

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: P331475-830

Luminaire Tested: **S122DIW-S290D710U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331475-830
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-S290D710U830-4F0-1E-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: 3807.5 lumens
Efficiency: N/A
Efficacy: 125.2 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

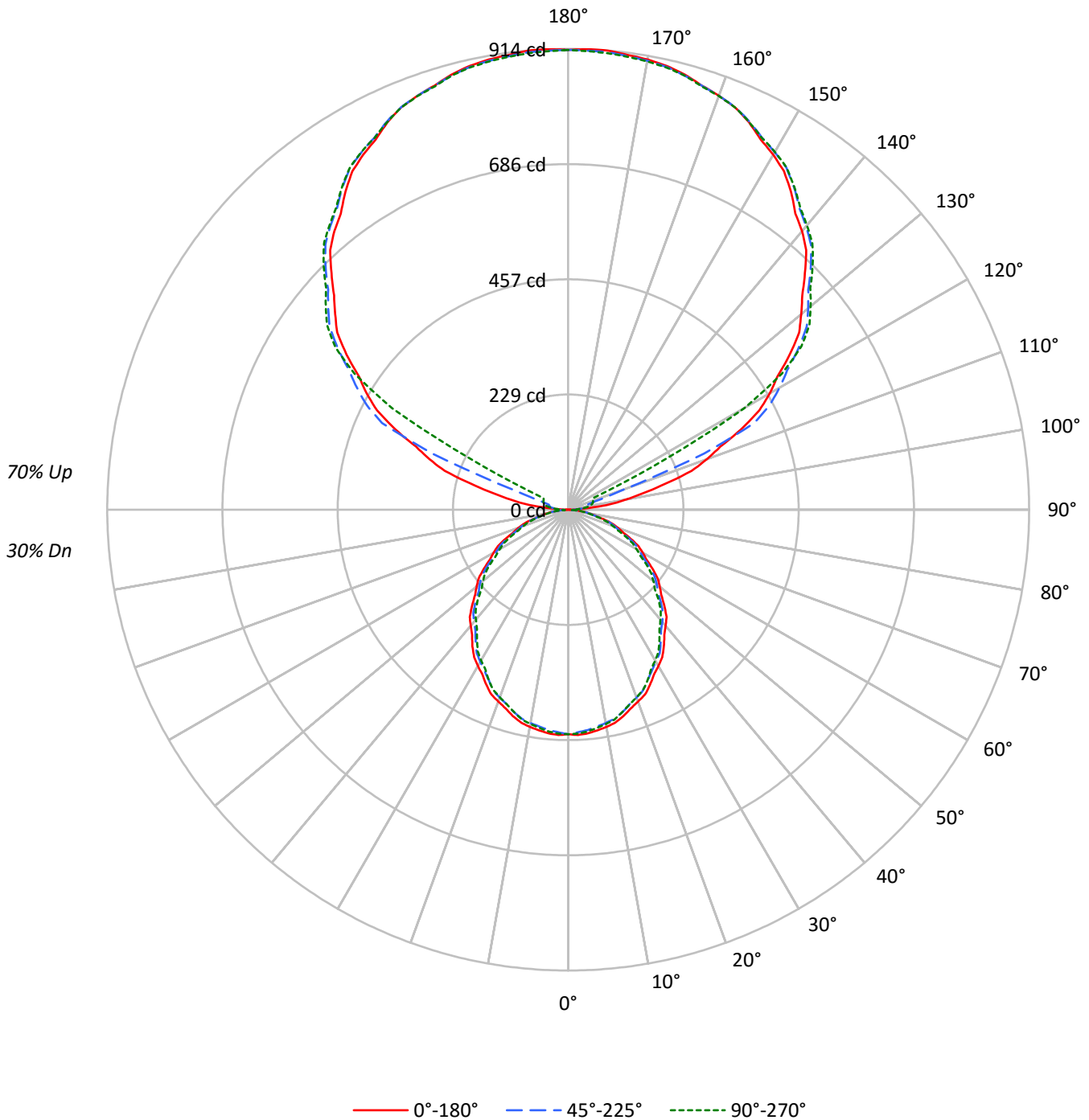
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	32
2	85	78	72	67	76	70	65	61	55	52	49	42	39	37	29	28	27
3	77	68	61	56	69	61	55	51	49	44	41	37	34	32	26	24	23
4	71	60	53	47	63	54	48	43	43	38	35	33	30	27	23	21	20
5	65	54	46	40	58	48	42	37	39	34	30	29	26	23	21	19	17
6	60	48	40	34	53	43	37	32	35	30	26	26	23	20	19	17	15
7	55	43	35	30	49	39	32	28	31	26	23	24	21	18	17	15	13
8	51	39	32	26	46	35	29	24	28	24	20	22	18	16	16	13	12
9	47	36	28	23	42	32	26	22	26	21	18	20	17	14	15	12	11
10	44	32	25	21	40	29	23	19	24	19	16	18	15	13	13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7190	7190	7190
5°	7217	7112	7156
10°	7174	7040	7076
15°	7086	6950	6944
20°	6959	6813	6806
25°	6834	6645	6645
30°	6674	6490	6434
35°	6524	6303	6211
40°	6336	6119	6001
45°	6149	5934	5786
50°	5948	5745	5541
55°	5737	5520	5315
60°	5503	5254	5060
65°	5249	4989	4760
70°	4928	4669	4447
75°	4485	4298	4192
80°	3980	3868	3663
85°	3242	3094	2779



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	1.1
10°-20°	117.8	3.1
20°-30°	173.2	4.5
30°-40°	201.2	5.3
40°-50°	200.9	5.3
50°-60°	175.2	4.6
60°-70°	129.6	3.4
70°-80°	73.4	1.9
80°-90°	22.0	0.6
90°-100°	30.4	0.8
100°-110°	111.6	2.9
110°-120°	298.2	7.8
120°-130°	492.2	12.9
130°-140°	523.5	13.7
140°-150°	486.5	12.8
150°-160°	391.2	10.3
160°-170°	252.1	6.6
170°-180°	86.8	2.3
0°-30°	332.9	8.7
0°-40°	534.0	14.0
0°-60°	910.2	23.9
0°-90°	1135.1	29.8
90°-120°	440.1	11.6
90°-150°	1942.3	51.0
90°-180°	2672.0	70.2
0°-180°	3807.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	445	445	445	445	445	
5°	445	443	439	442	442	42
15°	424	421	416	417	415	119
25°	384	380	373	374	373	176
35°	331	327	320	317	315	207
45°	269	266	260	255	253	208
55°	204	201	196	191	189	182
65°	137	135	131	127	125	136
75°	72	71	69	66	67	77
85°	18	17	17	16	15	20
90°	1	8	13	16	18	3
95°	43	23	26	29	28	52
105°	201	209	40	47	50	214
115°	379	391	407	116	54	373
125°	536	545	558	562	564	478
135°	664	674	680	686	686	512
145°	770	770	781	785	782	481
155°	848	843	850	853	849	391
165°	893	890	892	896	892	252
175°	914	910	911	915	909	87
180°	912	912	912	912	912	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	447.3	447.0	446.6	446.2	445.8	445.3	444.4	443.6	442.7	441.9	442.6
5°	445.3	444.9	444.5	444.1	443.7	443.1	442.1	441.0	439.9	438.8	439.6
7.5°	441.4	440.7	440.2	439.6	439.0	438.2	437.2	436.0	435.0	433.9	434.7
10°	437.6	437.0	436.3	435.6	434.9	434.0	432.9	431.8	430.6	429.4	430.2
12.5°	432.4	431.9	431.3	430.6	430.1	429.2	428.1	427.0	425.8	424.7	425.2
15°	423.9	423.3	422.7	422.2	421.6	420.8	419.4	418.2	417.0	415.8	416.1
17.5°	412.9	412.4	411.8	411.2	410.7	409.7	408.5	407.2	406.0	404.7	405.1
20°	405.0	404.4	403.9	403.3	402.7	401.8	400.5	399.2	397.8	396.5	396.8
22.5°	397.2	396.3	395.6	394.7	394.0	392.9	391.7	390.4	389.2	388.0	388.0
25°	383.6	382.9	382.1	381.4	380.6	379.4	377.8	376.2	374.6	373.0	373.2
27.5°	368.3	367.6	366.8	366.2	365.5	364.5	363.3	361.9	360.7	359.4	359.1
30°	358.0	357.2	356.5	355.7	354.9	353.8	352.4	351.0	349.5	348.1	347.8
32.5°	346.9	346.4	345.8	345.2	344.6	343.5	342.0	340.5	339.0	337.5	337.0
35°	331.0	330.0	329.0	328.1	327.2	325.9	324.4	322.9	321.4	319.8	319.2
37.5°	312.9	312.1	311.2	310.4	309.5	308.4	306.9	305.4	303.8	302.3	301.6
40°	300.6	299.8	299.1	298.3	297.6	296.4	294.8	293.3	291.8	290.3	289.5
42.5°	288.6	287.9	287.1	286.3	285.6	284.4	282.9	281.3	279.8	278.3	277.4
45°	269.3	268.6	268.0	267.3	266.6	265.6	264.2	262.8	261.4	259.9	258.8
47.5°	250.2	249.5	248.9	248.3	247.6	246.6	245.1	243.6	242.1	240.6	239.5
50°	236.8	236.3	235.8	235.4	234.9	233.9	232.6	231.3	230.0	228.7	227.3
52.5°	223.8	223.1	222.5	221.9	221.2	220.3	219.0	217.8	216.5	215.3	214.1
55°	203.8	203.2	202.6	202.1	201.5	200.7	199.5	198.4	197.3	196.1	194.9
57.5°	183.8	183.3	182.9	182.4	181.9	181.1	179.8	178.6	177.3	176.1	174.9
60°	170.4	170.0	169.7	169.3	168.9	168.1	166.7	165.4	164.0	162.7	161.6
62.5°	157.4	156.7	156.2	155.6	155.0	154.1	153.1	152.1	151.1	150.1	149.0
65°	137.4	136.9	136.3	135.7	135.2	134.4	133.5	132.5	131.6	130.6	129.7
67.5°	117.2	116.7	116.2	115.7	115.4	114.7	113.8	112.9	112.1	111.2	110.6
70°	104.4	104.1	103.7	103.3	102.9	102.4	101.5	100.7	99.7	98.9	98.2
72.5°	91.4	91.0	90.7	90.3	89.9	89.4	88.9	88.4	87.8	87.3	86.6
75°	71.9	71.7	71.5	71.4	71.2	70.9	70.4	69.8	69.4	68.9	68.3
77.5°	54.5	54.1	53.8	53.5	53.2	52.9	52.7	52.5	52.3	52.1	51.8
80°	42.8	42.7	42.6	42.5	42.4	42.3	42.1	41.9	41.8	41.6	41.3
82.5°	31.9	31.9	31.9	31.8	31.8	31.7	31.6	31.5	31.4	31.3	30.9
85°	17.5	17.4	17.3	17.2	17.2	17.1	17.0	16.9	16.8	16.7	16.4
87.5°	6.3	6.5	6.6	6.8	7.0	7.1	7.2	7.3	7.4	7.4	7.4
90°	0.7	2.3	3.9	5.5	7.1	8.5	9.7	10.8	12.1	13.2	13.9
92.5°	13.3	13.2	13.0	12.9	12.7	13.0	13.6	14.1	14.7	15.3	15.6
95°	42.9	38.1	33.2	28.4	23.6	21.6	22.6	23.7	24.7	25.7	26.5
97.5°	85.1	71.4	57.9	44.2	30.5	25.0	27.3	29.7	32.0	34.4	35.1
100°	116.8	96.7	76.6	56.6	36.5	27.6	30.2	32.6	35.2	37.6	38.7
102.5°	151.7	147.4	143.1	138.8	134.6	122.1	101.2	80.4	59.5	38.6	40.2
105°	200.6	205.0	209.4	213.8	218.2	200.4	160.3	120.3	80.3	40.2	41.8
107.5°	256.4	260.0	263.5	267.0	270.6	248.4	200.4	152.4	104.3	56.4	54.7
110°	292.3	295.4	298.5	301.5	304.6	284.9	242.6	200.2	157.9	115.5	100.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	326.1	328.9	331.6	334.2	337.0	333.1	322.6	312.2	301.7	291.2	237.8
115°	379.4	381.9	384.4	386.9	389.4	392.5	396.2	399.8	403.4	407.1	339.2
117.5°	427.1	429.8	432.6	435.4	438.2	440.8	443.4	445.9	448.4	450.9	434.5
120°	461.8	464.1	466.3	468.4	470.7	473.1	475.7	478.3	481.0	483.6	485.4
122.5°	491.4	493.8	496.1	498.4	500.7	503.3	506.1	509.1	511.9	514.8	515.9
125°	536.4	538.4	540.3	542.2	544.0	546.4	549.2	552.0	554.8	557.5	558.6
127.5°	577.2	579.3	581.5	583.5	585.7	587.8	589.8	591.9	594.0	596.1	597.6
130°	603.0	605.4	607.8	610.1	612.5	614.4	616.0	617.6	619.3	620.9	622.5
132.5°	629.5	631.5	633.5	635.5	637.4	639.2	640.8	642.4	644.1	645.7	647.1
135°	663.8	666.1	668.5	670.8	673.2	675.0	676.4	677.7	679.0	680.3	681.7
137.5°	698.5	700.1	701.8	703.4	705.0	706.6	708.1	709.6	711.1	712.7	714.1
140°	721.2	722.4	723.5	724.7	725.9	727.3	728.9	730.5	732.1	733.8	735.1
142.5°	740.2	741.2	742.3	743.4	744.4	745.8	747.7	749.6	751.4	753.3	754.5
145°	770.1	769.9	769.8	769.6	769.4	770.6	773.1	775.6	778.1	780.6	781.7
147.5°	796.0	795.5	794.9	794.4	793.8	794.8	797.2	799.7	802.1	804.6	805.4
150°	812.9	811.9	810.9	809.8	808.8	809.5	811.8	814.2	816.5	818.9	819.7
152.5°	827.2	826.0	824.9	823.7	822.6	823.1	825.4	827.6	829.8	832.1	832.9
155°	847.9	846.6	845.3	844.0	842.6	842.8	844.6	846.3	848.1	849.9	850.7
157.5°	864.1	863.0	861.9	860.7	859.7	859.7	860.9	862.1	863.4	864.6	865.6
160°	873.6	872.7	871.9	871.0	870.1	870.1	871.0	871.9	872.7	873.6	874.5
162.5°	882.0	881.2	880.3	879.4	878.5	878.4	879.2	880.1	880.8	881.6	882.5
165°	893.4	892.5	891.6	890.8	889.9	889.7	890.1	890.5	891.0	891.5	892.5
167.5°	901.8	901.0	900.1	899.2	898.3	898.1	898.5	898.9	899.4	899.8	900.8
170°	906.6	905.7	904.8	904.0	903.1	902.8	903.1	903.4	903.7	904.0	905.0
172.5°	909.7	908.9	908.0	907.1	906.3	906.0	906.3	906.5	906.8	907.1	908.1
175°	913.9	912.9	911.8	910.8	909.7	909.4	909.6	910.0	910.3	910.6	911.6
177.5°	914.5	913.7	912.9	912.1	911.3	910.9	911.0	911.2	911.3	911.3	912.2
180°	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	443.4	444.1	444.9	445.3	445.1	444.9	444.8	444.6
5°	440.5	441.2	442.0	442.2	442.1	441.9	441.7	441.5
7.5°	435.5	436.2	437.0	437.2	437.1	436.8	436.6	436.4
10°	431.0	431.8	432.5	432.7	432.4	432.2	431.9	431.6
12.5°	425.7	426.2	426.8	427.0	426.8	426.5	426.3	426.1
15°	416.5	416.9	417.3	417.3	416.8	416.3	415.8	415.4
17.5°	405.6	406.0	406.4	406.4	406.0	405.6	405.1	404.6
20°	397.1	397.4	397.7	397.6	397.2	396.8	396.4	396.1
22.5°	388.0	388.1	388.1	388.0	387.9	387.6	387.4	387.2
25°	373.3	373.5	373.7	373.7	373.5	373.3	373.2	373.0
27.5°	358.8	358.5	358.3	357.9	357.4	356.9	356.6	356.1
30°	347.5	347.2	346.9	346.7	346.3	345.9	345.5	345.1
32.5°	336.5	335.9	335.5	335.0	334.6	334.2	333.8	333.5
35°	318.7	318.1	317.5	317.1	316.6	316.1	315.7	315.1
37.5°	300.9	300.2	299.4	298.9	298.4	297.9	297.6	297.1
40°	288.6	287.8	286.9	286.3	285.9	285.5	285.1	284.7
42.5°	276.4	275.5	274.6	273.8	273.3	272.8	272.3	271.7
45°	257.8	256.7	255.7	255.0	254.6	254.2	253.8	253.4
47.5°	238.5	237.3	236.2	235.4	234.9	234.3	233.8	233.2
50°	226.0	224.6	223.3	222.4	222.0	221.5	221.0	220.6
52.5°	213.1	212.0	210.8	210.0	209.3	208.8	208.1	207.5
55°	193.8	192.7	191.5	190.8	190.3	189.7	189.3	188.8
57.5°	173.8	172.7	171.5	170.8	170.5	170.1	169.8	169.4
60°	160.6	159.6	158.5	157.9	157.6	157.3	157.0	156.7
62.5°	148.1	147.1	146.2	145.5	145.2	144.8	144.4	144.0
65°	128.8	128.0	127.1	126.5	126.0	125.5	125.1	124.6
67.5°	109.9	109.2	108.6	108.0	107.6	107.3	106.9	106.5
70°	97.6	96.9	96.2	95.8	95.4	94.9	94.5	94.2
72.5°	86.0	85.3	84.6	84.1	83.8	83.5	83.2	82.8
75°	67.8	67.2	66.6	66.4	66.6	66.8	67.0	67.2
77.5°	51.6	51.3	51.0	50.7	50.4	50.2	50.0	49.7
80°	41.0	40.7	40.4	40.2	40.0	39.8	39.6	39.4
82.5°	30.5	30.2	29.8	29.6	29.6	29.5	29.5	29.5
85°	16.1	15.8	15.6	15.4	15.3	15.2	15.1	15.0
87.5°	7.3	7.2	7.1	7.1	7.1	7.1	7.0	7.0
90°	14.7	15.4	16.1	16.7	17.0	17.2	17.5	17.8
92.5°	16.1	16.5	16.9	17.2	17.2	17.4	17.6	17.8
95°	27.2	27.9	28.7	28.9	28.8	28.7	28.6	28.4
97.5°	35.6	36.2	36.8	37.1	37.3	37.5	37.7	37.9
100°	40.0	41.1	42.3	43.1	43.4	43.6	43.9	44.2
102.5°	41.8	43.3	44.8	45.7	46.2	46.6	46.9	47.4
105°	43.5	45.1	46.7	47.8	48.4	49.0	49.6	50.1
107.5°	53.1	51.5	49.8	49.3	49.9	50.4	51.0	51.6
110°	86.1	71.4	56.8	49.8	50.3	51.0	51.6	52.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	184.3	130.8	77.3	50.8	51.3	51.7	52.2	52.7
115°	271.4	203.4	135.5	96.3	85.8	75.2	64.7	54.1
117.5°	418.1	401.6	385.2	359.7	325.0	290.3	255.6	220.9
120°	487.2	488.9	490.7	481.6	461.8	442.1	422.3	402.5
122.5°	516.9	517.9	519.1	517.6	513.8	509.9	506.1	502.3
125°	559.6	560.6	561.7	562.4	562.8	563.3	563.7	564.1
127.5°	599.1	600.6	602.1	602.9	602.9	603.0	603.1	603.2
130°	624.2	625.8	627.4	628.1	627.9	627.8	627.6	627.5
132.5°	648.5	649.9	651.2	651.9	651.7	651.6	651.4	651.3
135°	683.2	684.7	686.2	686.7	686.5	686.2	685.9	685.6
137.5°	715.5	716.9	718.4	718.9	718.3	717.8	717.4	716.8
140°	736.4	737.7	739.0	739.3	738.6	737.8	737.1	736.4
142.5°	755.6	756.9	758.1	758.3	757.6	756.9	756.1	755.4
145°	782.6	783.6	784.7	784.9	784.1	783.3	782.6	781.9
147.5°	806.2	806.9	807.7	807.8	807.1	806.5	805.9	805.2
150°	820.6	821.5	822.4	822.5	821.7	821.0	820.2	819.5
152.5°	833.8	834.7	835.6	835.6	834.5	833.6	832.6	831.6
155°	851.6	852.5	853.4	853.2	852.1	850.9	849.7	848.6
157.5°	866.7	867.6	868.6	868.6	867.4	866.3	865.2	863.9
160°	875.3	876.3	877.1	877.0	876.0	875.0	874.0	873.0
162.5°	883.5	884.5	885.5	885.4	884.1	882.9	881.6	880.3
165°	893.5	894.5	895.5	895.5	894.5	893.5	892.5	891.5
167.5°	901.8	902.9	903.8	903.7	902.4	901.1	899.8	898.4
170°	906.1	907.0	908.0	908.0	906.6	905.3	904.0	902.7
172.5°	909.2	910.2	911.3	911.1	909.7	908.4	907.1	905.8
175°	912.7	913.6	914.6	914.5	912.9	911.5	910.0	908.6
177.5°	913.0	913.8	914.6	914.5	913.5	912.4	911.3	910.3
180°	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9

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