

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: P332262-940

Luminaire Tested: **S123RDIP-S340D1025U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332262-940
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: S123RDIP-S340D1025U940-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4300.1 lumens
Efficiency: N/A
Efficacy: 115.3 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

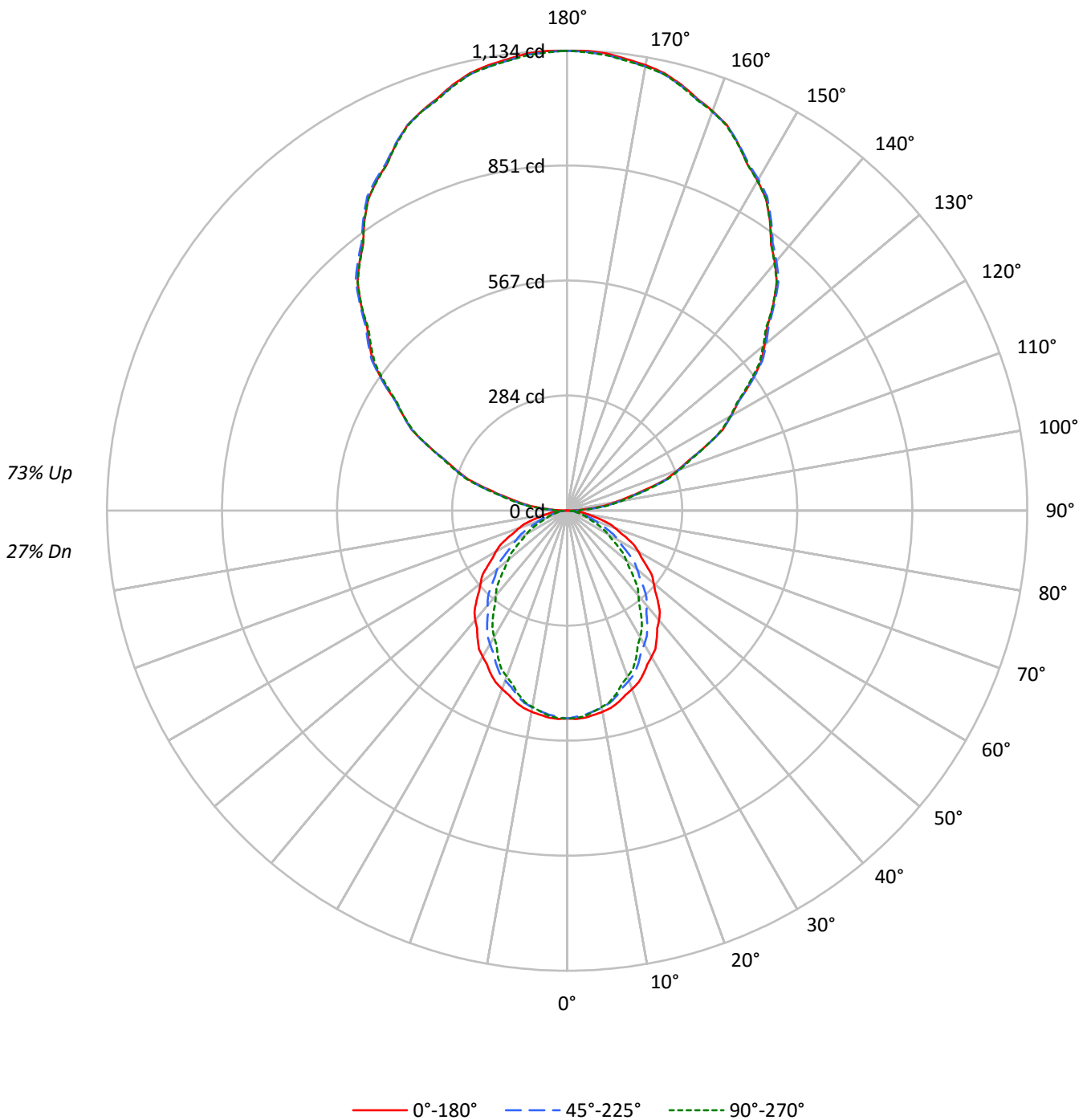
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	71	71	71	52	52	52	35	35	35	27
1	93	89	85	82	83	79	76	74	62	60	58	46	45	43	31	30	30	23
2	85	78	72	67	75	70	65	61	54	51	48	40	38	37	28	26	25	20
3	77	68	61	56	69	61	55	51	48	44	41	36	33	31	25	23	22	17
4	71	60	53	47	63	54	48	43	43	38	35	32	29	27	22	20	19	15
5	65	54	46	40	58	48	42	37	38	33	30	29	26	23	20	18	16	13
6	60	48	40	35	53	43	37	32	34	30	26	26	23	20	18	16	15	11
7	55	43	36	30	49	39	33	28	31	26	23	24	20	18	17	14	13	10
8	51	39	32	27	45	35	29	25	28	24	20	22	18	16	15	13	12	9
9	47	36	29	24	42	32	26	22	26	21	18	20	17	14	14	12	10	8
10	44	33	26	21	39	30	24	19	24	19	16	18	15	13	13	11	10	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5514	5514	5514
5°	5535	5459	5491
10°	5503	5391	5372
15°	5446	5264	5209
20°	5363	5108	4987
25°	5280	4930	4772
30°	5169	4724	4467
35°	5056	4520	4188
40°	4950	4279	3842
45°	4813	4042	3529
50°	4662	3771	3178
55°	4506	3462	2852
60°	4366	3130	2495
65°	4182	2774	2137
70°	3950	2326	1725
75°	3614	1834	1626
80°	3217	1624	1494
85°	2717	1433	1334



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	1.1
10°-20°	133.9	3.1
20°-30°	192.7	4.5
30°-40°	217.1	5.0
40°-50°	207.7	4.8
50°-60°	170.1	4.0
60°-70°	114.8	2.7
70°-80°	57.7	1.3
80°-90°	18.6	0.4
90°-100°	73.8	1.7
100°-110°	220.9	5.1
110°-120°	375.8	8.7
120°-130°	494.3	11.5
130°-140°	555.6	12.9
140°-150°	546.1	12.7
150°-160°	459.7	10.7
160°-170°	306.0	7.1
170°-180°	107.2	2.5
0°-30°	374.7	8.7
0°-40°	591.8	13.8
0°-60°	969.6	22.5
0°-90°	1160.7	27.0
90°-120°	670.6	15.6
90°-150°	2266.5	52.7
90°-180°	3139.0	73.0
0°-180°	4300.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	512	512	512	512	512	
5°	512	510	505	509	508	49
15°	489	484	472	470	467	138
25°	445	434	415	407	402	204
35°	385	369	344	327	319	241
45°	316	297	266	243	232	244
55°	240	219	184	161	152	215
65°	164	141	109	89	84	162
75°	87	67	44	40	39	93
85°	22	13	12	11	11	25
90°	1	10	21	25	27	4
95°	52	59	66	69	70	59
105°	200	202	210	210	212	214
115°	378	381	379	380	379	374
125°	554	556	555	551	547	494
135°	718	723	723	719	718	553
145°	871	873	876	875	871	544
155°	998	998	999	1002	996	459
165°	1087	1084	1084	1089	1083	306
175°	1130	1127	1127	1132	1126	107
180°	1133	1133	1133	1133	1133	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3
2.5°	514.0	513.6	513.4	513.1	512.8	512.2	511.3	510.4	509.5	508.6	509.4
5°	512.3	511.8	511.4	511.0	510.4	509.7	508.5	507.5	506.3	505.2	506.0
7.5°	507.6	507.0	506.6	506.0	505.6	504.6	503.2	501.8	500.2	498.8	499.3
10°	503.5	502.9	502.3	501.7	501.0	499.8	498.2	496.5	494.8	493.2	493.3
12.5°	497.9	497.2	496.5	495.8	495.1	493.7	491.6	489.6	487.6	485.5	485.4
15°	488.7	487.6	486.6	485.5	484.6	482.8	480.2	477.6	475.0	472.4	472.0
17.5°	476.9	475.7	474.6	473.3	472.2	469.9	466.6	463.3	460.1	456.8	455.8
20°	468.2	466.8	465.3	463.9	462.4	459.9	456.4	452.8	449.3	445.9	444.6
22.5°	458.6	456.9	455.2	453.5	451.8	449.2	445.4	441.7	437.9	434.2	432.7
25°	444.6	442.3	440.0	437.7	435.3	432.0	427.8	423.6	419.3	415.1	413.1
27.5°	427.6	425.0	422.4	419.9	417.3	413.8	409.0	404.2	399.5	394.8	392.1
30°	415.9	413.1	410.4	407.6	404.8	400.8	395.7	390.5	385.3	380.1	377.0
32.5°	404.3	401.1	398.0	394.8	391.7	387.4	381.9	376.5	371.0	365.5	362.1
35°	384.8	381.4	378.1	374.8	371.5	366.9	361.2	355.4	349.7	344.0	340.1
37.5°	365.0	361.2	357.6	353.9	350.2	345.3	339.2	333.1	327.0	320.8	316.4
40°	352.3	348.3	344.2	340.2	336.1	330.7	324.2	317.6	311.1	304.5	299.8
42.5°	338.0	333.9	329.9	325.8	321.8	316.4	309.6	302.8	296.0	289.3	284.0
45°	316.2	312.0	307.9	303.7	299.5	293.9	286.9	279.7	272.6	265.5	260.2
47.5°	294.4	289.8	285.2	280.6	276.1	270.3	263.1	256.0	249.0	241.8	236.1
50°	278.4	274.0	269.7	265.4	261.0	255.1	247.6	240.1	232.6	225.2	219.5
52.5°	264.1	259.4	254.7	249.9	245.2	239.2	231.8	224.4	217.0	209.6	203.7
55°	240.1	235.6	231.1	226.6	222.0	215.9	208.0	200.2	192.3	184.5	179.1
57.5°	218.0	213.1	208.2	203.2	198.3	191.9	184.0	176.1	168.3	160.4	155.3
60°	202.8	197.7	192.6	187.5	182.4	176.1	168.4	160.8	153.1	145.4	140.4
62.5°	187.4	182.4	177.3	172.3	167.2	160.8	153.1	145.4	137.8	130.1	125.5
65°	164.2	159.1	154.0	148.9	143.8	137.7	130.5	123.2	116.1	108.9	104.3
67.5°	140.8	135.6	130.5	125.4	120.2	114.2	107.3	100.4	93.5	86.6	83.2
70°	125.5	120.5	115.5	110.5	105.6	99.8	93.4	86.9	80.4	73.9	70.7
72.5°	110.2	105.3	100.4	95.4	90.5	85.2	79.3	73.4	67.5	61.6	59.0
75°	86.9	82.4	77.9	73.6	69.1	64.4	59.3	54.2	49.1	44.1	43.2
77.5°	65.5	61.5	57.5	53.5	49.6	45.9	42.6	39.3	36.1	32.8	32.4
80°	51.9	48.2	44.4	40.6	36.8	34.0	32.0	30.1	28.1	26.2	25.9
82.5°	39.0	35.7	32.5	29.2	25.9	23.8	22.9	22.0	21.1	20.2	19.9
85°	22.0	20.0	17.9	16.0	13.9	12.8	12.5	12.2	11.9	11.6	11.4
87.5°	8.1	7.8	7.3	6.9	6.5	6.5	7.0	7.6	8.1	8.6	8.6
90°	0.9	2.9	4.8	6.9	8.8	11.1	13.6	16.2	18.8	21.4	22.1
92.5°	21.6	22.9	24.3	25.6	26.9	28.4	29.8	31.2	32.7	34.2	34.8
95°	52.5	53.9	55.3	56.7	58.1	59.6	61.1	62.7	64.3	65.9	66.7
97.5°	93.3	94.3	95.3	96.4	97.4	98.4	99.6	100.8	101.9	103.1	104.0
100°	121.1	122.3	123.4	124.6	125.8	126.9	127.9	128.9	129.8	130.8	131.4
102.5°	153.1	153.8	154.5	155.2	156.0	156.9	158.3	159.5	160.9	162.2	162.7
105°	200.3	200.6	201.1	201.4	201.9	203.0	204.7	206.5	208.3	210.1	210.1
107.5°	255.1	255.4	255.6	255.8	256.1	256.5	257.3	258.0	258.7	259.4	260.0
110°	289.3	289.7	290.1	290.4	290.9	291.2	291.7	292.0	292.5	292.8	293.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	324.9	325.1	325.4	325.6	325.8	326.0	326.1	326.2	326.3	326.3	327.3
115°	378.3	378.9	379.5	380.0	380.7	380.8	380.4	380.0	379.6	379.2	379.4
117.5°	432.0	432.5	432.8	433.3	433.6	433.5	433.1	432.6	432.0	431.5	431.5
120°	465.6	466.7	467.9	469.1	470.3	470.4	469.4	468.4	467.4	466.5	466.2
122.5°	500.4	501.3	502.1	503.0	503.9	504.1	503.5	503.0	502.6	502.0	501.5
125°	553.7	554.3	554.8	555.4	556.0	556.2	555.7	555.4	554.9	554.6	553.8
127.5°	602.8	604.0	605.3	606.5	607.9	608.2	607.8	607.4	607.0	606.5	605.4
130°	635.5	637.1	638.7	640.2	641.9	642.4	641.8	641.1	640.6	640.0	639.2
132.5°	668.3	669.9	671.5	673.1	674.7	675.2	674.8	674.3	673.9	673.4	672.5
135°	718.4	719.5	720.7	721.8	723.1	723.5	723.4	723.2	723.0	722.7	722.0
137.5°	764.6	765.6	766.6	767.6	768.6	769.3	769.8	770.3	770.9	771.3	770.5
140°	796.7	797.6	798.6	799.6	800.6	801.2	801.4	801.6	801.8	802.0	801.8
142.5°	825.8	826.8	827.9	828.8	829.8	830.5	830.8	831.2	831.5	831.9	831.7
145°	871.4	871.8	872.2	872.6	873.0	873.5	874.1	874.7	875.3	875.8	875.7
147.5°	911.3	912.0	912.8	913.5	914.2	914.8	915.3	915.9	916.4	917.0	917.0
150°	939.1	939.5	939.9	940.2	940.7	941.0	941.5	941.8	942.3	942.6	942.6
152.5°	961.9	962.4	963.0	963.5	964.0	964.5	964.7	964.9	965.2	965.5	965.7
155°	997.8	997.8	997.8	997.8	997.8	997.9	998.1	998.3	998.5	998.7	999.5
157.5°	1028.4	1028.2	1028.0	1027.7	1027.5	1027.4	1027.6	1027.8	1028.0	1028.1	1028.9
160°	1047.7	1047.2	1046.9	1046.5	1046.1	1045.9	1045.9	1045.9	1045.9	1045.9	1046.9
162.5°	1064.8	1064.2	1063.6	1063.1	1062.6	1062.4	1062.5	1062.7	1062.8	1063.0	1064.0
165°	1086.8	1086.2	1085.7	1085.0	1084.5	1084.1	1084.1	1084.1	1084.1	1084.1	1085.3
167.5°	1104.5	1103.7	1102.9	1102.1	1101.3	1101.0	1101.2	1101.3	1101.4	1101.6	1102.9
170°	1114.5	1113.7	1112.9	1112.1	1111.3	1110.9	1110.9	1110.9	1110.9	1110.9	1112.2
172.5°	1122.2	1121.5	1120.7	1119.9	1119.1	1118.7	1118.7	1118.7	1118.7	1118.7	1119.9
175°	1130.4	1129.6	1128.8	1128.1	1127.3	1126.9	1126.9	1126.9	1126.9	1126.9	1128.1
177.5°	1133.8	1133.2	1132.6	1131.9	1131.3	1131.0	1131.0	1131.0	1131.0	1131.0	1131.9
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3
2.5°	510.2	511.0	511.9	512.2	512.1	511.9	511.8	511.7
5°	506.9	507.7	508.5	508.9	508.7	508.5	508.4	508.2
7.5°	499.8	500.2	500.7	500.8	500.4	500.2	499.8	499.5
10°	493.4	493.5	493.6	493.4	492.9	492.5	492.0	491.5
12.5°	485.4	485.4	485.4	485.0	484.5	483.9	483.4	482.9
15°	471.4	471.0	470.6	470.0	469.4	468.7	468.1	467.4
17.5°	454.9	453.9	452.9	451.9	450.9	450.0	449.1	448.1
20°	443.4	442.2	441.0	439.9	438.7	437.7	436.6	435.4
22.5°	431.2	429.7	428.2	427.0	425.9	424.9	423.8	422.8
25°	411.2	409.3	407.3	405.8	404.8	403.9	402.8	401.8
27.5°	389.4	386.7	384.1	381.9	380.3	378.8	377.3	375.7
30°	373.9	370.8	367.7	365.3	363.8	362.4	360.9	359.4
32.5°	358.6	355.3	351.8	349.3	347.8	346.3	344.6	343.1
35°	336.1	332.1	328.1	325.3	323.7	322.0	320.3	318.7
37.5°	311.8	307.3	302.8	299.5	297.5	295.4	293.4	291.3
40°	295.0	290.2	285.3	281.9	279.7	277.7	275.5	273.4
42.5°	278.7	273.6	268.3	264.7	262.8	260.9	259.0	257.1
45°	254.9	249.7	244.4	240.7	238.5	236.3	234.1	231.8
47.5°	230.3	224.6	218.9	215.1	213.1	211.2	209.1	207.1
50°	213.7	208.0	202.3	198.4	196.3	194.1	192.0	189.8
52.5°	197.7	191.7	185.8	181.9	179.9	178.1	176.2	174.2
55°	173.8	168.4	163.1	159.4	157.7	155.8	153.9	152.0
57.5°	150.3	145.2	140.2	136.8	135.3	133.7	132.2	130.5
60°	135.5	130.5	125.5	122.2	120.6	119.0	117.5	115.9
62.5°	120.7	116.1	111.4	108.2	106.6	105.0	103.3	101.7
65°	99.8	95.3	90.8	88.0	86.9	86.0	85.0	83.9
67.5°	79.8	76.4	73.0	70.8	69.7	68.7	67.6	66.5
70°	67.5	64.3	61.0	58.9	57.9	56.9	55.8	54.8
72.5°	56.4	53.8	51.1	49.6	49.1	48.7	48.3	47.9
75°	42.2	41.3	40.3	39.8	39.6	39.4	39.2	39.1
77.5°	31.8	31.3	30.9	30.5	30.3	30.1	30.0	29.8
80°	25.6	25.3	25.1	24.9	24.6	24.4	24.3	24.1
82.5°	19.6	19.4	19.1	18.9	18.9	18.8	18.8	18.8
85°	11.2	11.1	10.9	10.8	10.8	10.8	10.8	10.8
87.5°	8.7	8.8	8.9	9.0	9.0	9.0	9.0	9.0
90°	22.9	23.7	24.5	25.1	25.5	25.9	26.3	26.7
92.5°	35.5	36.1	36.7	36.9	36.6	36.5	36.2	35.9
95°	67.4	68.2	69.0	69.5	69.5	69.5	69.5	69.5
97.5°	104.9	105.8	106.7	107.1	107.1	107.0	106.9	106.8
100°	132.1	132.6	133.2	133.8	134.1	134.5	134.9	135.3
102.5°	163.4	164.0	164.5	164.8	164.7	164.6	164.6	164.5
105°	210.1	210.1	210.1	210.3	210.6	211.1	211.4	211.9
107.5°	260.6	261.3	261.9	262.1	261.9	261.6	261.4	261.2
110°	294.4	295.2	296.0	296.2	295.8	295.4	295.1	294.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	328.2	329.1	330.1	330.6	330.5	330.4	330.3	330.2
115°	379.6	379.8	380.0	380.0	379.8	379.6	379.4	379.2
117.5°	431.4	431.4	431.4	431.1	430.5	430.0	429.4	428.8
120°	466.0	465.8	465.7	465.3	464.9	464.6	464.1	463.8
122.5°	501.0	500.5	500.0	499.4	498.9	498.3	497.8	497.2
125°	552.9	552.1	551.3	550.5	549.8	549.0	548.2	547.4
127.5°	604.3	603.2	602.1	601.1	600.2	599.2	598.3	597.4
130°	638.4	637.6	636.9	635.7	634.4	632.9	631.6	630.2
132.5°	671.5	670.7	669.7	668.7	667.6	666.6	665.5	664.4
135°	721.2	720.4	719.6	719.0	718.6	718.2	717.8	717.5
137.5°	769.7	768.9	768.0	767.2	766.5	765.7	765.0	764.3
140°	801.6	801.4	801.2	800.4	799.1	797.6	796.3	794.9
142.5°	831.5	831.3	831.1	830.5	829.4	828.3	827.2	826.2
145°	875.5	875.3	875.0	874.6	873.8	873.0	872.2	871.4
147.5°	917.0	917.0	917.0	916.4	915.3	914.0	912.8	911.7
150°	942.6	942.6	942.6	942.0	940.8	939.7	938.4	937.3
152.5°	966.1	966.3	966.7	966.3	965.3	964.3	963.2	962.2
155°	1000.3	1001.1	1001.8	1001.6	1000.2	998.8	997.4	996.0
157.5°	1029.7	1030.6	1031.4	1031.3	1030.2	1029.0	1028.0	1026.8
160°	1047.8	1048.8	1049.8	1049.9	1049.2	1048.4	1047.6	1046.8
162.5°	1065.0	1066.0	1066.9	1066.8	1065.5	1064.3	1063.0	1061.8
165°	1086.5	1087.7	1088.9	1088.8	1087.4	1086.0	1084.7	1083.3
167.5°	1104.0	1105.3	1106.5	1106.5	1105.3	1104.0	1102.9	1101.6
170°	1113.7	1115.0	1116.4	1116.4	1115.0	1113.7	1112.2	1110.9
172.5°	1121.1	1122.4	1123.6	1123.6	1122.1	1120.8	1119.4	1117.9
175°	1129.3	1130.4	1131.7	1131.5	1130.2	1128.7	1127.4	1126.0
177.5°	1132.9	1133.8	1134.8	1134.7	1133.6	1132.5	1131.4	1130.2
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1

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