

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: P331253-840

Luminaire Tested: **SA2XXDIP-C290D530U840-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331253-840
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-C290D530U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3118.5 lumens
Efficiency: N/A
Efficacy: 121.8 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

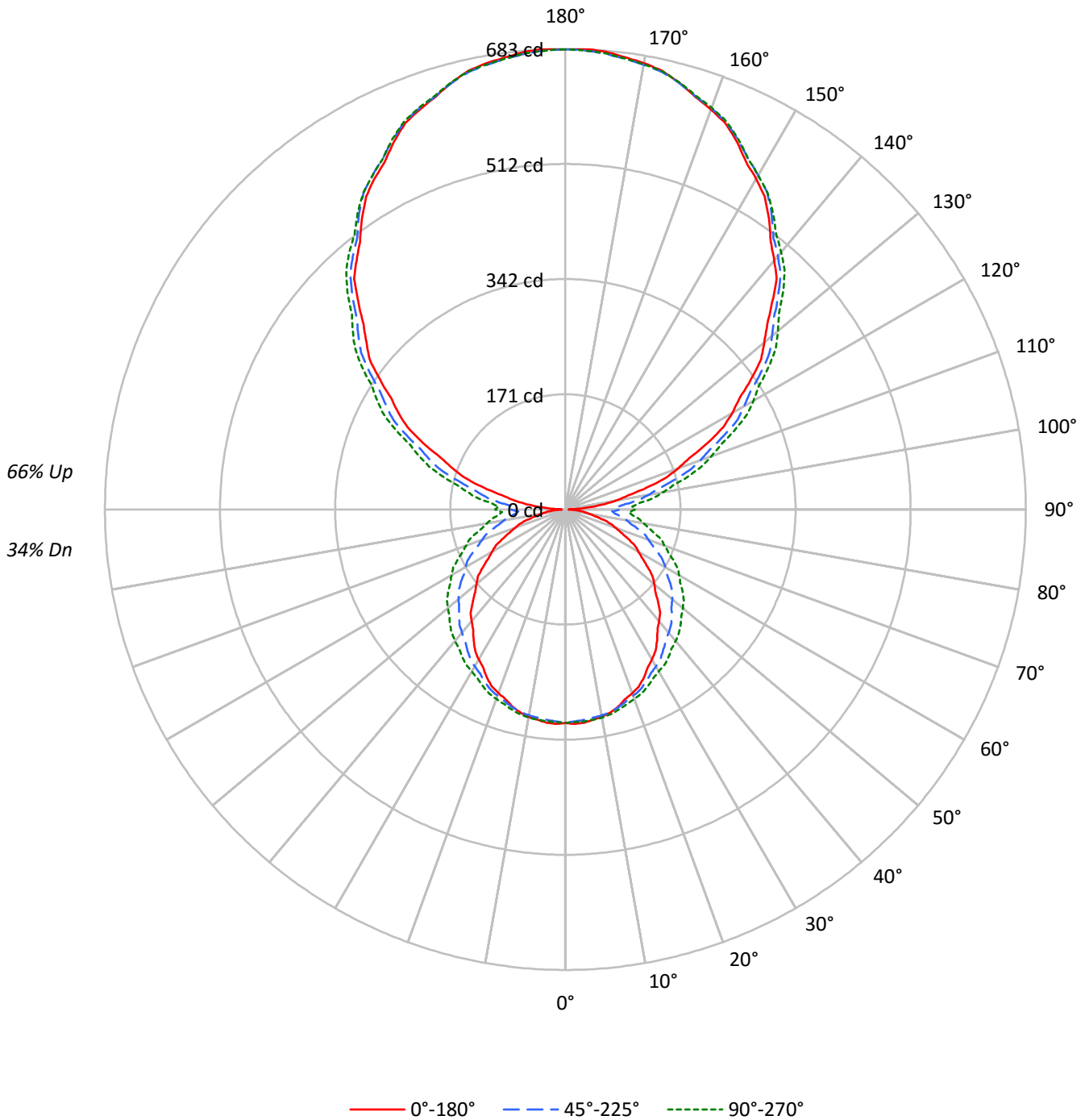
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	34
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	30	29	27	22
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	27	24	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	24	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	25	23	21	19	17	13
6	59	47	39	33	53	42	35	30	34	29	25	26	22	20	19	16	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	25	20	17	20	16	13	15	12	10	8
10	44	32	24	20	39	29	22	18	23	18	15	18	15	12	14	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5112	5112	5112
5°	5137	4921	4901
10°	5105	4774	4722
15°	5033	4621	4531
20°	4944	4456	4348
25°	4857	4297	4181
30°	4733	4133	4015
35°	4608	3975	3898
40°	4476	3840	3780
45°	4351	3721	3681
50°	4218	3612	3581
55°	4076	3496	3482
60°	3902	3373	3374
65°	3723	3232	3247
70°	3523	3079	3110
75°	3270	2929	2984
80°	2861	2776	2858
85°	2484	2642	2759



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.0	1.0
10°-20°	86.0	2.8
20°-30°	130.3	4.2
30°-40°	158.8	5.1
40°-50°	170.8	5.5
50°-60°	165.9	5.3
60°-70°	144.8	4.6
70°-80°	111.5	3.6
80°-90°	77.5	2.5
90°-100°	94.8	3.0
100°-110°	171.9	5.5
110°-120°	254.4	8.2
120°-130°	315.8	10.1
130°-140°	344.7	11.1
140°-150°	333.2	10.7
150°-160°	278.7	8.9
160°-170°	184.8	5.9
170°-180°	64.6	2.1
0°-30°	246.3	7.9
0°-40°	405.1	13.0
0°-60°	741.7	23.8
0°-90°	1075.6	34.5
90°-120°	521.1	16.7
90°-150°	1514.8	48.6
90°-180°	2043.0	65.5
0°-180°	3118.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	317	317	317	317	317	
5°	318	316	313	316	316	30
15°	303	304	304	308	307	85
25°	275	278	283	288	289	127
35°	237	245	254	263	267	148
45°	194	207	223	237	242	150
55°	149	166	190	205	212	133
65°	102	125	151	170	176	101
75°	56	82	112	130	137	60
85°	17	45	74	93	100	18
90°	5	39	81	97	104	5
95°	34	61	90	106	111	37
105°	126	142	166	183	188	133
115°	232	241	260	273	277	229
125°	336	342	354	364	368	300
135°	434	440	446	455	457	335
145°	526	530	534	537	537	329
155°	602	604	605	608	606	277
165°	655	654	654	658	655	185
175°	681	680	678	682	679	65
180°	682	682	682	682	682	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	318.4	318.1	317.9	317.6	317.4	317.0	316.4	315.9	315.3	314.7	315.1
5°	317.5	317.2	316.9	316.6	316.2	315.8	315.2	314.6	314.0	313.4	314.0
7.5°	314.6	314.4	314.2	314.0	313.8	313.5	313.0	312.6	312.0	311.5	312.4
10°	312.5	312.3	312.0	311.8	311.6	311.3	311.0	310.7	310.4	310.1	310.9
12.5°	308.7	308.8	308.8	308.9	308.9	308.8	308.6	308.4	308.1	307.9	308.7
15°	302.8	303.0	303.2	303.4	303.6	303.7	303.7	303.7	303.7	303.7	304.6
17.5°	295.1	295.5	295.9	296.4	296.8	297.2	297.5	297.8	298.1	298.5	299.4
20°	289.9	290.4	290.9	291.4	292.0	292.5	292.9	293.3	293.7	294.1	295.2
22.5°	284.5	285.0	285.6	286.2	286.8	287.4	287.9	288.5	289.1	289.6	290.7
25°	275.3	276.0	276.7	277.4	278.1	278.9	279.8	280.7	281.7	282.6	283.8
27.5°	264.3	265.4	266.6	267.7	268.9	270.0	271.0	272.2	273.3	274.4	275.9
30°	256.9	258.2	259.5	260.8	262.2	263.6	264.9	266.2	267.5	268.8	270.4
32.5°	248.8	250.3	251.8	253.3	254.8	256.3	257.9	259.4	261.1	262.6	264.5
35°	237.2	238.9	240.7	242.4	244.1	245.9	247.9	249.8	251.8	253.7	255.9
37.5°	224.5	226.5	228.5	230.6	232.5	234.8	237.3	239.7	242.3	244.8	247.3
40°	216.1	218.3	220.6	222.8	225.0	227.5	230.2	233.1	235.8	238.5	241.2
42.5°	208.0	210.3	212.5	214.7	217.0	219.6	222.9	226.0	229.1	232.3	235.2
45°	194.5	197.2	200.1	202.8	205.5	208.6	212.3	215.8	219.3	223.0	226.1
47.5°	181.2	184.2	187.2	190.2	193.2	196.8	201.0	205.1	209.3	213.5	216.8
50°	172.1	175.2	178.3	181.5	184.7	188.5	193.2	197.7	202.3	206.9	210.4
52.5°	163.2	166.5	169.9	173.2	176.5	180.6	185.4	190.3	195.1	200.0	203.5
55°	149.1	152.8	156.4	160.1	163.8	168.2	173.6	178.8	184.2	189.5	193.2
57.5°	135.1	139.3	143.4	147.5	151.7	156.4	161.9	167.2	172.7	178.1	182.1
60°	125.2	129.7	134.0	138.4	142.8	147.8	153.7	159.5	165.3	171.1	175.0
62.5°	116.4	121.0	125.5	130.1	134.6	139.8	145.6	151.4	157.2	163.1	167.1
65°	101.8	106.8	111.8	116.8	121.8	127.3	133.3	139.4	145.4	151.4	155.6
67.5°	88.5	93.7	98.9	104.1	109.4	115.0	121.2	127.3	133.5	139.7	143.9
70°	78.9	84.2	89.5	94.8	100.1	105.9	112.2	118.6	124.9	131.2	135.6
72.5°	70.1	75.5	81.0	86.4	92.0	97.9	104.3	110.7	117.1	123.5	127.8
75°	56.5	62.1	67.9	73.5	79.3	85.3	91.9	98.5	104.9	111.5	115.8
77.5°	43.2	49.2	55.1	61.1	67.2	73.4	80.1	86.6	93.3	99.9	104.3
80°	34.4	40.6	46.9	53.0	59.3	65.7	72.3	79.0	85.5	92.2	96.4
82.5°	27.1	33.2	39.4	45.4	51.6	58.1	64.7	71.5	78.2	84.8	89.2
85°	16.6	22.8	29.2	35.4	41.8	48.2	54.7	61.3	67.8	74.3	78.6
87.5°	9.1	15.5	21.9	28.3	34.6	41.4	48.5	55.5	62.6	69.7	73.8
90°	5.2	12.6	20.1	27.5	34.9	43.3	52.7	62.0	71.4	80.7	84.5
92.5°	14.4	21.1	27.8	34.3	41.0	47.8	54.7	61.7	68.7	75.5	79.6
95°	33.6	39.7	45.7	51.8	57.9	64.1	70.5	76.9	83.2	89.6	93.5
97.5°	58.0	63.3	68.7	74.1	79.5	85.3	91.7	98.1	104.4	110.8	114.5
100°	76.3	81.1	85.9	90.7	95.5	101.0	107.0	113.2	119.3	125.3	129.2
102.5°	95.3	99.6	103.8	108.2	112.4	117.5	123.6	129.6	135.6	141.7	145.4
105°	126.1	129.5	132.8	136.1	139.5	143.9	149.5	155.0	160.6	166.1	170.0
107.5°	157.5	160.5	163.4	166.3	169.3	173.3	178.3	183.4	188.5	193.6	197.1
110°	177.4	180.3	183.1	185.9	188.7	192.6	197.6	202.6	207.6	212.6	215.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	199.5	202.1	204.6	207.0	209.5	213.1	217.7	222.4	227.0	231.7	234.6
115°	232.2	234.1	236.0	237.8	239.7	242.9	247.2	251.6	255.8	260.1	263.1
117.5°	264.2	266.0	267.7	269.4	271.2	273.9	277.4	280.9	284.5	288.0	290.6
120°	285.9	287.3	288.7	290.1	291.5	293.9	296.9	299.9	303.0	306.1	308.9
122.5°	305.7	307.1	308.4	309.8	311.2	313.5	316.6	319.7	322.9	326.0	328.4
125°	336.1	337.2	338.4	339.5	340.7	342.6	345.6	348.4	351.3	354.2	356.6
127.5°	366.2	367.5	368.8	370.2	371.5	373.3	375.5	377.7	379.8	382.0	384.1
130°	385.1	386.6	388.2	389.7	391.2	393.0	394.9	396.8	398.7	400.5	402.7
132.5°	406.2	407.5	408.7	410.0	411.2	412.7	414.4	416.2	417.8	419.5	421.3
135°	434.0	435.5	436.9	438.3	439.7	441.1	442.3	443.6	444.8	446.2	448.2
137.5°	463.9	465.0	466.2	467.3	468.5	469.4	470.2	471.0	471.7	472.5	474.3
140°	481.9	482.9	484.0	485.0	486.0	487.1	487.9	488.7	489.6	490.4	492.0
142.5°	500.3	501.4	502.4	503.4	504.5	505.2	505.7	506.2	506.8	507.2	508.6
145°	526.3	527.3	528.2	529.1	530.0	530.8	531.5	532.3	533.1	533.8	534.5
147.5°	550.0	551.0	552.1	553.2	554.2	555.0	555.5	556.0	556.5	557.1	557.4
150°	566.1	566.8	567.6	568.4	569.2	569.8	570.3	570.8	571.3	571.9	572.2
152.5°	580.4	581.2	581.9	582.7	583.4	584.1	584.7	585.3	585.9	586.6	587.0
155°	601.8	602.2	602.6	602.9	603.3	603.7	604.1	604.5	604.8	605.2	605.9
157.5°	620.1	620.4	620.6	620.9	621.2	621.4	621.6	621.9	622.1	622.3	623.2
160°	631.2	631.4	631.7	631.9	632.2	632.4	632.5	632.6	632.8	632.9	633.7
162.5°	641.3	641.4	641.4	641.5	641.5	641.6	641.7	641.9	642.0	642.1	643.0
165°	654.8	654.6	654.5	654.4	654.3	654.2	654.2	654.2	654.2	654.2	655.1
167.5°	666.0	665.7	665.3	664.9	664.5	664.3	664.3	664.3	664.2	664.2	665.1
170°	672.1	671.7	671.3	670.9	670.6	670.2	670.1	669.9	669.8	669.7	670.7
172.5°	676.2	675.8	675.4	675.0	674.7	674.4	674.3	674.2	674.0	673.9	674.8
175°	681.3	680.9	680.4	680.1	679.7	679.4	679.1	678.9	678.6	678.3	679.2
177.5°	683.4	683.0	682.7	682.4	682.1	681.9	681.7	681.5	681.3	681.1	681.7
180°	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	315.5	315.9	316.3	316.5	316.3	316.1	316.0	315.8
5°	314.6	315.2	315.8	316.0	315.9	315.8	315.7	315.6
7.5°	313.1	313.8	314.6	314.9	314.8	314.7	314.6	314.5
10°	311.7	312.6	313.4	313.8	313.7	313.6	313.5	313.4
12.5°	309.5	310.3	311.1	311.5	311.4	311.3	311.2	311.1
15°	305.5	306.5	307.4	307.8	307.7	307.6	307.5	307.4
17.5°	300.4	301.3	302.3	302.8	302.8	302.8	302.8	302.8
20°	296.3	297.4	298.5	299.1	299.1	299.1	299.1	299.1
22.5°	292.0	293.1	294.2	294.8	295.0	295.1	295.3	295.5
25°	285.1	286.3	287.5	288.2	288.5	288.8	289.1	289.4
27.5°	277.4	279.0	280.5	281.4	281.7	281.9	282.1	282.4
30°	272.1	273.8	275.4	276.3	276.6	276.9	277.2	277.5
32.5°	266.3	268.2	270.1	271.4	271.9	272.5	273.0	273.5
35°	258.2	260.4	262.7	264.2	264.9	265.6	266.3	267.0
37.5°	249.7	252.3	254.8	256.4	257.1	257.9	258.6	259.3
40°	243.9	246.5	249.1	251.0	251.9	252.8	253.7	254.6
42.5°	238.1	241.0	243.9	245.8	246.7	247.6	248.5	249.4
45°	229.2	232.5	235.6	237.7	238.7	239.7	240.8	241.8
47.5°	220.2	223.4	226.7	228.9	230.0	231.2	232.3	233.4
50°	213.8	217.3	220.8	223.1	224.2	225.3	226.4	227.5
52.5°	207.0	210.6	214.1	216.5	217.7	218.9	220.2	221.3
55°	196.8	200.5	204.2	206.6	207.9	209.3	210.7	212.0
57.5°	186.0	190.0	193.9	196.5	197.9	199.2	200.6	202.0
60°	178.8	182.8	186.6	189.2	190.7	192.1	193.6	195.0
62.5°	171.3	175.4	179.6	182.3	183.6	184.9	186.3	187.6
65°	159.8	163.9	168.1	170.9	172.2	173.5	174.8	176.1
67.5°	148.0	152.3	156.5	159.4	160.7	162.1	163.5	164.9
70°	140.0	144.3	148.8	151.6	152.8	154.0	155.2	156.4
72.5°	132.1	136.4	140.7	143.6	145.0	146.5	148.0	149.5
75°	120.3	124.6	129.1	131.9	133.2	134.5	135.8	137.1
77.5°	108.7	113.0	117.3	120.3	121.7	123.1	124.5	125.9
80°	100.8	105.0	109.4	112.2	113.6	115.0	116.4	117.9
82.5°	93.4	97.8	102.0	104.8	106.1	107.6	108.9	110.2
85°	82.9	87.2	91.5	94.3	95.7	97.1	98.6	100.0
87.5°	78.0	82.0	86.1	88.9	90.2	91.5	92.9	94.2
90°	88.4	92.2	96.0	98.6	100.0	101.3	102.6	104.0
92.5°	83.6	87.8	91.8	94.4	95.6	96.9	98.2	99.4
95°	97.4	101.2	105.1	107.6	108.5	109.5	110.5	111.4
97.5°	118.4	122.1	125.8	128.4	129.6	130.7	131.9	133.0
100°	132.9	136.6	140.5	142.8	143.8	144.8	145.8	146.8
102.5°	149.3	153.0	156.8	159.3	160.3	161.2	162.2	163.2
105°	173.8	177.6	181.5	183.9	185.0	186.1	187.2	188.4
107.5°	200.7	204.2	207.7	209.7	210.3	210.8	211.4	211.9
110°	219.1	222.4	225.6	227.6	228.3	229.1	229.8	230.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.6	240.5	243.5	245.4	246.2	247.1	247.9	248.7
115°	266.0	268.9	271.9	273.8	274.5	275.2	275.9	276.7
117.5°	293.4	296.1	298.8	300.5	301.1	301.8	302.5	303.2
120°	311.7	314.6	317.5	319.2	320.0	320.7	321.4	322.2
122.5°	330.9	333.4	335.8	337.4	338.1	338.7	339.4	340.1
125°	358.9	361.3	363.7	365.3	366.1	366.9	367.6	368.4
127.5°	386.2	388.2	390.3	391.5	392.0	392.5	393.0	393.5
130°	405.0	407.1	409.3	410.5	410.8	411.1	411.4	411.7
132.5°	423.1	425.0	426.8	427.9	428.3	428.7	429.1	429.5
135°	450.2	452.2	454.2	455.4	455.9	456.3	456.8	457.2
137.5°	476.1	477.9	479.6	480.6	480.8	481.0	481.1	481.3
140°	493.6	495.3	497.0	497.8	497.9	498.0	498.1	498.2
142.5°	510.0	511.4	512.8	513.5	513.5	513.5	513.6	513.6
145°	535.3	536.0	536.7	537.1	537.1	537.1	537.1	537.1
147.5°	557.8	558.2	558.6	558.7	558.4	558.2	557.8	557.6
150°	572.6	573.0	573.4	573.4	573.0	572.6	572.2	571.9
152.5°	587.5	588.0	588.5	588.5	588.0	587.5	587.0	586.6
155°	606.5	607.1	607.8	607.9	607.5	607.1	606.7	606.4
157.5°	624.0	624.9	625.8	625.9	625.3	624.7	624.1	623.4
160°	634.4	635.2	635.9	636.1	635.6	635.1	634.5	634.0
162.5°	643.8	644.7	645.6	645.7	645.1	644.5	643.9	643.3
165°	656.0	656.9	657.7	657.9	657.2	656.6	656.0	655.3
167.5°	666.0	666.9	667.8	667.9	667.2	666.6	665.9	665.2
170°	671.6	672.5	673.3	673.4	672.6	671.9	671.1	670.3
172.5°	675.7	676.6	677.4	677.5	676.8	676.0	675.2	674.5
175°	680.1	681.1	682.0	682.1	681.3	680.4	679.7	678.9
177.5°	682.3	682.9	683.5	683.5	682.9	682.3	681.7	681.1
180°	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4

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