

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: P331905-930

Luminaire Tested: **S123DIP-S340D1195U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331905-930
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-S340D1195U930-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4516.6 lumens
Efficiency: N/A
Efficacy: 107.0 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

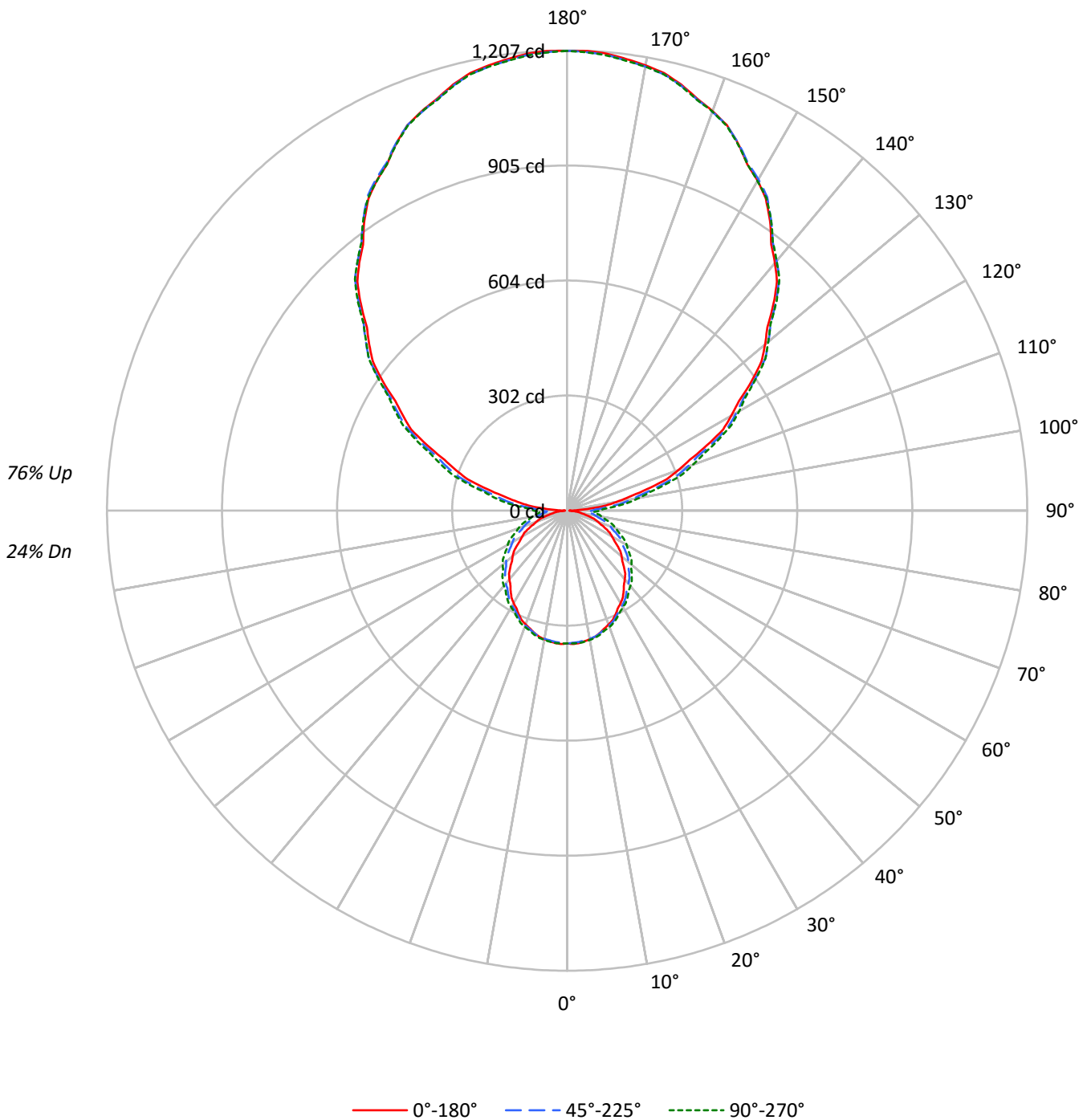
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	41	40	27	27	26	19
2	83	76	70	64	73	67	62	58	52	48	45	37	35	33	24	23	21	16
3	76	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	35	30	32	27	23	23	20	17	15	13	12	8
7	53	42	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	14	13	11	9	6
9	46	34	27	22	41	31	24	20	24	19	16	18	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.1	0.7
10°-20°	94.2	2.1
20°-30°	141.0	3.1
30°-40°	168.3	3.7
40°-50°	176.1	3.9
50°-60°	165.3	3.7
60°-70°	138.0	3.1
70°-80°	98.8	2.2
80°-90°	62.5	1.4
90°-100°	115.5	2.6
100°-110°	262.3	5.8
110°-120°	418.1	9.3
120°-130°	536.4	11.9
130°-140°	595.9	13.2
140°-150°	582.2	12.9
150°-160°	489.3	10.8
160°-170°	325.7	7.2
170°-180°	114.0	2.5
0°-30°	268.3	5.9
0°-40°	436.6	9.7
0°-60°	778.0	17.2
0°-90°	1077.2	23.9
90°-120°	795.9	17.6
90°-150°	2510.3	55.6
90°-180°	3439.0	76.1
0°-180°	4516.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	6	34	66	82	88	7
95°	60	82	108	123	127	66
105°	216	228	252	262	268	231
115°	404	412	424	433	436	400
125°	590	594	602	606	605	526
135°	765	770	774	777	777	589
145°	928	929	932	934	932	579
155°	1062	1062	1063	1066	1060	489
165°	1157	1154	1154	1159	1153	326
175°	1203	1199	1199	1204	1198	114
180°	1206	1206	1206	1206	1206	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.3	14.9	19.6	24.1	28.8	33.5	38.4	43.2	48.1	52.9	56.0
90°	5.9	12.1	18.3	24.6	30.8	37.5	44.5	51.6	58.6	65.6	69.4
92.5°	27.6	32.7	37.9	43.0	48.2	53.7	59.5	65.3	71.1	76.9	80.4
95°	60.1	64.8	69.6	74.4	79.2	84.5	90.3	96.0	101.9	107.7	111.2
97.5°	103.0	107.0	111.1	115.2	119.3	123.8	129.1	134.2	139.4	144.6	148.1
100°	132.2	136.2	140.1	144.1	148.1	152.5	157.5	162.4	167.4	172.3	175.4
102.5°	166.1	169.3	172.4	175.6	178.8	183.0	188.2	193.4	198.6	203.8	206.8
105°	216.2	218.7	221.1	223.6	226.0	229.9	235.5	241.0	246.5	252.1	254.4
107.5°	274.1	276.1	278.0	280.0	282.0	285.0	289.3	293.4	297.7	301.9	304.8
110°	310.1	312.1	314.1	315.9	317.9	320.7	324.6	328.4	332.2	336.0	339.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	348.1	349.5	351.1	352.5	354.1	356.4	359.8	363.1	366.5	369.7	372.9
115°	404.5	406.1	407.8	409.4	411.1	413.2	415.8	418.4	421.0	423.7	425.9
117.5°	461.6	462.7	463.7	464.8	465.8	467.5	469.8	472.1	474.4	476.7	478.7
120°	496.9	498.6	500.3	502.0	503.7	505.4	507.1	508.8	510.6	512.3	514.0
122.5°	534.1	535.2	536.4	537.5	538.7	540.3	542.4	544.5	546.6	548.7	550.0
125°	590.4	591.0	591.6	592.2	592.9	594.2	596.2	598.3	600.3	602.3	603.2
127.5°	642.6	643.9	645.1	646.5	647.7	649.1	650.7	652.2	653.8	655.3	655.8
130°	677.5	679.1	680.7	682.3	683.9	685.3	686.3	687.4	688.4	689.4	690.2
132.5°	712.1	713.7	715.4	717.1	718.7	720.0	720.9	721.8	722.7	723.6	724.1
135°	765.2	766.4	767.6	768.7	770.0	770.9	771.6	772.3	773.1	773.7	774.5
137.5°	814.4	815.4	816.4	817.3	818.3	819.4	820.4	821.5	822.6	823.6	824.1
140°	848.2	849.2	850.3	851.3	852.4	853.1	853.6	854.1	854.6	855.0	856.1
142.5°	879.3	880.3	881.3	882.2	883.2	883.9	884.4	884.8	885.2	885.7	886.6
145°	927.7	928.1	928.5	928.8	929.1	929.6	930.3	930.8	931.5	932.1	932.6
147.5°	969.8	970.6	971.3	972.1	972.9	973.5	974.1	974.7	975.3	975.9	976.1
150°	999.4	999.8	1000.2	1000.6	1001.1	1001.5	1001.9	1002.3	1002.7	1003.1	1003.1
152.5°	1023.6	1024.3	1024.8	1025.4	1026.0	1026.4	1026.6	1027.0	1027.2	1027.4	1027.8
155°	1061.9	1061.9	1061.9	1061.9	1061.9	1062.0	1062.3	1062.4	1062.7	1062.8	1063.7
157.5°	1094.5	1094.2	1094.0	1093.7	1093.5	1093.4	1093.6	1093.8	1094.0	1094.1	1095.0
160°	1114.9	1114.5	1114.1	1113.7	1113.3	1113.0	1113.0	1113.0	1113.0	1113.0	1114.1
162.5°	1133.1	1132.5	1132.0	1131.4	1130.8	1130.6	1130.7	1130.9	1131.1	1131.2	1132.3
165°	1156.7	1156.0	1155.4	1154.7	1154.1	1153.8	1153.8	1153.8	1153.8	1153.8	1155.0
167.5°	1175.4	1174.5	1173.7	1172.9	1172.0	1171.7	1171.8	1172.0	1172.2	1172.3	1173.6
170°	1186.0	1185.1	1184.3	1183.5	1182.6	1182.2	1182.2	1182.2	1182.2	1182.2	1183.7
172.5°	1194.3	1193.5	1192.6	1191.8	1191.0	1190.6	1190.6	1190.6	1190.6	1190.6	1191.9
175°	1203.1	1202.2	1201.3	1200.5	1199.7	1199.2	1199.2	1199.2	1199.2	1199.2	1200.5
177.5°	1206.6	1206.0	1205.3	1204.6	1204.0	1203.6	1203.6	1203.6	1203.6	1203.6	1204.6
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	59.0	62.0	65.1	67.1	68.0	69.0	69.9	70.8
90°	73.1	76.8	80.6	83.0	84.3	85.5	86.8	88.1
92.5°	83.8	87.3	90.7	92.8	93.3	93.8	94.3	94.9
95°	114.6	118.1	121.6	123.7	124.6	125.4	126.2	127.1
97.5°	151.6	155.0	158.5	160.6	161.3	162.2	162.9	163.6
100°	178.5	181.6	184.6	186.8	188.1	189.3	190.6	191.8
102.5°	209.9	212.9	215.9	217.8	218.5	219.3	220.0	220.8
105°	256.7	259.1	261.5	263.3	264.5	265.6	266.8	268.0
107.5°	307.8	310.7	313.6	315.4	315.8	316.3	316.8	317.3
110°	342.0	345.1	348.1	349.8	350.0	350.3	350.5	350.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	376.0	379.2	382.3	384.3	384.9	385.6	386.2	386.9
115°	428.1	430.4	432.6	434.0	434.5	434.9	435.4	435.9
117.5°	480.6	482.7	484.6	485.6	485.7	485.8	485.8	485.9
120°	515.8	517.6	519.3	520.2	520.4	520.6	520.7	520.9
122.5°	551.4	552.7	554.0	554.6	554.6	554.6	554.6	554.6
125°	604.1	605.1	606.0	606.3	606.1	605.8	605.6	605.4
127.5°	656.3	656.8	657.3	657.4	657.0	656.6	656.2	655.8
130°	691.0	691.7	692.5	692.4	691.5	690.5	689.5	688.5
132.5°	724.6	725.1	725.6	725.6	725.0	724.5	724.0	723.4
135°	775.1	775.8	776.5	776.8	776.8	776.8	776.8	776.8
137.5°	824.5	825.0	825.4	825.5	825.1	824.8	824.3	823.9
140°	857.1	858.2	859.2	859.2	858.2	857.1	856.1	855.0
142.5°	887.5	888.4	889.3	889.4	888.7	888.0	887.3	886.6
145°	933.0	933.5	934.0	933.9	933.4	932.9	932.5	932.0
147.5°	976.3	976.5	976.7	976.3	975.3	974.4	973.5	972.5
150°	1003.1	1003.1	1003.1	1002.7	1001.5	1000.5	999.3	998.3
152.5°	1028.1	1028.4	1028.7	1028.4	1027.4	1026.3	1025.2	1024.2
155°	1064.5	1065.4	1066.2	1065.9	1064.5	1063.0	1061.5	1060.0
157.5°	1095.8	1096.7	1097.6	1097.5	1096.3	1095.1	1094.0	1092.7
160°	1115.2	1116.2	1117.3	1117.4	1116.6	1115.7	1114.8	1114.0
162.5°	1133.3	1134.4	1135.5	1135.3	1133.9	1132.6	1131.2	1129.9
165°	1156.3	1157.6	1158.9	1158.7	1157.2	1155.8	1154.3	1152.8
167.5°	1174.9	1176.2	1177.5	1177.5	1176.2	1174.9	1173.6	1172.3
170°	1185.1	1186.7	1188.1	1188.1	1186.7	1185.1	1183.7	1182.2
172.5°	1193.2	1194.5	1195.8	1195.7	1194.2	1192.7	1191.2	1189.8
175°	1201.8	1203.1	1204.3	1204.2	1202.7	1201.3	1199.8	1198.3
177.5°	1205.7	1206.6	1207.6	1207.5	1206.4	1205.2	1204.0	1202.9
180°	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9	1205.9

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