

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: P331896-940

Luminaire Tested: **S123DIP-S340D1025U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331896-940
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: S123DIP-S340D1025U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4424.5 lumens
Efficiency: N/A
Efficacy: 118.6 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

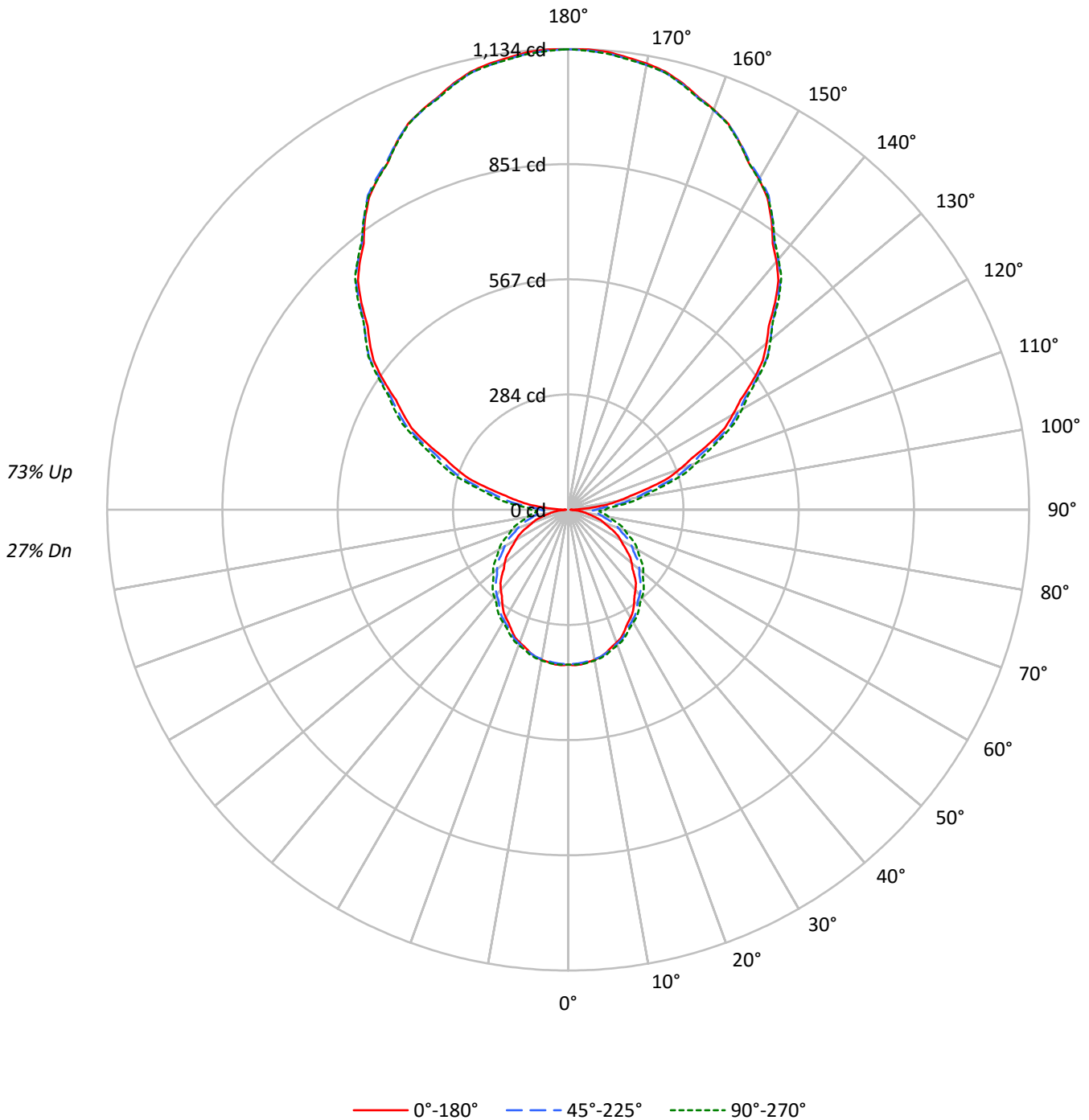
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	70	70	70	52	52	52	35	35	35	27
1	92	88	84	80	82	78	75	72	61	58	56	45	43	42	30	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	23	21	19	14
4	69	59	51	45	61	53	46	41	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	47	40	35	36	32	28	27	24	21	18	16	14	11
6	58	46	39	33	52	42	35	30	33	28	24	24	21	18	16	14	13	9
7	54	42	34	29	48	38	31	26	29	25	21	22	18	16	15	13	11	8
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	11	10	7
9	46	34	27	22	41	31	25	20	24	20	16	18	15	13	12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	15	17	14	11	12	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4105	4105	4105
5°	4118	4002	4004
10°	4082	3910	3890
15°	4029	3805	3766
20°	3954	3686	3630
25°	3860	3549	3485
30°	3767	3425	3339
35°	3659	3294	3223
40°	3557	3175	3098
45°	3445	3060	2998
50°	3333	2947	2888
55°	3211	2831	2789
60°	3090	2713	2689
65°	2967	2588	2567
70°	2783	2448	2443
75°	2551	2287	2318
80°	2278	2128	2175
85°	2025	2018	2090



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.2	0.8
10°-20°	103.1	2.3
20°-30°	154.2	3.5
30°-40°	184.1	4.2
40°-50°	192.6	4.4
50°-60°	180.7	4.1
60°-70°	151.0	3.4
70°-80°	108.0	2.4
80°-90°	67.8	1.5
90°-100°	114.3	2.6
100°-110°	250.6	5.7
110°-120°	395.6	8.9
120°-130°	505.6	11.4
130°-140°	560.7	12.7
140°-150°	547.2	12.4
150°-160°	459.8	10.4
160°-170°	306.0	6.9
170°-180°	107.2	2.4
0°-30°	293.4	6.6
0°-40°	477.5	10.8
0°-60°	850.9	19.2
0°-90°	1177.6	26.6
90°-120°	760.5	17.2
90°-150°	2374.0	53.7
90°-180°	3247.0	73.4
0°-180°	4424.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	381	381	381	381	381	
5°	382	381	378	382	381	36
15°	364	365	364	368	368	102
25°	328	332	334	339	339	151
35°	282	289	295	301	302	177
45°	231	241	251	259	263	178
55°	176	190	205	216	219	158
65°	122	138	156	168	173	120
75°	66	86	106	120	125	71
85°	20	41	63	77	81	21
90°	6	36	68	85	92	7
95°	57	80	107	123	128	63
105°	204	216	241	253	258	218
115°	380	388	401	412	414	376
125°	555	558	568	573	572	495
135°	719	724	728	731	732	554
145°	872	873	876	878	876	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°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	383.1	382.9	382.6	382.5	382.2	381.8	381.2	380.6	380.0	379.4	380.0
5°	381.8	381.7	381.5	381.3	381.1	380.8	380.1	379.6	379.1	378.5	379.2
7.5°	378.1	378.2	378.2	378.2	378.3	378.0	377.5	376.9	376.4	375.9	376.7
10°	374.8	375.0	375.1	375.3	375.5	375.4	374.9	374.4	374.0	373.5	374.4
12.5°	370.8	371.0	371.3	371.6	371.8	371.8	371.5	371.1	370.9	370.5	371.4
15°	363.6	363.8	364.1	364.4	364.6	364.8	364.6	364.5	364.4	364.4	365.3
17.5°	354.5	355.0	355.5	356.1	356.6	356.9	356.9	356.8	356.8	356.8	357.6
20°	347.8	348.3	348.8	349.5	350.0	350.4	350.5	350.7	350.9	351.1	352.0
22.5°	340.8	341.3	341.9	342.4	343.0	343.4	343.7	343.9	344.2	344.5	345.5
25°	328.2	329.1	330.1	331.0	331.9	332.5	332.8	333.1	333.3	333.7	334.8
27.5°	315.6	316.6	317.7	318.8	319.9	320.7	321.2	321.8	322.4	323.0	324.0
30°	306.7	307.8	309.1	310.2	311.5	312.4	313.2	313.9	314.6	315.4	316.5
32.5°	296.7	298.0	299.3	300.7	302.0	303.2	304.2	305.1	306.1	307.0	308.3
35°	282.5	284.0	285.5	287.0	288.5	289.8	291.0	292.2	293.4	294.6	296.0
37.5°	267.6	269.2	270.9	272.6	274.2	275.8	277.2	278.7	280.3	281.7	283.3
40°	257.6	259.3	260.9	262.6	264.2	266.0	267.9	269.7	271.5	273.4	275.0
42.5°	246.6	248.7	250.7	252.7	254.8	256.7	258.7	260.6	262.5	264.4	266.2
45°	231.0	233.3	235.4	237.6	239.9	242.1	244.4	246.7	249.1	251.4	253.2
47.5°	214.6	217.1	219.6	222.2	224.7	227.3	229.9	232.6	235.1	237.8	239.8
50°	204.0	206.6	209.2	211.8	214.4	217.0	219.9	222.8	225.7	228.5	230.7
52.5°	192.7	195.5	198.1	200.9	203.7	206.6	209.7	212.9	216.1	219.2	221.4
55°	176.2	179.2	182.3	185.3	188.3	191.5	194.8	198.2	201.5	204.8	207.3
57.5°	160.1	163.2	166.4	169.6	172.7	176.2	179.8	183.4	187.1	190.7	193.2
60°	148.7	152.0	155.4	158.7	162.0	165.6	169.4	173.2	176.9	180.7	183.3
62.5°	138.1	141.5	144.9	148.3	151.7	155.4	159.4	163.5	167.5	171.5	174.0
65°	121.7	125.4	128.9	132.5	136.2	140.0	144.0	148.1	152.1	156.2	159.0
67.5°	105.1	109.0	112.8	116.5	120.4	124.4	128.5	132.7	136.8	141.0	143.9
70°	93.5	97.5	101.4	105.4	109.3	113.6	118.0	122.4	126.9	131.3	134.3
72.5°	82.8	86.9	90.8	94.8	98.7	103.0	107.5	112.2	116.7	121.4	124.4
75°	66.1	70.4	74.7	79.1	83.5	87.9	92.6	97.1	101.7	106.4	109.4
77.5°	51.5	55.8	60.2	64.6	68.9	73.5	78.1	82.8	87.4	92.1	95.3
80°	41.1	45.7	50.2	54.8	59.2	63.9	68.7	73.5	78.3	83.1	86.2
82.5°	32.2	36.7	41.4	45.9	50.6	55.3	60.2	65.0	69.9	74.8	77.9
85°	20.3	25.0	29.6	34.2	38.8	43.6	48.5	53.3	58.2	63.1	66.3
87.5°	11.2	16.2	21.2	26.2	31.2	36.3	41.6	46.7	52.0	57.2	60.5
90°	6.3	12.8	19.3	25.8	32.3	39.2	46.5	53.8	61.0	68.3	72.2
92.5°	26.6	32.0	37.5	42.9	48.3	54.0	60.2	66.3	72.4	78.5	82.1
95°	57.1	62.1	67.1	72.1	77.0	82.6	88.7	94.8	100.9	107.0	110.7
97.5°	97.4	101.7	105.9	110.2	114.5	119.3	124.8	130.3	135.7	141.2	144.9
100°	124.8	128.9	133.0	137.2	141.3	146.1	151.3	156.5	161.8	167.0	170.2
102.5°	156.5	159.9	163.3	166.7	170.0	174.4	179.9	185.4	190.8	196.4	199.6
105°	203.6	206.3	208.8	211.4	214.0	218.2	224.0	229.7	235.5	241.2	243.8
107.5°	258.0	260.0	262.2	264.3	266.4	269.7	274.2	278.7	283.1	287.7	290.7
110°	291.8	293.8	295.9	297.9	300.0	303.1	307.2	311.3	315.3	319.4	322.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	327.3	329.0	330.6	332.2	333.8	336.4	340.0	343.7	347.3	350.9	354.2
115°	380.4	382.1	383.8	385.5	387.2	389.5	392.4	395.4	398.2	401.2	403.6
117.5°	434.1	435.2	436.2	437.3	438.4	440.2	442.8	445.4	448.0	450.7	452.8
120°	467.2	468.9	470.5	472.2	473.8	475.6	477.7	479.7	481.8	483.8	485.8
122.5°	502.1	503.2	504.3	505.4	506.5	508.3	510.7	513.0	515.4	517.8	519.3
125°	554.9	555.4	556.1	556.7	557.2	558.7	561.0	563.3	565.5	567.8	569.0
127.5°	604.0	605.2	606.4	607.5	608.7	610.2	612.0	613.8	615.5	617.3	618.0
130°	636.8	638.3	639.8	641.2	642.7	644.1	645.3	646.7	647.9	649.2	650.1
132.5°	669.2	670.7	672.3	673.9	675.5	676.8	677.8	678.9	679.9	680.9	681.7
135°	719.2	720.2	721.3	722.5	723.5	724.5	725.3	726.1	726.9	727.7	728.6
137.5°	765.4	766.2	767.2	768.1	769.0	770.0	771.1	772.2	773.3	774.4	775.0
140°	797.1	798.1	799.1	800.0	801.0	801.7	802.3	802.7	803.2	803.6	804.9
142.5°	826.3	827.2	828.1	829.0	829.9	830.6	831.0	831.4	831.8	832.2	833.3
145°	871.8	872.2	872.4	872.7	873.1	873.5	874.1	874.7	875.3	875.8	876.4
147.5°	911.3	912.0	912.8	913.5	914.2	914.8	915.3	915.9	916.4	917.0	917.2
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°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	380.6	381.2	381.8	382.0	382.0	381.9	381.8	381.7
5°	380.0	380.8	381.5	381.8	381.7	381.6	381.5	381.4
7.5°	377.7	378.6	379.5	380.0	379.9	379.7	379.6	379.5
10°	375.4	376.3	377.2	377.6	377.4	377.2	377.0	376.8
12.5°	372.2	373.1	373.9	374.3	374.1	373.9	373.7	373.5
15°	366.2	367.1	368.1	368.5	368.4	368.3	368.2	368.1
17.5°	358.4	359.3	360.1	360.4	360.3	360.2	360.1	359.9
20°	352.8	353.6	354.5	354.9	355.0	355.1	355.2	355.3
22.5°	346.5	347.6	348.7	349.2	349.1	349.0	349.0	348.9
25°	336.0	337.2	338.4	339.0	339.0	339.0	339.0	339.0
27.5°	325.0	326.1	327.2	327.7	327.8	327.9	327.9	328.0
30°	317.5	318.7	319.8	320.3	320.3	320.3	320.3	320.3
32.5°	309.4	310.6	311.7	312.5	312.7	312.9	313.2	313.3
35°	297.4	298.7	300.1	301.0	301.4	301.8	302.1	302.5
37.5°	284.8	286.4	288.0	288.9	289.2	289.5	289.8	290.1
40°	276.5	278.1	279.6	280.6	281.0	281.4	281.8	282.1
42.5°	267.9	269.6	271.3	272.4	273.0	273.4	273.9	274.5
45°	254.9	256.6	258.4	259.7	260.4	261.1	261.9	262.6
47.5°	241.7	243.8	245.8	247.0	247.5	248.2	248.7	249.3
50°	232.7	234.9	237.0	238.4	239.1	239.7	240.3	241.0
52.5°	223.6	225.8	228.0	229.5	230.3	231.1	231.8	232.6
55°	209.8	212.3	214.8	216.4	217.1	217.9	218.6	219.4
57.5°	195.7	198.2	200.7	202.4	203.3	204.2	205.1	205.9
60°	185.9	188.5	191.1	192.9	193.9	194.9	195.9	197.0
62.5°	176.6	179.1	181.7	183.5	184.5	185.4	186.4	187.3
65°	161.8	164.5	167.3	169.2	170.0	171.0	171.9	172.8
67.5°	147.0	150.0	153.0	155.0	155.7	156.5	157.3	158.0
70°	137.2	140.2	143.1	145.1	146.0	146.9	147.8	148.7
72.5°	127.3	130.4	133.4	135.5	136.3	137.2	138.2	139.1
75°	112.4	115.5	118.6	120.6	121.7	122.9	123.9	125.1
77.5°	98.5	101.7	105.0	106.9	107.8	108.7	109.5	110.4
80°	89.3	92.6	95.7	97.6	98.6	99.5	100.5	101.4
82.5°	81.1	84.2	87.4	89.3	90.3	91.2	92.1	93.1
85°	69.5	72.6	75.7	77.8	78.6	79.6	80.5	81.4
87.5°	63.8	67.1	70.4	72.6	73.6	74.5	75.5	76.6
90°	76.2	80.1	84.0	86.7	88.0	89.3	90.6	91.9
92.5°	85.9	89.5	93.3	95.4	96.0	96.7	97.3	97.9
95°	114.3	118.0	121.6	123.9	124.8	125.7	126.7	127.6
97.5°	148.6	152.2	155.9	158.1	159.0	159.8	160.7	161.5
100°	173.5	176.8	180.0	182.4	183.7	185.0	186.4	187.6
102.5°	202.7	205.9	209.1	211.2	212.0	212.9	213.7	214.5
105°	246.4	249.0	251.6	253.5	254.7	255.9	257.2	258.4
107.5°	293.8	296.9	300.1	301.9	302.5	303.1	303.6	304.2
110°	325.8	329.0	332.2	333.9	334.3	334.7	335.0	335.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	357.5	360.7	364.0	366.0	366.8	367.5	368.2	369.0
115°	406.0	408.5	410.9	412.3	412.9	413.4	413.9	414.5
117.5°	455.0	457.1	459.2	460.4	460.6	460.7	460.9	461.1
120°	487.8	489.6	491.6	492.7	492.9	493.2	493.4	493.7
122.5°	520.8	522.5	524.0	524.8	524.9	525.0	525.0	525.1
125°	570.2	571.3	572.4	572.9	572.7	572.7	572.5	572.4
127.5°	618.8	619.5	620.2	620.5	620.2	619.8	619.6	619.3
130°	651.0	652.0	653.0	653.1	652.2	651.4	650.6	649.7
132.5°	682.4	683.1	683.9	684.0	683.6	683.1	682.7	682.2
135°	729.5	730.4	731.2	731.7	731.7	731.8	731.9	732.0
137.5°	775.6	776.2	776.9	777.0	776.8	776.5	776.1	775.9
140°	806.0	807.2	808.4	808.5	807.6	806.7	805.7	804.9
142.5°	834.3	835.4	836.4	836.6	836.0	835.4	834.8	834.2
145°	876.9	877.5	878.1	878.1	877.7	877.3	876.8	876.4
147.5°	917.5	917.7	917.8	917.6	916.7	915.9	915.0	914.2
150°	942.6	942.6	942.6	942.1	941.1	940.1	939.1	938.1
152.5°	966.1	966.3	966.7	966.3	965.4	964.4	963.4	962.3
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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