

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: P332401-935

Luminaire Tested: **S123RDIW-S340D1030U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332401-935
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: S123RDIW-S340D1030U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4197.3 lumens
Efficiency: N/A
Efficacy: 110.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

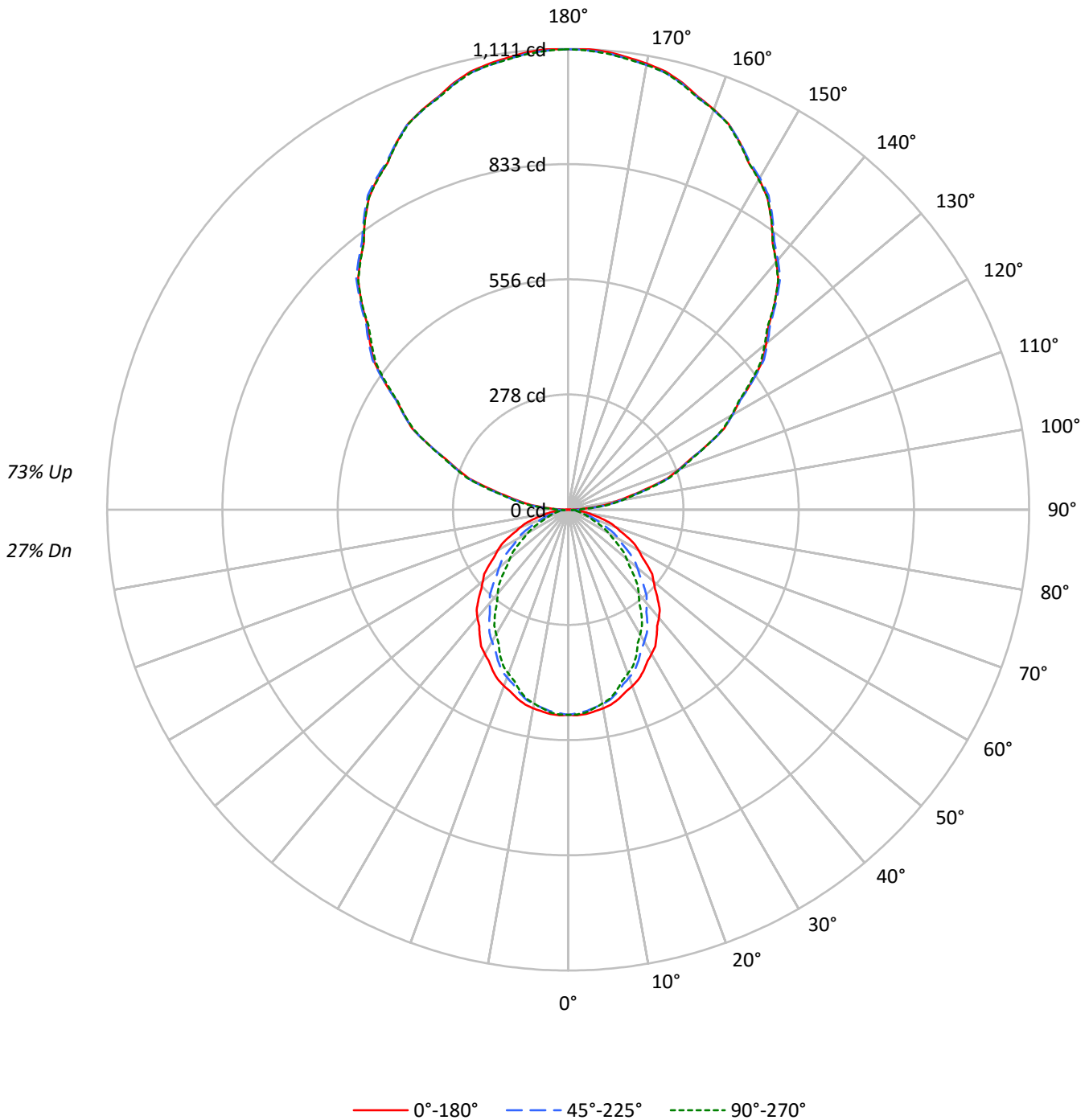
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35
1	93	89	85	82	83	79	76	73	62	60	58	46	44	43	31	30	30
2	85	78	72	67	75	69	65	60	54	51	48	40	38	36	27	26	25
3	77	68	61	56	69	61	55	51	48	44	41	36	33	31	24	23	22
4	71	60	53	47	63	54	48	43	43	38	35	32	29	27	22	20	19
5	65	54	46	40	58	48	42	37	38	33	30	29	25	23	20	18	16
6	60	48	40	35	53	43	37	32	34	29	26	26	23	20	18	16	14
7	55	43	36	30	49	39	32	28	31	26	23	23	20	18	16	14	13
8	51	39	32	27	45	35	29	24	28	23	20	21	18	16	15	13	11
9	47	36	28	24	42	32	26	22	26	21	18	20	16	14	14	12	10
10	44	33	26	21	39	30	23	19	24	19	16	18	15	13	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5324	5324	5324
5°	5344	5271	5302
10°	5314	5205	5187
15°	5258	5084	5029
20°	5179	4931	4816
25°	5099	4760	4608
30°	4992	4561	4313
35°	4882	4365	4043
40°	4780	4131	3710
45°	4647	3902	3408
50°	4501	3641	3069
55°	4352	3342	2755
60°	4215	3023	2409
65°	4037	2677	2063
70°	3811	2247	1668
75°	3489	1768	1568
80°	3106	1568	1438
85°	2631	1383	1284



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.5	1.1
10°-20°	129.2	3.1
20°-30°	186.1	4.4
30°-40°	209.6	5.0
40°-50°	200.5	4.8
50°-60°	164.2	3.9
60°-70°	110.8	2.6
70°-80°	55.7	1.3
80°-90°	18.0	0.4
90°-100°	72.4	1.7
100°-110°	216.5	5.2
110°-120°	368.3	8.8
120°-130°	484.4	11.5
130°-140°	544.4	13.0
140°-150°	535.2	12.8
150°-160°	450.5	10.7
160°-170°	299.9	7.1
170°-180°	105.0	2.5
0°-30°	361.8	8.6
0°-40°	571.4	13.6
0°-60°	936.2	22.3
0°-90°	1120.7	26.7
90°-120°	657.1	15.7
90°-150°	2221.1	52.9
90°-180°	3077.0	73.3
0°-180°	4197.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	495	495	495	495	495	
5°	495	492	488	491	491	47
15°	472	467	456	454	451	133
25°	429	419	401	393	388	197
35°	372	356	332	315	308	232
45°	305	286	256	234	224	235
55°	232	211	178	156	147	208
65°	158	136	105	86	81	157
75°	84	64	42	39	38	89
85°	21	13	11	10	10	24
90°	1	10	21	24	26	4
95°	52	58	65	68	68	58
105°	196	198	206	206	208	210
115°	371	373	372	372	372	367
125°	543	545	544	540	536	484
135°	704	709	708	705	703	542
145°	854	856	858	857	854	533
155°	978	978	979	982	976	450
165°	1065	1063	1062	1067	1062	300
175°	1108	1104	1104	1109	1104	105
180°	1110	1110	1110	1110	1110	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	496.3	495.9	495.7	495.4	495.2	494.6	493.7	492.8	492.0	491.1	491.9
5°	494.6	494.2	493.8	493.4	492.8	492.1	491.0	490.0	488.9	487.8	488.6
7.5°	490.1	489.6	489.1	488.6	488.2	487.2	485.9	484.5	483.0	481.6	482.1
10°	486.2	485.6	485.0	484.4	483.7	482.6	481.0	479.4	477.8	476.2	476.3
12.5°	480.8	480.1	479.4	478.7	478.0	476.6	474.7	472.8	470.8	468.8	468.7
15°	471.8	470.8	469.8	468.8	467.9	466.1	463.6	461.2	458.7	456.2	455.7
17.5°	460.5	459.3	458.2	457.0	455.9	453.7	450.6	447.4	444.3	441.1	440.1
20°	452.1	450.7	449.3	447.9	446.4	444.0	440.7	437.2	433.9	430.5	429.3
22.5°	442.8	441.2	439.5	437.9	436.3	433.7	430.1	426.5	422.8	419.2	417.8
25°	429.3	427.1	424.8	422.6	420.3	417.2	413.1	409.0	404.8	400.8	398.9
27.5°	412.8	410.4	407.9	405.4	402.9	399.5	394.9	390.3	385.7	381.2	378.6
30°	401.6	398.9	396.2	393.6	390.9	387.0	382.0	377.0	372.0	367.0	364.0
32.5°	390.4	387.3	384.3	381.3	378.2	374.1	368.8	363.5	358.3	352.9	349.7
35°	371.5	368.2	365.1	361.9	358.7	354.3	348.8	343.2	337.7	332.2	328.4
37.5°	352.4	348.8	345.3	341.7	338.1	333.4	327.5	321.6	315.7	309.8	305.5
40°	340.2	336.3	332.3	328.5	324.5	319.3	313.1	306.7	300.4	294.0	289.5
42.5°	326.4	322.4	318.6	314.6	310.7	305.5	298.9	292.4	285.9	279.3	274.2
45°	305.3	301.3	297.3	293.3	289.2	283.8	277.0	270.1	263.2	256.3	251.2
47.5°	284.2	279.8	275.3	271.0	266.6	261.0	254.1	247.2	240.4	233.5	228.0
50°	268.8	264.6	260.5	256.2	252.0	246.3	239.1	231.9	224.6	217.4	211.9
52.5°	255.0	250.5	245.9	241.3	236.8	230.9	223.8	216.6	209.5	202.3	196.7
55°	231.9	227.5	223.2	218.8	214.4	208.4	200.9	193.3	185.7	178.1	173.0
57.5°	210.5	205.8	201.0	196.2	191.5	185.3	177.7	170.0	162.5	154.9	150.0
60°	195.8	190.9	186.0	181.1	176.2	170.0	162.6	155.2	147.8	140.4	135.6
62.5°	181.0	176.1	171.2	166.3	161.4	155.2	147.8	140.4	133.0	125.6	121.1
65°	158.5	153.6	148.7	143.8	138.9	132.9	126.0	119.0	112.1	105.1	100.7
67.5°	136.0	131.0	126.0	121.1	116.1	110.3	103.6	96.9	90.2	83.6	80.3
70°	121.1	116.3	111.5	106.7	101.9	96.3	90.1	83.9	77.7	71.4	68.3
72.5°	106.4	101.7	96.9	92.1	87.4	82.2	76.5	70.9	65.2	59.5	57.0
75°	83.9	79.6	75.3	71.0	66.7	62.2	57.3	52.3	47.4	42.5	41.7
77.5°	63.3	59.4	55.5	51.7	47.9	44.3	41.2	38.0	34.9	31.7	31.3
80°	50.1	46.5	42.9	39.2	35.6	32.8	30.9	29.0	27.1	25.3	25.0
82.5°	37.6	34.4	31.3	28.2	25.0	23.0	22.1	21.3	20.4	19.5	19.2
85°	21.3	19.3	17.3	15.4	13.4	12.3	12.1	11.8	11.5	11.2	11.0
87.5°	7.8	7.5	7.1	6.7	6.3	6.4	6.9	7.3	7.8	8.4	8.4
90°	0.9	2.8	4.7	6.7	8.6	10.8	13.3	15.9	18.4	20.9	21.7
92.5°	21.1	22.4	23.8	25.1	26.3	27.7	29.2	30.7	32.0	33.5	34.1
95°	51.5	52.8	54.2	55.5	56.9	58.4	59.9	61.5	63.0	64.6	65.3
97.5°	91.4	92.4	93.4	94.5	95.5	96.5	97.6	98.8	99.9	101.0	101.9
100°	118.6	119.8	121.0	122.1	123.3	124.3	125.4	126.3	127.3	128.2	128.8
102.5°	150.1	150.8	151.4	152.1	152.8	153.8	155.1	156.4	157.6	158.9	159.5
105°	196.3	196.7	197.1	197.4	197.9	198.9	200.6	202.3	204.1	205.9	205.9
107.5°	250.0	250.2	250.5	250.7	250.9	251.4	252.1	252.8	253.5	254.2	254.8
110°	283.5	283.9	284.3	284.6	285.1	285.4	285.9	286.2	286.6	287.0	287.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	318.4	318.7	318.8	319.1	319.3	319.4	319.5	319.6	319.7	319.8	320.7
115°	370.7	371.3	371.9	372.5	373.1	373.2	372.7	372.4	372.0	371.6	371.8
117.5°	423.4	423.8	424.2	424.6	425.0	424.9	424.4	423.9	423.4	422.9	422.8
120°	456.2	457.4	458.6	459.7	460.9	461.0	459.9	459.0	458.1	457.1	456.8
122.5°	490.4	491.3	492.1	492.9	493.8	494.0	493.5	493.0	492.5	492.0	491.5
125°	542.6	543.1	543.7	544.3	544.9	545.0	544.6	544.2	543.8	543.5	542.7
127.5°	590.7	591.9	593.2	594.4	595.6	596.1	595.6	595.2	594.8	594.3	593.3
130°	622.8	624.4	625.9	627.5	629.0	629.5	629.0	628.4	627.8	627.2	626.4
132.5°	654.9	656.4	658.0	659.6	661.2	661.7	661.2	660.8	660.4	660.0	659.0
135°	704.0	705.1	706.3	707.4	708.6	709.0	708.9	708.7	708.5	708.3	707.5
137.5°	749.3	750.3	751.2	752.2	753.2	753.9	754.4	754.9	755.4	756.0	755.1
140°	780.7	781.7	782.6	783.6	784.5	785.1	785.3	785.6	785.7	785.9	785.7
142.5°	809.3	810.3	811.2	812.2	813.2	813.8	814.2	814.5	814.9	815.3	815.0
145°	853.9	854.4	854.7	855.1	855.5	856.0	856.6	857.2	857.7	858.3	858.2
147.5°	893.0	893.7	894.4	895.2	895.9	896.5	897.0	897.6	898.1	898.6	898.6
150°	920.2	920.7	921.0	921.4	921.8	922.2	922.6	923.0	923.3	923.8	923.8
152.5°	942.6	943.1	943.7	944.3	944.8	945.1	945.4	945.6	945.9	946.1	946.4
155°	977.8	977.8	977.8	977.8	977.8	977.9	978.1	978.4	978.5	978.7	979.5
157.5°	1007.9	1007.6	1007.4	1007.1	1006.9	1006.9	1007.0	1007.2	1007.4	1007.5	1008.3
160°	1026.7	1026.3	1025.9	1025.5	1025.1	1024.9	1024.9	1024.9	1024.9	1024.9	1025.9
162.5°	1043.4	1042.9	1042.3	1041.8	1041.3	1041.0	1041.2	1041.4	1041.6	1041.7	1042.7
165°	1065.1	1064.5	1063.9	1063.3	1062.7	1062.5	1062.5	1062.5	1062.5	1062.5	1063.6
167.5°	1082.4	1081.6	1080.8	1080.0	1079.3	1078.9	1079.1	1079.3	1079.4	1079.5	1080.7
170°	1092.1	1091.3	1090.5	1089.8	1089.0	1088.6	1088.6	1088.6	1088.6	1088.6	1089.9
172.5°	1099.8	1099.0	1098.2	1097.4	1096.7	1096.3	1096.3	1096.3	1096.3	1096.3	1097.5
175°	1107.8	1107.1	1106.3	1105.5	1104.7	1104.3	1104.3	1104.3	1104.3	1104.3	1105.5
177.5°	1111.1	1110.5	1109.9	1109.2	1108.6	1108.4	1108.4	1108.4	1108.4	1108.4	1109.2
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	492.7	493.4	494.3	494.6	494.5	494.3	494.1	494.0
5°	489.5	490.3	491.0	491.4	491.2	491.0	490.9	490.7
7.5°	482.6	483.0	483.5	483.5	483.2	482.9	482.6	482.3
10°	476.4	476.5	476.6	476.4	476.0	475.5	475.0	474.6
12.5°	468.7	468.6	468.6	468.3	467.8	467.3	466.7	466.2
15°	455.2	454.8	454.3	453.8	453.2	452.5	451.9	451.3
17.5°	439.2	438.2	437.3	436.4	435.4	434.5	433.6	432.7
20°	428.2	427.0	425.9	424.7	423.6	422.6	421.5	420.4
22.5°	416.4	414.9	413.5	412.2	411.2	410.3	409.2	408.3
25°	397.0	395.2	393.3	391.8	390.9	389.9	388.9	388.0
27.5°	376.0	373.4	370.8	368.8	367.2	365.8	364.3	362.7
30°	361.0	358.0	355.0	352.8	351.3	349.9	348.4	347.0
32.5°	346.3	343.0	339.7	337.3	335.8	334.3	332.8	331.3
35°	324.5	320.6	316.8	314.1	312.5	310.9	309.3	307.7
37.5°	301.1	296.7	292.4	289.2	287.2	285.2	283.3	281.3
40°	284.8	280.2	275.5	272.2	270.1	268.1	266.0	264.0
42.5°	269.1	264.2	259.1	255.6	253.7	251.9	250.1	248.2
45°	246.2	241.1	236.0	232.4	230.3	228.2	226.0	223.9
47.5°	222.4	216.9	211.4	207.7	205.8	203.9	201.9	200.0
50°	206.4	200.9	195.4	191.6	189.5	187.4	185.4	183.3
52.5°	190.9	185.1	179.4	175.6	173.7	171.9	170.1	168.2
55°	167.8	162.6	157.5	153.9	152.2	150.4	148.6	146.8
57.5°	145.1	140.2	135.3	132.1	130.6	129.1	127.6	126.1
60°	130.8	126.0	121.1	118.0	116.5	114.9	113.5	111.9
62.5°	116.6	112.1	107.5	104.4	102.9	101.3	99.7	98.2
65°	96.3	92.0	87.6	85.0	83.9	83.0	82.1	81.0
67.5°	77.1	73.8	70.5	68.4	67.3	66.3	65.3	64.2
70°	65.2	62.1	58.9	56.9	55.9	54.9	53.9	53.0
72.5°	54.4	51.9	49.3	47.9	47.4	47.0	46.7	46.2
75°	40.7	39.9	38.9	38.4	38.2	38.1	37.9	37.7
77.5°	30.7	30.2	29.8	29.4	29.3	29.1	28.9	28.8
80°	24.7	24.5	24.2	24.0	23.8	23.6	23.4	23.2
82.5°	18.9	18.7	18.4	18.3	18.3	18.2	18.2	18.2
85°	10.8	10.7	10.5	10.4	10.4	10.4	10.4	10.4
87.5°	8.5	8.6	8.7	8.8	8.8	8.8	8.8	8.8
90°	22.5	23.2	24.0	24.6	25.0	25.4	25.7	26.2
92.5°	34.7	35.4	36.0	36.2	35.9	35.7	35.5	35.2
95°	66.1	66.9	67.7	68.0	68.0	68.0	68.0	68.0
97.5°	102.8	103.7	104.6	105.0	104.9	104.9	104.8	104.7
100°	129.4	130.0	130.5	131.0	131.4	131.8	132.2	132.6
102.5°	160.1	160.7	161.3	161.5	161.4	161.4	161.3	161.2
105°	205.9	205.9	205.9	206.0	206.5	206.8	207.2	207.6
107.5°	255.5	256.1	256.7	256.8	256.7	256.4	256.1	255.9
110°	288.5	289.3	290.1	290.2	289.9	289.5	289.1	288.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.7	322.5	323.5	323.9	323.8	323.7	323.7	323.6
115°	372.0	372.2	372.4	372.4	372.2	372.0	371.8	371.6
117.5°	422.8	422.8	422.8	422.4	421.9	421.4	420.8	420.3
120°	456.7	456.5	456.3	456.0	455.6	455.2	454.9	454.4
122.5°	490.9	490.4	490.0	489.4	488.9	488.4	487.8	487.2
125°	541.9	541.1	540.4	539.6	538.8	538.0	537.3	536.5
127.5°	592.2	591.2	590.0	589.0	588.1	587.3	586.3	585.5
130°	625.6	624.8	624.1	623.0	621.6	620.3	619.0	617.6
132.5°	658.1	657.2	656.3	655.3	654.2	653.2	652.1	651.1
135°	706.7	705.9	705.2	704.6	704.2	703.9	703.4	703.1
137.5°	754.3	753.5	752.7	751.9	751.1	750.4	749.7	749.0
140°	785.6	785.3	785.1	784.4	783.0	781.7	780.3	778.9
142.5°	814.9	814.7	814.5	813.8	812.8	811.8	810.7	809.7
145°	858.0	857.7	857.6	857.0	856.3	855.5	854.7	853.9
147.5°	898.6	898.6	898.6	898.0	896.9	895.7	894.6	893.4
150°	923.8	923.8	923.8	923.2	922.0	920.8	919.7	918.5
152.5°	946.7	947.0	947.4	947.0	946.0	944.9	943.9	943.0
155°	980.2	981.0	981.8	981.5	980.2	978.8	977.5	976.1
157.5°	1009.1	1010.0	1010.7	1010.6	1009.5	1008.5	1007.4	1006.3
160°	1026.9	1027.9	1028.8	1028.9	1028.1	1027.3	1026.6	1025.8
162.5°	1043.6	1044.6	1045.6	1045.4	1044.2	1042.9	1041.7	1040.4
165°	1064.8	1065.9	1067.1	1067.0	1065.7	1064.3	1062.9	1061.6
167.5°	1081.9	1083.1	1084.3	1084.3	1083.1	1081.9	1080.7	1079.5
170°	1091.3	1092.7	1094.1	1094.1	1092.7	1091.3	1089.9	1088.6
172.5°	1098.7	1099.9	1101.1	1101.0	1099.7	1098.3	1096.9	1095.6
175°	1106.6	1107.8	1109.0	1108.9	1107.5	1106.1	1104.8	1103.5
177.5°	1110.2	1111.1	1112.1	1112.0	1110.9	1109.8	1108.7	1107.7
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4

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