

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: P331630-830

Luminaire Tested: **SA2XXRDIP-C290D725U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331630-830
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: SA2XXRDIP-C290D725U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3706.0 lumens
Efficiency: N/A
Efficacy: 118.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

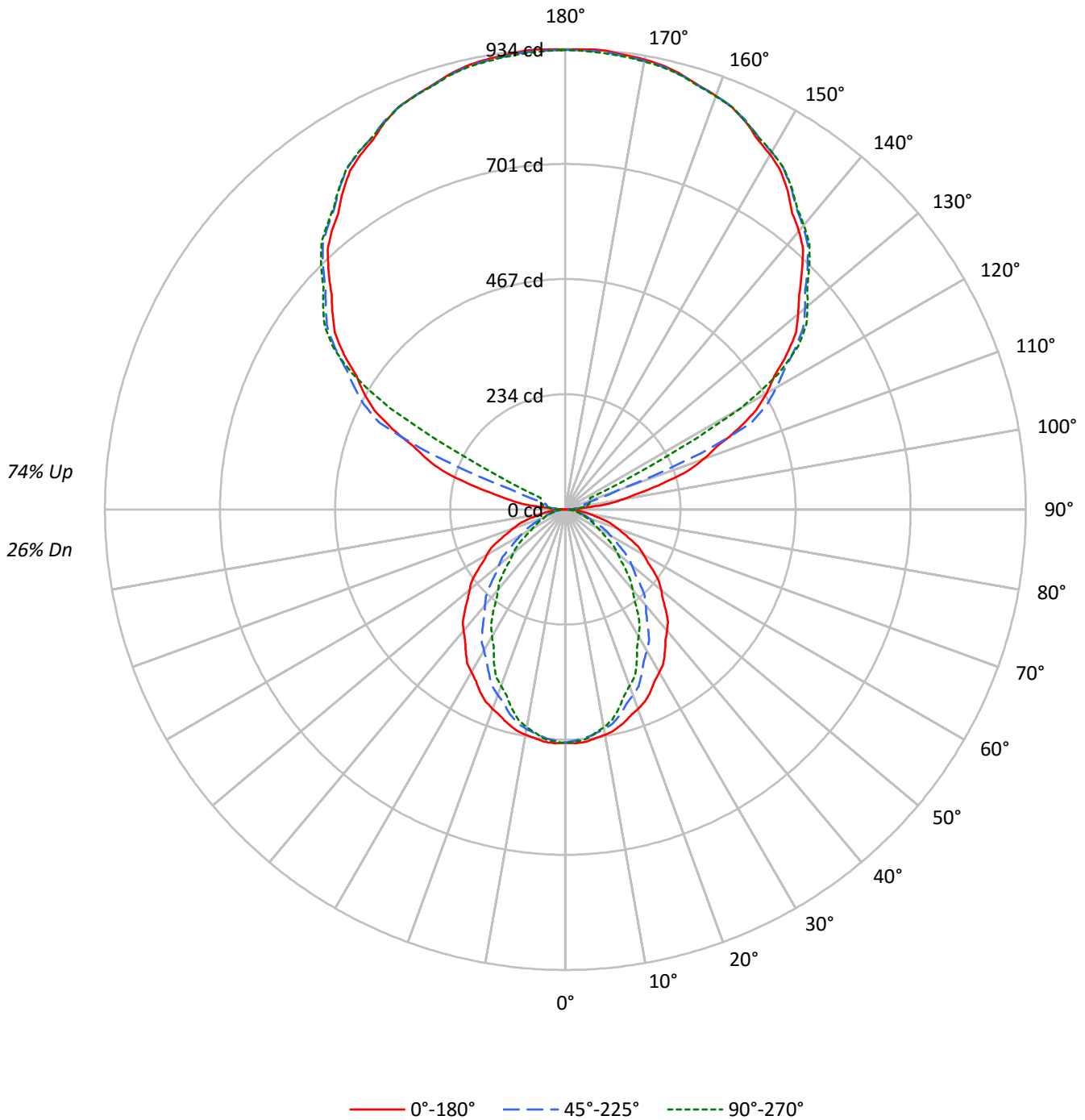
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	91	91	91	91	70	70	70	52	52	52	34	34	34	26
1	93	89	85	82	83	79	76	73	62	60	58	46	44	43	31	30	29	23
2	85	78	72	67	75	70	65	61	54	51	48	40	38	36	27	26	25	19
3	77	68	62	56	69	61	56	51	48	44	41	36	33	31	24	23	22	17
4	71	61	53	47	63	54	48	43	43	38	35	32	29	27	22	20	19	15
5	65	54	46	41	58	49	42	37	38	34	30	29	26	23	20	18	17	13
6	60	48	41	35	53	44	37	32	34	30	26	26	23	20	18	16	15	11
7	55	44	36	31	49	39	33	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	27	46	36	29	25	28	24	20	22	18	16	15	13	12	9
9	48	36	29	24	42	33	26	22	26	21	18	20	17	14	14	12	11	8
10	44	33	26	21	40	30	24	20	24	19	16	18	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7640	7640	7640
5°	7669	7543	7585
10°	7609	7420	7356
15°	7522	7199	6992
20°	7400	6887	6541
25°	7277	6531	6102
30°	7105	6162	5541
35°	6936	5765	5048
40°	6768	5351	4477
45°	6572	4889	3959
50°	6365	4421	3451
55°	6159	3916	2967
60°	5916	3387	2464
65°	5643	2846	2239
70°	5316	2346	2058
75°	4916	2133	1921
80°	4342	1906	1757
85°	3409	1501	1501



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.3	1.2
10°-20°	121.6	3.3
20°-30°	170.8	4.6
30°-40°	186.2	5.0
40°-50°	171.2	4.6
50°-60°	134.5	3.6
60°-70°	87.7	2.4
70°-80°	45.2	1.2
80°-90°	14.0	0.4
90°-100°	31.1	0.8
100°-110°	114.0	3.1
110°-120°	304.7	8.2
120°-130°	502.9	13.6
130°-140°	534.9	14.4
140°-150°	497.1	13.4
150°-160°	399.7	10.8
160°-170°	257.6	6.9
170°-180°	88.7	2.4
0°-30°	336.6	9.1
0°-40°	522.8	14.1
0°-60°	828.5	22.4
0°-90°	975.4	26.3
90°-120°	449.7	12.1
90°-150°	1984.7	53.6
90°-180°	2731.0	73.7
0°-180°	3706.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	473	473	473	473	473	
5°	473	471	465	469	468	45
15°	450	445	431	423	418	127
25°	408	394	367	350	342	188
35°	352	329	292	266	256	220
45°	288	258	214	185	173	222
55°	219	185	139	114	105	195
65°	148	113	74	61	59	146
75°	79	50	34	31	31	83
85°	18	10	8	8	8	22
90°	1	8	14	17	18	3
95°	44	23	26	29	29	54
105°	205	214	41	48	51	219
115°	388	399	416	118	55	382
125°	548	557	570	574	576	489
135°	678	689	695	701	700	524
145°	787	787	798	802	799	492
155°	866	861	868	872	867	399
165°	913	909	911	915	911	258
175°	934	929	930	934	928	89
180°	932	932	932	932	932	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2
2.5°	474.9	474.5	474.1	473.7	473.3	472.7	471.8	471.1	470.2	469.4	470.1
5°	473.2	472.7	472.2	471.7	471.3	470.3	469.1	467.9	466.7	465.4	466.3
7.5°	468.3	467.7	467.0	466.5	465.9	464.9	463.4	461.9	460.5	459.1	459.3
10°	464.1	463.4	462.8	462.1	461.5	460.1	458.3	456.4	454.5	452.6	452.3
12.5°	459.0	458.2	457.3	456.6	455.7	454.1	451.7	449.2	446.8	444.3	443.8
15°	450.0	448.9	447.9	446.9	445.8	443.7	440.5	437.2	433.9	430.7	429.0
17.5°	438.9	437.3	435.7	434.1	432.5	429.7	425.6	421.4	417.3	413.1	410.9
20°	430.7	428.9	427.0	425.0	423.1	419.8	415.0	410.3	405.6	400.8	398.4
22.5°	421.9	419.7	417.5	415.5	413.3	409.5	404.2	398.8	393.5	388.1	385.0
25°	408.5	405.4	402.4	399.4	396.3	391.6	385.3	379.1	372.8	366.6	362.6
27.5°	392.4	389.1	385.8	382.5	379.1	373.9	366.8	359.8	352.7	345.6	341.1
30°	381.1	377.5	373.8	370.2	366.6	361.0	353.4	345.8	338.2	330.5	325.7
32.5°	370.1	365.9	361.7	357.4	353.2	347.2	339.5	331.7	324.0	316.1	310.7
35°	351.9	347.1	342.2	337.4	332.5	325.9	317.5	309.2	300.9	292.5	286.4
37.5°	333.8	328.5	323.1	317.8	312.5	305.4	296.4	287.5	278.6	269.7	263.1
40°	321.1	315.5	309.7	304.0	298.3	290.9	281.6	272.4	263.2	253.9	247.1
42.5°	308.1	302.1	296.1	290.1	284.1	276.3	266.7	257.2	247.7	238.2	231.2
45°	287.8	281.3	274.9	268.6	262.2	254.0	244.0	234.0	224.0	214.1	207.4
47.5°	267.9	261.1	254.4	247.6	240.8	232.3	222.0	211.7	201.3	191.1	184.4
50°	253.4	246.8	240.0	233.2	226.5	217.8	207.4	196.9	186.4	176.0	169.4
52.5°	239.4	232.3	225.4	218.3	211.2	202.6	192.3	182.1	171.8	161.6	155.2
55°	218.8	211.4	204.0	196.5	189.1	180.3	169.9	159.7	149.4	139.1	133.5
57.5°	197.7	190.0	182.4	174.8	167.2	158.4	148.5	138.7	128.8	118.9	113.7
60°	183.2	175.7	168.1	160.4	152.8	144.1	134.3	124.5	114.7	104.9	100.0
62.5°	169.2	161.6	154.0	146.4	138.7	130.3	120.9	111.6	102.3	92.9	88.3
65°	147.7	140.0	132.3	124.6	116.9	108.8	100.2	91.6	83.0	74.5	71.3
67.5°	127.0	119.3	111.7	104.1	96.4	88.7	81.0	73.3	65.6	57.9	56.4
70°	112.6	105.2	97.7	90.4	82.9	76.0	69.4	62.8	56.3	49.7	48.7
72.5°	98.9	91.8	84.6	77.6	70.4	64.3	59.0	53.7	48.4	43.2	42.3
75°	78.8	72.1	65.5	58.8	52.1	47.2	43.9	40.7	37.5	34.2	33.6
77.5°	59.0	53.2	47.3	41.5	35.6	32.0	30.3	28.8	27.2	25.7	25.4
80°	46.7	41.8	36.9	32.1	27.2	24.3	23.4	22.4	21.5	20.5	20.2
82.5°	35.3	31.6	27.8	24.0	20.3	18.0	17.3	16.7	16.0	15.5	15.2
85°	18.4	16.4	14.4	12.4	10.5	9.2	9.0	8.7	8.4	8.1	8.1
87.5°	5.7	5.4	5.1	4.8	4.5	4.5	4.7	5.0	5.2	5.5	5.5
90°	0.7	2.4	4.0	5.7	7.3	8.7	9.9	11.1	12.3	13.5	14.2
92.5°	13.6	13.5	13.3	13.2	13.0	13.3	13.9	14.4	15.1	15.6	16.0
95°	43.8	38.9	33.9	29.0	24.0	22.1	23.2	24.2	25.3	26.3	27.1
97.5°	87.0	73.0	59.1	45.1	31.2	25.4	27.9	30.3	32.8	35.2	35.8
100°	119.3	98.8	78.3	57.8	37.2	28.3	30.8	33.4	35.9	38.5	39.6
102.5°	155.0	150.6	146.3	141.9	137.5	124.7	103.4	82.1	60.8	39.5	41.1
105°	205.0	209.4	214.0	218.5	222.9	204.7	163.8	122.9	82.0	41.1	42.8
107.5°	262.0	265.6	269.3	272.9	276.5	253.8	204.7	155.7	106.6	57.6	55.9
110°	298.7	301.8	305.0	308.1	311.2	291.2	247.9	204.6	161.3	118.0	103.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	333.2	336.0	338.7	341.6	344.3	340.4	329.7	319.0	308.3	297.6	243.0
115°	387.7	390.2	392.8	395.3	397.8	401.1	404.7	408.5	412.3	416.0	346.7
117.5°	436.4	439.2	442.1	444.9	447.7	450.4	453.1	455.6	458.2	460.8	444.0
120°	471.9	474.2	476.5	478.7	481.0	483.4	486.2	488.8	491.5	494.2	496.0
122.5°	502.2	504.5	506.9	509.3	511.6	514.3	517.3	520.2	523.1	526.0	527.1
125°	548.2	550.1	552.0	554.0	555.9	558.4	561.2	564.0	566.8	569.8	570.8
127.5°	589.8	592.0	594.2	596.3	598.4	600.6	602.8	604.8	607.0	609.1	610.7
130°	616.2	618.7	621.0	623.4	625.8	627.8	629.5	631.1	632.8	634.4	636.1
132.5°	643.2	645.3	647.3	649.3	651.4	653.2	654.9	656.5	658.2	659.8	661.2
135°	678.3	680.7	683.1	685.5	687.9	689.8	691.1	692.4	693.8	695.1	696.6
137.5°	713.8	715.4	717.1	718.8	720.5	722.1	723.6	725.1	726.6	728.2	729.6
140°	737.0	738.1	739.3	740.6	741.7	743.2	744.8	746.5	748.1	749.8	751.1
142.5°	756.4	757.4	758.6	759.6	760.6	762.1	764.0	765.9	767.8	769.7	770.9
145°	786.8	786.6	786.6	786.4	786.3	787.4	789.9	792.5	795.0	797.6	798.7
147.5°	813.4	812.8	812.3	811.7	811.2	812.1	814.6	817.1	819.6	822.2	822.9
150°	830.7	829.6	828.6	827.6	826.4	827.2	829.5	831.9	834.3	836.7	837.6
152.5°	845.2	844.0	842.9	841.7	840.6	841.1	843.4	845.6	847.9	850.2	851.1
155°	866.4	865.1	863.7	862.3	861.0	861.2	863.0	864.8	866.6	868.4	869.3
157.5°	883.0	881.8	880.7	879.6	878.4	878.4	879.8	881.0	882.2	883.5	884.6
160°	892.7	891.7	890.9	889.9	889.1	889.1	889.9	890.9	891.7	892.7	893.6
162.5°	901.4	900.4	899.6	898.6	897.7	897.7	898.4	899.2	900.0	900.8	901.8
165°	912.9	912.0	911.2	910.2	909.3	909.1	909.6	910.0	910.4	910.9	911.9
167.5°	921.5	920.7	919.7	918.9	917.9	917.7	918.1	918.5	919.0	919.4	920.4
170°	926.4	925.5	924.6	923.7	922.8	922.5	922.8	923.1	923.4	923.7	924.7
172.5°	929.6	928.7	927.8	926.9	926.0	925.8	926.0	926.3	926.6	926.9	928.0
175°	933.8	932.7	931.7	930.7	929.6	929.3	929.5	929.8	930.1	930.5	931.5
177.5°	934.5	933.7	932.8	932.0	931.1	930.8	930.9	931.0	931.1	931.2	932.1
180°	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2
2.5°	470.9	471.6	472.4	472.7	472.6	472.4	472.2	472.1
5°	467.1	468.0	468.8	469.1	468.8	468.5	468.3	468.0
7.5°	459.6	459.9	460.1	460.0	459.5	458.9	458.5	458.0
10°	452.0	451.8	451.5	451.0	450.4	449.9	449.3	448.7
12.5°	443.4	442.8	442.3	441.6	440.6	439.7	438.8	437.8
15°	427.2	425.3	423.5	422.2	421.2	420.2	419.2	418.3
17.5°	408.8	406.6	404.5	402.7	401.0	399.4	397.7	396.1
20°	396.1	393.6	391.2	389.0	386.9	384.8	382.8	380.7
22.5°	382.0	378.9	375.9	373.5	371.9	370.4	368.8	367.3
25°	358.7	354.8	350.9	348.3	346.9	345.3	343.9	342.5
27.5°	336.5	332.0	327.4	324.0	321.8	319.5	317.3	315.0
30°	320.8	316.0	311.1	307.5	304.8	302.3	299.7	297.2
32.5°	305.1	299.5	294.0	290.0	287.7	285.2	282.8	280.4
35°	280.5	274.5	268.4	264.4	262.3	260.2	258.2	256.1
37.5°	256.5	249.9	243.3	238.7	236.4	233.9	231.6	229.1
40°	240.4	233.7	226.9	222.3	219.8	217.4	214.8	212.4
42.5°	224.1	217.2	210.2	205.6	203.1	200.8	198.3	196.0
45°	200.6	193.8	187.1	182.6	180.3	178.0	175.7	173.4
47.5°	177.6	170.9	164.2	159.8	157.7	155.6	153.5	151.5
50°	162.9	156.3	149.7	145.4	143.5	141.5	139.4	137.4
52.5°	148.9	142.6	136.3	132.1	130.4	128.5	126.6	124.8
55°	127.7	122.1	116.3	112.5	110.7	109.0	107.2	105.4
57.5°	108.5	103.2	98.0	94.6	93.1	91.6	90.1	88.5
60°	95.2	90.4	85.5	82.3	80.8	79.3	77.8	76.3
62.5°	83.7	79.1	74.5	71.6	70.7	69.8	68.9	68.0
65°	68.1	64.8	61.5	59.8	59.5	59.2	58.9	58.6
67.5°	55.0	53.4	51.9	51.1	50.7	50.4	50.1	49.9
70°	47.8	46.8	45.9	45.2	44.8	44.4	44.0	43.6
72.5°	41.6	40.7	40.0	39.5	39.2	39.0	38.7	38.5
75°	32.9	32.2	31.6	31.2	31.1	31.0	30.9	30.8
77.5°	24.9	24.5	24.1	23.9	23.8	23.6	23.5	23.3
80°	19.8	19.4	19.0	18.9	18.9	18.9	18.9	18.9
82.5°	15.0	14.7	14.5	14.4	14.4	14.4	14.4	14.4
85°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
87.5°	5.6	5.7	5.7	5.8	5.8	5.9	5.9	6.0
90°	15.0	15.7	16.5	17.0	17.3	17.6	17.9	18.2
92.5°	16.4	16.8	17.2	17.5	17.6	17.8	18.0	18.2
95°	27.8	28.6	29.3	29.6	29.4	29.3	29.1	29.0
97.5°	36.4	36.9	37.6	38.0	38.2	38.4	38.5	38.7
100°	40.8	42.0	43.3	44.0	44.3	44.6	44.9	45.1
102.5°	42.6	44.2	45.7	46.8	47.1	47.6	48.0	48.4
105°	44.4	46.1	47.7	48.8	49.5	50.0	50.6	51.3
107.5°	54.2	52.5	50.9	50.3	50.9	51.6	52.1	52.7
110°	88.0	73.0	58.1	50.9	51.5	52.0	52.7	53.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	188.3	133.7	79.0	51.8	52.4	52.9	53.3	53.8
115°	277.3	207.9	138.6	98.4	87.7	76.8	66.1	55.3
117.5°	427.3	410.4	393.6	367.5	332.1	296.6	261.2	225.7
120°	497.9	499.6	501.4	492.2	471.9	451.8	431.5	411.3
122.5°	528.2	529.2	530.4	529.0	525.0	521.0	517.2	513.2
125°	571.8	572.9	573.9	574.7	575.1	575.6	576.0	576.5
127.5°	612.2	613.7	615.2	616.0	616.1	616.2	616.3	616.4
130°	637.7	639.4	641.0	641.8	641.7	641.5	641.3	641.2
132.5°	662.6	664.0	665.4	666.1	665.9	665.8	665.6	665.4
135°	698.1	699.6	701.2	701.7	701.4	701.2	700.8	700.5
137.5°	731.1	732.5	734.1	734.5	734.1	733.5	733.0	732.4
140°	752.4	753.8	755.2	755.4	754.7	753.9	753.2	752.4
142.5°	772.1	773.4	774.6	774.9	774.1	773.4	772.6	771.8
145°	799.7	800.8	801.8	801.9	801.3	800.5	799.7	799.0
147.5°	823.7	824.5	825.3	825.4	824.7	824.1	823.5	822.8
150°	838.5	839.4	840.3	840.4	839.6	838.9	838.1	837.4
152.5°	852.0	852.9	853.8	853.8	852.8	851.8	850.8	849.8
155°	870.2	871.1	872.0	871.9	870.6	869.5	868.3	867.0
157.5°	885.5	886.6	887.6	887.5	886.4	885.1	884.0	882.9
160°	894.5	895.4	896.3	896.2	895.1	894.1	893.1	892.0
162.5°	902.8	903.8	904.8	904.7	903.4	902.1	900.9	899.6
165°	912.9	914.1	915.1	915.1	914.1	912.9	911.9	910.9
167.5°	921.5	922.6	923.6	923.4	922.1	920.8	919.4	918.0
170°	925.8	926.8	927.9	927.7	926.4	925.0	923.7	922.4
172.5°	929.1	930.1	931.1	930.9	929.6	928.3	926.9	925.6
175°	932.6	933.6	934.6	934.4	932.9	931.4	929.9	928.4
177.5°	932.9	933.8	934.6	934.5	933.4	932.4	931.2	930.2
180°	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8

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