

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: P331475-927

Luminaire Tested: **S122DIW-S290D710U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331475-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D710U927-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3200.1 lumens
Efficiency: N/A
Efficacy: 105.3 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

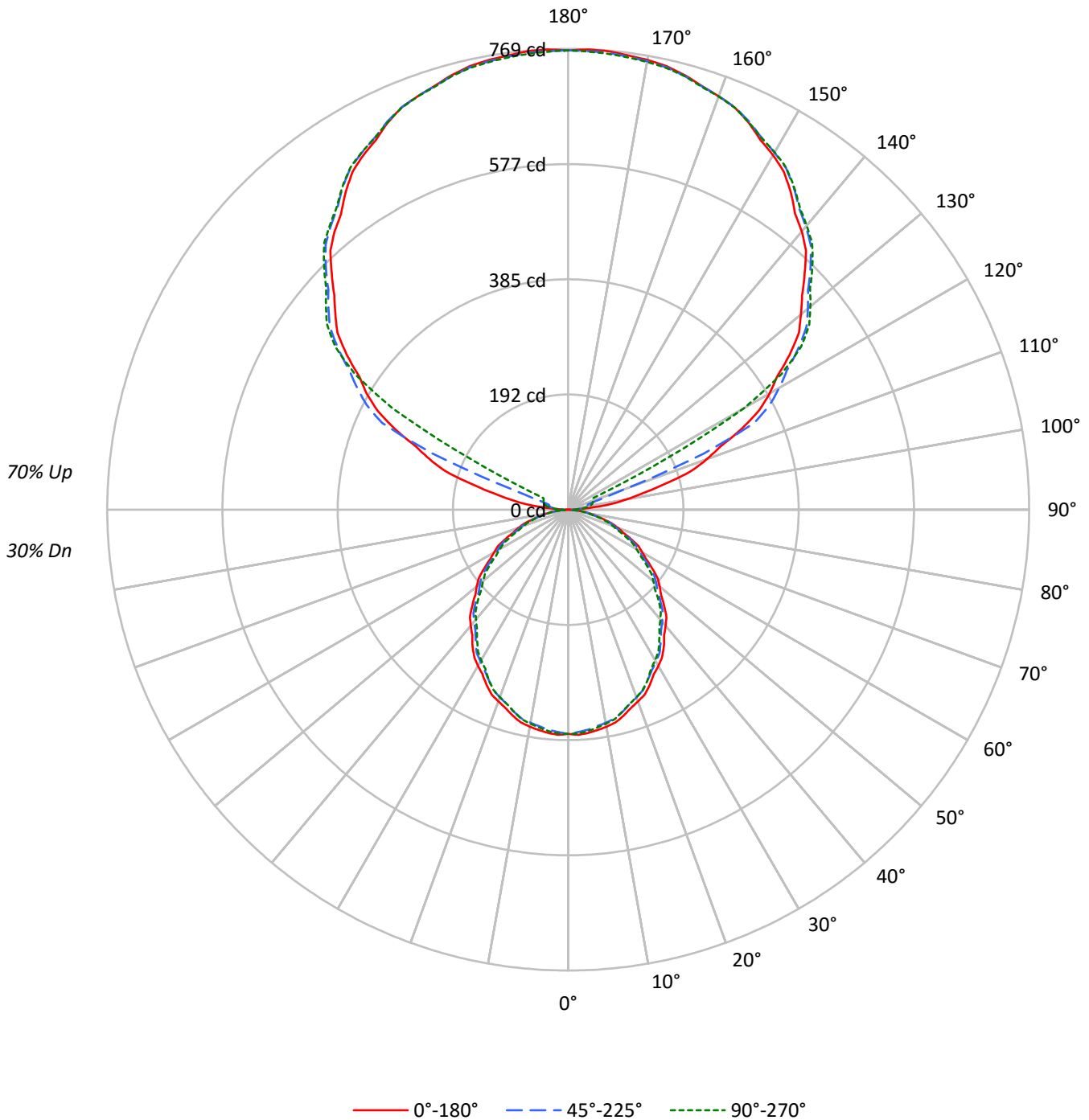
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	38	38	38	30
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	32	25
2	85	78	72	67	76	70	65	61	55	52	49	42	39	37	29	28	27	21
3	77	68	61	56	69	61	55	51	49	44	41	37	34	32	26	24	23	18
4	71	60	53	47	63	54	48	43	43	38	35	33	30	27	23	21	20	15
5	65	54	46	40	58	48	42	37	39	34	30	29	26	23	21	19	17	13
6	60	48	40	34	53	43	37	32	35	30	26	26	23	20	19	17	15	12
7	55	43	35	30	49	39	32	28	31	26	23	24	21	18	17	15	13	10
8	51	39	32	26	46	35	29	24	28	24	20	22	18	16	16	13	12	9
9	47	36	28	23	42	32	26	22	26	21	18	20	17	14	15	12	11	8
10	44	32	25	21	40	29	23	19	24	19	16	18	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6042	6042	6042
5°	6065	5977	6015
10°	6030	5917	5946
15°	5954	5840	5835
20°	5849	5727	5720
25°	5744	5585	5585
30°	5610	5455	5407
35°	5483	5298	5219
40°	5324	5143	5044
45°	5167	4987	4864
50°	4999	4828	4657
55°	4822	4642	4467
60°	4624	4414	4253
65°	4413	4195	4000
70°	4145	3923	3734
75°	3768	3612	3525
80°	3347	3245	3078
85°	2723	2594	2334



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.2	1.1
10°-20°	99.0	3.1
20°-30°	145.6	4.5
30°-40°	169.1	5.3
40°-50°	168.9	5.3
50°-60°	147.3	4.6
60°-70°	108.9	3.4
70°-80°	61.7	1.9
80°-90°	18.5	0.6
90°-100°	25.6	0.8
100°-110°	93.8	2.9
110°-120°	250.6	7.8
120°-130°	413.7	12.9
130°-140°	440.0	13.7
140°-150°	408.9	12.8
150°-160°	328.8	10.3
160°-170°	211.9	6.6
170°-180°	72.9	2.3
0°-30°	279.8	8.7
0°-40°	448.8	14.0
0°-60°	765.0	23.9
0°-90°	954.1	29.8
90°-120°	369.9	11.6
90°-150°	1632.5	51.0
90°-180°	2246.0	70.2
0°-180°	3200.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	374	374	374	374	374	
5°	374	373	369	372	371	35
15°	356	354	349	351	349	100
25°	322	319	314	314	314	148
35°	278	274	269	267	265	174
45°	226	224	218	215	213	175
55°	171	169	165	161	159	153
65°	116	113	110	107	105	114
75°	60	60	58	56	56	65
85°	15	14	14	13	13	17
90°	1	6	11	14	15	2
95°	36	19	22	24	24	44
105°	169	176	34	40	42	180
115°	319	329	342	97	46	314
125°	451	458	469	472	474	402
135°	558	567	572	577	576	431
145°	647	647	656	660	657	405
155°	713	708	714	717	713	328
165°	751	748	749	753	749	212
175°	768	764	765	769	764	73
180°	766	766	766	766	766	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	376.0	375.7	375.3	375.0	374.7	374.2	373.5	372.8	372.1	371.4	372.0
5°	374.2	373.9	373.6	373.3	373.0	372.4	371.5	370.7	369.7	368.8	369.5
7.5°	371.0	370.4	369.9	369.5	369.0	368.3	367.4	366.5	365.6	364.7	365.4
10°	367.8	367.3	366.7	366.1	365.5	364.8	363.8	362.9	361.9	360.9	361.6
12.5°	363.5	363.0	362.5	361.9	361.5	360.8	359.8	358.9	357.9	357.0	357.4
15°	356.2	355.8	355.3	354.8	354.3	353.6	352.5	351.5	350.5	349.4	349.7
17.5°	347.1	346.6	346.1	345.6	345.2	344.4	343.3	342.2	341.2	340.2	340.5
20°	340.4	339.9	339.5	339.0	338.5	337.7	336.6	335.5	334.4	333.3	333.5
22.5°	333.8	333.1	332.5	331.8	331.1	330.3	329.2	328.1	327.1	326.1	326.1
25°	322.4	321.8	321.2	320.5	319.9	318.9	317.5	316.2	314.8	313.5	313.6
27.5°	309.5	309.0	308.3	307.8	307.2	306.3	305.3	304.2	303.2	302.1	301.8
30°	300.9	300.2	299.6	299.0	298.3	297.4	296.2	295.0	293.7	292.6	292.3
32.5°	291.6	291.1	290.7	290.1	289.6	288.7	287.4	286.2	284.9	283.7	283.2
35°	278.2	277.3	276.6	275.8	275.0	273.9	272.7	271.4	270.1	268.8	268.3
37.5°	263.0	262.3	261.6	260.9	260.2	259.2	257.9	256.7	255.3	254.1	253.5
40°	252.6	252.0	251.4	250.7	250.1	249.1	247.8	246.5	245.3	244.0	243.3
42.5°	242.6	241.9	241.3	240.7	240.0	239.0	237.7	236.5	235.2	233.9	233.1
45°	226.3	225.8	225.2	224.7	224.1	223.2	222.0	220.9	219.7	218.4	217.5
47.5°	210.2	209.7	209.2	208.7	208.1	207.2	206.0	204.8	203.5	202.2	201.3
50°	199.0	198.6	198.2	197.8	197.4	196.6	195.5	194.4	193.3	192.2	191.1
52.5°	188.1	187.5	187.0	186.5	185.9	185.1	184.1	183.1	182.0	180.9	180.0
55°	171.3	170.8	170.3	169.8	169.4	168.7	167.7	166.8	165.8	164.9	163.8
57.5°	154.5	154.1	153.7	153.3	152.9	152.2	151.1	150.1	149.0	148.0	147.0
60°	143.2	142.9	142.6	142.3	142.0	141.2	140.1	139.0	137.8	136.7	135.9
62.5°	132.3	131.7	131.3	130.8	130.2	129.5	128.7	127.9	127.0	126.1	125.2
65°	115.5	115.0	114.5	114.1	113.6	113.0	112.2	111.4	110.6	109.8	109.0
67.5°	98.5	98.1	97.7	97.3	97.0	96.4	95.6	94.9	94.2	93.5	92.9
70°	87.8	87.5	87.1	86.8	86.5	86.0	85.3	84.6	83.8	83.1	82.5
72.5°	76.8	76.5	76.2	75.9	75.6	75.2	74.7	74.3	73.8	73.4	72.8
75°	60.4	60.3	60.1	60.0	59.8	59.6	59.2	58.7	58.3	57.9	57.4
77.5°	45.8	45.5	45.2	45.0	44.7	44.4	44.3	44.1	44.0	43.8	43.6
80°	36.0	35.9	35.8	35.7	35.6	35.6	35.4	35.3	35.1	34.9	34.7
82.5°	26.8	26.8	26.8	26.7	26.7	26.6	26.5	26.5	26.4	26.3	26.0
85°	14.7	14.7	14.6	14.5	14.4	14.3	14.3	14.2	14.1	14.0	13.8
87.5°	5.3	5.5	5.5	5.7	5.9	5.9	6.0	6.1	6.2	6.3	6.2
90°	0.6	1.9	3.2	4.6	5.9	7.1	8.2	9.1	10.1	11.1	11.7
92.5°	11.2	11.1	10.9	10.9	10.7	10.9	11.4	11.9	12.4	12.8	13.2
95°	36.0	32.0	27.9	23.8	19.8	18.1	19.0	19.9	20.8	21.6	22.3
97.5°	71.5	60.0	48.6	37.2	25.7	21.0	23.0	25.0	26.9	28.9	29.5
100°	98.2	81.3	64.4	47.5	30.7	23.2	25.3	27.4	29.5	31.6	32.6
102.5°	127.5	123.9	120.3	116.7	113.1	102.6	85.1	67.6	50.0	32.5	33.7
105°	168.6	172.3	176.0	179.7	183.4	168.4	134.8	101.1	67.5	33.8	35.2
107.5°	215.5	218.5	221.5	224.4	227.4	208.7	168.4	128.1	87.7	47.4	45.9
110°	245.7	248.3	250.9	253.4	256.0	239.5	203.9	168.3	132.7	97.0	84.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	274.1	276.4	278.7	280.9	283.2	280.0	271.2	262.4	253.6	244.8	199.9
115°	318.9	321.0	323.1	325.2	327.3	329.9	333.0	336.0	339.1	342.1	285.1
117.5°	358.9	361.2	363.6	365.9	368.3	370.5	372.6	374.8	376.8	379.0	365.2
120°	388.2	390.1	391.9	393.7	395.6	397.6	399.8	402.0	404.3	406.5	408.0
122.5°	413.0	415.0	416.9	418.9	420.8	423.0	425.4	427.9	430.2	432.7	433.6
125°	450.8	452.5	454.1	455.7	457.2	459.2	461.6	463.9	466.3	468.6	469.4
127.5°	485.1	486.9	488.7	490.4	492.3	494.0	495.7	497.5	499.2	501.0	502.2
130°	506.8	508.8	510.8	512.8	514.8	516.4	517.8	519.1	520.5	521.9	523.2
132.5°	529.1	530.8	532.4	534.1	535.8	537.3	538.6	540.0	541.4	542.7	543.8
135°	557.9	559.8	561.8	563.8	565.8	567.4	568.5	569.6	570.7	571.8	573.0
137.5°	587.1	588.4	589.9	591.2	592.6	593.9	595.2	596.4	597.7	599.0	600.2
140°	606.2	607.1	608.1	609.1	610.1	611.2	612.6	613.9	615.3	616.7	617.8
142.5°	622.1	623.0	623.9	624.8	625.7	626.9	628.4	630.0	631.5	633.1	634.1
145°	647.2	647.1	647.0	646.8	646.7	647.7	649.7	651.9	653.9	656.1	657.0
147.5°	669.0	668.6	668.1	667.7	667.2	668.0	670.0	672.1	674.1	676.2	676.9
150°	683.3	682.4	681.5	680.6	679.8	680.3	682.3	684.3	686.3	688.2	689.0
152.5°	695.2	694.3	693.3	692.3	691.3	691.8	693.7	695.5	697.4	699.3	700.1
155°	712.6	711.5	710.4	709.3	708.2	708.4	709.9	711.3	712.8	714.3	715.0
157.5°	726.3	725.3	724.4	723.4	722.5	722.5	723.6	724.6	725.6	726.7	727.5
160°	734.3	733.5	732.8	732.1	731.3	731.3	732.1	732.8	733.5	734.3	735.0
162.5°	741.3	740.6	739.9	739.1	738.4	738.3	738.9	739.7	740.3	740.9	741.7
165°	750.9	750.1	749.4	748.7	747.9	747.7	748.1	748.5	748.8	749.2	750.1
167.5°	758.0	757.2	756.5	755.7	755.0	754.9	755.2	755.5	755.9	756.2	757.1
170°	762.0	761.2	760.5	759.8	759.0	758.8	759.0	759.3	759.5	759.8	760.7
172.5°	764.6	763.9	763.2	762.4	761.7	761.4	761.7	761.9	762.2	762.4	763.3
175°	768.1	767.2	766.4	765.5	764.6	764.3	764.5	764.9	765.1	765.3	766.2
177.5°	768.7	767.9	767.2	766.6	765.9	765.6	765.6	765.8	765.9	766.0	766.7
180°	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	372.6	373.3	373.9	374.2	374.1	373.9	373.8	373.7
5°	370.2	370.8	371.5	371.7	371.5	371.4	371.2	371.1
7.5°	366.0	366.6	367.3	367.5	367.3	367.1	366.9	366.8
10°	362.3	362.9	363.5	363.7	363.5	363.2	363.0	362.7
12.5°	357.8	358.2	358.7	358.9	358.7	358.5	358.3	358.1
15°	350.1	350.4	350.7	350.7	350.3	349.9	349.5	349.1
17.5°	340.9	341.3	341.6	341.6	341.2	340.9	340.5	340.1
20°	333.7	334.0	334.2	334.1	333.8	333.5	333.2	332.9
22.5°	326.1	326.2	326.2	326.1	326.0	325.7	325.6	325.4
25°	313.8	313.9	314.1	314.1	313.9	313.8	313.6	313.5
27.5°	301.6	301.3	301.1	300.8	300.4	300.0	299.7	299.3
30°	292.1	291.8	291.6	291.4	291.0	290.7	290.4	290.0
32.5°	282.8	282.3	281.9	281.5	281.2	280.9	280.6	280.3
35°	267.8	267.4	266.9	266.5	266.1	265.7	265.3	264.8
37.5°	252.9	252.3	251.7	251.2	250.8	250.4	250.1	249.7
40°	242.6	241.9	241.1	240.6	240.3	240.0	239.6	239.3
42.5°	232.3	231.6	230.8	230.1	229.7	229.3	228.9	228.4
45°	216.7	215.8	214.9	214.3	214.0	213.7	213.3	213.0
47.5°	200.4	199.5	198.5	197.8	197.4	196.9	196.5	196.0
50°	190.0	188.8	187.7	187.0	186.6	186.2	185.8	185.4
52.5°	179.1	178.2	177.2	176.5	175.9	175.5	174.9	174.4
55°	162.9	161.9	161.0	160.3	159.9	159.5	159.1	158.7
57.5°	146.1	145.1	144.2	143.5	143.3	143.0	142.7	142.4
60°	135.0	134.1	133.2	132.7	132.5	132.2	132.0	131.7
62.5°	124.5	123.7	122.9	122.3	122.0	121.7	121.4	121.0
65°	108.3	107.6	106.9	106.3	105.9	105.5	105.1	104.7
67.5°	92.4	91.8	91.3	90.8	90.5	90.2	89.8	89.5
70°	82.0	81.4	80.9	80.5	80.2	79.8	79.5	79.1
72.5°	72.2	71.7	71.1	70.7	70.4	70.2	69.9	69.6
75°	57.0	56.5	56.0	55.8	56.0	56.2	56.3	56.5
77.5°	43.3	43.1	42.9	42.6	42.4	42.2	42.0	41.7
80°	34.5	34.2	34.0	33.7	33.6	33.4	33.3	33.1
82.5°	25.7	25.3	25.0	24.9	24.9	24.8	24.8	24.8
85°	13.5	13.3	13.1	12.9	12.8	12.8	12.7	12.6
87.5°	6.1	6.0	5.9	5.9	5.9	5.9	5.9	5.9
90°	12.4	12.9	13.5	14.0	14.3	14.5	14.7	15.0
92.5°	13.5	13.9	14.2	14.4	14.5	14.7	14.8	15.0
95°	22.9	23.4	24.1	24.3	24.2	24.1	24.0	23.8
97.5°	29.9	30.4	30.9	31.2	31.4	31.5	31.7	31.8
100°	33.6	34.5	35.6	36.2	36.4	36.7	36.9	37.2
102.5°	35.1	36.4	37.6	38.4	38.8	39.1	39.5	39.8
105°	36.5	37.9	39.2	40.2	40.6	41.2	41.7	42.1
107.5°	44.6	43.3	41.8	41.4	41.9	42.4	42.9	43.3
110°	72.4	60.0	47.8	41.8	42.3	42.9	43.3	43.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	154.9	110.0	65.0	42.7	43.1	43.5	43.9	44.3
115°	228.1	171.0	113.9	81.0	72.1	63.2	54.3	45.5
117.5°	351.4	337.5	323.8	302.3	273.1	244.0	214.8	185.7
120°	409.5	410.9	412.4	404.8	388.2	371.5	354.9	338.3
122.5°	434.4	435.3	436.3	435.1	431.8	428.6	425.4	422.2
125°	470.3	471.2	472.1	472.7	473.0	473.4	473.8	474.1
127.5°	503.5	504.8	506.0	506.7	506.8	506.8	506.9	507.0
130°	524.6	525.9	527.3	527.9	527.8	527.7	527.5	527.4
132.5°	545.0	546.2	547.3	547.9	547.7	547.6	547.5	547.4
135°	574.3	575.4	576.7	577.2	576.9	576.7	576.5	576.2
137.5°	601.3	602.5	603.8	604.2	603.7	603.3	602.9	602.5
140°	618.9	620.0	621.2	621.4	620.8	620.1	619.5	618.9
142.5°	635.1	636.1	637.2	637.3	636.8	636.1	635.5	634.9
145°	657.7	658.6	659.5	659.7	659.0	658.4	657.7	657.2
147.5°	677.6	678.2	678.8	678.9	678.3	677.9	677.3	676.8
150°	689.7	690.5	691.2	691.3	690.6	690.0	689.4	688.8
152.5°	700.8	701.6	702.3	702.3	701.4	700.6	699.8	698.9
155°	715.7	716.5	717.2	717.1	716.1	715.2	714.2	713.2
157.5°	728.4	729.2	730.1	730.0	729.0	728.1	727.1	726.1
160°	735.7	736.5	737.2	737.1	736.3	735.4	734.6	733.7
162.5°	742.6	743.4	744.3	744.2	743.1	742.0	740.9	739.9
165°	751.0	751.8	752.7	752.7	751.8	751.0	750.1	749.2
167.5°	758.0	758.8	759.6	759.5	758.4	757.3	756.2	755.1
170°	761.5	762.3	763.2	763.1	762.0	760.9	759.8	758.7
172.5°	764.1	765.0	765.9	765.7	764.6	763.5	762.4	761.3
175°	767.1	767.9	768.7	768.6	767.3	766.1	764.9	763.7
177.5°	767.4	768.0	768.7	768.7	767.8	766.8	766.0	765.1
180°	766.4	766.4	766.4	766.4	766.4	766.4	766.4	766.4

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