

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: P331244-940

Luminaire Tested: **SA2XXDIP-C290D330U940-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331244-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D330U940-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2111.7 lumens
Efficiency: N/A
Efficacy: 104.0 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: General Diffuse

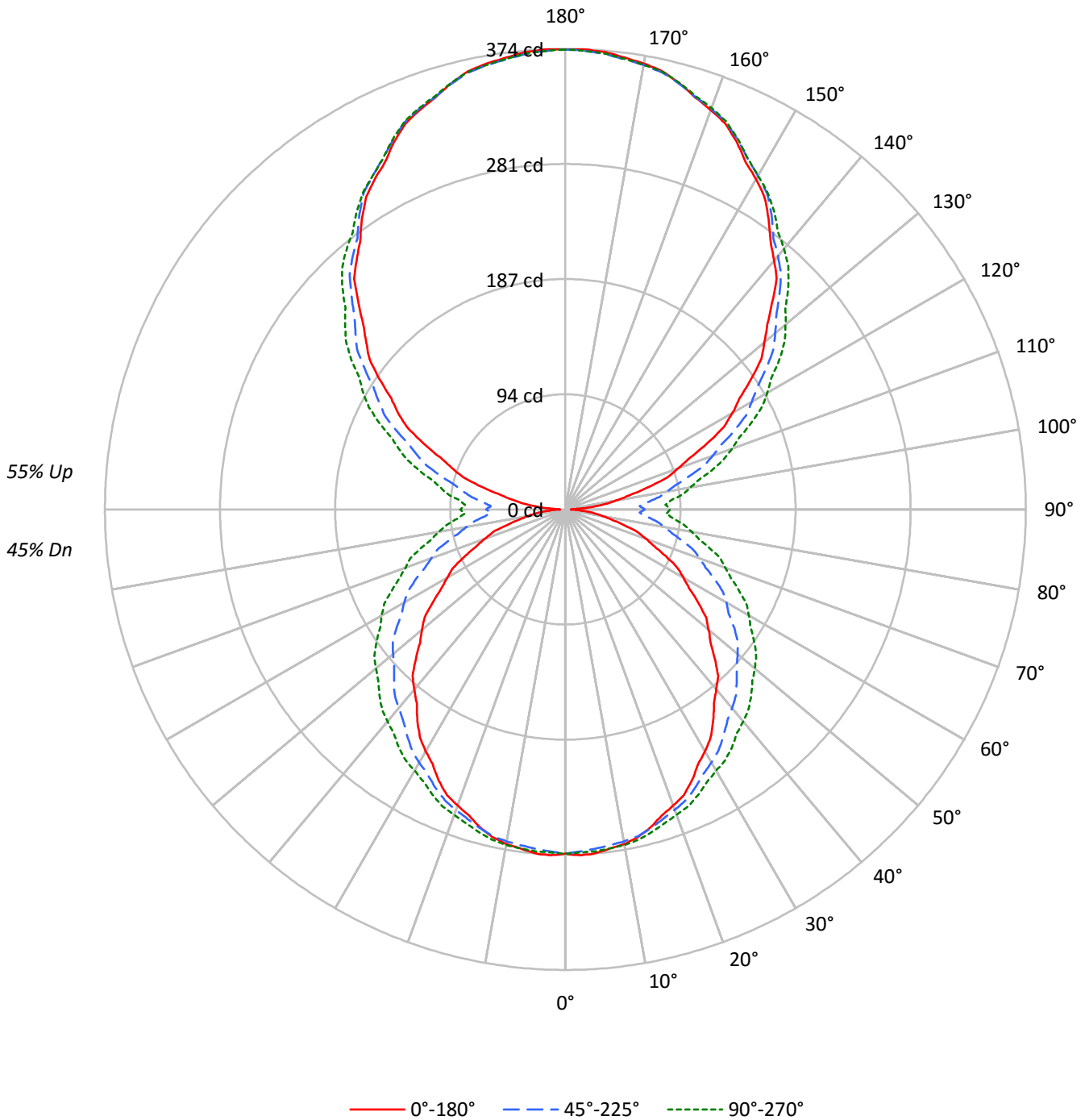
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51	45
1	95	90	86	82	87	83	79	76	69	66	63	55	53	52	43	42	41	35
2	86	78	72	66	78	72	66	61	59	55	51	48	45	42	37	35	33	28
3	78	68	60	54	71	63	56	50	52	47	42	42	38	35	33	30	28	23
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	59	49	41	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	26	30	25	22	23	20	18	15
7	55	43	35	29	50	39	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	19	16	14	11
9	48	35	28	23	44	33	26	21	27	22	18	23	18	15	18	15	12	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4514	4514	4514
5°	4536	4345	4328
10°	4507	4215	4169
15°	4443	4079	4001
20°	4366	3935	3839
25°	4289	3793	3693
30°	4180	3650	3544
35°	4070	3510	3442
40°	3952	3391	3338
45°	3841	3286	3250
50°	3723	3189	3162
55°	3597	3086	3074
60°	3447	2979	2980
65°	3288	2854	2867
70°	3108	2717	2746
75°	2883	2585	2636
80°	2528	2450	2524
85°	2185	2333	2436



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.5	1.3
10°-20°	75.9	3.6
20°-30°	115.1	5.5
30°-40°	140.2	6.6
40°-50°	150.8	7.1
50°-60°	146.5	6.9
60°-70°	127.9	6.1
70°-80°	98.4	4.7
80°-90°	67.6	3.2
90°-100°	69.2	3.3
100°-110°	106.7	5.1
110°-120°	147.5	7.0
120°-130°	177.4	8.4
130°-140°	190.5	9.0
140°-150°	182.6	8.6
150°-160°	152.4	7.2
160°-170°	101.1	4.8
170°-180°	35.3	1.7
0°-30°	217.5	10.3
0°-40°	357.7	16.9
0°-60°	654.9	31.0
0°-90°	948.8	44.9
90°-120°	323.4	15.3
90°-150°	874.0	41.4
90°-180°	1163.0	55.1
0°-180°	2111.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	280	280	280	280	280	
5°	280	279	277	279	279	27
15°	267	268	268	272	271	75
25°	243	246	250	254	256	112
35°	210	216	224	233	236	131
45°	172	183	197	209	214	133
55°	132	147	167	181	187	118
65°	90	110	134	150	156	89
75°	50	73	98	115	121	53
85°	15	40	66	82	88	16
90°	4	32	64	80	85	4
95°	20	42	67	82	86	21
105°	70	83	104	118	123	74
115°	128	135	152	163	167	126
125°	184	188	199	209	212	165
135°	238	241	246	254	256	184
145°	288	290	292	295	296	180
155°	329	330	331	333	332	151
165°	358	358	358	360	359	101
175°	373	372	371	373	371	35
180°	373	373	373	373	373	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	281.2	280.9	280.7	280.4	280.3	279.9	279.4	278.9	278.4	277.9	278.2
5°	280.4	280.1	279.8	279.6	279.2	278.8	278.3	277.8	277.2	276.7	277.2
7.5°	277.8	277.6	277.4	277.2	277.1	276.8	276.3	276.0	275.5	275.1	275.8
10°	275.9	275.7	275.5	275.4	275.2	274.9	274.6	274.4	274.1	273.8	274.6
12.5°	272.6	272.7	272.7	272.8	272.8	272.7	272.5	272.3	272.1	271.9	272.6
15°	267.3	267.5	267.7	267.9	268.0	268.1	268.1	268.1	268.1	268.1	268.9
17.5°	260.6	260.9	261.3	261.7	262.1	262.4	262.7	263.0	263.2	263.6	264.4
20°	256.0	256.5	256.9	257.3	257.8	258.2	258.6	259.0	259.3	259.7	260.6
22.5°	251.2	251.6	252.2	252.7	253.2	253.8	254.2	254.8	255.3	255.7	256.7
25°	243.1	243.7	244.3	245.0	245.6	246.3	247.1	247.9	248.7	249.5	250.6
27.5°	233.4	234.3	235.4	236.4	237.5	238.4	239.3	240.3	241.3	242.3	243.6
30°	226.9	228.0	229.2	230.3	231.5	232.7	233.9	235.1	236.2	237.4	238.8
32.5°	219.7	221.1	222.3	223.6	225.0	226.3	227.7	229.1	230.5	231.8	233.5
35°	209.5	211.0	212.5	214.0	215.5	217.1	218.9	220.6	222.3	224.0	226.0
37.5°	198.2	200.0	201.8	203.6	205.3	207.3	209.6	211.7	213.9	216.2	218.4
40°	190.8	192.8	194.7	196.7	198.7	200.9	203.3	205.8	208.2	210.6	212.9
42.5°	183.7	185.7	187.6	189.6	191.6	193.9	196.8	199.6	202.3	205.1	207.7
45°	171.7	174.2	176.6	179.1	181.5	184.2	187.4	190.6	193.7	196.9	199.7
47.5°	160.0	162.6	165.3	167.9	170.6	173.8	177.5	181.1	184.9	188.5	191.5
50°	151.9	154.7	157.5	160.2	163.1	166.5	170.6	174.6	178.6	182.7	185.7
52.5°	144.1	147.0	150.0	152.9	155.9	159.4	163.7	168.0	172.3	176.6	179.7
55°	131.6	134.9	138.1	141.3	144.6	148.6	153.3	157.9	162.6	167.3	170.6
57.5°	119.3	123.0	126.6	130.3	133.9	138.1	142.9	147.7	152.5	157.3	160.8
60°	110.6	114.5	118.3	122.2	126.1	130.5	135.7	140.8	146.0	151.1	154.5
62.5°	102.8	106.8	110.8	114.9	118.9	123.4	128.6	133.7	138.8	144.0	147.6
65°	89.9	94.3	98.7	103.2	107.5	112.4	117.7	123.1	128.4	133.7	137.4
67.5°	78.1	82.8	87.3	91.9	96.6	101.6	107.0	112.4	117.9	123.3	127.1
70°	69.6	74.4	79.0	83.7	88.4	93.5	99.1	104.7	110.3	115.8	119.8
72.5°	61.9	66.7	71.5	76.3	81.2	86.4	92.1	97.7	103.4	109.1	112.9
75°	49.8	54.8	59.9	64.9	70.0	75.3	81.1	86.9	92.6	98.4	102.3
77.5°	38.2	43.4	48.7	53.9	59.3	64.8	70.7	76.5	82.4	88.2	92.1
80°	30.4	35.8	41.4	46.8	52.3	58.1	63.8	69.7	75.5	81.4	85.2
82.5°	23.9	29.3	34.8	40.1	45.6	51.3	57.2	63.1	69.0	74.9	78.7
85°	14.6	20.2	25.8	31.3	36.9	42.5	48.3	54.1	59.8	65.6	69.4
87.5°	8.0	13.6	19.1	24.6	30.1	35.9	42.0	48.1	54.1	60.2	63.8
90°	4.4	10.4	16.5	22.6	28.6	35.3	42.6	49.9	57.2	64.5	67.9
92.5°	9.4	14.8	20.3	25.8	31.2	36.9	42.8	48.8	54.7	60.5	64.1
95°	19.6	24.5	29.5	34.4	39.3	44.6	50.1	55.6	61.2	66.8	70.2
97.5°	32.7	37.2	41.6	45.9	50.3	55.2	60.6	66.1	71.5	77.0	80.3
100°	42.8	46.7	50.6	54.5	58.4	63.0	68.2	73.5	78.7	84.0	87.3
102.5°	53.1	56.6	60.1	63.6	67.1	71.4	76.6	81.7	86.9	92.0	95.3
105°	69.7	72.6	75.4	78.2	81.1	84.9	89.7	94.5	99.3	104.2	107.5
107.5°	86.9	89.3	91.8	94.2	96.6	100.0	104.4	109.0	113.4	117.9	121.0
110°	97.7	100.0	102.2	104.3	106.6	109.9	114.3	118.7	123.1	127.5	130.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	109.8	111.7	113.7	115.6	117.5	120.6	124.8	128.9	133.0	137.1	139.8
115°	127.6	129.0	130.5	131.9	133.3	135.9	139.8	143.7	147.7	151.6	154.2
117.5°	145.0	146.2	147.4	148.6	149.8	152.1	155.4	158.8	162.2	165.5	168.0
120°	156.9	157.7	158.7	159.6	160.5	162.5	165.6	168.6	171.7	174.7	177.2
122.5°	167.6	168.5	169.3	170.1	170.9	172.8	175.8	178.9	181.8	184.9	187.1
125°	184.1	184.8	185.4	186.0	186.7	188.3	191.0	193.7	196.4	199.0	201.3
127.5°	200.6	201.3	202.1	202.8	203.4	204.8	206.9	208.9	211.1	213.1	215.1
130°	211.0	211.8	212.6	213.4	214.2	215.5	217.2	219.0	220.8	222.5	224.5
132.5°	222.6	223.2	223.8	224.5	225.2	226.2	227.7	229.2	230.7	232.2	233.9
135°	237.6	238.4	239.2	240.0	240.7	241.7	242.6	243.7	244.8	245.8	247.6
137.5°	254.0	254.6	255.2	255.7	256.4	257.0	257.6	258.2	258.7	259.3	260.9
140°	263.8	264.3	264.8	265.4	265.9	266.4	267.0	267.5	268.0	268.6	270.0
142.5°	273.8	274.4	274.9	275.4	276.0	276.4	276.7	277.0	277.2	277.5	278.7
145°	287.9	288.5	288.9	289.4	289.9	290.3	290.8	291.2	291.6	292.0	292.7
147.5°	300.9	301.5	302.0	302.6	303.2	303.6	303.9	304.3	304.5	304.8	305.0
150°	309.7	310.1	310.5	310.9	311.4	311.7	312.0	312.3	312.5	312.8	313.1
152.5°	317.5	317.9	318.3	318.8	319.1	319.6	319.9	320.2	320.6	320.9	321.2
155°	329.2	329.4	329.7	329.8	330.0	330.3	330.5	330.6	330.9	331.1	331.4
157.5°	339.2	339.4	339.5	339.7	339.8	339.9	340.1	340.2	340.3	340.5	340.9
160°	345.3	345.4	345.5	345.7	345.8	346.0	346.0	346.1	346.2	346.3	346.6
162.5°	350.8	350.9	350.9	350.9	351.0	351.0	351.1	351.2	351.2	351.2	351.8
165°	358.2	358.1	358.0	358.0	357.9	357.8	357.8	357.8	357.8	357.8	358.4
167.5°	364.4	364.2	364.0	363.7	363.6	363.5	363.4	363.4	363.4	363.4	363.8
170°	367.7	367.5	367.2	367.0	366.8	366.7	366.6	366.5	366.5	366.4	366.8
172.5°	369.9	369.7	369.5	369.3	369.1	368.9	368.9	368.8	368.7	368.6	369.2
175°	372.7	372.5	372.3	372.0	371.8	371.7	371.6	371.4	371.2	371.1	371.6
177.5°	373.8	373.6	373.4	373.4	373.2	373.0	372.9	372.8	372.6	372.6	372.9
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	278.6	278.9	279.3	279.5	279.3	279.1	279.0	278.8
5°	277.8	278.3	278.8	279.0	278.9	278.8	278.7	278.7
7.5°	276.4	277.1	277.8	278.0	277.9	277.9	277.8	277.7
10°	275.3	276.0	276.7	277.1	277.0	276.9	276.8	276.7
12.5°	273.3	274.0	274.7	275.1	275.0	274.9	274.8	274.7
15°	269.7	270.6	271.4	271.8	271.7	271.6	271.5	271.4
17.5°	265.3	266.1	266.9	267.3	267.3	267.3	267.3	267.3
20°	261.6	262.6	263.6	264.1	264.1	264.1	264.1	264.1
22.5°	257.8	258.8	259.8	260.3	260.5	260.6	260.7	260.9
25°	251.7	252.8	253.9	254.5	254.8	255.0	255.3	255.6
27.5°	245.0	246.4	247.7	248.5	248.7	248.9	249.1	249.3
30°	240.2	241.7	243.2	244.0	244.2	244.5	244.8	245.0
32.5°	235.1	236.8	238.5	239.6	240.0	240.6	241.0	241.5
35°	228.0	230.0	231.9	233.3	233.9	234.5	235.1	235.8
37.5°	220.5	222.7	225.0	226.4	227.0	227.7	228.4	229.0
40°	215.3	217.7	220.0	221.6	222.4	223.2	224.0	224.8
42.5°	210.3	212.8	215.3	217.0	217.8	218.6	219.5	220.3
45°	202.4	205.3	208.0	209.9	210.8	211.7	212.6	213.5
47.5°	194.4	197.2	200.2	202.2	203.1	204.1	205.1	206.1
50°	188.8	191.9	194.9	197.0	198.0	198.9	199.9	200.9
52.5°	182.8	185.9	189.0	191.2	192.3	193.3	194.4	195.4
55°	173.8	177.0	180.3	182.4	183.6	184.9	186.0	187.2
57.5°	164.3	167.7	171.2	173.5	174.8	175.9	177.1	178.3
60°	157.9	161.4	164.8	167.1	168.4	169.6	170.9	172.2
62.5°	151.2	154.9	158.5	161.0	162.1	163.3	164.5	165.7
65°	141.1	144.7	148.5	150.9	152.0	153.2	154.4	155.5
67.5°	130.7	134.5	138.2	140.7	141.9	143.1	144.4	145.6
70°	123.6	127.4	131.3	133.8	134.9	136.0	137.1	138.1
72.5°	116.6	120.5	124.2	126.8	128.0	129.4	130.7	132.0
75°	106.2	110.0	114.0	116.5	117.6	118.8	119.9	121.1
77.5°	95.9	99.8	103.6	106.2	107.5	108.7	109.9	111.2
80°	89.0	92.7	96.6	99.1	100.3	101.6	102.8	104.1
82.5°	82.5	86.3	90.1	92.6	93.7	95.0	96.1	97.3
85°	73.2	77.0	80.8	83.3	84.5	85.8	87.0	88.3
87.5°	67.5	71.2	74.8	77.2	78.4	79.5	80.7	81.9
90°	71.4	74.9	78.4	80.6	81.8	82.9	84.1	85.2
92.5°	67.7	71.2	74.8	77.1	78.2	79.3	80.4	81.5
95°	73.6	77.0	80.4	82.6	83.6	84.5	85.4	86.4
97.5°	83.6	87.0	90.3	92.5	93.5	94.6	95.7	96.7
100°	90.7	94.0	97.3	99.4	100.3	101.3	102.2	103.1
102.5°	98.7	102.0	105.3	107.5	108.3	109.2	110.2	111.1
105°	110.8	114.0	117.3	119.5	120.5	121.5	122.4	123.4
107.5°	124.0	127.2	130.2	132.1	132.8	133.4	134.1	134.7
110°	133.3	136.2	139.1	140.9	141.7	142.5	143.2	144.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	142.6	145.3	147.9	149.7	150.6	151.4	152.2	153.1
115°	156.9	159.4	162.1	163.8	164.6	165.4	166.1	166.9
117.5°	170.5	173.0	175.5	177.1	177.8	178.5	179.2	179.9
120°	179.7	182.3	184.8	186.4	187.2	188.0	188.8	189.5
122.5°	189.4	191.6	193.9	195.5	196.1	196.8	197.5	198.2
125°	203.5	205.7	207.9	209.4	210.1	210.9	211.6	212.3
127.5°	217.0	219.1	221.1	222.3	222.8	223.5	224.0	224.6
130°	226.6	228.5	230.6	231.8	232.3	232.7	233.2	233.5
132.5°	235.7	237.5	239.2	240.4	240.9	241.4	241.9	242.4
135°	249.4	251.2	253.1	254.2	254.8	255.2	255.7	256.3
137.5°	262.5	264.1	265.7	266.7	267.0	267.3	267.7	268.0
140°	271.4	273.0	274.4	275.2	275.4	275.7	276.0	276.3
142.5°	279.9	281.2	282.3	283.0	283.2	283.5	283.7	283.8
145°	293.3	293.9	294.4	294.9	295.1	295.2	295.4	295.5
147.5°	305.2	305.4	305.7	305.8	305.7	305.7	305.6	305.6
150°	313.3	313.4	313.7	313.7	313.4	313.3	313.1	312.8
152.5°	321.5	321.7	322.0	322.0	321.7	321.5	321.2	320.9
155°	331.8	332.2	332.5	332.6	332.3	332.2	332.0	331.7
157.5°	341.3	341.9	342.3	342.4	342.1	341.7	341.4	341.1
160°	347.1	347.5	347.9	347.9	347.7	347.4	347.1	346.9
162.5°	352.2	352.7	353.2	353.2	352.9	352.6	352.2	351.9
165°	358.8	359.4	359.8	359.9	359.5	359.2	358.8	358.6
167.5°	364.4	364.8	365.3	365.4	365.1	364.6	364.3	363.9
170°	367.4	367.8	368.4	368.4	368.0	367.6	367.1	366.7
172.5°	369.6	370.1	370.6	370.7	370.2	369.8	369.4	369.0
175°	372.1	372.6	373.1	373.1	372.7	372.3	371.8	371.4
177.5°	373.3	373.5	373.9	373.9	373.5	373.3	372.9	372.6
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4

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