

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: P331474-830

Luminaire Tested: **S122DIW-S290D710U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331474-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D710U830-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3447.9 lumens
Efficiency: N/A
Efficacy: 113.4 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: Semi-Indirect

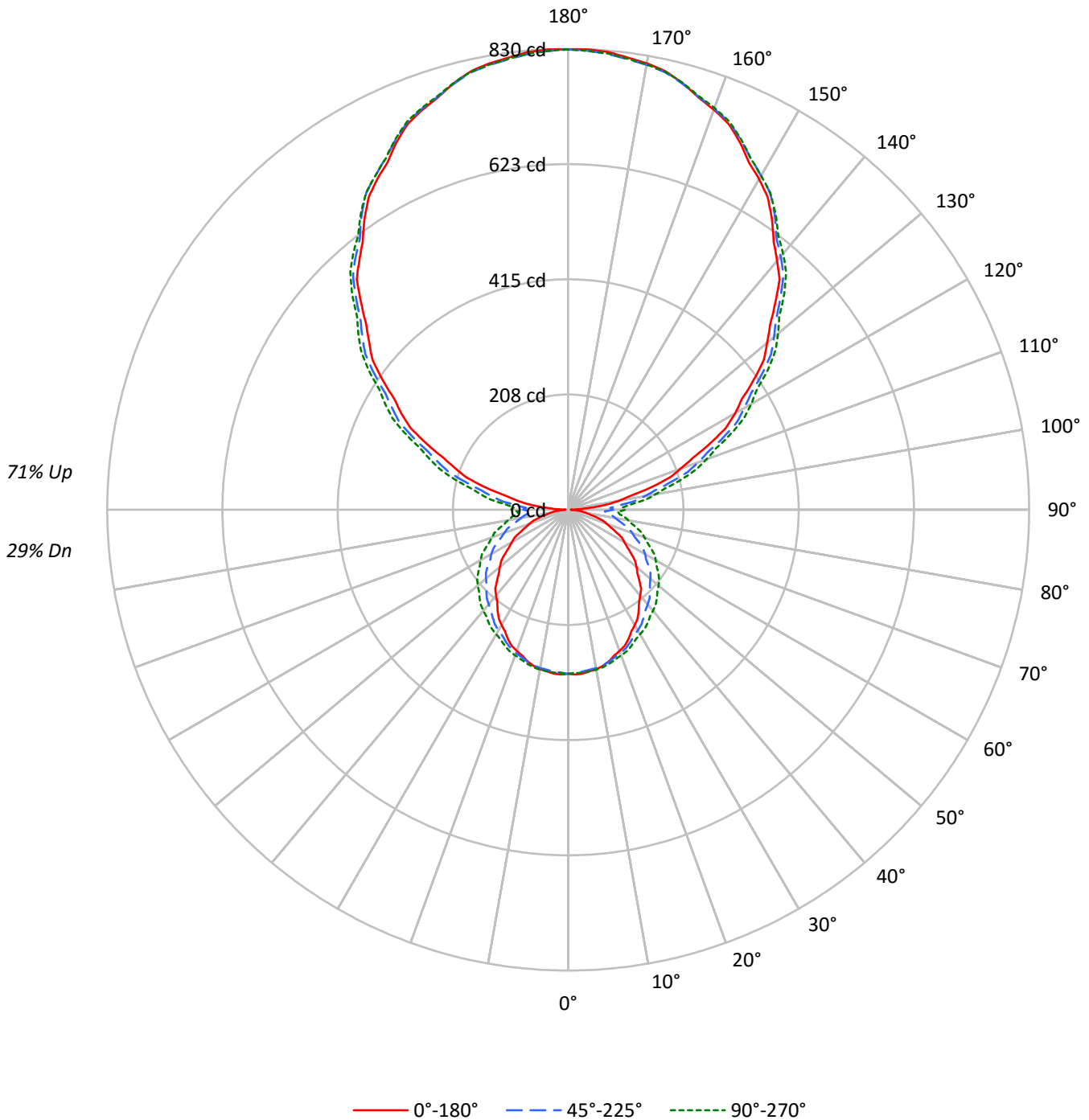
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	29				
1	92	88	84	80	82	79	75	72	61	59	57	46	44	43	31	30	29	23				
2	84	76	70	64	74	68	63	58	53	50	46	40	37	35	27	25	24	18				
3	76	66	59	53	68	60	53	48	47	42	38	35	32	29	24	22	20	15				
4	69	58	51	45	62	52	46	40	41	36	32	31	27	25	21	19	17	13				
5	63	52	44	38	56	47	40	34	37	32	28	27	24	21	19	16	15	11				
6	58	46	38	32	52	42	35	30	33	28	24	25	21	18	17	15	13	9				
7	54	42	34	28	48	37	31	26	30	25	21	22	19	16	15	13	11	8				
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	12	10	7				
9	46	34	27	22	41	31	24	20	24	20	16	19	15	13	13	11	9	7				
10	43	31	24	19	38	28	22	18	22	18	14	17	14	11	12	10	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4771	4771	4771
5°	4794	4593	4573
10°	4763	4457	4407
15°	4698	4312	4229
20°	4614	4159	4059
25°	4533	4009	3902
30°	4418	3857	3747
35°	4301	3711	3638
40°	4178	3584	3528
45°	4060	3473	3434
50°	3936	3371	3343
55°	3802	3261	3248
60°	3643	3149	3150
65°	3474	3016	3031
70°	3286	2872	2904
75°	3050	2735	2786
80°	2669	2592	2667
85°	2319	2468	2574



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.0	0.8
10°-20°	80.3	2.3
20°-30°	121.6	3.5
30°-40°	148.2	4.3
40°-50°	159.4	4.6
50°-60°	154.8	4.5
60°-70°	135.2	3.9
70°-80°	104.1	3.0
80°-90°	73.1	2.1
90°-100°	100.6	2.9
100°-110°	198.2	5.7
110°-120°	302.0	8.8
120°-130°	379.6	11.0
130°-140°	417.0	12.1
140°-150°	404.4	11.7
150°-160°	338.4	9.8
160°-170°	224.5	6.5
170°-180°	78.5	2.3
0°-30°	229.9	6.7
0°-40°	378.1	11.0
0°-60°	692.3	20.1
0°-90°	1004.7	29.1
90°-120°	600.9	17.4
90°-150°	1801.9	52.3
90°-180°	2443.0	70.9
0°-180°	3447.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	296	296	296	296	296	
5°	296	295	292	295	294	28
15°	283	283	283	287	287	80
25°	257	260	264	269	270	118
35°	221	229	237	246	249	138
45°	182	193	208	221	226	140
55°	139	155	177	192	198	124
65°	95	116	141	158	164	94
75°	53	77	104	122	128	56
85°	16	42	69	87	93	17
90°	5	39	81	96	102	5
95°	40	67	94	110	114	44
105°	152	168	191	206	212	161
115°	281	291	308	320	323	278
125°	408	414	426	435	438	365
135°	527	535	540	548	550	407
145°	639	644	648	651	651	399
155°	731	733	735	738	736	336
165°	795	795	795	799	796	224
175°	827	825	824	828	825	79
180°	829	829	829	829	829	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	297.2	296.9	296.7	296.4	296.2	295.9	295.3	294.8	294.3	293.7	294.1
5°	296.3	296.1	295.8	295.5	295.1	294.7	294.2	293.6	293.0	292.5	293.0
7.5°	293.6	293.4	293.2	293.0	292.8	292.6	292.1	291.7	291.2	290.8	291.5
10°	291.6	291.4	291.2	291.1	290.9	290.6	290.3	290.0	289.7	289.5	290.2
12.5°	288.1	288.2	288.2	288.3	288.3	288.2	288.0	287.9	287.6	287.4	288.1
15°	282.6	282.8	283.0	283.1	283.3	283.4	283.4	283.4	283.4	283.4	284.3
17.5°	275.4	275.8	276.2	276.6	277.0	277.4	277.7	278.0	278.2	278.6	279.5
20°	270.6	271.1	271.5	272.0	272.5	273.0	273.3	273.7	274.1	274.5	275.5
22.5°	265.5	266.0	266.6	267.1	267.7	268.2	268.7	269.3	269.8	270.3	271.4
25°	256.9	257.6	258.3	258.9	259.6	260.3	261.2	262.0	262.9	263.7	264.9
27.5°	246.7	247.7	248.8	249.9	251.0	252.0	253.0	254.0	255.1	256.1	257.5
30°	239.8	241.0	242.2	243.5	244.7	246.0	247.2	248.5	249.7	250.9	252.4
32.5°	232.2	233.7	235.0	236.4	237.8	239.2	240.7	242.1	243.6	245.1	246.9
35°	221.4	223.0	224.6	226.2	227.8	229.5	231.4	233.2	235.0	236.8	238.8
37.5°	209.5	211.4	213.3	215.2	217.0	219.1	221.5	223.8	226.1	228.5	230.8
40°	201.7	203.8	205.9	207.9	210.0	212.4	214.9	217.5	220.1	222.6	225.1
42.5°	194.2	196.2	198.3	200.4	202.6	205.0	208.0	210.9	213.9	216.8	219.5
45°	181.5	184.1	186.7	189.3	191.8	194.7	198.1	201.4	204.7	208.1	211.0
47.5°	169.1	171.9	174.7	177.5	180.3	183.7	187.6	191.4	195.4	199.3	202.4
50°	160.6	163.5	166.5	169.4	172.4	176.0	180.3	184.5	188.8	193.1	196.3
52.5°	152.3	155.4	158.5	161.6	164.8	168.5	173.1	177.6	182.1	186.6	189.9
55°	139.1	142.6	146.0	149.4	152.9	157.0	162.0	166.9	171.9	176.8	180.3
57.5°	126.1	130.0	133.8	137.7	141.6	146.0	151.1	156.1	161.2	166.3	169.9
60°	116.9	121.0	125.1	129.1	133.3	138.0	143.5	148.8	154.3	159.7	163.3
62.5°	108.7	112.9	117.2	121.4	125.6	130.4	135.9	141.3	146.8	152.2	156.0
65°	95.0	99.7	104.3	109.1	113.7	118.9	124.4	130.1	135.7	141.3	145.2
67.5°	82.6	87.5	92.3	97.2	102.1	107.4	113.1	118.9	124.6	130.4	134.3
70°	73.6	78.6	83.5	88.5	93.4	98.9	104.7	110.7	116.6	122.4	126.6
72.5°	65.4	70.5	75.6	80.7	85.9	91.3	97.4	103.3	109.3	115.3	119.3
75°	52.7	58.0	63.3	68.6	74.0	79.6	85.8	91.9	97.9	104.1	108.1
77.5°	40.3	45.9	51.5	57.0	62.7	68.5	74.7	80.9	87.1	93.2	97.4
80°	32.1	37.9	43.7	49.5	55.3	61.4	67.5	73.7	79.8	86.1	90.0
82.5°	25.3	31.0	36.8	42.4	48.2	54.2	60.4	66.7	73.0	79.2	83.2
85°	15.5	21.3	27.2	33.1	39.0	45.0	51.1	57.2	63.2	69.4	73.3
87.5°	8.6	14.6	20.6	26.7	32.7	39.1	45.9	52.7	59.5	66.2	70.0
90°	5.0	12.3	19.8	27.1	34.5	43.0	52.5	62.0	71.4	81.0	84.5
92.5°	16.4	22.9	29.4	35.9	42.4	49.0	55.7	62.3	69.0	75.7	79.5
95°	39.8	45.8	51.8	57.9	63.9	69.9	76.0	82.0	87.9	94.0	97.6
97.5°	69.5	74.7	80.1	85.5	90.9	96.5	102.6	108.7	114.7	120.8	124.3
100°	91.8	96.6	101.3	106.1	110.8	116.1	122.0	127.7	133.6	139.3	142.9
102.5°	115.0	119.2	123.4	127.6	131.9	136.9	142.6	148.4	154.1	159.9	163.4
105°	152.5	155.7	159.0	162.2	165.4	169.7	174.9	180.2	185.4	190.7	194.4
107.5°	190.8	193.7	196.5	199.4	202.4	206.1	210.8	215.7	220.4	225.1	228.4
110°	215.0	217.9	220.7	223.6	226.4	230.2	234.8	239.4	244.1	248.7	251.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	241.9	244.4	246.9	249.5	252.0	255.4	259.8	264.1	268.3	272.7	275.3
115°	281.4	283.4	285.4	287.4	289.4	292.4	296.3	300.3	304.3	308.2	310.9
117.5°	320.5	322.4	324.3	326.3	328.2	330.7	333.8	336.9	340.0	343.1	345.5
120°	346.8	348.5	350.1	351.7	353.3	355.3	358.0	360.5	363.1	365.6	368.3
122.5°	370.9	372.5	374.2	375.8	377.4	379.6	382.3	385.0	387.8	390.4	392.7
125°	407.9	409.3	410.8	412.1	413.5	415.5	418.1	420.7	423.2	425.8	427.9
127.5°	444.4	446.1	447.8	449.5	451.1	452.9	454.8	456.7	458.6	460.5	462.3
130°	467.4	469.3	471.2	473.2	475.0	476.8	478.5	480.2	481.9	483.6	485.6
132.5°	493.1	494.6	496.2	497.8	499.4	500.9	502.5	504.1	505.7	507.3	508.8
135°	527.1	528.8	530.5	532.3	534.0	535.5	536.7	537.9	539.2	540.5	542.3
137.5°	563.4	564.7	566.1	567.4	568.8	570.0	570.8	571.6	572.4	573.3	574.9
140°	585.1	586.4	587.8	589.1	590.3	591.4	592.5	593.4	594.4	595.4	596.9
142.5°	607.6	608.8	610.1	611.4	612.7	613.7	614.3	614.8	615.4	616.0	617.3
145°	639.2	640.4	641.4	642.5	643.7	644.6	645.5	646.5	647.4	648.4	649.1
147.5°	668.0	669.2	670.5	671.8	673.2	674.1	674.8	675.3	676.0	676.7	677.0
150°	687.5	688.4	689.4	690.3	691.3	692.0	692.7	693.2	693.9	694.6	695.0
152.5°	704.8	705.8	706.7	707.7	708.6	709.5	710.2	711.0	711.7	712.5	713.0
155°	730.8	731.3	731.8	732.3	732.7	733.2	733.7	734.1	734.6	735.1	735.8
157.5°	753.1	753.5	753.8	754.0	754.4	754.7	755.0	755.3	755.5	755.8	756.9
160°	766.6	766.9	767.1	767.5	767.8	768.1	768.2	768.4	768.5	768.6	769.6
162.5°	778.8	778.9	779.0	779.0	779.1	779.2	779.4	779.6	779.7	779.9	780.9
165°	795.2	795.0	794.9	794.8	794.7	794.6	794.6	794.6	794.6	794.6	795.6
167.5°	809.0	808.5	808.0	807.6	807.1	806.8	806.8	806.7	806.7	806.7	807.8
170°	816.2	815.8	815.3	814.8	814.4	814.1	813.9	813.7	813.6	813.4	814.5
172.5°	821.2	820.8	820.3	819.8	819.4	819.1	818.9	818.8	818.6	818.4	819.5
175°	827.4	827.0	826.5	826.0	825.6	825.2	824.8	824.5	824.3	823.9	825.0
177.5°	829.9	829.5	829.2	828.8	828.4	828.1	827.8	827.6	827.4	827.1	827.8
180°	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	294.5	294.8	295.2	295.4	295.2	295.0	294.9	294.7
5°	293.6	294.2	294.7	294.9	294.8	294.7	294.6	294.5
7.5°	292.2	292.8	293.6	293.9	293.8	293.7	293.6	293.5
10°	291.0	291.7	292.5	292.8	292.8	292.7	292.6	292.5
12.5°	288.9	289.6	290.4	290.8	290.7	290.6	290.5	290.4
15°	285.1	286.1	286.9	287.3	287.2	287.1	287.0	286.9
17.5°	280.4	281.3	282.1	282.6	282.6	282.6	282.6	282.6
20°	276.5	277.6	278.6	279.2	279.2	279.2	279.2	279.2
22.5°	272.5	273.5	274.6	275.1	275.3	275.4	275.6	275.8
25°	266.1	267.2	268.3	269.0	269.3	269.6	269.8	270.1
27.5°	258.9	260.4	261.8	262.7	262.9	263.1	263.3	263.5
30°	253.9	255.5	257.0	257.9	258.2	258.4	258.7	259.0
32.5°	248.5	250.3	252.1	253.3	253.7	254.3	254.8	255.2
35°	241.0	243.1	245.2	246.6	247.2	247.9	248.5	249.2
37.5°	233.1	235.4	237.8	239.3	240.0	240.7	241.4	242.0
40°	227.6	230.1	232.5	234.2	235.1	235.9	236.8	237.6
42.5°	222.3	224.9	227.6	229.4	230.3	231.1	232.0	232.8
45°	214.0	217.0	219.9	221.9	222.8	223.8	224.7	225.6
47.5°	205.5	208.5	211.6	213.7	214.7	215.7	216.8	217.8
50°	199.5	202.8	206.0	208.2	209.2	210.3	211.3	212.4
52.5°	193.2	196.5	199.8	202.1	203.2	204.3	205.5	206.5
55°	183.7	187.1	190.6	192.8	194.1	195.4	196.6	197.8
57.5°	173.6	177.3	181.0	183.4	184.7	186.0	187.2	188.5
60°	166.9	170.6	174.2	176.6	178.0	179.3	180.7	182.0
62.5°	159.9	163.7	167.6	170.1	171.4	172.6	173.9	175.1
65°	149.1	153.0	156.9	159.5	160.7	161.9	163.2	164.4
67.5°	138.2	142.1	146.1	148.7	150.0	151.3	152.6	153.9
70°	130.6	134.7	138.8	141.5	142.6	143.7	144.9	146.0
72.5°	123.3	127.3	131.3	134.0	135.3	136.8	138.2	139.5
75°	112.3	116.3	120.5	123.1	124.3	125.5	126.8	128.0
77.5°	101.4	105.5	109.5	112.3	113.6	114.9	116.2	117.5
80°	94.1	98.0	102.1	104.7	106.0	107.4	108.7	110.0
82.5°	87.2	91.2	95.2	97.8	99.1	100.4	101.6	102.8
85°	77.4	81.3	85.4	88.0	89.4	90.7	92.0	93.3
87.5°	73.9	77.7	81.5	84.0	85.3	86.5	87.8	89.0
90°	88.0	91.5	95.0	97.4	98.7	100.0	101.2	102.5
92.5°	83.2	87.1	90.9	93.3	94.5	95.7	96.9	98.0
95°	101.2	104.8	108.5	110.7	111.5	112.4	113.2	114.0
97.5°	127.9	131.4	134.9	137.2	138.3	139.4	140.4	141.6
100°	146.4	149.9	153.4	155.6	156.6	157.4	158.3	159.2
102.5°	167.0	170.6	174.2	176.3	177.3	178.1	179.1	179.9
105°	197.9	201.6	205.3	207.6	208.7	209.7	210.8	211.8
107.5°	231.8	235.1	238.4	240.2	240.5	240.9	241.2	241.6
110°	254.9	257.9	261.0	262.8	263.3	263.9	264.5	265.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	278.1	280.7	283.3	285.0	285.8	286.4	287.2	287.9
115°	313.7	316.3	319.1	320.7	321.3	321.9	322.4	323.0
117.5°	348.0	350.4	352.9	354.3	354.9	355.3	355.8	356.4
120°	371.0	373.6	376.3	378.0	378.5	379.1	379.7	380.2
122.5°	394.8	397.1	399.3	400.7	401.2	401.8	402.4	402.9
125°	430.0	432.2	434.2	435.6	436.3	437.1	437.7	438.5
127.5°	464.1	465.9	467.7	468.7	469.1	469.5	469.8	470.1
130°	487.6	489.6	491.5	492.6	492.7	492.9	492.9	493.1
132.5°	510.4	511.9	513.4	514.3	514.5	514.8	515.1	515.4
135°	544.1	546.0	547.8	548.9	549.2	549.5	549.8	550.1
137.5°	576.5	578.1	579.8	580.6	580.6	580.6	580.6	580.7
140°	598.4	599.9	601.4	602.2	602.1	602.1	602.0	602.0
142.5°	618.6	620.0	621.3	621.9	621.8	621.7	621.5	621.4
145°	649.8	650.5	651.3	651.6	651.4	651.3	651.1	651.0
147.5°	677.4	677.9	678.3	678.3	678.0	677.6	677.2	676.8
150°	695.4	695.9	696.4	696.4	695.9	695.4	695.0	694.6
152.5°	713.6	714.2	714.8	714.8	714.2	713.6	713.0	712.5
155°	736.6	737.4	738.2	738.4	737.9	737.4	737.0	736.5
157.5°	757.9	758.9	760.0	760.2	759.4	758.7	757.9	757.1
160°	770.5	771.5	772.4	772.5	771.9	771.3	770.7	770.1
162.5°	781.9	783.1	784.1	784.2	783.4	782.8	782.0	781.3
165°	796.7	797.8	798.9	799.1	798.2	797.5	796.7	796.0
167.5°	808.9	809.9	811.1	811.2	810.4	809.5	808.8	807.9
170°	815.6	816.7	817.7	817.8	816.9	816.0	815.0	814.1
172.5°	820.7	821.7	822.8	822.8	822.0	821.0	820.1	819.2
175°	826.0	827.2	828.3	828.3	827.4	826.5	825.6	824.6
177.5°	828.6	829.3	830.1	830.1	829.3	828.6	827.8	827.1
180°	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8

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