235.3	235.7	236.1	236.4	236.8	237.1	237.4	238.3
22.5°	229.7	230.1	230.6	231.1	231.5	232.0	232.4	232.9	233.4	233.8	234.7
25°	222.3	222.8	223.4	224.0	224.5	225.2	225.9	226.7	227.4	228.1	229.1
27.5°	213.4	214.3	215.2	216.1	217.1	218.0	218.8	219.7	220.6	221.5	222.7
30°	207.4	208.5	209.5	210.6	211.7	212.8	213.9	214.9	216.0	217.0	218.3
32.5°	200.9	202.1	203.3	204.5	205.7	206.9	208.2	209.5	210.8	212.0	213.5
35°	191.5	192.9	194.3	195.7	197.1	198.5	200.2	201.7	203.3	204.8	206.6
37.5°	181.2	182.9	184.5	186.1	187.7	189.6	191.6	193.6	195.6	197.6	199.7
40°	174.5	176.3	178.1	179.9	181.6	183.7	185.9	188.2	190.4	192.6	194.7
42.5°	168.0	169.7	171.5	173.3	175.2	177.3	179.9	182.5	185.0	187.5	189.9
45°	157.0	159.2	161.5	163.7	165.9	168.4	171.4	174.2	177.1	180.0	182.5
47.5°	146.3	148.7	151.2	153.5	156.0	158.9	162.2	165.6	169.0	172.4	175.0
50°	138.9	141.5	144.0	146.5	149.1	152.2	156.0	159.6	163.3	167.1	169.8
52.5°	131.8	134.4	137.1	139.8	142.5	145.8	149.7	153.6	157.5	161.4	164.3
55°	120.3	123.4	126.3	129.2	132.2	135.8	140.1	144.4	148.7	153.0	156.0
57.5°	109.1	112.4	115.8	119.1	122.5	126.3	130.7	135.0	139.4	143.8	147.0
60°	101.1	104.7	108.2	111.7	115.3	119.4	124.1	128.7	133.5	138.1	141.3
62.5°	94.0	97.7	101.3	105.0	108.7	112.8	117.6	122.2	126.9	131.7	134.9
65°	82.2	86.3	90.3	94.3	98.3	102.8	107.6	112.5	117.4	122.2	125.6
67.5°	71.4	75.7	79.8	84.1	88.3	92.9	97.8	102.8	107.8	112.8	116.2
70°	63.7	68.0	72.2	76.6	80.8	85.5	90.6	95.7	100.9	105.9	109.5
72.5°	56.6	61.0	65.4	69.8	74.3	79.0	84.2	89.4	94.6	99.7	103.2
75°	45.6	50.1	54.8	59.4	64.0	68.9	74.2	79.5	84.7	90.0	93.5
77.5°	34.9	39.7	44.5	49.3	54.2	59.3	64.7	70.0	75.3	80.6	84.2
80°	27.8	32.8	37.8	42.8	47.9	53.1	58.4	63.8	69.1	74.4	77.9
82.5°	21.9	26.8	31.8	36.7	41.7	46.9	52.3	57.7	63.1	68.5	72.0
85°	13.4	18.4	23.6	28.6	33.8	38.9	44.2	49.5	54.7	60.0	63.4
87.5°	7.5	13.0	18.4	23.9	29.4	35.2	41.5	47.9	54.1	60.4	63.7
90°	4.7	12.4	20.0	27.6	35.1	44.1	54.5	65.0	75.4	85.9	88.7
92.5°	22.3	28.7	35.2	41.7	48.3	54.7	61.0	67.3	73.5	79.8	83.2
95°	58.0	64.2	70.4	76.6	82.8	88.6	94.0	99.5	104.8	110.2	113.4
97.5°	103.1	108.5	114.1	119.5	125.1	130.6	136.2	141.9	147.5	153.2	156.2
100°	136.9	141.8	146.7	151.6	156.5	161.7	167.0	172.3	177.6	183.0	186.0
102.5°	172.1	176.3	180.7	184.9	189.2	194.0	199.4	204.8	210.2	215.6	218.7
105°	229.1	232.2	235.3	238.4	241.5	245.4	250.2	254.9	259.7	264.4	267.7
107.5°	287.0	289.9	292.9	295.8	298.8	302.3	306.4	310.5	314.6	318.7	321.6
110°	323.9	326.9	330.0	333.0	336.1	339.7	343.7	347.7	351.8	355.8	358.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	364.5	367.3	370.1	372.9	375.7	378.9	382.5	386.2	389.9	393.5	395.6
115°	424.4	426.6	429.0	431.3	433.6	436.3	439.6	442.9	446.1	449.3	451.5
117.5°	483.6	486.1	488.5	491.0	493.5	495.8	497.9	500.0	502.1	504.2	506.1
120°	523.3	525.5	527.7	529.9	532.1	534.0	535.4	536.8	538.3	539.6	541.9
122.5°	559.7	562.1	564.5	566.9	569.2	571.4	573.2	574.9	576.7	578.5	580.2
125°	616.0	618.1	620.2	622.3	624.4	626.5	628.4	630.3	632.3	634.2	635.7
127.5°	671.2	673.8	676.4	679.0	681.6	683.5	684.8	686.1	687.4	688.6	689.8
130°	705.9	708.8	711.8	714.8	717.8	719.8	721.1	722.4	723.7	724.9	726.4
132.5°	744.8	747.1	749.6	752.0	754.4	756.4	757.7	759.2	760.6	762.1	762.9
135°	796.4	799.0	801.6	804.1	806.7	808.7	810.0	811.3	812.5	813.8	815.4
137.5°	851.2	853.3	855.3	857.5	859.6	861.1	862.1	863.1	864.0	865.0	866.3
140°	884.1	886.1	888.2	890.2	892.3	894.0	895.3	896.7	898.0	899.4	900.7
142.5°	917.9	920.0	922.0	924.1	926.1	927.6	928.4	929.2	930.0	930.8	932.1
145°	966.2	967.9	969.6	971.2	972.8	974.4	975.8	977.1	978.6	980.0	980.7
147.5°	1009.6	1011.5	1013.5	1015.5	1017.5	1019.0	1019.9	1020.8	1021.7	1022.7	1023.3
150°	1039.2	1040.6	1042.0	1043.4	1044.8	1046.0	1046.9	1047.9	1048.8	1049.8	1050.4
152.5°	1065.4	1066.8	1068.2	1069.6	1071.1	1072.3	1073.4	1074.6	1075.7	1076.8	1077.7
155°	1104.7	1105.5	1106.1	1106.9	1107.6	1108.2	1109.0	1109.6	1110.4	1111.1	1112.2
157.5°	1138.3	1138.8	1139.3	1139.8	1140.2	1140.7	1141.1	1141.5	1141.9	1142.4	1143.9
160°	1158.6	1159.1	1159.6	1160.1	1160.5	1160.9	1161.1	1161.3	1161.6	1161.8	1163.2
162.5°	1177.2	1177.4	1177.5	1177.5	1177.6	1177.8	1178.0	1178.3	1178.5	1178.8	1180.3
165°	1202.0	1201.8	1201.5	1201.3	1201.0	1200.9	1200.9	1200.9	1200.9	1200.9	1202.6
167.5°	1222.7	1222.0	1221.3	1220.6	1219.9	1219.5	1219.4	1219.4	1219.4	1219.3	1221.0
170°	1233.7	1233.0	1232.3	1231.6	1230.9	1230.4	1230.2	1230.0	1229.7	1229.5	1231.1
172.5°	1241.3	1240.6	1239.9	1239.2	1238.5	1238.0	1237.8	1237.5	1237.3	1237.1	1238.8
175°	1250.6	1249.9	1249.2	1248.5	1247.8	1247.2	1246.8	1246.3	1245.8	1245.3	1247.0
177.5°	1254.4	1253.8	1253.3	1252.7	1252.1	1251.7	1251.3	1250.9	1250.6	1250.2	1251.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	254.7	255.0	255.4	255.5	255.4	255.2	255.1	254.9
5°	254.0	254.5	254.9	255.1	255.0	254.9	254.9	254.8
7.5°	252.7	253.3	254.0	254.2	254.1	254.0	254.0	253.9
10°	251.7	252.3	253.0	253.3	253.2	253.2	253.1	253.0
12.5°	249.9	250.5	251.2	251.5	251.4	251.4	251.3	251.2
15°	246.6	247.4	248.2	248.5	248.4	248.3	248.3	248.2
17.5°	242.6	243.3	244.0	244.4	244.4	244.4	244.4	244.4
20°	239.2	240.1	241.0	241.5	241.5	241.5	241.5	241.5
22.5°	235.7	236.6	237.5	238.0	238.1	238.2	238.4	238.6
25°	230.2	231.1	232.1	232.7	232.9	233.2	233.4	233.7
27.5°	224.0	225.3	226.5	227.2	227.4	227.6	227.7	228.0
30°	219.6	221.0	222.3	223.1	223.3	223.6	223.8	224.0
32.5°	215.0	216.5	218.1	219.1	219.5	220.0	220.4	220.8
35°	208.5	210.3	212.1	213.3	213.9	214.4	215.0	215.6
37.5°	201.6	203.7	205.7	207.0	207.6	208.2	208.8	209.4
40°	196.9	199.0	201.1	202.6	203.3	204.1	204.8	205.5
42.5°	192.2	194.5	196.9	198.4	199.2	199.9	200.6	201.4
45°	185.1	187.7	190.2	191.9	192.7	193.6	194.4	195.2
47.5°	177.7	180.3	183.0	184.8	185.7	186.6	187.5	188.4
50°	172.6	175.5	178.2	180.1	181.0	181.9	182.8	183.7
52.5°	167.1	170.0	172.8	174.8	175.8	176.8	177.7	178.6
55°	158.9	161.8	164.9	166.8	167.9	169.0	170.1	171.1
57.5°	150.2	153.4	156.5	158.7	159.8	160.9	161.9	163.1
60°	144.4	147.6	150.7	152.8	153.9	155.1	156.3	157.4
62.5°	138.3	141.6	145.0	147.2	148.2	149.3	150.4	151.5
65°	129.0	132.3	135.7	137.9	139.0	140.1	141.1	142.2
67.5°	119.5	122.9	126.4	128.7	129.7	130.9	132.0	133.1
70°	113.0	116.5	120.1	122.4	123.4	124.3	125.3	126.3
72.5°	106.6	110.1	113.6	115.9	117.1	118.3	119.5	120.7
75°	97.1	100.6	104.2	106.5	107.5	108.6	109.7	110.7
77.5°	87.7	91.2	94.7	97.1	98.2	99.4	100.5	101.7
80°	81.4	84.8	88.3	90.6	91.7	92.9	94.0	95.1
82.5°	75.4	78.9	82.3	84.6	85.7	86.8	87.9	88.9
85°	66.9	70.4	73.9	76.1	77.3	78.4	79.6	80.7
87.5°	66.9	70.2	73.5	75.7	76.8	77.9	79.0	80.1
90°	91.6	94.3	97.2	99.2	100.4	101.7	102.9	104.1
92.5°	86.5	89.8	93.1	95.3	96.4	97.3	98.4	99.5
95°	116.5	119.6	122.8	124.6	125.1	125.6	126.1	126.6
97.5°	159.2	162.3	165.3	167.3	168.3	169.2	170.1	171.0
100°	189.0	192.1	195.1	197.0	197.6	198.3	199.0	199.7
102.5°	221.8	225.0	228.2	230.1	230.8	231.5	232.1	232.8
105°	271.1	274.5	277.9	280.0	280.9	281.8	282.7	283.6
107.5°	324.6	327.6	330.5	331.9	331.7	331.5	331.3	331.2
110°	361.1	363.7	366.3	367.8	367.9	368.2	368.4	368.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	397.6	399.7	401.8	403.0	403.4	403.7	404.1	404.6
115°	453.8	456.0	458.3	459.5	459.7	459.8	460.1	460.2
117.5°	507.9	509.8	511.7	512.7	512.8	513.0	513.1	513.2
120°	544.2	546.6	548.9	550.1	550.3	550.5	550.7	550.9
122.5°	581.8	583.5	585.1	586.1	586.4	586.6	586.9	587.2
125°	637.2	638.8	640.3	641.3	641.8	642.3	642.8	643.3
127.5°	691.0	692.2	693.4	694.0	694.0	693.9	693.9	693.9
130°	727.9	729.4	730.9	731.6	731.2	731.0	730.7	730.4
132.5°	763.8	764.7	765.6	765.9	765.8	765.7	765.6	765.6
135°	816.8	818.3	819.9	820.5	820.5	820.4	820.4	820.4
137.5°	867.6	868.9	870.3	870.7	870.4	870.0	869.6	869.3
140°	902.0	903.3	904.6	905.1	904.6	904.2	903.7	903.3
142.5°	933.4	934.6	935.8	936.2	935.7	935.1	934.7	934.2
145°	981.5	982.2	982.9	983.0	982.4	981.9	981.4	980.9
147.5°	1023.9	1024.4	1025.0	1025.0	1024.3	1023.6	1022.9	1022.2
150°	1051.2	1051.9	1052.6	1052.6	1051.9	1051.2	1050.4	1049.8
152.5°	1078.6	1079.5	1080.4	1080.4	1079.5	1078.6	1077.7	1076.8
155°	1113.5	1114.6	1115.7	1116.0	1115.3	1114.6	1113.9	1113.2
157.5°	1145.6	1147.1	1148.8	1149.0	1147.9	1146.7	1145.6	1144.4
160°	1164.7	1166.0	1167.4	1167.7	1166.8	1165.8	1164.9	1163.9
162.5°	1181.9	1183.5	1185.1	1185.4	1184.2	1183.1	1181.9	1180.9
165°	1204.2	1205.8	1207.5	1207.7	1206.6	1205.4	1204.2	1203.1
167.5°	1222.6	1224.3	1225.9	1226.1	1224.9	1223.7	1222.5	1221.2
170°	1232.7	1234.4	1236.1	1236.2	1234.8	1233.4	1231.9	1230.5
172.5°	1240.4	1242.0	1243.7	1243.7	1242.4	1241.0	1239.6	1238.1
175°	1248.6	1250.3	1251.9	1252.1	1250.6	1249.2	1247.8	1246.3
177.5°	1252.5	1253.6	1254.7	1254.7	1253.6	1252.5	1251.3	1250.2
180°	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7

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