

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: P332506-927

Luminaire Tested: **SA4XXDIP-C350D590U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332506-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C350D590U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2823.4 lumens
Efficiency: N/A
Efficacy: 110.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

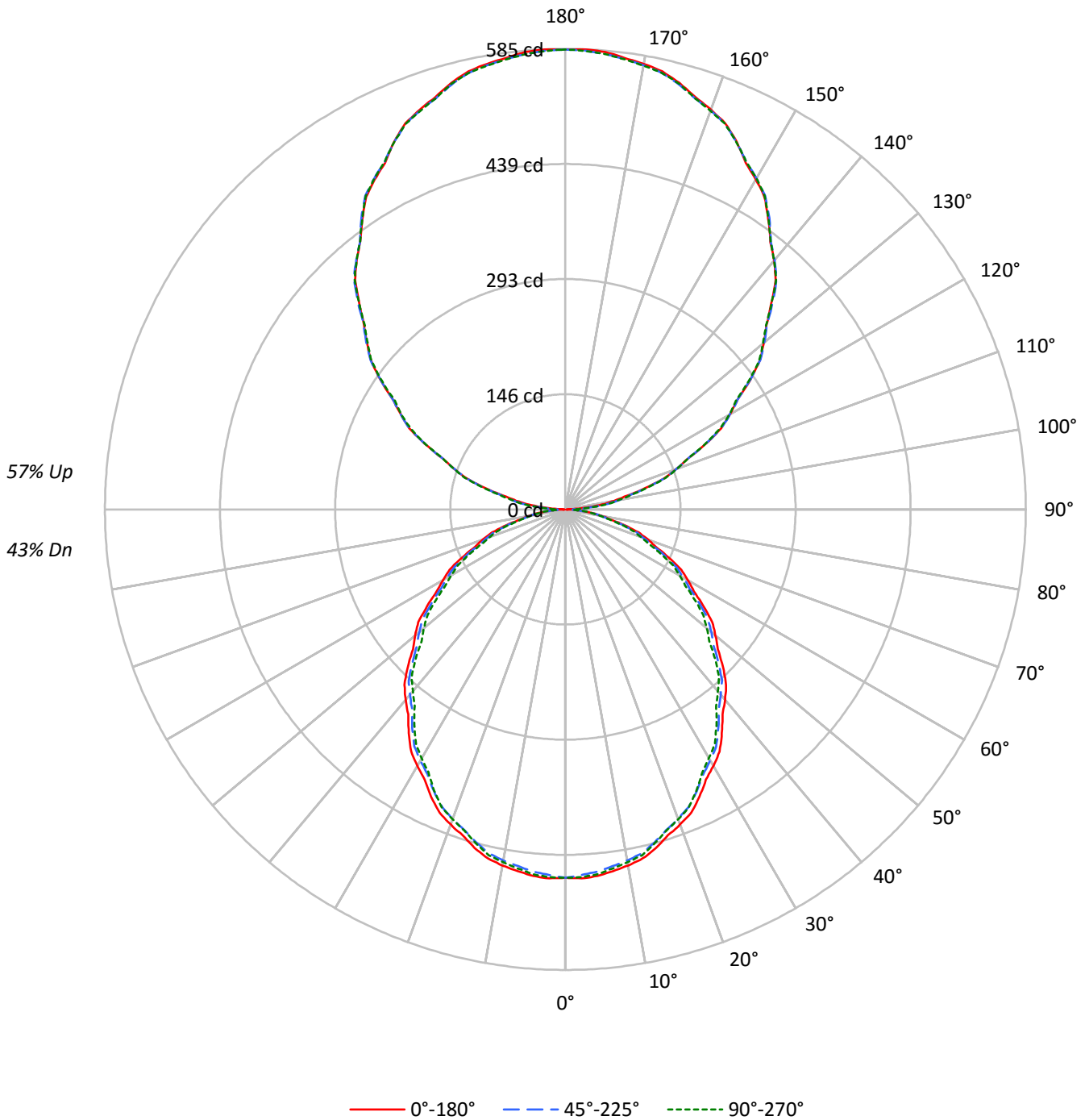
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	43				43
1	96	92	88	84	88	84	81	78	69	67	65	56	54	53	43	42	42	36				36
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	37	35	30				30
3	80	70	63	57	73	65	58	53	54	49	45	43	40	37	34	32	30	25				25
4	73	62	54	48	66	57	50	45	48	42	38	39	35	32	30	28	26	22				22
5	67	55	47	41	61	51	44	39	42	37	33	35	31	28	27	25	22	19				19
6	62	50	42	36	56	46	39	33	38	33	29	31	27	24	25	22	20	17				17
7	57	45	37	31	52	41	34	29	35	29	25	28	24	21	23	20	17	15				15
8	53	41	33	28	48	37	31	26	32	26	22	26	22	19	21	18	16	13				13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12				12
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13	11				11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3777	3777	3777
5°	3789	3743	3771
10°	3765	3713	3731
15°	3719	3661	3670
20°	3660	3594	3598
25°	3591	3520	3510
30°	3506	3432	3402
35°	3418	3341	3297
40°	3327	3236	3177
45°	3232	3134	3075
50°	3127	3042	2948
55°	3013	2923	2829
60°	2900	2792	2706
65°	2772	2665	2558
70°	2629	2497	2398
75°	2408	2293	2233
80°	2143	2060	2004
85°	1880	1806	1769



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.1	1.6
10°-20°	124.2	4.4
20°-30°	182.8	6.5
30°-40°	212.5	7.5
40°-50°	212.5	7.5
50°-60°	185.9	6.6
60°-70°	138.0	4.9
70°-80°	78.4	2.8
80°-90°	24.4	0.9
90°-100°	38.5	1.4
100°-110°	114.1	4.0
110°-120°	193.7	6.9
120°-130°	255.5	9.0
130°-140°	286.9	10.2
140°-150°	281.9	10.0
150°-160°	237.1	8.4
160°-170°	157.8	5.6
170°-180°	55.2	2.0
0°-30°	351.0	12.4
0°-40°	563.5	20.0
0°-60°	961.8	34.1
0°-90°	1202.6	42.6
90°-120°	346.4	12.3
90°-150°	1170.7	41.5
90°-180°	1621.0	57.4
0°-180°	2823.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	468	468	468	468	468	
5°	468	466	462	466	465	44
15°	445	443	438	440	439	125
25°	403	400	395	396	394	185
35°	347	344	339	336	334	217
45°	283	280	274	270	269	218
55°	214	213	208	203	201	192
65°	145	143	140	136	134	144
75°	77	75	74	72	72	82
85°	20	20	20	20	19	22
90°	1	6	10	13	14	3
95°	27	31	34	36	36	30
105°	105	106	108	109	110	112
115°	197	197	196	196	195	194
125°	287	287	286	286	285	256
135°	370	373	373	372	370	286
145°	450	451	452	451	450	281
155°	515	515	515	516	515	237
165°	561	559	558	561	559	158
175°	583	581	581	583	581	55
180°	584	584	584	584	584	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	469.1	469.0	468.7	468.6	468.3	467.9	467.1	466.4	465.7	464.9	465.6
5°	467.5	467.2	466.9	466.6	466.3	465.6	464.7	463.8	462.9	461.9	462.9
7.5°	463.3	462.9	462.6	462.2	461.9	461.2	460.2	459.2	458.2	457.2	457.9
10°	459.3	459.0	458.7	458.4	458.0	457.3	456.2	455.1	454.1	453.0	453.6
12.5°	454.2	453.9	453.6	453.2	452.9	452.2	451.0	449.9	448.7	447.6	448.3
15°	445.0	444.7	444.4	444.1	443.8	443.0	441.7	440.5	439.2	438.0	438.5
17.5°	434.0	433.6	433.2	432.8	432.4	431.6	430.4	429.2	428.0	426.8	427.1
20°	426.0	425.6	425.2	424.7	424.3	423.5	422.2	421.0	419.7	418.4	418.7
22.5°	417.2	416.7	416.1	415.6	415.0	414.2	412.9	411.7	410.4	409.2	409.6
25°	403.1	402.5	402.0	401.3	400.8	399.9	398.7	397.5	396.4	395.2	395.3
27.5°	386.9	386.3	385.7	385.1	384.5	383.7	382.5	381.5	380.4	379.3	379.1
30°	376.1	375.4	374.8	374.1	373.4	372.6	371.5	370.3	369.3	368.2	367.9
32.5°	364.7	364.1	363.5	362.9	362.3	361.4	360.3	359.1	358.0	356.8	356.4
35°	346.8	346.3	345.7	345.1	344.5	343.6	342.5	341.3	340.2	339.0	338.4
37.5°	328.0	327.5	326.9	326.5	325.9	325.0	323.8	322.5	321.2	320.0	319.3
40°	315.7	315.1	314.4	313.7	313.1	312.1	310.9	309.6	308.3	307.1	306.3
42.5°	302.5	302.1	301.7	301.3	301.0	300.0	298.7	297.2	295.9	294.5	293.5
45°	283.1	282.5	281.9	281.4	280.7	279.8	278.5	277.1	275.8	274.5	273.5
47.5°	262.8	262.4	262.0	261.6	261.2	260.4	259.1	257.9	256.7	255.4	254.4
50°	249.0	248.7	248.3	248.0	247.6	246.9	245.7	244.5	243.4	242.2	241.1
52.5°	235.5	235.0	234.6	234.2	233.9	233.1	231.8	230.6	229.3	228.1	227.1
55°	214.1	213.9	213.6	213.3	213.1	212.4	211.2	210.1	208.9	207.7	206.8
57.5°	193.7	193.5	193.1	192.9	192.6	191.9	190.7	189.6	188.4	187.3	186.3
60°	179.6	179.2	178.8	178.3	177.9	177.2	176.1	175.0	174.0	172.9	172.1
62.5°	165.8	165.5	165.1	164.8	164.4	163.7	162.5	161.4	160.2	159.1	158.4
65°	145.1	144.7	144.3	143.9	143.5	142.8	142.0	141.2	140.3	139.5	138.6
67.5°	124.3	123.9	123.5	123.1	122.7	122.2	121.4	120.6	119.8	118.9	118.1
70°	111.4	110.7	110.2	109.6	109.0	108.4	107.7	107.1	106.4	105.8	105.0
72.5°	97.6	97.0	96.4	95.9	95.2	94.7	94.1	93.6	93.1	92.5	92.0
75°	77.2	76.8	76.4	76.0	75.6	75.2	74.8	74.3	73.9	73.5	73.2
77.5°	57.8	57.7	57.4	57.3	57.1	56.8	56.5	56.1	55.7	55.4	55.2
80°	46.1	45.9	45.6	45.4	45.2	44.9	44.8	44.6	44.4	44.3	44.0
82.5°	34.7	34.6	34.5	34.4	34.2	34.1	34.1	34.1	34.1	34.1	34.0
85°	20.3	20.3	20.3	20.3	20.3	20.2	20.0	19.8	19.6	19.5	19.5
87.5°	8.1	8.2	8.4	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3
90°	1.3	2.5	3.6	4.7	5.8	6.7	7.5	8.3	9.1	9.9	10.5
92.5°	9.7	10.9	12.2	13.5	14.7	15.6	16.2	16.8	17.3	17.9	18.2
95°	27.1	28.0	28.9	29.8	30.7	31.5	32.2	33.0	33.7	34.3	34.6
97.5°	47.4	48.1	48.8	49.5	50.2	51.0	51.8	52.7	53.5	54.3	54.7
100°	63.2	63.7	64.1	64.5	64.9	65.5	66.4	67.3	68.2	69.2	69.3
102.5°	79.9	80.0	80.2	80.3	80.5	81.0	81.8	82.6	83.5	84.3	84.6
105°	105.3	105.4	105.4	105.6	105.7	105.9	106.3	106.7	107.1	107.5	107.8
107.5°	131.9	132.1	132.1	132.3	132.5	132.5	132.5	132.6	132.7	132.8	133.0
110°	150.0	150.2	150.4	150.6	150.8	150.8	150.8	150.7	150.6	150.4	150.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	168.8	168.8	168.9	168.9	169.0	168.9	168.7	168.5	168.3	168.2	168.1
115°	197.0	197.0	197.0	197.0	197.0	196.9	196.7	196.5	196.3	196.1	196.0
117.5°	223.6	223.6	223.7	223.8	223.9	223.9	223.7	223.6	223.4	223.3	222.9
120°	241.3	241.7	242.1	242.5	242.9	243.0	242.6	242.3	242.0	241.7	241.2
122.5°	259.7	259.8	260.0	260.2	260.3	260.4	260.2	260.1	259.9	259.8	259.4
125°	286.9	286.9	286.9	286.9	286.9	286.8	286.8	286.7	286.5	286.5	286.2
127.5°	311.6	311.9	312.2	312.5	312.8	312.8	312.7	312.5	312.4	312.2	312.0
130°	328.9	329.2	329.5	329.9	330.1	330.3	330.3	330.3	330.3	330.3	330.1
132.5°	346.7	346.9	347.1	347.3	347.5	347.6	347.5	347.5	347.4	347.3	347.1
135°	370.0	370.7	371.2	371.9	372.5	372.7	372.7	372.7	372.7	372.7	372.6
137.5°	395.5	395.8	396.1	396.3	396.6	396.9	397.0	397.2	397.4	397.5	397.3
140°	412.5	412.7	412.9	413.1	413.3	413.4	413.4	413.4	413.4	413.4	413.3
142.5°	428.0	428.3	428.5	428.6	428.9	428.9	428.8	428.7	428.6	428.6	428.6
145°	449.6	450.0	450.4	450.8	451.1	451.4	451.5	451.6	451.7	451.8	451.7
147.5°	470.9	471.3	471.8	472.3	472.9	473.0	472.9	472.9	472.8	472.7	472.6
150°	483.9	484.3	484.7	485.1	485.5	485.7	485.7	485.7	485.7	485.7	485.7
152.5°	496.2	496.5	496.7	496.9	497.2	497.3	497.4	497.5	497.6	497.6	497.9
155°	515.1	515.1	515.1	515.1	515.1	515.0	514.9	514.8	514.8	514.6	515.0
157.5°	531.0	530.8	530.6	530.4	530.3	530.1	530.1	530.1	530.1	530.0	530.4
160°	540.3	540.3	540.2	540.1	540.0	539.9	539.8	539.7	539.6	539.5	539.8
162.5°	549.1	548.8	548.5	548.3	548.0	547.8	547.7	547.6	547.6	547.4	548.0
165°	560.7	560.4	560.1	559.8	559.5	559.3	559.0	558.9	558.6	558.5	559.0
167.5°	569.7	569.3	568.8	568.4	568.0	567.8	567.8	567.8	567.8	567.8	568.5
170°	574.7	574.3	573.7	573.2	572.7	572.5	572.6	572.7	572.8	572.9	573.5
172.5°	578.3	577.9	577.5	577.1	576.6	576.5	576.5	576.5	576.5	576.6	577.2
175°	583.3	582.8	582.3	581.8	581.3	581.0	580.9	580.8	580.7	580.6	581.3
177.5°	584.9	584.6	584.2	583.8	583.3	583.1	583.1	583.1	583.1	583.1	583.7
180°	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	466.3	467.0	467.6	467.9	467.9	467.8	467.7	467.6
5°	463.8	464.7	465.6	466.0	465.8	465.6	465.5	465.3
7.5°	458.6	459.4	460.1	460.4	460.3	460.2	460.1	460.0
10°	454.3	455.0	455.7	455.9	455.7	455.5	455.3	455.2
12.5°	449.0	449.7	450.5	450.8	450.5	450.3	450.0	449.8
15°	438.9	439.4	440.0	440.1	439.8	439.6	439.3	439.1
17.5°	427.5	427.8	428.1	428.2	428.0	427.9	427.7	427.5
20°	419.0	419.2	419.5	419.5	419.3	419.1	419.0	418.8
22.5°	410.0	410.5	411.0	411.1	410.7	410.4	410.1	409.9
25°	395.4	395.5	395.5	395.5	395.1	394.7	394.4	394.1
27.5°	378.9	378.7	378.5	378.2	377.8	377.4	376.9	376.5
30°	367.6	367.3	366.9	366.5	366.1	365.7	365.3	364.9
32.5°	356.0	355.6	355.2	354.8	354.4	353.9	353.6	353.2
35°	337.8	337.2	336.6	336.1	335.7	335.3	334.9	334.5
37.5°	318.7	318.1	317.4	316.9	316.3	315.8	315.2	314.7
40°	305.5	304.6	303.8	303.2	302.7	302.3	301.9	301.5
42.5°	292.6	291.6	290.7	290.0	289.7	289.5	289.1	288.9
45°	272.7	271.7	270.8	270.2	270.0	269.7	269.5	269.3
47.5°	253.3	252.3	251.3	250.5	249.9	249.2	248.6	248.0
50°	239.9	238.8	237.6	236.7	236.2	235.8	235.2	234.7
52.5°	226.1	225.1	224.0	223.2	222.5	221.9	221.3	220.6
55°	205.7	204.7	203.7	203.0	202.5	202.0	201.5	201.0
57.5°	185.4	184.4	183.5	182.8	182.3	181.8	181.3	180.8
60°	171.3	170.6	169.8	169.3	168.9	168.4	168.0	167.6
62.5°	157.7	157.0	156.3	155.7	155.3	155.0	154.6	154.1
65°	137.8	137.0	136.2	135.5	135.1	134.7	134.3	133.9
67.5°	117.3	116.5	115.7	115.3	115.2	115.0	114.9	114.8
70°	104.4	103.8	103.1	102.6	102.3	102.1	101.9	101.6
72.5°	91.5	90.9	90.4	90.0	89.8	89.5	89.3	89.0
75°	72.8	72.5	72.2	71.9	71.9	71.8	71.7	71.6
77.5°	55.1	55.1	55.0	54.8	54.6	54.3	54.1	53.9
80°	43.9	43.7	43.6	43.5	43.3	43.3	43.2	43.1
82.5°	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2
85°	19.5	19.5	19.5	19.5	19.4	19.3	19.2	19.1
87.5°	9.4	9.6	9.7	9.7	9.8	9.8	9.9	9.9
90°	11.2	11.7	12.4	12.8	13.0	13.2	13.4	13.5
92.5°	18.6	19.0	19.3	19.6	19.7	19.8	20.0	20.0
95°	34.9	35.3	35.6	35.7	35.7	35.7	35.7	35.7
97.5°	55.1	55.4	55.8	55.9	55.9	55.9	55.9	55.9
100°	69.6	69.7	69.9	70.0	70.0	70.0	70.0	70.0
102.5°	84.8	85.2	85.4	85.6	85.7	85.8	85.9	86.0
105°	108.1	108.4	108.8	109.0	109.3	109.6	110.0	110.3
107.5°	133.3	133.6	133.9	134.0	134.0	134.0	134.0	134.0
110°	150.0	149.9	149.6	149.7	150.0	150.3	150.6	150.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	168.1	168.0	168.0	168.0	168.1	168.1	168.2	168.3
115°	195.9	195.8	195.7	195.6	195.5	195.4	195.3	195.2
117.5°	222.6	222.3	221.9	221.7	221.4	221.3	221.0	220.9
120°	240.7	240.2	239.7	239.6	239.8	240.0	240.2	240.3
122.5°	259.1	258.8	258.4	258.1	257.7	257.4	257.0	256.7
125°	286.1	285.8	285.7	285.4	285.3	285.0	284.9	284.6
127.5°	311.8	311.6	311.4	311.2	311.1	310.9	310.8	310.6
130°	329.9	329.7	329.5	329.2	328.8	328.4	328.0	327.6
132.5°	346.9	346.7	346.5	346.3	346.1	345.9	345.8	345.6
135°	372.3	372.2	371.9	371.7	371.4	371.1	370.8	370.5
137.5°	397.0	396.7	396.5	396.3	396.4	396.5	396.6	396.6
140°	413.2	413.1	413.0	412.9	412.8	412.7	412.6	412.5
142.5°	428.6	428.6	428.5	428.5	428.5	428.5	428.4	428.4
145°	451.6	451.5	451.4	451.2	450.9	450.6	450.3	450.0
147.5°	472.5	472.5	472.4	472.3	472.2	472.1	472.0	471.9
150°	485.7	485.7	485.7	485.7	485.5	485.4	485.4	485.3
152.5°	498.1	498.4	498.6	498.6	498.4	498.0	497.8	497.6
155°	515.4	515.8	516.3	516.3	515.8	515.4	515.0	514.6
157.5°	530.7	531.0	531.3	531.2	530.9	530.6	530.2	529.9
160°	540.1	540.3	540.7	540.6	540.1	539.6	539.1	538.6
162.5°	548.5	549.1	549.6	549.6	549.1	548.6	548.1	547.6
165°	559.7	560.2	560.9	560.9	560.5	560.2	559.8	559.4
167.5°	569.0	569.7	570.3	570.2	569.7	569.0	568.4	567.8
170°	574.1	574.7	575.3	575.3	574.6	573.9	573.1	572.4
172.5°	577.9	578.6	579.2	579.2	578.5	577.8	577.1	576.5
175°	582.0	582.7	583.4	583.4	582.7	582.0	581.3	580.6
177.5°	584.2	584.8	585.3	585.3	584.7	584.1	583.4	582.7
180°	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2

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