

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: P331474-930

Luminaire Tested: **S122DIW-S290D710U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331474-930
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-S290D710U930-4F0-1E-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: 2982.5 lumens
Efficiency: N/A
Efficacy: 98.1 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

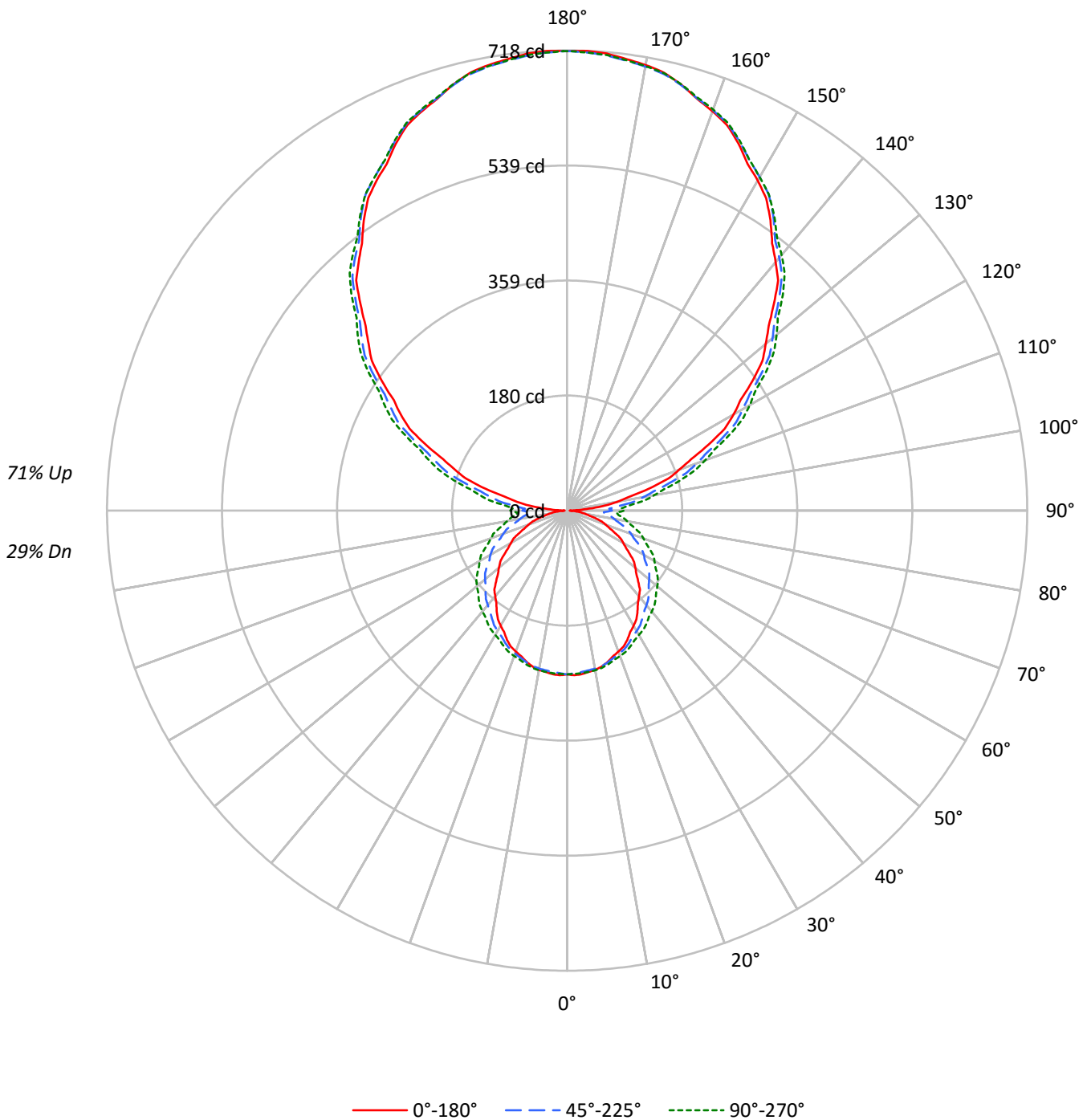
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	4127	4127	4127
5°	4146	3973	3957
10°	4121	3855	3812
15°	4063	3730	3659
20°	3992	3597	3511
25°	3922	3468	3376
30°	3821	3336	3241
35°	3720	3209	3148
40°	3615	3101	3051
45°	3512	3004	2971
50°	3404	2917	2891
55°	3289	2822	2810
60°	3151	2723	2724
65°	3006	2608	2622
70°	2844	2485	2512
75°	2639	2365	2410
80°	2312	2240	2305
85°	2005	2134	2226



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.2	0.8
10°-20°	69.4	2.3
20°-30°	105.2	3.5
30°-40°	128.2	4.3
40°-50°	137.9	4.6
50°-60°	133.9	4.5
60°-70°	116.9	3.9
70°-80°	90.0	3.0
80°-90°	63.3	2.1
90°-100°	87.0	2.9
100°-110°	171.5	5.7
110°-120°	261.2	8.8
120°-130°	328.4	11.0
130°-140°	360.7	12.1
140°-150°	349.8	11.7
150°-160°	292.8	9.8
160°-170°	194.2	6.5
170°-180°	67.9	2.3
0°-30°	198.9	6.7
0°-40°	327.1	11.0
0°-60°	598.8	20.1
0°-90°	869.0	29.1
90°-120°	519.8	17.4
90°-150°	1558.7	52.3
90°-180°	2113.0	70.8
0°-180°	2982.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	256	256	256	256	256	
5°	256	255	253	255	255	24
15°	244	245	245	248	248	69
25°	222	225	228	232	234	102
35°	192	198	205	213	216	120
45°	157	167	180	191	195	121
55°	120	134	153	166	171	108
65°	82	101	122	137	142	82
75°	46	66	90	105	111	48
85°	13	36	60	75	81	14
90°	4	34	70	83	89	4
95°	34	58	81	95	99	38
105°	132	145	165	179	183	139
115°	243	252	267	277	279	241
125°	353	359	368	376	379	315
135°	456	463	468	474	476	352
145°	553	557	561	564	563	345
155°	632	634	636	639	637	291
165°	688	687	687	691	688	194
175°	716	714	713	716	713	68
180°	717	717	717	717	717	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	257.1	256.8	256.7	256.4	256.2	255.9	255.4	255.0	254.5	254.0	254.4
5°	256.3	256.1	255.8	255.6	255.3	254.9	254.5	254.0	253.5	253.0	253.5
7.5°	254.0	253.8	253.6	253.5	253.3	253.1	252.7	252.3	251.9	251.5	252.2
10°	252.3	252.1	251.9	251.8	251.6	251.4	251.1	250.9	250.6	250.4	251.0
12.5°	249.2	249.3	249.3	249.4	249.4	249.3	249.2	249.0	248.7	248.6	249.2
15°	244.4	244.6	244.8	244.9	245.1	245.2	245.2	245.2	245.2	245.2	245.9
17.5°	238.2	238.6	238.9	239.3	239.6	239.9	240.2	240.4	240.7	241.0	241.7
20°	234.1	234.5	234.9	235.3	235.7	236.1	236.4	236.8	237.1	237.4	238.3
22.5°	229.7	230.1	230.6	231.1	231.5	232.0	232.4	232.9	233.4	233.8	234.7
25°	222.3	222.8	223.4	224.0	224.5	225.2	225.9	226.7	227.4	228.1	229.1
27.5°	213.4	214.3	215.2	216.1	217.1	218.0	218.8	219.7	220.6	221.5	222.7
30°	207.4	208.5	209.5	210.6	211.7	212.8	213.9	214.9	216.0	217.0	218.3
32.5°	200.9	202.1	203.3	204.5	205.7	206.9	208.2	209.5	210.8	212.0	213.5
35°	191.5	192.9	194.3	195.7	197.1	198.5	200.2	201.7	203.3	204.8	206.6
37.5°	181.2	182.9	184.5	186.1	187.7	189.6	191.6	193.6	195.6	197.6	199.7
40°	174.5	176.3	178.1	179.9	181.6	183.7	185.9	188.2	190.4	192.6	194.7
42.5°	168.0	169.7	171.5	173.3	175.2	177.3	179.9	182.5	185.0	187.5	189.9
45°	157.0	159.2	161.5	163.7	165.9	168.4	171.4	174.2	177.1	180.0	182.5
47.5°	146.3	148.7	151.2	153.5	156.0	158.9	162.2	165.6	169.0	172.4	175.0
50°	138.9	141.5	144.0	146.5	149.1	152.2	156.0	159.6	163.3	167.1	169.8
52.5°	131.8	134.4	137.1	139.8	142.5	145.8	149.7	153.6	157.5	161.4	164.3
55°	120.3	123.4	126.3	129.2	132.2	135.8	140.1	144.4	148.7	153.0	156.0
57.5°	109.1	112.4	115.8	119.1	122.5	126.3	130.7	135.0	139.4	143.8	147.0
60°	101.1	104.7	108.2	111.7	115.3	119.4	124.1	128.7	133.5	138.1	141.3
62.5°	94.0	97.7	101.3	105.0	108.7	112.8	117.6	122.2	126.9	131.7	134.9
65°	82.2	86.3	90.3	94.3	98.3	102.8	107.6	112.5	117.4	122.2	125.6
67.5°	71.4	75.7	79.8	84.1	88.3	92.9	97.8	102.8	107.8	112.8	116.2
70°	63.7	68.0	72.2	76.6	80.8	85.5	90.6	95.7	100.9	105.9	109.5
72.5°	56.6	61.0	65.4	69.8	74.3	79.0	84.2	89.4	94.6	99.7	103.2
75°	45.6	50.1	54.8	59.4	64.0	68.9	74.2	79.5	84.7	90.0	93.5
77.5°	34.9	39.7	44.5	49.3	54.2	59.3	64.7	70.0	75.3	80.6	84.2
80°	27.8	32.8	37.8	42.8	47.9	53.1	58.4	63.8	69.1	74.4	77.9
82.5°	21.9	26.8	31.8	36.7	41.7	46.9	52.3	57.7	63.1	68.5	72.0
85°	13.4	18.4	23.6	28.6	33.8	38.9	44.2	49.5	54.7	60.0	63.4
87.5°	7.4	12.6	17.9	23.1	28.3	33.8	39.7	45.6	51.4	57.2	60.6
90°	4.3	10.7	17.1	23.5	29.8	37.2	45.4	53.6	61.8	70.0	73.1
92.5°	14.2	19.8	25.4	31.1	36.7	42.4	48.2	53.9	59.7	65.5	68.7
95°	34.4	39.6	44.8	50.1	55.3	60.5	65.7	70.9	76.1	81.3	84.5
97.5°	60.1	64.7	69.3	73.9	78.6	83.5	88.8	94.0	99.2	104.5	107.5
100°	79.4	83.6	87.6	91.8	95.9	100.4	105.5	110.5	115.5	120.5	123.6
102.5°	99.5	103.1	106.7	110.4	114.1	118.4	123.4	128.3	133.3	138.3	141.4
105°	131.9	134.7	137.5	140.3	143.1	146.8	151.3	155.9	160.4	164.9	168.1
107.5°	165.0	167.5	170.0	172.5	175.0	178.3	182.4	186.5	190.6	194.7	197.5
110°	186.0	188.5	190.9	193.4	195.8	199.1	203.1	207.1	211.2	215.2	217.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	209.2	211.4	213.6	215.8	218.0	220.9	224.7	228.4	232.1	235.9	238.1
115°	243.4	245.2	246.9	248.6	250.3	252.9	256.3	259.8	263.2	266.6	269.0
117.5°	277.2	278.9	280.5	282.3	283.9	286.1	288.8	291.4	294.1	296.8	298.9
120°	299.9	301.4	302.8	304.2	305.6	307.4	309.7	311.9	314.1	316.3	318.6
122.5°	320.8	322.2	323.7	325.1	326.4	328.3	330.7	333.0	335.4	337.7	339.7
125°	352.9	354.1	355.3	356.4	357.7	359.4	361.7	363.9	366.1	368.4	370.1
127.5°	384.4	385.9	387.3	388.8	390.2	391.8	393.4	395.0	396.7	398.4	399.9
130°	404.3	405.9	407.6	409.3	410.9	412.5	413.9	415.4	416.9	418.3	420.0
132.5°	426.6	427.9	429.3	430.6	431.9	433.3	434.6	436.0	437.4	438.8	440.1
135°	455.9	457.4	458.9	460.4	461.9	463.2	464.2	465.3	466.4	467.5	469.1
137.5°	487.3	488.4	489.7	490.8	492.0	493.0	493.7	494.4	495.1	495.9	497.3
140°	506.1	507.3	508.4	509.6	510.6	511.6	512.5	513.3	514.1	515.0	516.3
142.5°	525.5	526.6	527.7	528.9	530.0	530.8	531.3	531.8	532.3	532.8	533.9
145°	552.9	553.9	554.8	555.8	556.8	557.6	558.4	559.2	560.0	560.8	561.5
147.5°	577.8	578.9	580.0	581.1	582.3	583.1	583.7	584.2	584.7	585.3	585.6
150°	594.7	595.5	596.3	597.1	597.9	598.6	599.2	599.7	600.2	600.8	601.2
152.5°	609.7	610.5	611.3	612.1	612.9	613.7	614.3	615.0	615.6	616.3	616.8
155°	632.2	632.6	633.0	633.4	633.8	634.2	634.6	635.0	635.4	635.9	636.5
157.5°	651.4	651.8	652.0	652.2	652.6	652.8	653.1	653.3	653.5	653.8	654.7
160°	663.1	663.3	663.6	663.9	664.1	664.4	664.5	664.6	664.7	664.9	665.7
162.5°	673.7	673.8	673.8	673.8	673.9	674.0	674.2	674.3	674.4	674.6	675.5
165°	687.9	687.7	687.6	687.5	687.4	687.3	687.3	687.3	687.3	687.3	688.2
167.5°	699.8	699.4	699.0	698.5	698.1	697.9	697.9	697.8	697.8	697.8	698.7
170°	706.0	705.6	705.2	704.8	704.4	704.2	704.0	703.8	703.8	703.6	704.6
172.5°	710.4	710.0	709.6	709.1	708.7	708.5	708.3	708.3	708.1	707.9	708.9
175°	715.7	715.3	714.9	714.5	714.1	713.8	713.5	713.2	713.0	712.7	713.6
177.5°	717.9	717.5	717.2	716.9	716.6	716.3	716.1	715.9	715.7	715.4	716.1
180°	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	254.7	255.0	255.4	255.5	255.4	255.2	255.1	254.9
5°	254.0	254.5	254.9	255.1	255.0	254.9	254.9	254.8
7.5°	252.7	253.3	254.0	254.2	254.1	254.0	254.0	253.9
10°	251.7	252.3	253.0	253.3	253.2	253.2	253.1	253.0
12.5°	249.9	250.5	251.2	251.5	251.4	251.4	251.3	251.2
15°	246.6	247.4	248.2	248.5	248.4	248.3	248.3	248.2
17.5°	242.6	243.3	244.0	244.4	244.4	244.4	244.4	244.4
20°	239.2	240.1	241.0	241.5	241.5	241.5	241.5	241.5
22.5°	235.7	236.6	237.5	238.0	238.1	238.2	238.4	238.6
25°	230.2	231.1	232.1	232.7	232.9	233.2	233.4	233.7
27.5°	224.0	225.3	226.5	227.2	227.4	227.6	227.7	228.0
30°	219.6	221.0	222.3	223.1	223.3	223.6	223.8	224.0
32.5°	215.0	216.5	218.1	219.1	219.5	220.0	220.4	220.8
35°	208.5	210.3	212.1	213.3	213.9	214.4	215.0	215.6
37.5°	201.6	203.7	205.7	207.0	207.6	208.2	208.8	209.4
40°	196.9	199.0	201.1	202.6	203.3	204.1	204.8	205.5
42.5°	192.2	194.5	196.9	198.4	199.2	199.9	200.6	201.4
45°	185.1	187.7	190.2	191.9	192.7	193.6	194.4	195.2
47.5°	177.7	180.3	183.0	184.8	185.7	186.6	187.5	188.4
50°	172.6	175.5	178.2	180.1	181.0	181.9	182.8	183.7
52.5°	167.1	170.0	172.8	174.8	175.8	176.8	177.7	178.6
55°	158.9	161.8	164.9	166.8	167.9	169.0	170.1	171.1
57.5°	150.2	153.4	156.5	158.7	159.8	160.9	161.9	163.1
60°	144.4	147.6	150.7	152.8	153.9	155.1	156.3	157.4
62.5°	138.3	141.6	145.0	147.2	148.2	149.3	150.4	151.5
65°	129.0	132.3	135.7	137.9	139.0	140.1	141.1	142.2
67.5°	119.5	122.9	126.4	128.7	129.7	130.9	132.0	133.1
70°	113.0	116.5	120.1	122.4	123.4	124.3	125.3	126.3
72.5°	106.6	110.1	113.6	115.9	117.1	118.3	119.5	120.7
75°	97.1	100.6	104.2	106.5	107.5	108.6	109.7	110.7
77.5°	87.7	91.2	94.7	97.1	98.2	99.4	100.5	101.7
80°	81.4	84.8	88.3	90.6	91.7	92.9	94.0	95.1
82.5°	75.4	78.9	82.3	84.6	85.7	86.8	87.9	88.9
85°	66.9	70.4	73.9	76.1	77.3	78.4	79.6	80.7
87.5°	63.9	67.2	70.5	72.6	73.8	74.8	75.9	77.0
90°	76.1	79.2	82.2	84.2	85.4	86.5	87.6	88.7
92.5°	72.0	75.3	78.6	80.7	81.8	82.8	83.8	84.8
95°	87.6	90.7	93.8	95.7	96.4	97.2	97.9	98.7
97.5°	110.6	113.7	116.7	118.7	119.6	120.6	121.5	122.5
100°	126.6	129.6	132.7	134.6	135.4	136.2	136.9	137.7
102.5°	144.5	147.6	150.7	152.5	153.4	154.1	154.9	155.6
105°	171.2	174.4	177.6	179.6	180.5	181.4	182.3	183.2
107.5°	200.5	203.3	206.2	207.7	208.1	208.4	208.6	209.0
110°	220.5	223.1	225.8	227.3	227.8	228.3	228.8	229.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	240.5	242.8	245.1	246.5	247.2	247.8	248.4	249.0
115°	271.3	273.6	276.0	277.4	277.9	278.4	278.9	279.4
117.5°	301.0	303.1	305.2	306.5	307.0	307.4	307.8	308.3
120°	320.9	323.2	325.5	326.9	327.4	327.9	328.4	328.9
122.5°	341.5	343.5	345.4	346.6	347.1	347.6	348.1	348.5
125°	371.9	373.8	375.6	376.8	377.4	378.1	378.6	379.3
127.5°	401.5	403.0	404.6	405.4	405.8	406.1	406.3	406.7
130°	421.8	423.5	425.2	426.1	426.2	426.3	426.4	426.6
132.5°	441.5	442.8	444.1	444.8	445.1	445.3	445.6	445.8
135°	470.7	472.3	473.9	474.8	475.1	475.3	475.6	475.8
137.5°	498.6	500.0	501.5	502.2	502.2	502.2	502.2	502.3
140°	517.6	518.9	520.2	520.9	520.8	520.8	520.7	520.7
142.5°	535.1	536.3	537.4	537.9	537.9	537.8	537.6	537.5
145°	562.1	562.7	563.4	563.6	563.5	563.4	563.2	563.1
147.5°	586.0	586.4	586.7	586.8	586.4	586.1	585.8	585.5
150°	601.5	601.9	602.3	602.3	601.9	601.5	601.2	600.8
152.5°	617.3	617.8	618.3	618.3	617.8	617.3	616.8	616.3
155°	637.2	637.9	638.5	638.7	638.3	637.9	637.5	637.1
157.5°	655.6	656.5	657.4	657.5	656.9	656.2	655.6	654.9
160°	666.5	667.3	668.1	668.2	667.7	667.2	666.7	666.1
162.5°	676.4	677.4	678.2	678.3	677.7	677.1	676.5	675.8
165°	689.2	690.1	691.0	691.2	690.5	689.8	689.2	688.5
167.5°	699.7	700.6	701.6	701.6	701.0	700.3	699.6	698.9
170°	705.5	706.5	707.4	707.4	706.6	705.8	705.0	704.2
172.5°	709.9	710.8	711.8	711.8	711.0	710.2	709.4	708.6
175°	714.5	715.5	716.5	716.5	715.7	714.9	714.1	713.3
177.5°	716.7	717.4	718.0	718.0	717.4	716.7	716.1	715.4
180°	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9

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