

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: P331264-940

Luminaire Tested: **SA2XXDIP-C290D725U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331264-940
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-C290D725U940-4F0-1E-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: 3657.3 lumens
Efficiency: N/A
Efficacy: 117.2 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

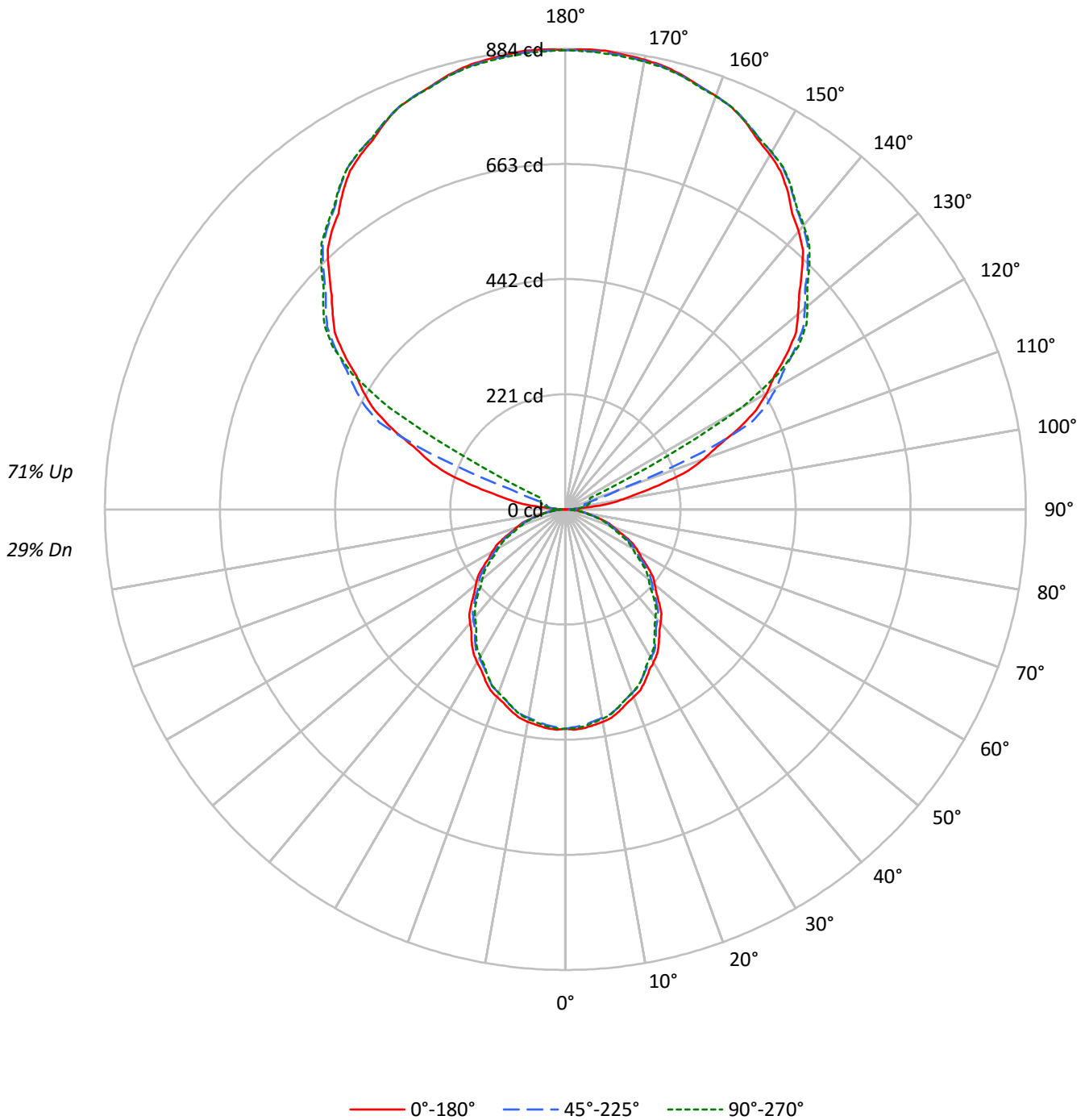
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6801	6801	6801
5°	6827	6729	6770
10°	6787	6661	6694
15°	6703	6574	6569
20°	6584	6445	6438
25°	6465	6285	6285
30°	6315	6139	6087
35°	6173	5964	5876
40°	5994	5788	5678
45°	5818	5613	5476
50°	5627	5433	5242
55°	5427	5225	5027
60°	5205	4970	4789
65°	4967	4722	4504
70°	4664	4414	4206
75°	4242	4067	3968
80°	3766	3654	3468
85°	3075	2927	2631



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.6	1.1
10°-20°	111.5	3.0
20°-30°	163.8	4.5
30°-40°	190.3	5.2
40°-50°	190.1	5.2
50°-60°	165.8	4.5
60°-70°	122.6	3.4
70°-80°	69.4	1.9
80°-90°	20.8	0.6
90°-100°	29.4	0.8
100°-110°	107.8	2.9
110°-120°	288.3	7.9
120°-130°	475.8	13.0
130°-140°	506.0	13.8
140°-150°	470.3	12.9
150°-160°	378.1	10.3
160°-170°	243.7	6.7
170°-180°	83.9	2.3
0°-30°	314.9	8.6
0°-40°	505.2	13.8
0°-60°	861.1	23.5
0°-90°	1074.0	29.4
90°-120°	425.5	11.6
90°-150°	1877.7	51.3
90°-180°	2583.0	70.6
0°-180°	3657.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	421	421	421	421	421	
5°	421	420	415	418	418	40
15°	401	398	393	395	393	113
25°	363	360	353	354	353	167
35°	313	309	303	300	298	195
45°	255	252	246	242	240	197
55°	193	190	186	181	179	172
65°	130	128	124	120	118	129
75°	68	67	65	63	64	73
85°	17	16	16	15	14	19
90°	1	8	13	16	17	3
95°	42	22	25	28	28	51
105°	194	202	39	46	48	207
115°	367	378	394	112	52	361
125°	519	527	539	543	545	462
135°	642	652	658	664	663	495
145°	744	744	755	759	756	465
155°	820	815	822	825	820	378
165°	864	860	862	866	862	244
175°	883	879	880	884	878	84
180°	882	882	882	882	882	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	423.2	422.8	422.5	422.1	421.8	421.2	420.4	419.6	418.8	418.0	418.7
5°	421.2	420.9	420.5	420.2	419.8	419.2	418.2	417.2	416.2	415.2	415.9
7.5°	417.6	417.0	416.4	415.9	415.4	414.6	413.6	412.5	411.5	410.5	411.3
10°	414.0	413.4	412.8	412.1	411.4	410.6	409.6	408.5	407.4	406.3	407.0
12.5°	409.1	408.6	408.0	407.4	406.9	406.1	405.0	403.9	402.9	401.8	402.3
15°	401.0	400.5	399.9	399.4	398.9	398.1	396.8	395.7	394.5	393.3	393.7
17.5°	390.7	390.1	389.6	389.1	388.5	387.6	386.5	385.2	384.1	382.9	383.3
20°	383.2	382.6	382.1	381.6	381.0	380.1	378.9	377.6	376.4	375.1	375.4
22.5°	375.8	375.0	374.3	373.4	372.7	371.8	370.6	369.3	368.2	367.0	367.0
25°	362.9	362.2	361.5	360.8	360.1	358.9	357.4	355.9	354.4	352.8	353.0
27.5°	348.4	347.8	347.1	346.4	345.8	344.8	343.7	342.4	341.3	340.0	339.7
30°	338.7	338.0	337.2	336.5	335.7	334.7	333.4	332.1	330.6	329.3	329.0
32.5°	328.2	327.7	327.2	326.5	326.0	324.9	323.5	322.2	320.7	319.3	318.8
35°	313.2	312.2	311.3	310.4	309.5	308.4	306.9	305.5	304.1	302.6	302.0
37.5°	296.0	295.2	294.4	293.6	292.8	291.8	290.3	288.9	287.4	286.0	285.3
40°	284.4	283.7	282.9	282.2	281.5	280.4	278.9	277.5	276.1	274.6	273.8
42.5°	273.0	272.3	271.6	270.9	270.2	269.0	267.6	266.2	264.7	263.3	262.4
45°	254.8	254.1	253.5	252.9	252.3	251.3	249.9	248.6	247.3	245.8	244.9
47.5°	236.7	236.0	235.5	234.9	234.3	233.3	231.8	230.5	229.1	227.7	226.6
50°	224.0	223.6	223.1	222.7	222.2	221.3	220.1	218.8	217.6	216.3	215.1
52.5°	211.7	211.1	210.5	209.9	209.3	208.4	207.2	206.1	204.8	203.7	202.6
55°	192.8	192.3	191.7	191.2	190.6	189.8	188.8	187.7	186.6	185.6	184.4
57.5°	173.9	173.4	173.0	172.5	172.1	171.3	170.1	169.0	167.7	166.6	165.5
60°	161.2	160.9	160.5	160.2	159.8	159.0	157.7	156.5	155.2	153.9	152.9
62.5°	148.9	148.3	147.8	147.2	146.6	145.8	144.8	143.9	142.9	142.0	141.0
65°	130.0	129.5	128.9	128.4	127.9	127.2	126.3	125.4	124.5	123.6	122.7
67.5°	110.8	110.4	109.9	109.5	109.1	108.5	107.6	106.8	106.0	105.2	104.6
70°	98.8	98.4	98.1	97.7	97.4	96.8	96.0	95.2	94.3	93.5	92.9
72.5°	86.5	86.1	85.8	85.4	85.1	84.6	84.1	83.6	83.1	82.6	81.9
75°	68.0	67.9	67.7	67.5	67.3	67.1	66.6	66.1	65.6	65.2	64.6
77.5°	51.5	51.2	50.9	50.6	50.3	50.0	49.8	49.7	49.5	49.3	49.0
80°	40.5	40.4	40.3	40.2	40.1	40.0	39.9	39.7	39.5	39.3	39.1
82.5°	30.1	30.1	30.1	30.1	30.1	30.0	29.9	29.8	29.7	29.6	29.2
85°	16.6	16.5	16.4	16.3	16.2	16.1	16.1	16.0	15.9	15.8	15.5
87.5°	6.0	6.2	6.3	6.4	6.6	6.8	6.9	7.0	7.0	7.0	7.0
90°	0.6	2.2	3.7	5.4	6.9	8.2	9.4	10.5	11.6	12.8	13.5
92.5°	12.8	12.8	12.6	12.5	12.3	12.6	13.1	13.6	14.3	14.8	15.2
95°	41.5	36.8	32.1	27.5	22.7	20.9	21.9	22.9	23.9	24.9	25.6
97.5°	82.3	69.1	55.9	42.7	29.5	24.1	26.4	28.7	31.0	33.3	33.9
100°	112.9	93.5	74.1	54.7	35.2	26.8	29.2	31.6	34.0	36.4	37.5
102.5°	146.6	142.5	138.4	134.3	130.1	118.0	97.8	77.7	57.5	37.4	38.9
105°	193.9	198.1	202.4	206.7	210.9	193.7	155.0	116.3	77.6	38.9	40.5
107.5°	247.9	251.3	254.8	258.2	261.6	240.1	193.7	147.3	100.9	54.5	52.9
110°	282.6	285.5	288.6	291.5	294.4	275.4	234.5	193.6	152.6	111.6	97.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	315.2	317.9	320.5	323.2	325.7	322.0	311.9	301.8	291.7	281.5	229.9
115°	366.8	369.2	371.6	374.0	376.4	379.4	382.9	386.5	390.0	393.6	328.0
117.5°	412.9	415.5	418.2	420.9	423.6	426.1	428.6	431.1	433.5	436.0	420.1
120°	446.5	448.6	450.8	452.9	455.0	457.4	459.9	462.4	465.0	467.5	469.2
122.5°	475.1	477.3	479.6	481.8	484.0	486.5	489.4	492.1	494.9	497.7	498.6
125°	518.6	520.4	522.3	524.1	525.9	528.2	530.9	533.6	536.3	539.0	540.0
127.5°	558.0	560.1	562.1	564.1	566.1	568.2	570.2	572.2	574.3	576.2	577.7
130°	583.0	585.3	587.5	589.8	592.1	594.0	595.6	597.1	598.7	600.2	601.8
132.5°	608.5	610.5	612.4	614.3	616.3	618.0	619.6	621.1	622.7	624.2	625.5
135°	641.7	644.0	646.2	648.5	650.8	652.6	653.8	655.1	656.4	657.6	659.1
137.5°	675.3	676.8	678.4	680.0	681.6	683.1	684.6	686.0	687.4	688.9	690.3
140°	697.2	698.3	699.5	700.6	701.7	703.1	704.6	706.2	707.8	709.4	710.6
142.5°	715.6	716.6	717.6	718.6	719.6	721.0	722.8	724.6	726.4	728.2	729.3
145°	744.4	744.2	744.1	744.0	743.9	744.9	747.3	749.8	752.2	754.6	755.6
147.5°	769.5	769.0	768.5	767.9	767.4	768.3	770.7	773.0	775.4	777.8	778.6
150°	785.9	784.9	783.9	782.9	781.9	782.6	784.8	787.0	789.3	791.6	792.5
152.5°	799.6	798.5	797.5	796.3	795.2	795.8	797.9	800.0	802.2	804.3	805.2
155°	819.7	818.4	817.1	815.8	814.6	814.8	816.5	818.1	819.8	821.5	822.4
157.5°	835.4	834.3	833.2	832.1	831.1	831.1	832.3	833.5	834.6	835.9	836.9
160°	844.5	843.6	842.8	842.0	841.2	841.2	842.0	842.8	843.6	844.5	845.4
162.5°	852.7	851.9	851.0	850.2	849.3	849.3	850.0	850.7	851.5	852.2	853.2
165°	863.7	862.8	862.0	861.1	860.2	860.1	860.5	860.9	861.3	861.7	862.7
167.5°	871.8	871.0	870.1	869.3	868.4	868.2	868.6	869.0	869.4	869.8	870.8
170°	876.5	875.6	874.8	873.9	873.1	872.7	873.1	873.3	873.6	873.9	874.9
172.5°	879.5	878.6	877.8	876.9	876.1	875.8	876.1	876.4	876.6	876.9	878.0
175°	883.4	882.4	881.5	880.5	879.5	879.1	879.4	879.7	879.9	880.3	881.3
177.5°	884.1	883.3	882.5	881.7	880.9	880.6	880.7	880.8	880.9	881.0	881.8
180°	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	419.5	420.2	420.9	421.2	421.1	420.9	420.8	420.6
5°	416.7	417.4	418.1	418.4	418.2	418.0	417.9	417.7
7.5°	412.0	412.7	413.4	413.7	413.5	413.2	413.0	412.9
10°	407.8	408.5	409.2	409.4	409.1	408.8	408.6	408.3
12.5°	402.8	403.2	403.8	403.9	403.8	403.5	403.3	403.1
15°	394.0	394.4	394.8	394.8	394.3	393.9	393.4	393.0
17.5°	383.7	384.1	384.5	384.5	384.1	383.7	383.3	382.8
20°	375.7	375.9	376.2	376.1	375.8	375.4	375.1	374.7
22.5°	367.1	367.2	367.2	367.1	366.9	366.7	366.5	366.3
25°	353.2	353.4	353.6	353.6	353.4	353.2	353.0	352.8
27.5°	339.5	339.2	338.9	338.6	338.1	337.7	337.3	336.9
30°	328.8	328.5	328.2	328.0	327.6	327.3	326.9	326.5
32.5°	318.3	317.8	317.4	316.9	316.6	316.2	315.8	315.5
35°	301.5	301.0	300.4	300.0	299.5	299.1	298.6	298.1
37.5°	284.6	284.0	283.3	282.8	282.3	281.9	281.5	281.1
40°	273.0	272.2	271.4	270.8	270.5	270.1	269.7	269.4
42.5°	261.5	260.6	259.8	259.0	258.6	258.1	257.6	257.1
45°	243.9	242.9	241.9	241.2	240.9	240.5	240.1	239.8
47.5°	225.6	224.5	223.5	222.7	222.2	221.7	221.1	220.6
50°	213.8	212.5	211.2	210.4	210.0	209.6	209.1	208.7
52.5°	201.6	200.5	199.5	198.7	198.0	197.5	196.9	196.3
55°	183.3	182.3	181.2	180.5	180.0	179.5	179.1	178.6
57.5°	164.4	163.4	162.3	161.6	161.3	161.0	160.6	160.2
60°	151.9	151.0	150.0	149.4	149.1	148.8	148.6	148.3
62.5°	140.1	139.2	138.3	137.7	137.3	137.0	136.6	136.3
65°	121.9	121.1	120.3	119.7	119.2	118.8	118.3	117.9
67.5°	104.0	103.3	102.7	102.2	101.8	101.5	101.1	100.8
70°	92.3	91.7	91.0	90.6	90.2	89.8	89.4	89.1
72.5°	81.3	80.7	80.1	79.5	79.3	79.0	78.7	78.4
75°	64.1	63.6	63.0	62.9	63.0	63.2	63.4	63.6
77.5°	48.8	48.5	48.2	48.0	47.7	47.5	47.3	47.0
80°	38.8	38.5	38.3	38.0	37.8	37.6	37.5	37.3
82.5°	28.9	28.5	28.2	28.0	28.0	27.9	27.9	27.9
85°	15.2	15.0	14.7	14.5	14.4	14.4	14.3	14.2
87.5°	7.0	6.9	6.8	6.8	6.7	6.7	6.7	6.7
90°	14.2	14.9	15.6	16.1	16.4	16.7	16.9	17.2
92.5°	15.5	15.9	16.2	16.6	16.7	16.9	17.0	17.2
95°	26.3	27.0	27.7	28.0	27.8	27.7	27.6	27.5
97.5°	34.4	35.0	35.6	35.9	36.1	36.3	36.5	36.6
100°	38.6	39.8	40.9	41.6	41.9	42.2	42.4	42.7
102.5°	40.3	41.8	43.2	44.2	44.6	45.0	45.4	45.8
105°	42.0	43.6	45.1	46.2	46.8	47.3	47.9	48.5
107.5°	51.3	49.7	48.2	47.6	48.2	48.8	49.3	49.8
110°	83.3	69.1	54.9	48.2	48.7	49.2	49.8	50.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	178.2	126.4	74.7	49.0	49.6	50.0	50.5	50.9
115°	262.3	196.7	131.1	93.1	82.9	72.7	62.5	52.3
117.5°	404.2	388.3	372.4	347.7	314.1	280.6	247.1	213.6
120°	471.0	472.7	474.4	465.7	446.5	427.4	408.2	389.1
122.5°	499.7	500.7	501.8	500.4	496.7	492.9	489.3	485.5
125°	541.0	542.0	543.0	543.7	544.1	544.6	544.9	545.4
127.5°	579.2	580.6	582.0	582.8	582.9	583.0	583.1	583.2
130°	603.3	604.9	606.5	607.2	607.1	606.9	606.7	606.6
132.5°	626.9	628.2	629.5	630.2	630.0	629.9	629.7	629.5
135°	660.5	661.9	663.3	663.9	663.6	663.3	663.0	662.7
137.5°	691.7	693.0	694.5	694.9	694.5	693.9	693.5	692.9
140°	711.9	713.1	714.4	714.7	714.0	713.3	712.6	711.9
142.5°	730.5	731.6	732.8	733.1	732.4	731.6	730.9	730.2
145°	756.6	757.6	758.6	758.7	758.0	757.3	756.6	755.9
147.5°	779.3	780.1	780.8	780.9	780.2	779.6	779.1	778.5
150°	793.3	794.2	795.0	795.0	794.3	793.6	792.9	792.2
152.5°	806.0	806.9	807.8	807.7	806.8	805.8	804.9	804.0
155°	823.3	824.1	825.0	824.8	823.7	822.6	821.4	820.3
157.5°	837.8	838.7	839.7	839.6	838.6	837.4	836.3	835.3
160°	846.2	847.1	847.9	847.8	846.9	845.9	844.9	843.9
162.5°	854.1	855.1	856.0	856.0	854.7	853.5	852.3	851.0
165°	863.7	864.8	865.8	865.8	864.8	863.7	862.7	861.7
167.5°	871.8	872.8	873.8	873.6	872.4	871.1	869.8	868.5
170°	875.8	876.8	877.9	877.7	876.5	875.1	873.9	872.6
172.5°	879.0	879.9	880.9	880.7	879.5	878.2	876.9	875.7
175°	882.3	883.2	884.2	884.0	882.6	881.2	879.8	878.3
177.5°	882.6	883.4	884.2	884.1	883.1	882.1	881.0	880.0
180°	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5

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