

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: P332874-935

Luminaire Tested: **SA4XXRDIP-C350D590U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332874-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D590U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

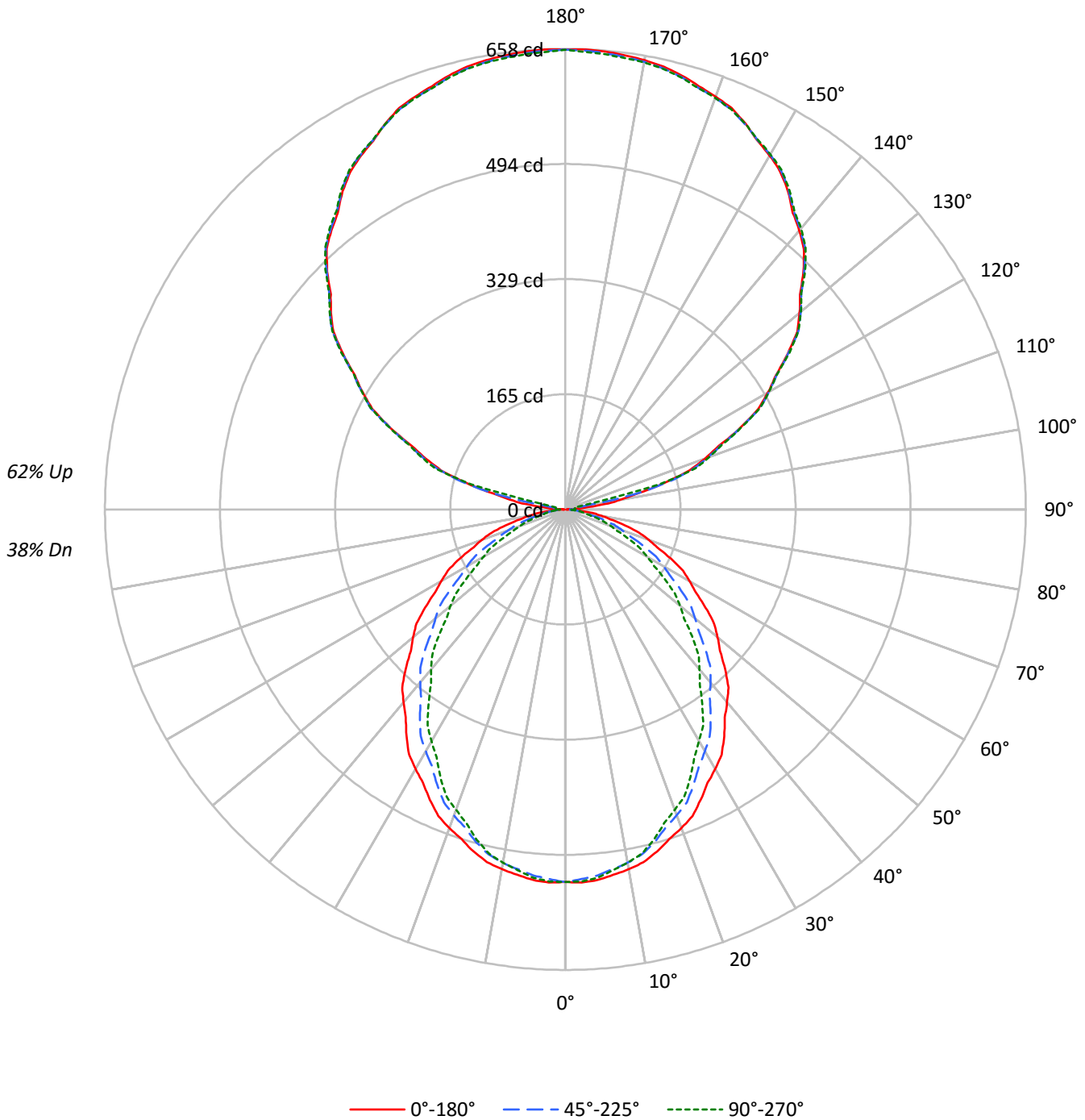
Lumens per Lamp: N/A
Luminaire Lumens: 3262.8 lumens
Efficiency: N/A
Efficacy: 127.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

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	0
RCR																		
0	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	95	91	87	84	86	83	80	77	67	65	63	53	52	50	40	39	38	32
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32	27
3	79	70	63	58	72	64	58	53	52	48	44	42	38	36	31	30	28	23
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	28	26	24	20
5	67	55	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21	18
6	61	50	42	36	56	45	39	34	38	32	29	30	26	24	23	21	19	16
7	57	45	37	32	51	41	34	29	34	29	25	27	24	21	21	19	17	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	22	41	31	25	21	26	21	18	21	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4297	4297	4297
5°	4306	4254	4280
10°	4279	4203	4203
15°	4231	4115	4084
20°	4163	3998	3924
25°	4077	3862	3764
30°	3993	3719	3564
35°	3900	3571	3362
40°	3789	3402	3144
45°	3685	3234	2923
50°	3567	3041	2688
55°	3441	2839	2432
60°	3303	2619	2172
65°	3177	2344	1914
70°	2991	2039	1626
75°	2757	1691	1323
80°	2404	1288	1213
85°	2038	1176	1093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.0	1.5
10°-20°	139.4	4.3
20°-30°	201.3	6.2
30°-40°	228.2	7.0
40°-50°	220.4	6.8
50°-60°	183.2	5.6
60°-70°	126.5	3.9
70°-80°	64.1	2.0
80°-90°	18.4	0.6
90°-100°	22.5	0.7
100°-110°	143.2	4.4
110°-120°	273.9	8.4
120°-130°	347.7	10.7
130°-140°	372.1	11.4
140°-150°	347.9	10.7
150°-160°	280.6	8.6
160°-170°	181.0	5.5
170°-180°	62.4	1.9
0°-30°	390.7	12.0
0°-40°	619.0	19.0
0°-60°	1022.6	31.3
0°-90°	1231.6	37.7
90°-120°	439.6	13.5
90°-150°	1507.3	46.2
90°-180°	2031.0	62.2
0°-180°	3262.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	532	532	532	532	532	
5°	531	530	525	529	528	50
15°	506	502	492	491	489	143
25°	458	450	434	427	423	211
35°	396	382	362	349	341	247
45°	323	307	283	264	256	249
55°	244	228	202	181	173	219
65°	166	148	123	106	100	164
75°	88	73	54	45	42	93
85°	22	14	13	12	12	25
90°	2	7	11	14	15	2
95°	27	11	11	14	14	35
105°	148	151	153	156	140	155
115°	276	277	277	278	278	272
125°	388	390	389	390	391	346
135°	481	481	483	484	485	371
145°	555	556	556	557	558	347
155°	609	609	608	609	608	280
165°	642	640	640	643	639	181
175°	657	654	654	658	653	63
180°	657	657	657	657	657	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	533.6	533.2	533.0	532.7	532.4	531.8	531.1	530.3	529.4	528.7	529.4
5°	531.4	531.1	530.7	530.4	529.9	529.3	528.1	527.1	526.0	525.0	525.8
7.5°	526.6	526.2	525.9	525.5	525.1	524.2	522.8	521.3	520.0	518.6	519.1
10°	522.0	521.6	521.2	520.7	520.2	519.2	517.5	515.9	514.3	512.7	513.1
12.5°	516.2	515.7	515.1	514.6	514.1	512.9	510.9	509.0	507.1	505.1	505.4
15°	506.2	505.3	504.5	503.7	502.9	501.4	499.1	496.8	494.6	492.3	492.1
17.5°	494.0	492.8	491.6	490.5	489.3	487.3	484.7	481.9	479.2	476.5	476.0
20°	484.6	483.4	482.2	481.0	479.8	477.8	474.7	471.6	468.5	465.4	464.7
22.5°	474.2	472.8	471.5	470.2	468.8	466.5	463.2	459.9	456.7	453.3	452.3
25°	457.7	456.1	454.4	452.8	451.2	448.5	444.8	441.1	437.3	433.6	432.0
27.5°	440.4	438.3	436.3	434.3	432.2	429.2	425.2	421.3	417.3	413.4	411.4
30°	428.3	426.0	423.8	421.5	419.3	416.0	411.7	407.5	403.2	399.0	396.7
32.5°	415.6	413.0	410.5	407.9	405.4	401.9	397.5	393.1	388.7	384.4	381.7
35°	395.7	392.8	389.9	387.0	384.1	380.4	375.9	371.3	366.9	362.3	359.2
37.5°	374.4	371.4	368.5	365.5	362.5	358.5	353.4	348.4	343.5	338.5	335.0
40°	359.5	356.5	353.4	350.5	347.5	343.5	338.3	333.1	328.0	322.8	319.0
42.5°	345.1	342.0	338.8	335.7	332.6	328.3	323.0	317.5	312.2	306.8	302.9
45°	322.8	319.4	316.1	312.7	309.4	305.0	299.5	294.1	288.7	283.3	278.8
47.5°	299.7	296.3	292.8	289.3	285.9	281.3	275.7	270.0	264.3	258.7	254.1
50°	284.0	280.5	277.0	273.5	269.9	265.3	259.5	253.7	247.9	242.1	237.5
52.5°	268.1	264.6	261.1	257.7	254.3	249.5	243.6	237.6	231.7	225.8	221.2
55°	244.5	240.9	237.3	233.7	230.1	225.2	219.4	213.5	207.6	201.7	197.0
57.5°	221.2	217.4	213.7	209.9	206.1	201.4	195.5	189.8	184.0	178.1	173.4
60°	204.6	201.0	197.3	193.7	190.1	185.4	179.6	173.7	168.0	162.2	157.5
62.5°	189.6	185.8	182.0	178.3	174.5	169.7	163.8	157.8	151.9	145.9	141.5
65°	166.3	162.4	158.5	154.6	150.7	145.9	140.1	134.2	128.5	122.7	118.8
67.5°	142.1	138.4	134.6	130.9	127.2	122.6	117.2	111.8	106.4	101.1	97.7
70°	126.7	123.0	119.2	115.4	111.5	107.0	101.9	96.7	91.5	86.4	83.4
72.5°	110.5	107.0	103.6	100.1	96.7	92.6	87.6	82.7	77.9	73.0	70.5
75°	88.4	85.1	81.7	78.4	75.0	71.2	67.0	62.7	58.5	54.2	52.1
77.5°	66.1	63.3	60.4	57.6	54.8	51.6	48.1	44.7	41.2	37.8	36.6
80°	51.7	49.2	46.5	43.9	41.2	38.6	35.9	33.1	30.4	27.7	27.5
82.5°	39.3	36.9	34.5	32.1	29.7	27.7	26.2	24.6	23.1	21.5	21.4
85°	22.0	20.2	18.4	16.5	14.7	13.7	13.4	13.2	12.9	12.7	12.5
87.5°	7.8	7.5	7.1	6.8	6.5	6.3	6.5	6.5	6.6	6.7	6.8
90°	1.5	2.7	3.9	5.1	6.3	7.3	8.2	9.0	9.9	10.8	11.5
92.5°	6.2	6.3	6.3	6.4	6.5	6.9	7.8	8.7	9.6	10.4	11.1
95°	27.0	23.3	19.6	15.8	12.1	10.3	10.5	10.6	10.7	10.8	11.5
97.5°	57.3	59.7	62.0	64.3	66.6	61.6	49.5	37.4	25.1	13.0	13.0
100°	80.5	82.5	84.5	86.4	88.4	81.9	66.8	51.7	36.7	21.6	19.7
102.5°	106.5	107.9	109.3	110.8	112.3	112.0	110.0	108.1	106.1	104.1	84.1
105°	147.8	148.5	149.1	149.8	150.4	151.0	151.6	152.1	152.7	153.3	154.2
107.5°	186.2	186.6	186.9	187.2	187.5	188.0	188.8	189.6	190.3	191.1	191.6
110°	212.2	212.5	212.8	213.2	213.4	214.0	214.6	215.2	215.9	216.6	216.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	237.3	237.9	238.5	239.1	239.7	240.1	240.4	240.7	241.1	241.3	241.3
115°	276.0	276.4	276.6	277.0	277.3	277.4	277.3	277.2	277.1	277.0	277.2
117.5°	310.9	311.3	311.8	312.2	312.6	313.0	313.2	313.5	313.7	313.9	313.9
120°	334.5	334.9	335.4	335.8	336.2	336.4	336.3	336.1	336.0	336.0	336.1
122.5°	356.5	356.7	357.0	357.2	357.5	357.7	357.9	358.0	358.2	358.3	358.4
125°	388.0	388.4	388.9	389.3	389.8	389.9	389.6	389.4	389.2	389.0	389.3
127.5°	417.8	417.9	418.1	418.2	418.3	418.6	419.1	419.6	420.1	420.6	420.5
130°	437.1	437.2	437.3	437.5	437.6	437.7	438.1	438.4	438.8	439.1	439.2
132.5°	454.8	455.0	455.2	455.4	455.6	455.9	456.3	456.7	457.1	457.5	457.6
135°	481.3	481.2	481.1	481.0	480.9	481.0	481.5	481.9	482.3	482.8	483.0
137.5°	504.8	504.8	504.9	504.9	505.0	505.2	505.7	506.2	506.7	507.1	507.4
140°	520.1	520.3	520.6	520.7	521.0	521.2	521.4	521.7	521.9	522.1	522.4
142.5°	533.9	534.3	534.7	535.0	535.5	535.7	535.8	536.0	536.1	536.2	536.5
145°	555.0	555.3	555.6	555.9	556.3	556.5	556.5	556.5	556.5	556.5	556.6
147.5°	571.8	572.4	573.0	573.6	574.2	574.5	574.4	574.3	574.1	574.0	574.1
150°	583.9	584.4	584.9	585.3	585.7	585.9	585.7	585.7	585.6	585.4	585.4
152.5°	594.2	594.5	594.9	595.2	595.6	595.6	595.5	595.3	595.0	594.9	595.0
155°	608.6	608.6	608.7	608.8	609.0	608.8	608.6	608.2	607.9	607.5	608.0
157.5°	620.6	620.5	620.4	620.4	620.4	620.1	619.7	619.4	619.0	618.6	619.2
160°	627.7	627.3	627.0	626.7	626.4	626.1	626.0	625.9	625.8	625.7	626.4
162.5°	634.0	633.5	633.1	632.7	632.3	632.1	631.9	631.8	631.7	631.6	632.2
165°	641.9	641.4	640.8	640.2	639.7	639.5	639.5	639.5	639.5	639.5	640.3
167.5°	648.2	647.6	647.0	646.5	645.9	645.6	645.6	645.5	645.4	645.3	646.4
170°	651.8	651.1	650.4	649.8	649.1	648.8	648.9	649.0	649.2	649.3	650.1
172.5°	654.1	653.4	652.8	652.1	651.5	651.2	651.3	651.4	651.5	651.6	652.6
175°	656.7	656.0	655.3	654.7	654.0	653.8	653.8	654.0	654.1	654.2	655.1
177.5°	657.8	657.2	656.6	656.0	655.4	655.1	655.3	655.5	655.7	655.8	656.6
180°	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	530.3	531.1	531.8	532.2	532.1	532.1	532.0	531.9
5°	526.8	527.6	528.6	528.9	528.7	528.6	528.3	528.1
7.5°	519.7	520.3	520.9	521.0	520.7	520.5	520.1	519.9
10°	513.4	513.8	514.1	514.1	513.8	513.4	513.1	512.7
12.5°	505.6	505.8	506.1	505.9	505.4	504.9	504.4	503.9
15°	492.0	491.8	491.5	491.2	490.5	489.9	489.3	488.6
17.5°	475.4	475.0	474.5	473.7	472.8	471.8	470.9	469.9
20°	464.0	463.2	462.5	461.6	460.4	459.2	458.1	456.8
22.5°	451.2	450.0	449.0	448.0	447.0	446.1	445.1	444.1
25°	430.5	429.0	427.5	426.3	425.3	424.4	423.5	422.6
27.5°	409.5	407.6	405.7	404.2	402.8	401.5	400.2	398.9
30°	394.4	392.2	389.9	388.1	386.6	385.2	383.7	382.3
32.5°	379.1	376.4	373.8	371.8	370.4	369.0	367.6	366.3
35°	356.1	353.1	350.0	347.7	346.0	344.4	342.8	341.1
37.5°	331.6	328.1	324.7	322.1	320.5	318.8	317.2	315.6
40°	315.1	311.3	307.5	304.9	303.2	301.6	300.0	298.3
42.5°	299.0	295.2	291.3	288.5	286.8	285.1	283.4	281.7
45°	274.4	269.9	265.4	262.4	260.8	259.2	257.5	256.0
47.5°	249.5	244.9	240.3	237.1	235.3	233.5	231.7	230.0
50°	233.0	228.5	223.9	220.8	219.1	217.4	215.7	214.0
52.5°	216.5	212.0	207.4	204.1	202.4	200.6	198.8	197.0
55°	192.3	187.6	182.9	179.7	178.0	176.2	174.5	172.8
57.5°	168.6	163.8	159.0	156.0	154.7	153.4	152.1	150.8
60°	152.7	148.1	143.4	140.3	138.8	137.4	136.0	134.5
62.5°	137.2	132.9	128.5	125.8	124.6	123.5	122.3	121.1
65°	114.9	111.0	107.1	104.6	103.5	102.5	101.3	100.2
67.5°	94.4	91.0	87.6	85.4	84.2	83.0	81.8	80.6
70°	80.4	77.4	74.5	72.5	71.5	70.7	69.7	68.9
72.5°	67.9	65.3	62.9	61.1	60.3	59.5	58.6	57.8
75°	50.0	48.0	45.9	44.6	44.0	43.5	43.0	42.4
77.5°	35.4	34.2	33.0	32.3	32.1	31.9	31.8	31.6
80°	27.2	26.9	26.6	26.4	26.3	26.3	26.2	26.1
82.5°	21.1	20.9	20.8	20.6	20.5	20.4	20.3	20.2
85°	12.3	12.1	11.9	11.8	11.8	11.8	11.8	11.8
87.5°	6.8	6.9	7.0	7.1	7.1	7.3	7.4	7.5
90°	12.1	12.7	13.4	13.9	14.1	14.3	14.6	14.7
92.5°	11.7	12.4	13.0	13.3	13.4	13.4	13.5	13.5
95°	12.1	12.7	13.4	13.8	13.9	14.0	14.1	14.2
97.5°	13.1	13.2	13.3	13.3	13.4	13.5	13.6	13.8
100°	17.9	16.0	14.2	13.3	13.4	13.5	13.6	13.8
102.5°	64.1	44.1	24.0	14.0	14.1	14.1	14.1	14.1
105°	155.2	156.2	157.1	155.7	151.8	147.8	143.9	140.0
107.5°	192.0	192.5	193.0	193.4	193.8	194.2	194.7	195.1
110°	217.1	217.2	217.5	217.7	218.1	218.3	218.7	219.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	241.3	241.3	241.2	241.3	241.8	242.2	242.6	243.0
115°	277.4	277.7	277.8	278.0	278.0	278.0	278.0	278.0
117.5°	313.8	313.8	313.7	313.7	313.7	313.7	313.6	313.6
120°	336.4	336.6	336.8	336.8	336.6	336.4	336.1	336.0
122.5°	358.6	358.7	358.9	358.8	358.6	358.3	358.2	357.9
125°	389.6	389.9	390.3	390.5	390.6	390.7	390.8	391.0
127.5°	420.5	420.4	420.3	420.3	420.2	420.1	420.0	419.9
130°	439.3	439.4	439.5	439.5	439.5	439.5	439.5	439.5
132.5°	457.8	457.9	458.0	458.0	457.9	457.8	457.7	457.6
135°	483.2	483.5	483.6	483.9	484.1	484.3	484.6	484.7
137.5°	507.6	507.9	508.1	508.2	508.2	508.1	508.0	507.9
140°	522.7	523.1	523.4	523.6	523.7	523.8	523.9	524.0
142.5°	536.7	536.9	537.2	537.4	537.4	537.4	537.4	537.4
145°	556.6	556.8	556.9	557.1	557.2	557.5	557.8	557.9
147.5°	574.2	574.3	574.4	574.5	574.6	574.7	574.8	574.9
150°	585.4	585.4	585.4	585.5	585.6	585.7	585.8	585.9
152.5°	595.2	595.4	595.6	595.6	595.6	595.5	595.4	595.4
155°	608.4	608.8	609.2	609.3	609.0	608.6	608.4	608.0
157.5°	619.7	620.4	620.9	620.9	620.4	619.7	619.2	618.6
160°	627.0	627.7	628.4	628.4	627.7	627.0	626.4	625.7
162.5°	632.9	633.5	634.2	634.2	633.4	632.7	632.0	631.2
165°	641.2	642.0	643.0	642.9	641.9	640.9	640.0	638.9
167.5°	647.3	648.2	649.2	649.1	648.1	647.0	645.8	644.8
170°	651.0	651.9	652.8	652.6	651.6	650.5	649.4	648.3
172.5°	653.4	654.3	655.1	655.0	653.8	652.6	651.4	650.2
175°	656.2	657.1	658.1	658.0	656.7	655.3	654.0	652.7
177.5°	657.3	658.0	658.7	658.5	657.5	656.4	655.3	654.3
180°	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7

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