

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: P331476-930

Luminaire Tested: **S122DIW-S290D710U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331476-930
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-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH 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: 2987.4 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

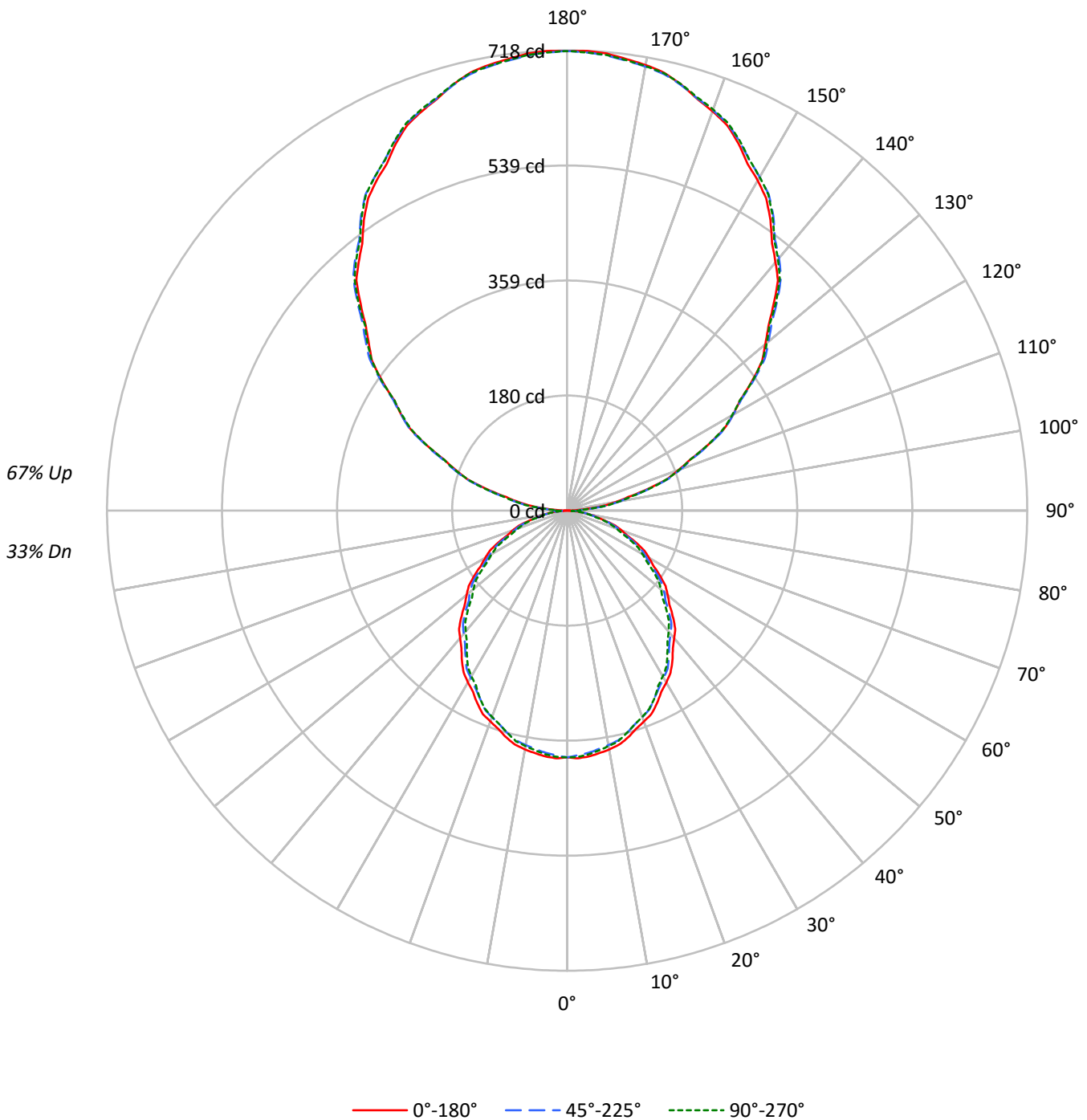
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	94	90	86	82	84	81	78	75	65	62	60	50	48	47	36	35	34	28
2	85	78	72	67	77	71	66	61	57	53	50	43	41	39	31	30	29	23
3	78	69	62	56	70	62	56	51	50	46	42	38	35	33	28	26	24	20
4	71	61	53	47	64	55	48	43	44	39	36	34	31	28	25	23	21	17
5	65	54	46	40	59	49	42	37	39	34	31	31	27	24	22	20	18	15
6	60	48	40	35	54	44	37	32	35	30	27	28	24	21	20	18	16	13
7	55	44	36	30	50	40	33	28	32	27	23	25	21	19	18	16	14	11
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	15	13	10
9	48	36	29	24	43	33	26	22	27	22	18	21	17	15	16	13	11	9
10	45	33	26	21	40	30	24	20	25	20	16	19	16	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6218	6218	6218
5°	6242	6152	6190
10°	6205	6091	6120
15°	6128	6011	6006
20°	6019	5893	5887
25°	5911	5747	5747
30°	5774	5614	5565
35°	5643	5452	5373
40°	5480	5292	5191
45°	5318	5133	5005
50°	5144	4968	4793
55°	4963	4777	4597
60°	4760	4543	4379
65°	4542	4317	4118
70°	4263	4036	3843
75°	3880	3718	3624
80°	3440	3347	3171
85°	2816	2668	2408



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.2	1.2
10°-20°	101.9	3.4
20°-30°	149.8	5.0
30°-40°	174.0	5.8
40°-50°	173.8	5.8
50°-60°	151.6	5.1
60°-70°	112.1	3.8
70°-80°	63.5	2.1
80°-90°	19.9	0.7
90°-100°	45.4	1.5
100°-110°	141.1	4.7
110°-120°	241.2	8.1
120°-130°	317.1	10.6
130°-140°	356.0	11.9
140°-150°	349.0	11.7
150°-160°	292.8	9.8
160°-170°	194.2	6.5
170°-180°	67.9	2.3
0°-30°	287.9	9.6
0°-40°	461.9	15.5
0°-60°	787.3	26.4
0°-90°	982.8	32.9
90°-120°	427.7	14.3
90°-150°	1449.8	48.5
90°-180°	2005.0	67.1
0°-180°	2987.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	385	385	385	385	385	
5°	385	384	380	382	382	37
15°	367	364	360	361	359	103
25°	332	329	323	323	323	153
35°	286	282	277	274	273	179
45°	233	230	225	221	219	180
55°	176	174	170	165	163	158
65°	119	117	113	110	108	118
75°	62	61	60	58	58	66
85°	15	15	14	13	13	17
90°	1	8	21	20	20	2
95°	32	37	39	39	38	36
105°	130	132	133	134	134	137
115°	242	245	244	244	242	239
125°	352	357	356	354	353	315
135°	456	462	463	463	461	352
145°	553	557	561	561	559	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°	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1
2.5°	386.9	386.6	386.3	386.0	385.6	385.1	384.4	383.7	382.9	382.2	382.9
5°	385.1	384.8	384.5	384.2	383.8	383.3	382.4	381.5	380.5	379.6	380.3
7.5°	381.8	381.2	380.7	380.3	379.8	379.0	378.1	377.2	376.3	375.4	376.0
10°	378.5	378.0	377.4	376.8	376.2	375.4	374.5	373.5	372.5	371.5	372.1
12.5°	374.1	373.6	373.1	372.5	372.0	371.3	370.3	369.3	368.4	367.4	367.8
15°	366.6	366.2	365.7	365.2	364.7	363.9	362.8	361.7	360.7	359.6	360.0
17.5°	357.2	356.7	356.2	355.7	355.2	354.4	353.4	352.2	351.1	350.1	350.4
20°	350.3	349.8	349.4	348.9	348.4	347.6	346.4	345.3	344.1	343.0	343.2
22.5°	343.6	342.8	342.2	341.4	340.8	339.9	338.8	337.7	336.6	335.6	335.6
25°	331.8	331.2	330.5	329.9	329.2	328.2	326.8	325.4	324.0	322.6	322.8
27.5°	318.5	318.0	317.3	316.7	316.2	315.3	314.2	313.1	312.0	310.9	310.6
30°	309.7	309.0	308.3	307.7	307.0	306.1	304.8	303.6	302.3	301.1	300.8
32.5°	300.1	299.6	299.1	298.6	298.1	297.1	295.8	294.6	293.3	292.0	291.5
35°	286.3	285.4	284.6	283.8	283.0	281.9	280.6	279.3	278.0	276.6	276.1
37.5°	270.7	269.9	269.2	268.5	267.7	266.8	265.5	264.2	262.8	261.5	260.9
40°	260.0	259.3	258.7	258.0	257.4	256.4	255.0	253.7	252.4	251.1	250.4
42.5°	249.6	249.0	248.3	247.7	247.0	246.0	244.7	243.4	242.1	240.8	239.9
45°	232.9	232.4	231.8	231.2	230.6	229.8	228.5	227.3	226.1	224.8	223.9
47.5°	216.4	215.8	215.3	214.7	214.2	213.3	212.0	210.8	209.5	208.1	207.2
50°	204.8	204.4	204.0	203.6	203.2	202.4	201.2	200.1	198.9	197.8	196.7
52.5°	193.6	193.0	192.5	191.9	191.4	190.5	189.5	188.4	187.3	186.2	185.2
55°	176.3	175.8	175.3	174.8	174.3	173.6	172.6	171.6	170.6	169.7	168.6
57.5°	159.0	158.6	158.2	157.8	157.4	156.6	155.6	154.5	153.4	152.3	151.3
60°	147.4	147.1	146.8	146.4	146.1	145.4	144.2	143.1	141.9	140.7	139.8
62.5°	136.2	135.6	135.1	134.6	134.0	133.3	132.4	131.6	130.7	129.8	128.9
65°	118.9	118.4	117.9	117.4	116.9	116.3	115.4	114.6	113.8	113.0	112.2
67.5°	101.3	100.9	100.5	100.1	99.8	99.2	98.4	97.7	96.9	96.2	95.6
70°	90.3	90.0	89.7	89.4	89.0	88.5	87.8	87.1	86.3	85.5	85.0
72.5°	79.1	78.8	78.4	78.1	77.8	77.4	76.9	76.5	76.0	75.5	74.9
75°	62.2	62.0	61.9	61.7	61.6	61.3	60.9	60.4	60.0	59.6	59.1
77.5°	47.1	46.8	46.6	46.3	46.0	45.7	45.6	45.4	45.2	45.1	44.8
80°	37.0	36.9	36.9	36.8	36.7	36.6	36.4	36.3	36.1	36.0	35.7
82.5°	27.6	27.6	27.6	27.5	27.5	27.4	27.3	27.2	27.1	27.1	26.7
85°	15.2	15.1	15.0	14.9	14.8	14.8	14.7	14.6	14.5	14.4	14.2
87.5°	5.5	5.6	5.9	6.0	6.2	6.5	7.0	7.5	7.9	8.4	8.2
90°	0.6	2.2	3.8	5.5	7.1	9.4	12.3	15.2	18.2	21.2	20.9
92.5°	10.8	12.0	13.1	14.3	15.5	16.5	17.1	17.9	18.5	19.2	19.3
95°	31.5	32.8	34.2	35.5	36.9	37.7	37.9	38.2	38.5	38.7	38.7
97.5°	57.5	58.6	59.8	61.0	62.2	63.0	63.6	64.1	64.6	65.1	65.1
100°	76.8	77.9	79.0	80.1	81.1	81.9	82.3	82.7	83.1	83.5	83.5
102.5°	97.2	98.0	98.9	99.7	100.6	101.3	101.8	102.3	102.8	103.3	103.5
105°	130.0	130.4	130.9	131.3	131.7	132.0	132.3	132.6	132.8	133.1	133.4
107.5°	163.2	163.8	164.4	165.0	165.6	165.9	165.9	165.9	165.9	165.9	166.0
110°	184.5	185.3	186.1	186.9	187.8	188.2	188.2	188.2	188.2	188.2	188.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	207.7	208.6	209.4	210.2	211.0	211.3	211.2	211.1	211.0	210.9	210.6
115°	242.0	242.8	243.6	244.4	245.2	245.5	245.2	244.9	244.7	244.4	244.3
117.5°	276.1	277.2	278.3	279.3	280.4	280.5	279.8	279.1	278.3	277.6	277.3
120°	298.9	299.9	301.0	302.1	303.1	303.1	302.1	301.0	299.9	298.9	298.9
122.5°	319.7	321.0	322.3	323.5	324.8	325.1	324.3	323.6	322.9	322.1	321.8
125°	352.1	353.4	354.5	355.7	356.9	357.3	356.9	356.5	356.1	355.7	355.3
127.5°	383.7	385.2	386.8	388.2	389.8	390.4	389.9	389.4	388.9	388.4	387.9
130°	403.5	405.3	407.0	408.8	410.5	411.2	411.0	410.7	410.4	410.2	409.9
132.5°	425.8	427.2	428.7	430.1	431.5	432.3	432.3	432.4	432.4	432.4	431.9
135°	455.6	457.1	458.5	460.0	461.5	462.4	462.6	462.9	463.2	463.4	463.3
137.5°	486.9	488.1	489.3	490.6	491.7	492.5	492.8	493.3	493.6	493.9	493.8
140°	505.8	507.0	508.2	509.4	510.6	511.5	512.3	512.9	513.6	514.2	514.2
142.5°	525.1	526.4	527.6	528.8	529.9	530.8	531.2	531.7	532.1	532.6	532.7
145°	552.9	553.9	554.8	555.8	556.8	557.6	558.4	559.2	560.0	560.8	560.9
147.5°	577.8	578.9	580.0	581.1	582.3	583.1	583.7	584.2	584.7	585.3	585.5
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°	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1
2.5°	383.5	384.2	384.8	385.1	385.0	384.8	384.7	384.6
5°	381.0	381.6	382.3	382.5	382.4	382.2	382.0	381.9
7.5°	376.7	377.3	378.0	378.2	378.1	377.8	377.6	377.5
10°	372.8	373.5	374.1	374.3	374.1	373.8	373.6	373.3
12.5°	368.3	368.7	369.2	369.3	369.2	368.9	368.8	368.6
15°	360.3	360.6	360.9	360.9	360.5	360.1	359.7	359.3
17.5°	350.8	351.2	351.6	351.6	351.1	350.8	350.4	350.0
20°	343.5	343.7	344.0	343.9	343.6	343.2	342.9	342.6
22.5°	335.7	335.7	335.7	335.7	335.5	335.3	335.1	334.9
25°	322.9	323.1	323.3	323.3	323.1	322.9	322.8	322.6
27.5°	310.4	310.1	309.9	309.6	309.2	308.8	308.4	308.0
30°	300.6	300.4	300.1	299.9	299.5	299.2	298.9	298.5
32.5°	291.1	290.6	290.2	289.8	289.4	289.1	288.8	288.5
35°	275.7	275.2	274.7	274.3	273.9	273.5	273.0	272.6
37.5°	260.2	259.7	259.0	258.5	258.1	257.7	257.4	257.0
40°	249.6	248.9	248.2	247.6	247.3	247.0	246.6	246.3
42.5°	239.1	238.3	237.5	236.8	236.4	235.9	235.5	235.1
45°	223.0	222.1	221.2	220.5	220.2	219.9	219.6	219.2
47.5°	206.3	205.3	204.3	203.6	203.2	202.7	202.2	201.7
50°	195.5	194.3	193.1	192.4	192.0	191.6	191.2	190.8
52.5°	184.3	183.4	182.4	181.6	181.1	180.6	180.0	179.4
55°	167.6	166.6	165.7	165.0	164.6	164.1	163.7	163.3
57.5°	150.3	149.4	148.4	147.7	147.5	147.2	146.8	146.5
60°	138.9	138.0	137.1	136.6	136.3	136.1	135.8	135.6
62.5°	128.1	127.3	126.5	125.9	125.6	125.2	124.9	124.6
65°	111.5	110.7	110.0	109.4	109.0	108.6	108.2	107.8
67.5°	95.1	94.5	93.9	93.4	93.1	92.8	92.5	92.1
70°	84.4	83.8	83.2	82.8	82.5	82.1	81.8	81.4
72.5°	74.4	73.8	73.2	72.7	72.5	72.2	72.0	71.7
75°	58.6	58.1	57.6	57.5	57.6	57.8	58.0	58.1
77.5°	44.6	44.4	44.1	43.9	43.6	43.5	43.2	43.0
80°	35.5	35.2	35.0	34.7	34.6	34.4	34.2	34.1
82.5°	26.4	26.1	25.8	25.6	25.6	25.5	25.5	25.5
85°	13.9	13.7	13.5	13.3	13.2	13.1	13.0	13.0
87.5°	7.9	7.7	7.3	7.3	7.2	7.2	7.1	7.1
90°	20.6	20.4	20.1	20.1	20.1	20.3	20.5	20.5
92.5°	19.3	19.4	19.5	19.5	19.5	19.6	19.6	19.6
95°	38.7	38.7	38.7	38.6	38.3	38.1	37.7	37.5
97.5°	65.1	65.1	65.1	65.1	65.1	65.1	65.0	65.0
100°	83.5	83.5	83.5	83.4	83.3	83.2	83.0	82.9
102.5°	103.5	103.6	103.8	103.8	103.6	103.5	103.4	103.2
105°	133.6	133.9	134.2	134.3	134.3	134.3	134.3	134.3
107.5°	166.1	166.2	166.3	166.1	165.4	164.9	164.2	163.6
110°	188.2	188.2	188.2	187.9	187.5	187.1	186.7	186.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	210.3	209.9	209.6	209.3	209.0	208.7	208.4	208.1
115°	244.2	244.0	243.9	243.6	243.2	242.8	242.4	242.0
117.5°	277.0	276.6	276.3	275.9	275.5	275.1	274.7	274.3
120°	298.9	298.9	298.9	298.6	298.2	297.8	297.4	297.0
122.5°	321.5	321.1	320.8	320.5	320.2	319.9	319.6	319.4
125°	354.9	354.5	354.1	353.8	353.8	353.6	353.4	353.4
127.5°	387.4	386.9	386.5	386.0	385.6	385.1	384.7	384.3
130°	409.7	409.4	409.1	408.7	408.1	407.6	407.1	406.6
132.5°	431.3	430.6	430.1	429.6	429.2	428.7	428.3	427.9
135°	463.2	463.0	462.9	462.6	462.2	461.8	461.4	461.0
137.5°	493.7	493.6	493.5	493.2	492.6	492.1	491.5	491.0
140°	514.2	514.2	514.2	514.0	513.5	512.9	512.3	511.8
142.5°	532.9	533.0	533.0	532.9	532.3	531.7	531.2	530.7
145°	561.1	561.3	561.3	561.2	560.6	560.1	559.5	559.1
147.5°	585.9	586.1	586.4	586.4	585.9	585.3	584.8	584.3
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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