

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: P331264-840

Luminaire Tested: **SA2XXDIP-C290D725U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331264-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D725U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

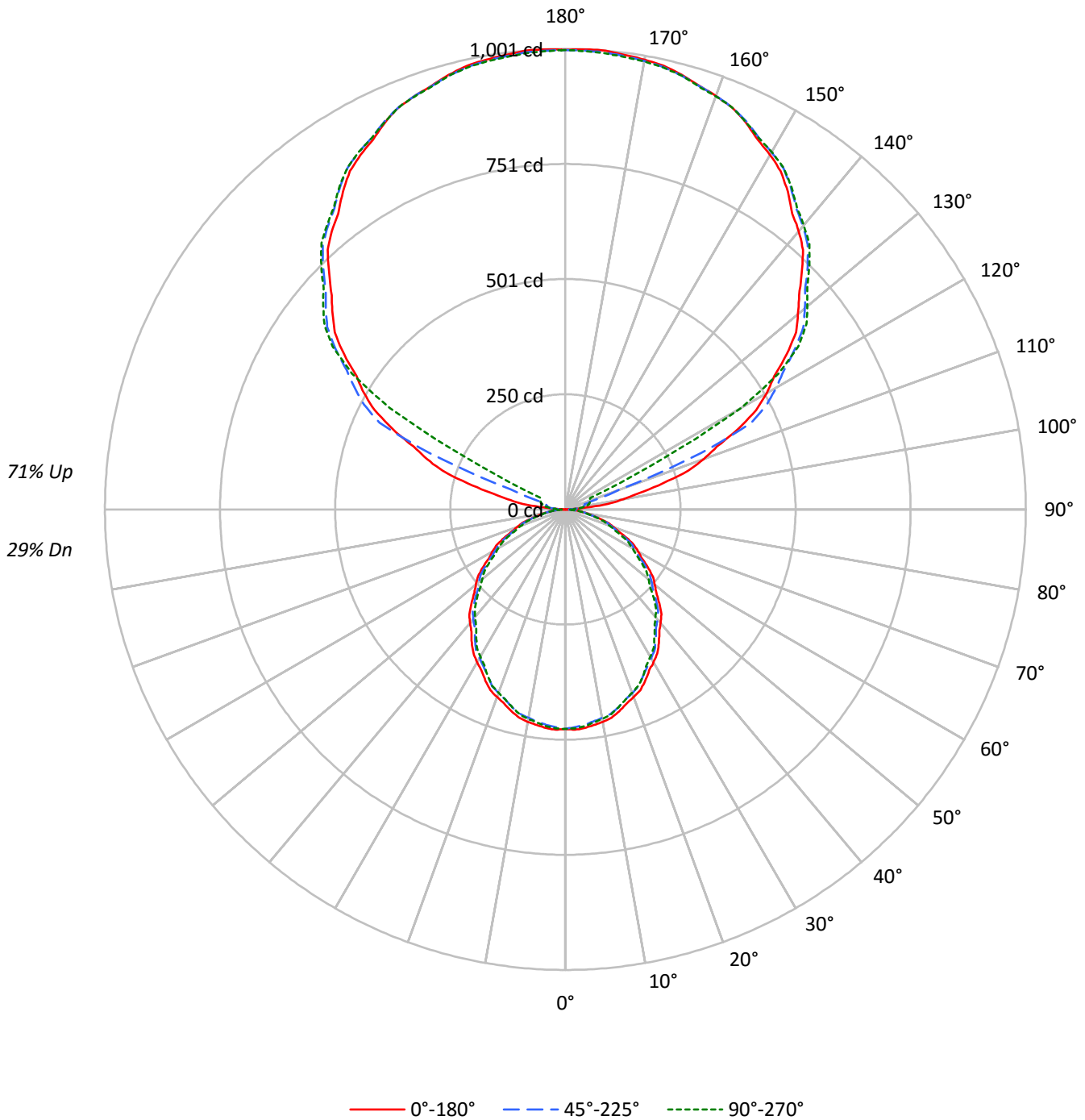
Lumens per Lamp: N/A
Luminaire Lumens: 4141.9 lumens
Efficiency: N/A
Efficacy: 132.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
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	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	29	28	26	21
3	77	68	61	55	69	61	55	51	48	44	41	37	34	31	26	24	22	18
4	71	60	53	47	63	54	48	43	43	38	35	33	29	27	23	21	19	15
5	65	54	46	40	58	48	42	36	38	34	30	29	26	23	21	18	17	13
6	60	48	40	34	53	43	36	32	34	30	26	26	23	20	19	16	15	11
7	55	43	35	30	49	39	32	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	26	45	35	29	24	28	23	20	22	18	16	16	13	12	9
9	47	35	28	23	42	32	26	21	26	21	18	20	17	14	14	12	11	8
10	44	32	25	21	39	29	23	19	24	19	16	18	15	13	13	11	10	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7703	7703	7703
5°	7733	7621	7666
10°	7688	7543	7581
15°	7590	7447	7438
20°	7455	7301	7290
25°	7322	7119	7119
30°	7150	6952	6893
35°	6991	6753	6654
40°	6787	6555	6431
45°	6588	6357	6202
50°	6373	6154	5935
55°	6145	5917	5695
60°	5896	5628	5422
65°	5624	5349	5100
70°	5282	4999	4763
75°	4810	4604	4492
80°	4258	4138	3924
85°	3483	3316	2983



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.9	1.1
10°-20°	126.2	3.0
20°-30°	185.5	4.5
30°-40°	215.5	5.2
40°-50°	215.3	5.2
50°-60°	187.7	4.5
60°-70°	138.8	3.4
70°-80°	78.6	1.9
80°-90°	23.6	0.6
90°-100°	33.3	0.8
100°-110°	122.1	2.9
110°-120°	326.4	7.9
120°-130°	538.9	13.0
130°-140°	573.1	13.8
140°-150°	532.7	12.9
150°-160°	428.3	10.3
160°-170°	276.0	6.7
170°-180°	95.0	2.3
0°-30°	356.6	8.6
0°-40°	572.2	13.8
0°-60°	975.2	23.5
0°-90°	1216.3	29.4
90°-120°	481.9	11.6
90°-150°	2126.5	51.3
90°-180°	2926.0	70.6
0°-180°	4141.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	477	477	477	477	477	
5°	477	475	470	474	473	45
15°	454	451	446	447	445	128
25°	411	407	400	400	400	189
35°	355	350	343	340	338	221
45°	288	285	278	274	272	223
55°	218	215	210	205	202	195
65°	147	144	140	136	134	146
75°	77	76	74	71	72	82
85°	19	18	18	17	16	22
90°	1	9	14	18	20	3
95°	47	25	28	32	31	57
105°	220	229	44	52	55	235
115°	415	428	446	127	59	409
125°	587	597	610	615	618	523
135°	727	738	745	752	750	561
145°	843	843	854	859	856	527
155°	928	923	930	934	929	428
165°	978	974	976	980	976	276
175°	1000	996	997	1001	995	95
180°	998	998	998	998	998	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	479.3	478.9	478.5	478.1	477.7	477.1	476.2	475.2	474.3	473.4	474.2
5°	477.1	476.7	476.3	475.8	475.4	474.7	473.6	472.5	471.3	470.2	471.0
7.5°	472.9	472.2	471.6	471.0	470.4	469.5	468.4	467.2	466.1	464.9	465.7
10°	468.9	468.2	467.5	466.8	466.0	465.0	463.8	462.6	461.4	460.1	460.9
12.5°	463.3	462.7	462.1	461.4	460.8	459.9	458.7	457.5	456.3	455.0	455.6
15°	454.1	453.5	452.9	452.3	451.7	450.8	449.4	448.1	446.8	445.5	445.9
17.5°	442.4	441.8	441.2	440.6	440.0	439.0	437.7	436.3	434.9	433.6	434.0
20°	433.9	433.3	432.7	432.1	431.5	430.5	429.1	427.7	426.3	424.9	425.2
22.5°	425.6	424.6	423.8	422.9	422.1	421.0	419.7	418.3	417.0	415.7	415.7
25°	411.0	410.2	409.4	408.6	407.8	406.5	404.8	403.0	401.3	399.6	399.8
27.5°	394.6	393.8	393.0	392.3	391.6	390.5	389.2	387.8	386.5	385.1	384.8
30°	383.5	382.7	381.9	381.1	380.2	379.1	377.6	376.1	374.5	372.9	372.6
32.5°	371.7	371.1	370.5	369.8	369.2	368.0	366.4	364.9	363.2	361.6	361.0
35°	354.7	353.6	352.5	351.5	350.5	349.2	347.6	346.0	344.4	342.6	342.0
37.5°	335.3	334.4	333.5	332.5	331.6	330.4	328.8	327.2	325.5	323.9	323.2
40°	322.0	321.2	320.4	319.6	318.8	317.6	315.9	314.3	312.7	311.0	310.1
42.5°	309.2	308.4	307.6	306.8	306.0	304.7	303.1	301.4	299.8	298.2	297.2
45°	288.5	287.8	287.1	286.4	285.7	284.6	283.1	281.6	280.0	278.4	277.3
47.5°	268.0	267.3	266.7	266.0	265.3	264.2	262.6	261.1	259.4	257.8	256.6
50°	253.7	253.2	252.7	252.2	251.7	250.6	249.2	247.8	246.4	245.0	243.6
52.5°	239.7	239.0	238.4	237.7	237.0	236.0	234.7	233.4	232.0	230.7	229.4
55°	218.3	217.7	217.1	216.5	215.9	215.0	213.8	212.6	211.4	210.2	208.8
57.5°	196.9	196.4	195.9	195.4	194.9	194.0	192.7	191.4	190.0	188.6	187.4
60°	182.6	182.2	181.8	181.4	181.0	180.1	178.6	177.2	175.7	174.3	173.2
62.5°	168.6	167.9	167.3	166.7	166.0	165.1	164.0	163.0	161.9	160.8	159.7
65°	147.2	146.6	146.0	145.4	144.8	144.0	143.0	142.0	141.0	140.0	139.0
67.5°	125.5	125.0	124.5	124.0	123.6	122.9	121.9	121.0	120.1	119.2	118.5
70°	111.9	111.5	111.1	110.7	110.3	109.7	108.8	107.9	106.8	105.9	105.2
72.5°	98.0	97.6	97.1	96.7	96.3	95.8	95.2	94.7	94.1	93.5	92.8
75°	77.1	76.9	76.6	76.4	76.2	75.9	75.4	74.8	74.3	73.8	73.2
77.5°	58.4	58.0	57.7	57.4	57.0	56.7	56.5	56.2	56.0	55.8	55.5
80°	45.8	45.7	45.6	45.5	45.4	45.3	45.1	44.9	44.7	44.5	44.2
82.5°	34.1	34.1	34.1	34.0	34.0	33.9	33.8	33.7	33.6	33.5	33.1
85°	18.8	18.7	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.6
87.5°	6.8	7.0	7.2	7.3	7.5	7.7	7.8	7.9	8.0	8.0	8.0
90°	0.7	2.5	4.2	6.1	7.8	9.3	10.6	11.9	13.1	14.4	15.2
92.5°	14.5	14.4	14.2	14.1	13.9	14.2	14.8	15.5	16.2	16.8	17.2
95°	47.0	41.7	36.4	31.1	25.8	23.6	24.8	26.0	27.1	28.2	29.0
97.5°	93.2	78.3	63.3	48.4	33.4	27.3	29.9	32.5	35.1	37.7	38.4
100°	127.8	105.8	83.9	61.9	39.9	30.3	33.0	35.7	38.5	41.2	42.4
102.5°	166.0	161.4	156.7	152.1	147.3	133.6	110.8	88.0	65.1	42.3	44.0
105°	219.6	224.4	229.2	234.1	238.8	219.3	175.5	131.7	87.9	44.0	45.8
107.5°	280.7	284.6	288.5	292.4	296.3	272.0	219.3	166.8	114.2	61.7	59.9
110°	320.0	323.4	326.8	330.1	333.5	311.9	265.6	219.2	172.8	126.4	110.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	357.0	360.0	362.9	366.0	368.9	364.7	353.3	341.7	330.3	318.8	260.3
115°	415.4	418.1	420.8	423.5	426.3	429.7	433.6	437.7	441.7	445.8	371.4
117.5°	467.6	470.6	473.6	476.7	479.7	482.6	485.4	488.2	490.9	493.7	475.7
120°	505.6	508.1	510.5	512.9	515.3	518.0	520.9	523.7	526.6	529.5	531.4
122.5°	538.1	540.6	543.1	545.6	548.2	551.0	554.2	557.3	560.5	563.6	564.7
125°	587.3	589.4	591.5	593.6	595.6	598.2	601.3	604.3	607.3	610.5	611.6
127.5°	632.0	634.3	636.6	638.8	641.2	643.5	645.8	648.0	650.4	652.6	654.3
130°	660.2	662.9	665.4	667.9	670.6	672.7	674.5	676.2	678.0	679.7	681.6
132.5°	689.1	691.4	693.6	695.7	697.9	699.8	701.7	703.4	705.2	706.9	708.4
135°	726.7	729.3	731.8	734.5	737.0	739.0	740.4	741.8	743.4	744.8	746.4
137.5°	764.8	766.5	768.3	770.1	771.9	773.7	775.3	776.9	778.5	780.2	781.7
140°	789.6	790.8	792.1	793.5	794.7	796.3	798.0	799.8	801.5	803.3	804.8
142.5°	810.4	811.5	812.7	813.9	815.0	816.6	818.6	820.6	822.6	824.7	826.0
145°	843.0	842.8	842.7	842.5	842.4	843.6	846.4	849.1	851.8	854.5	855.8
147.5°	871.5	870.9	870.3	869.7	869.1	870.1	872.8	875.5	878.2	880.9	881.7
150°	890.0	888.9	887.8	886.7	885.4	886.3	888.8	891.3	893.9	896.5	897.5
152.5°	905.5	904.3	903.1	901.8	900.6	901.2	903.6	906.1	908.5	910.9	911.9
155°	928.3	926.9	925.3	923.9	922.5	922.7	924.6	926.6	928.5	930.4	931.4
157.5°	946.0	944.8	943.6	942.4	941.2	941.2	942.6	943.9	945.2	946.6	947.8
160°	956.4	955.4	954.5	953.5	952.6	952.6	953.5	954.5	955.4	956.4	957.5
162.5°	965.7	964.7	963.8	962.8	961.8	961.8	962.6	963.4	964.3	965.1	966.2
165°	978.2	977.1	976.2	975.2	974.2	974.0	974.5	975.0	975.4	975.9	977.0
167.5°	987.3	986.4	985.4	984.5	983.5	983.2	983.7	984.1	984.6	985.0	986.1
170°	992.6	991.6	990.7	989.7	988.8	988.4	988.8	989.1	989.4	989.7	990.8
172.5°	996.0	995.0	994.1	993.1	992.2	991.9	992.2	992.5	992.8	993.1	994.3
175°	1000.5	999.4	998.3	997.1	996.0	995.6	995.9	996.2	996.5	996.9	998.0
177.5°	1001.3	1000.4	999.5	998.6	997.6	997.2	997.3	997.5	997.6	997.7	998.7
180°	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	475.0	475.8	476.7	477.1	476.9	476.7	476.6	476.4
5°	471.9	472.7	473.5	473.8	473.6	473.4	473.2	473.0
7.5°	466.6	467.4	468.2	468.5	468.3	468.0	467.8	467.6
10°	461.8	462.6	463.4	463.6	463.3	463.0	462.7	462.4
12.5°	456.2	456.7	457.3	457.5	457.3	457.0	456.8	456.6
15°	446.3	446.7	447.1	447.1	446.6	446.1	445.6	445.0
17.5°	434.5	435.0	435.5	435.5	434.9	434.5	434.0	433.5
20°	425.5	425.8	426.1	426.0	425.6	425.2	424.7	424.3
22.5°	415.8	415.9	415.9	415.8	415.6	415.3	415.1	414.9
25°	400.0	400.2	400.4	400.4	400.2	400.0	399.8	399.6
27.5°	384.5	384.2	383.8	383.4	382.9	382.4	382.0	381.5
30°	372.3	372.0	371.7	371.4	371.0	370.6	370.2	369.7
32.5°	360.5	359.9	359.4	358.9	358.5	358.1	357.7	357.3
35°	341.4	340.8	340.2	339.7	339.2	338.7	338.2	337.6
37.5°	322.3	321.6	320.8	320.2	319.7	319.2	318.8	318.3
40°	309.2	308.3	307.4	306.7	306.3	305.9	305.5	305.1
42.5°	296.2	295.2	294.2	293.4	292.9	292.3	291.8	291.1
45°	276.2	275.1	274.0	273.2	272.8	272.4	272.0	271.6
47.5°	255.5	254.3	253.1	252.2	251.7	251.1	250.4	249.8
50°	242.2	240.7	239.2	238.3	237.8	237.3	236.8	236.3
52.5°	228.3	227.1	225.9	225.0	224.3	223.7	223.0	222.3
55°	207.6	206.4	205.2	204.4	203.9	203.3	202.8	202.3
57.5°	186.2	185.0	183.8	183.0	182.7	182.3	181.9	181.5
60°	172.1	171.0	169.9	169.2	168.8	168.5	168.2	167.9
62.5°	158.6	157.6	156.6	155.9	155.5	155.1	154.7	154.3
65°	138.0	137.1	136.2	135.5	135.0	134.5	134.0	133.5
67.5°	117.8	117.0	116.3	115.7	115.3	114.9	114.5	114.1
70°	104.5	103.8	103.1	102.6	102.2	101.7	101.3	100.9
72.5°	92.1	91.4	90.7	90.1	89.8	89.5	89.2	88.8
75°	72.6	72.0	71.4	71.2	71.4	71.6	71.8	72.0
77.5°	55.2	54.9	54.6	54.3	54.0	53.8	53.5	53.2
80°	43.9	43.6	43.3	43.0	42.8	42.6	42.4	42.2
82.5°	32.7	32.3	31.9	31.7	31.7	31.6	31.6	31.6
85°	17.3	17.0	16.7	16.5	16.4	16.3	16.2	16.1
87.5°	7.9	7.8	7.7	7.7	7.6	7.6	7.6	7.6
90°	16.1	16.9	17.7	18.2	18.6	18.9	19.2	19.5
92.5°	17.6	18.0	18.4	18.8	18.9	19.1	19.3	19.5
95°	29.8	30.6	31.4	31.7	31.5	31.4	31.2	31.1
97.5°	39.0	39.6	40.3	40.7	40.9	41.1	41.3	41.5
100°	43.7	45.0	46.4	47.2	47.5	47.8	48.1	48.4
102.5°	45.6	47.4	49.0	50.1	50.5	51.0	51.4	51.9
105°	47.6	49.4	51.1	52.3	53.0	53.6	54.2	54.9
107.5°	58.1	56.2	54.5	53.9	54.5	55.2	55.8	56.5
110°	94.3	78.3	62.2	54.5	55.1	55.7	56.5	57.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	201.8	143.2	84.6	55.5	56.1	56.7	57.2	57.7
115°	297.1	222.8	148.5	105.4	93.9	82.3	70.8	59.3
117.5°	457.8	439.7	421.7	393.7	355.8	317.8	279.8	241.9
120°	533.4	535.3	537.2	527.4	505.6	484.0	462.3	440.7
122.5°	565.9	567.0	568.3	566.7	562.5	558.3	554.1	549.9
125°	612.7	613.8	614.9	615.7	616.2	616.7	617.1	617.6
127.5°	655.9	657.5	659.1	660.0	660.1	660.2	660.4	660.5
130°	683.3	685.1	686.8	687.6	687.5	687.3	687.1	687.0
132.5°	709.9	711.4	713.0	713.7	713.5	713.4	713.2	713.0
135°	748.0	749.6	751.2	751.8	751.5	751.2	750.8	750.5
137.5°	783.4	784.9	786.5	787.0	786.5	785.9	785.4	784.8
140°	806.2	807.6	809.1	809.4	808.6	807.8	807.0	806.2
142.5°	827.3	828.6	829.9	830.2	829.4	828.6	827.8	827.0
145°	856.9	858.0	859.1	859.2	858.5	857.7	856.9	856.1
147.5°	882.5	883.4	884.2	884.3	883.6	882.9	882.3	881.6
150°	898.4	899.4	900.3	900.4	899.6	898.8	898.0	897.2
152.5°	912.8	913.8	914.8	914.7	913.7	912.6	911.6	910.5
155°	932.4	933.3	934.3	934.1	932.8	931.6	930.3	929.0
157.5°	948.8	949.9	951.0	950.9	949.7	948.4	947.2	945.9
160°	958.4	959.4	960.3	960.2	959.1	958.0	956.8	955.7
162.5°	967.2	968.4	969.5	969.4	968.0	966.5	965.2	963.8
165°	978.2	979.4	980.5	980.5	979.4	978.2	977.0	975.9
167.5°	987.3	988.5	989.6	989.4	988.0	986.5	985.0	983.6
170°	991.9	993.0	994.2	994.0	992.6	991.1	989.7	988.3
172.5°	995.4	996.5	997.6	997.4	996.0	994.6	993.1	991.7
175°	999.2	1000.3	1001.4	1001.2	999.6	997.9	996.3	994.7
177.5°	999.6	1000.5	1001.4	1001.3	1000.1	999.0	997.7	996.6
180°	998.4	998.4	998.4	998.4	998.4	998.4	998.4	998.4

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