

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

Luminaire Tested: **S122DIW-S290D710U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331475
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-S290D710U835-4F0-1E-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: 4039.5 lumens
Efficiency: N/A
Efficacy: 132.9 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

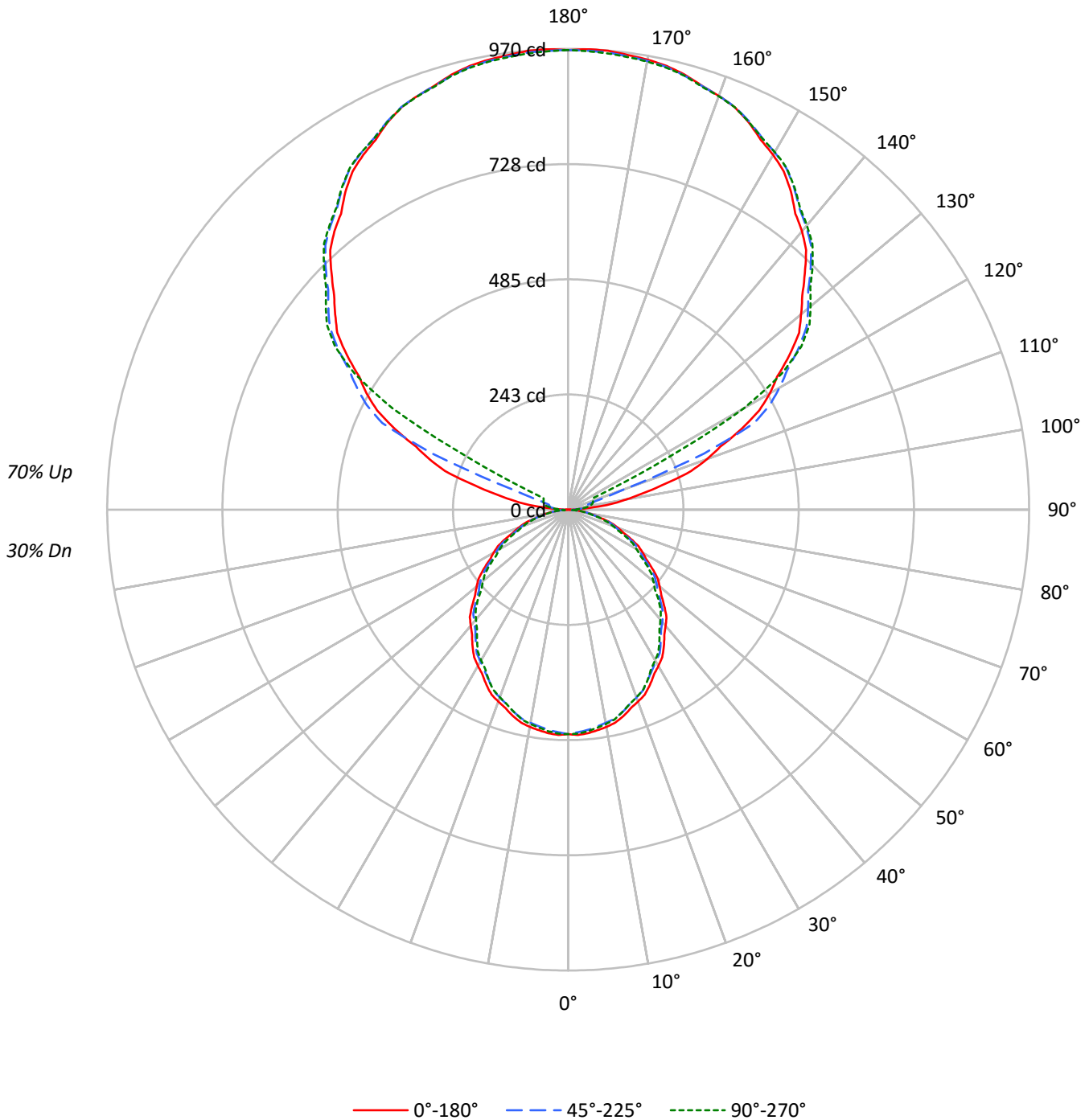
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	7627	7627	7627
5°	7656	7546	7592
10°	7612	7470	7507
15°	7517	7373	7366
20°	7383	7228	7220
25°	7251	7049	7049
30°	7081	6885	6825
35°	6922	6688	6589
40°	6721	6492	6367
45°	6524	6295	6140
50°	6310	6094	5878
55°	6086	5858	5638
60°	5838	5574	5370
65°	5570	5295	5051
70°	5231	4952	4716
75°	4760	4560	4448
80°	4221	4100	3887
85°	3446	3279	2946



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.4	1.1
10°-20°	125.0	3.1
20°-30°	183.7	4.5
30°-40°	213.4	5.3
40°-50°	213.2	5.3
50°-60°	185.9	4.6
60°-70°	137.5	3.4
70°-80°	77.9	1.9
80°-90°	23.3	0.6
90°-100°	32.3	0.8
100°-110°	118.3	2.9
110°-120°	316.3	7.8
120°-130°	522.2	12.9
130°-140°	555.4	13.7
140°-150°	516.2	12.8
150°-160°	415.0	10.3
160°-170°	267.4	6.6
170°-180°	92.1	2.3
0°-30°	353.2	8.7
0°-40°	566.6	14.0
0°-60°	965.7	23.9
0°-90°	1204.3	29.8
90°-120°	467.0	11.6
90°-150°	2060.7	51.0
90°-180°	2835.0	70.2
0°-180°	4039.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	472	470	466	469	468	45
15°	450	447	441	443	441	127
25°	407	403	396	396	396	187
35°	351	346	339	337	334	219
45°	286	282	276	271	269	220
55°	216	213	208	203	200	193
65°	146	143	139	135	132	144
75°	76	75	73	71	71	82
85°	19	18	18	16	16	21
90°	1	8	14	17	19	3
95°	46	24	27	31	30	56
105°	213	222	43	50	53	227
115°	402	415	432	123	57	396
125°	569	578	592	596	598	507
135°	704	715	722	728	727	544
145°	817	817	828	833	830	511
155°	900	894	902	905	900	414
165°	948	944	946	950	946	268
175°	970	965	966	970	964	92
180°	968	968	968	968	968	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	474.6	474.2	473.8	473.4	473.0	472.4	471.5	470.6	469.7	468.8	469.6
5°	472.4	472.0	471.6	471.2	470.8	470.1	469.0	467.9	466.7	465.6	466.4
7.5°	468.3	467.6	467.0	466.4	465.8	464.9	463.8	462.6	461.5	460.4	461.2
10°	464.3	463.6	462.9	462.2	461.4	460.5	459.3	458.1	456.9	455.6	456.4
12.5°	458.8	458.2	457.6	456.9	456.3	455.4	454.2	453.0	451.8	450.6	451.1
15°	449.7	449.1	448.5	447.9	447.3	446.4	445.0	443.7	442.4	441.1	441.5
17.5°	438.1	437.5	436.9	436.3	435.7	434.7	433.4	432.0	430.7	429.4	429.8
20°	429.7	429.1	428.5	427.9	427.3	426.3	424.9	423.5	422.1	420.7	421.0
22.5°	421.4	420.5	419.7	418.8	418.0	416.9	415.6	414.2	412.9	411.6	411.6
25°	407.0	406.2	405.4	404.6	403.8	402.5	400.8	399.1	397.4	395.7	395.9
27.5°	390.7	390.0	389.2	388.5	387.8	386.7	385.4	384.0	382.7	381.3	381.0
30°	379.8	379.0	378.2	377.4	376.5	375.4	373.9	372.4	370.8	369.3	369.0
32.5°	368.1	367.5	366.9	366.2	365.6	364.4	362.8	361.3	359.7	358.1	357.5
35°	351.2	350.1	349.1	348.1	347.1	345.8	344.2	342.6	341.0	339.3	338.7
37.5°	332.0	331.1	330.2	329.3	328.4	327.2	325.6	324.0	322.3	320.7	320.0
40°	318.9	318.1	317.3	316.5	315.7	314.5	312.8	311.2	309.6	308.0	307.1
42.5°	306.2	305.4	304.6	303.8	303.0	301.7	300.1	298.5	296.9	295.3	294.3
45°	285.7	285.0	284.3	283.6	282.9	281.8	280.3	278.8	277.3	275.7	274.6
47.5°	265.4	264.7	264.1	263.4	262.7	261.6	260.0	258.5	256.9	255.3	254.1
50°	251.2	250.7	250.2	249.7	249.2	248.2	246.8	245.4	244.0	242.6	241.2
52.5°	237.4	236.7	236.1	235.4	234.7	233.7	232.4	231.1	229.7	228.4	227.2
55°	216.2	215.6	215.0	214.4	213.8	212.9	211.7	210.5	209.3	208.1	206.8
57.5°	195.0	194.5	194.0	193.5	193.0	192.1	190.8	189.5	188.1	186.8	185.6
60°	180.8	180.4	180.0	179.6	179.2	178.3	176.9	175.5	174.0	172.6	171.5
62.5°	167.0	166.3	165.7	165.1	164.4	163.5	162.4	161.4	160.3	159.2	158.1
65°	145.8	145.2	144.6	144.0	143.4	142.6	141.6	140.6	139.6	138.6	137.6
67.5°	124.3	123.8	123.3	122.8	122.4	121.7	120.7	119.8	118.9	118.0	117.3
70°	110.8	110.4	110.0	109.6	109.2	108.6	107.7	106.8	105.8	104.9	104.2
72.5°	97.0	96.6	96.2	95.8	95.4	94.9	94.3	93.8	93.2	92.6	91.9
75°	76.3	76.1	75.9	75.7	75.5	75.2	74.7	74.1	73.6	73.1	72.5
77.5°	57.8	57.4	57.1	56.8	56.4	56.1	55.9	55.7	55.5	55.3	55.0
80°	45.4	45.3	45.2	45.1	45.0	44.9	44.7	44.5	44.3	44.1	43.8
82.5°	33.8	33.8	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2	32.8
85°	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.8	17.7	17.4
87.5°	6.7	6.9	7.0	7.2	7.4	7.5	7.6	7.7	7.8	7.9	7.8
90°	0.7	2.4	4.1	5.8	7.5	9.0	10.3	11.5	12.8	14.0	14.8
92.5°	14.1	14.0	13.8	13.7	13.5	13.8	14.4	15.0	15.6	16.2	16.6
95°	45.5	40.4	35.2	30.1	25.0	22.9	24.0	25.1	26.2	27.3	28.1
97.5°	90.3	75.8	61.4	46.9	32.4	26.5	29.0	31.5	34.0	36.5	37.2
100°	123.9	102.6	81.3	60.0	38.7	29.3	32.0	34.6	37.3	39.9	41.1
102.5°	160.9	156.4	151.8	147.3	142.8	129.5	107.4	85.3	63.1	41.0	42.6
105°	212.8	217.5	222.2	226.8	231.5	212.6	170.1	127.6	85.2	42.7	44.4
107.5°	272.0	275.8	279.6	283.3	287.1	263.5	212.6	161.7	110.7	59.8	58.0
110°	310.1	313.4	316.7	319.9	323.2	302.3	257.4	212.4	167.5	122.5	107.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	346.0	348.9	351.8	354.6	357.5	353.4	342.3	331.2	320.1	309.0	252.3
115°	402.5	405.2	407.8	410.5	413.1	416.4	420.3	424.2	428.0	431.9	359.9
117.5°	453.1	456.0	459.0	461.9	464.9	467.7	470.4	473.1	475.7	478.4	461.0
120°	490.0	492.4	494.7	497.0	499.4	501.9	504.7	507.5	510.3	513.1	515.0
122.5°	521.4	523.9	526.3	528.8	531.2	534.0	537.0	540.1	543.1	546.2	547.3
125°	569.1	571.2	573.2	575.2	577.2	579.7	582.7	585.6	588.6	591.5	592.6
127.5°	612.4	614.6	616.9	619.1	621.4	623.6	625.8	628.0	630.2	632.4	634.0
130°	639.8	642.3	644.8	647.3	649.8	651.9	653.6	655.3	657.0	658.8	660.5
132.5°	667.9	670.0	672.1	674.2	676.3	678.2	679.9	681.6	683.4	685.1	686.5
135°	704.3	706.7	709.2	711.7	714.2	716.2	717.6	719.0	720.4	721.8	723.3
137.5°	741.1	742.8	744.6	746.3	748.0	749.7	751.3	752.9	754.5	756.1	757.6
140°	765.2	766.4	767.6	768.9	770.1	771.6	773.3	775.0	776.7	778.5	779.9
142.5°	785.3	786.4	787.6	788.7	789.8	791.3	793.3	795.3	797.2	799.2	800.5
145°	817.0	816.8	816.7	816.5	816.3	817.6	820.2	822.9	825.5	828.2	829.3
147.5°	844.5	844.0	843.4	842.8	842.2	843.2	845.8	848.4	851.0	853.6	854.5
150°	862.5	861.4	860.3	859.2	858.1	858.8	861.3	863.8	866.3	868.8	869.7
152.5°	877.6	876.4	875.2	873.9	872.7	873.3	875.7	878.0	880.4	882.8	883.7
155°	899.6	898.2	896.8	895.4	894.0	894.2	896.1	897.9	899.8	901.7	902.6
157.5°	916.8	915.6	914.4	913.2	912.1	912.1	913.4	914.7	916.0	917.3	918.4
160°	926.9	925.9	925.0	924.1	923.1	923.1	924.1	925.0	925.9	926.9	927.8
162.5°	935.8	934.9	934.0	933.0	932.1	932.0	932.8	933.7	934.5	935.3	936.3
165°	947.9	946.9	946.0	945.1	944.1	943.9	944.4	944.8	945.3	945.8	946.9
167.5°	956.8	955.9	955.0	954.0	953.1	952.9	953.3	953.7	954.2	954.6	955.7
170°	961.9	960.9	960.0	959.1	958.1	957.8	958.1	958.5	958.8	959.1	960.2
172.5°	965.2	964.3	963.4	962.4	961.5	961.2	961.5	961.8	962.1	962.4	963.5
175°	969.6	968.5	967.4	966.3	965.2	964.8	965.1	965.5	965.8	966.1	967.2
177.5°	970.3	969.4	968.5	967.7	966.8	966.4	966.5	966.7	966.8	966.9	967.8
180°	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	470.4	471.2	472.0	472.4	472.2	472.0	471.9	471.7
5°	467.3	468.1	468.9	469.2	469.0	468.8	468.6	468.4
7.5°	462.0	462.8	463.6	463.9	463.7	463.4	463.2	463.0
10°	457.3	458.1	458.9	459.1	458.8	458.5	458.2	457.9
12.5°	451.7	452.2	452.8	453.0	452.8	452.5	452.3	452.1
15°	441.9	442.3	442.7	442.7	442.2	441.7	441.2	440.7
17.5°	430.3	430.8	431.2	431.2	430.7	430.3	429.8	429.3
20°	421.3	421.6	421.9	421.8	421.4	421.0	420.6	420.2
22.5°	411.7	411.8	411.8	411.7	411.5	411.2	411.0	410.8
25°	396.1	396.3	396.5	396.5	396.3	396.1	395.9	395.7
27.5°	380.7	380.4	380.1	379.7	379.2	378.7	378.3	377.8
30°	368.7	368.4	368.1	367.8	367.4	367.0	366.6	366.1
32.5°	357.0	356.4	355.9	355.4	355.0	354.6	354.2	353.8
35°	338.1	337.5	336.9	336.4	335.9	335.4	334.9	334.3
37.5°	319.2	318.5	317.7	317.1	316.6	316.1	315.7	315.2
40°	306.2	305.3	304.4	303.7	303.3	302.9	302.5	302.1
42.5°	293.3	292.3	291.3	290.5	290.0	289.4	288.9	288.3
45°	273.5	272.4	271.3	270.5	270.1	269.7	269.3	268.9
47.5°	253.0	251.8	250.6	249.7	249.2	248.6	248.0	247.4
50°	239.8	238.3	236.9	236.0	235.5	235.0	234.5	234.0
52.5°	226.1	224.9	223.7	222.8	222.1	221.5	220.8	220.1
55°	205.6	204.4	203.2	202.4	201.9	201.3	200.8	200.3
57.5°	184.4	183.2	182.0	181.2	180.9	180.5	180.1	179.7
60°	170.4	169.3	168.2	167.5	167.2	166.9	166.6	166.3
62.5°	157.1	156.1	155.1	154.4	154.0	153.6	153.2	152.8
65°	136.7	135.8	134.9	134.2	133.7	133.2	132.7	132.2
67.5°	116.6	115.9	115.2	114.6	114.2	113.8	113.4	113.0
70°	103.5	102.8	102.1	101.6	101.2	100.7	100.3	99.9
72.5°	91.2	90.5	89.8	89.2	88.9	88.6	88.3	87.9
75°	71.9	71.3	70.7	70.5	70.7	70.9	71.1	71.3
77.5°	54.7	54.4	54.1	53.8	53.5	53.3	53.0	52.7
80°	43.5	43.2	42.9	42.6	42.4	42.2	42.0	41.8
82.5°	32.4	32.0	31.6	31.4	31.4	31.3	31.3	31.3
85°	17.1	16.8	16.5	16.3	16.2	16.1	16.0	15.9
87.5°	7.7	7.6	7.5	7.5	7.5	7.5	7.4	7.4
90°	15.6	16.3	17.1	17.7	18.0	18.3	18.6	18.9
92.5°	17.1	17.5	17.9	18.2	18.3	18.5	18.7	18.9
95°	28.9	29.6	30.4	30.7	30.6	30.4	30.3	30.1
97.5°	37.8	38.4	39.0	39.4	39.6	39.8	40.0	40.2
100°	42.4	43.6	44.9	45.7	46.0	46.3	46.6	46.9
102.5°	44.3	45.9	47.5	48.5	49.0	49.4	49.8	50.3
105°	46.1	47.8	49.5	50.7	51.3	52.0	52.6	53.2
107.5°	56.3	54.6	52.8	52.3	52.9	53.5	54.1	54.7
110°	91.4	75.8	60.3	52.8	53.4	54.1	54.7	55.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	195.5	138.8	82.0	53.9	54.4	54.9	55.4	55.9
115°	287.9	215.8	143.8	102.2	91.0	79.8	68.6	57.4
117.5°	443.6	426.1	408.7	381.6	344.8	308.0	271.2	234.4
120°	516.9	518.7	520.6	511.0	490.0	469.0	448.0	427.0
122.5°	548.4	549.5	550.7	549.2	545.1	541.0	537.0	532.9
125°	593.7	594.8	595.9	596.7	597.1	597.6	598.1	598.5
127.5°	635.6	637.2	638.8	639.6	639.7	639.8	639.9	640.0
130°	662.2	663.9	665.6	666.4	666.2	666.1	665.9	665.8
132.5°	688.0	689.5	690.9	691.6	691.4	691.3	691.1	691.0
135°	724.9	726.4	728.0	728.6	728.3	728.0	727.7	727.4
137.5°	759.1	760.6	762.2	762.7	762.1	761.6	761.1	760.5
140°	781.3	782.7	784.1	784.4	783.6	782.8	782.0	781.3
142.5°	801.7	803.0	804.3	804.5	803.8	803.0	802.2	801.4
145°	830.3	831.4	832.5	832.7	831.9	831.1	830.3	829.6
147.5°	855.3	856.1	856.9	857.0	856.3	855.7	855.0	854.3
150°	870.6	871.6	872.5	872.6	871.8	871.0	870.2	869.5
152.5°	884.6	885.6	886.5	886.5	885.4	884.4	883.4	882.3
155°	903.5	904.5	905.4	905.2	904.0	902.8	901.5	900.3
157.5°	919.5	920.5	921.6	921.5	920.3	919.1	917.9	916.6
160°	928.7	929.7	930.6	930.5	929.4	928.3	927.3	926.2
162.5°	937.4	938.4	939.5	939.4	938.0	936.7	935.3	934.0
165°	948.0	949.0	950.1	950.1	949.0	948.0	946.9	945.8
167.5°	956.8	957.9	958.9	958.8	957.4	956.0	954.6	953.2
170°	961.3	962.3	963.4	963.3	961.9	960.5	959.1	957.7
172.5°	964.6	965.7	966.8	966.6	965.2	963.8	962.4	961.0
175°	968.3	969.3	970.4	970.2	968.6	967.1	965.5	964.0
177.5°	968.7	969.5	970.4	970.3	969.2	968.0	966.9	965.8
180°	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5

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