

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: P331630-940

Luminaire Tested: **SA2XXRDIP-C290D725U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331630-940
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: SA2XXRDIP-C290D725U940-4F0-1E-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: 3506.2 lumens
Efficiency: N/A
Efficacy: 112.4 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

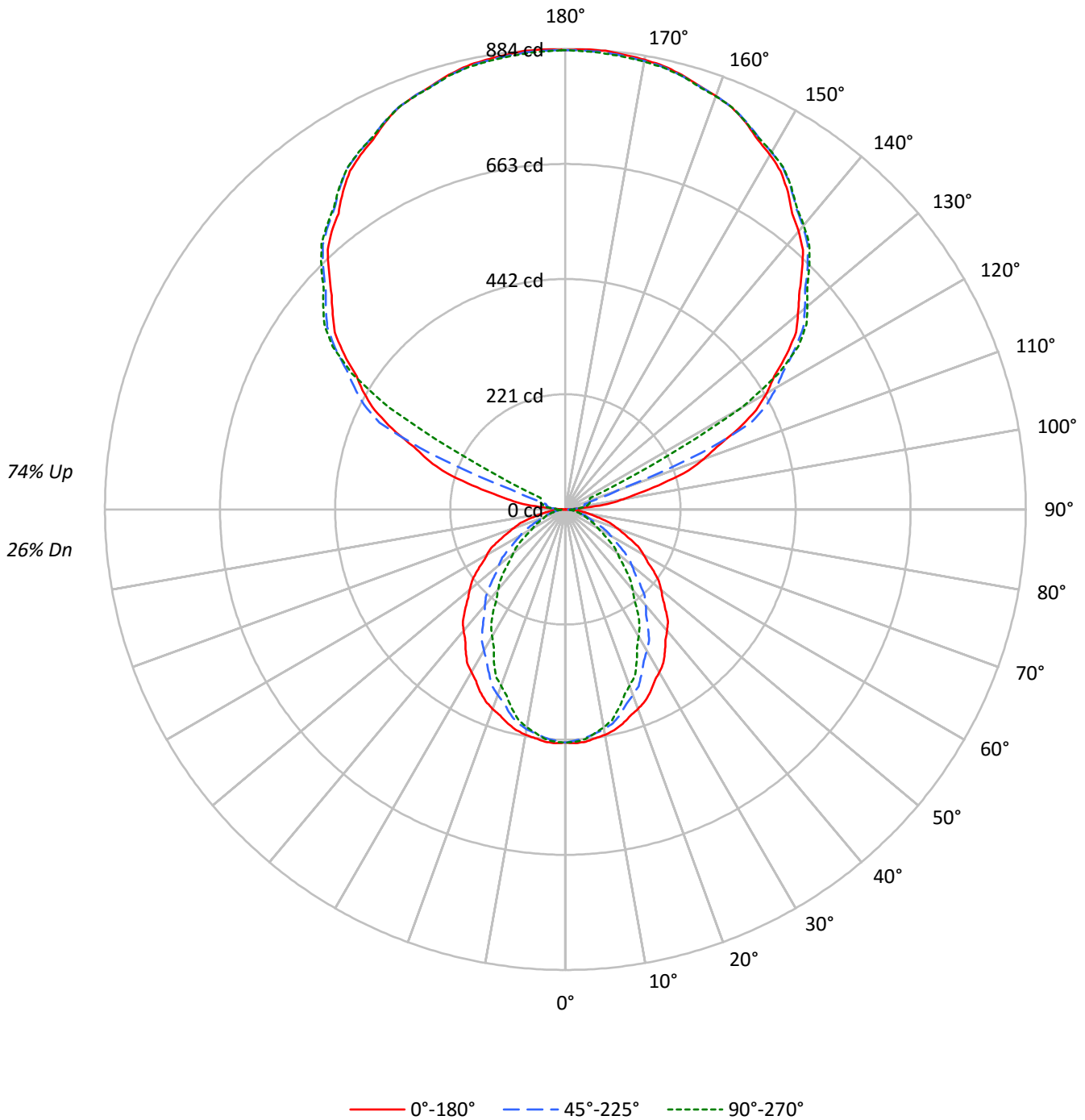
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7227	7227	7227
5°	7254	7136	7175
10°	7199	7020	6960
15°	7116	6812	6614
20°	7002	6515	6189
25°	6885	6178	5772
30°	6721	5830	5243
35°	6564	5454	4776
40°	6403	5063	4234
45°	6215	4624	3747
50°	6023	4182	3265
55°	5827	3704	2806
60°	5596	3203	2328
65°	5337	2690	2120
70°	5032	2219	1950
75°	4648	2021	1822
80°	4100	1804	1655
85°	3223	1426	1426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	1.2
10°-20°	115.0	3.3
20°-30°	161.6	4.6
30°-40°	176.2	5.0
40°-50°	162.0	4.6
50°-60°	127.2	3.6
60°-70°	82.9	2.4
70°-80°	42.8	1.2
80°-90°	13.3	0.4
90°-100°	29.4	0.8
100°-110°	107.8	3.1
110°-120°	288.3	8.2
120°-130°	475.8	13.6
130°-140°	506.0	14.4
140°-150°	470.3	13.4
150°-160°	378.1	10.8
160°-170°	243.7	6.9
170°-180°	83.9	2.4
0°-30°	318.5	9.1
0°-40°	494.7	14.1
0°-60°	783.8	22.4
0°-90°	922.8	26.3
90°-120°	425.5	12.1
90°-150°	1877.7	53.6
90°-180°	2583.0	73.7
0°-180°	3506.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	448	448	448	448	448	
5°	448	445	440	444	443	42
15°	426	421	408	400	396	120
25°	386	373	347	331	324	178
35°	333	312	277	252	242	208
45°	272	244	202	175	164	210
55°	207	175	132	108	100	185
65°	140	107	70	57	56	138
75°	74	47	32	30	29	79
85°	17	9	8	8	8	21
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°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	449.2	448.9	448.5	448.2	447.8	447.2	446.4	445.7	444.9	444.1	444.8
5°	447.6	447.2	446.7	446.3	445.9	445.0	443.8	442.6	441.5	440.3	441.1
7.5°	443.0	442.5	441.8	441.3	440.8	439.8	438.5	437.0	435.7	434.4	434.5
10°	439.1	438.5	437.8	437.2	436.6	435.3	433.5	431.8	430.0	428.2	427.9
12.5°	434.3	433.5	432.7	431.9	431.1	429.6	427.3	425.0	422.7	420.4	419.9
15°	425.7	424.7	423.7	422.8	421.8	419.7	416.7	413.7	410.5	407.5	405.8
17.5°	415.3	413.8	412.2	410.7	409.2	406.5	402.6	398.7	394.8	390.8	388.8
20°	407.5	405.7	403.9	402.1	400.3	397.2	392.6	388.2	383.7	379.2	376.9
22.5°	399.1	397.1	395.0	393.1	391.0	387.4	382.4	377.3	372.3	367.2	364.3
25°	386.5	383.5	380.7	377.8	375.0	370.5	364.5	358.6	352.7	346.8	343.0
27.5°	371.2	368.1	365.0	361.9	358.6	353.7	347.1	340.4	333.7	327.0	322.7
30°	360.5	357.1	353.7	350.3	346.9	341.5	334.3	327.2	319.9	312.7	308.2
32.5°	350.2	346.2	342.1	338.1	334.1	328.5	321.2	313.8	306.5	299.1	293.9
35°	333.0	328.4	323.8	319.2	314.6	308.4	300.4	292.5	284.6	276.7	271.0
37.5°	315.8	310.8	305.7	300.7	295.6	288.9	280.4	272.0	263.6	255.1	248.9
40°	303.8	298.5	293.0	287.6	282.2	275.2	266.4	257.7	249.0	240.2	233.8
42.5°	291.5	285.8	280.1	274.5	268.8	261.4	252.4	243.3	234.3	225.3	218.7
45°	272.2	266.2	260.1	254.1	248.1	240.3	230.9	221.4	212.0	202.5	196.2
47.5°	253.4	247.0	240.7	234.3	227.8	219.8	210.0	200.3	190.5	180.7	174.4
50°	239.8	233.4	227.0	220.6	214.3	206.1	196.2	186.3	176.4	166.5	160.2
52.5°	226.5	219.8	213.2	206.5	199.8	191.6	181.9	172.3	162.6	152.8	146.9
55°	207.0	200.0	193.0	185.9	178.9	170.6	160.8	151.1	141.3	131.6	126.3
57.5°	187.0	179.8	172.5	165.4	158.2	149.9	140.5	131.3	121.9	112.5	107.5
60°	173.3	166.2	159.0	151.8	144.5	136.3	127.1	117.8	108.5	99.2	94.6
62.5°	160.1	152.9	145.7	138.5	131.3	123.2	114.4	105.6	96.8	87.9	83.6
65°	139.7	132.4	125.2	117.9	110.6	102.9	94.8	86.7	78.6	70.4	67.4
67.5°	120.1	112.9	105.7	98.4	91.2	83.9	76.6	69.4	62.1	54.8	53.3
70°	106.6	99.5	92.5	85.5	78.5	71.9	65.6	59.4	53.2	47.0	46.1
72.5°	93.5	86.9	80.1	73.4	66.6	60.8	55.8	50.8	45.8	40.8	40.0
75°	74.5	68.2	62.0	55.6	49.3	44.7	41.6	38.5	35.5	32.4	31.7
77.5°	55.8	50.3	44.8	39.2	33.7	30.2	28.7	27.3	25.8	24.3	24.0
80°	44.1	39.6	35.0	30.4	25.8	23.0	22.1	21.2	20.3	19.4	19.1
82.5°	33.4	29.9	26.3	22.7	19.2	17.0	16.4	15.8	15.2	14.6	14.4
85°	17.4	15.5	13.6	11.8	9.9	8.7	8.5	8.2	7.9	7.7	7.7
87.5°	5.4	5.1	4.8	4.5	4.3	4.3	4.5	4.7	4.9	5.2	5.2
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°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	445.5	446.2	446.9	447.2	447.1	446.9	446.7	446.7
5°	441.9	442.7	443.5	443.8	443.5	443.3	443.0	442.7
7.5°	434.8	435.1	435.2	435.2	434.7	434.2	433.7	433.3
10°	427.7	427.4	427.1	426.7	426.1	425.6	425.1	424.5
12.5°	419.5	418.9	418.5	417.8	416.9	416.0	415.1	414.2
15°	404.1	402.3	400.6	399.4	398.5	397.5	396.6	395.7
17.5°	386.7	384.7	382.7	380.9	379.3	377.8	376.2	374.7
20°	374.7	372.4	370.1	368.0	366.0	364.1	362.1	360.2
22.5°	361.4	358.5	355.6	353.4	351.9	350.4	348.9	347.5
25°	339.4	335.6	332.0	329.5	328.1	326.7	325.4	324.0
27.5°	318.3	314.1	309.8	306.6	304.4	302.3	300.1	298.0
30°	303.5	299.0	294.4	290.9	288.4	286.0	283.6	281.2
32.5°	288.6	283.4	278.1	274.4	272.2	269.8	267.5	265.3
35°	265.4	259.7	254.0	250.1	248.2	246.2	244.2	242.3
37.5°	242.6	236.4	230.2	225.9	223.6	221.3	219.1	216.8
40°	227.5	221.1	214.6	210.3	207.9	205.6	203.2	200.9
42.5°	212.0	205.5	198.9	194.5	192.2	189.9	187.6	185.4
45°	189.8	183.3	177.0	172.7	170.6	168.4	166.2	164.1
47.5°	168.0	161.7	155.3	151.1	149.2	147.2	145.3	143.3
50°	154.1	147.8	141.6	137.6	135.7	133.8	131.9	130.0
52.5°	140.9	134.9	128.9	125.0	123.3	121.5	119.8	118.1
55°	120.8	115.5	110.0	106.5	104.8	103.1	101.4	99.7
57.5°	102.6	97.6	92.7	89.5	88.1	86.7	85.2	83.7
60°	90.1	85.5	80.9	77.8	76.4	75.0	73.6	72.1
62.5°	79.2	74.8	70.4	67.8	66.9	66.1	65.2	64.3
65°	64.4	61.3	58.2	56.5	56.3	56.0	55.7	55.5
67.5°	52.0	50.6	49.1	48.3	48.0	47.7	47.4	47.2
70°	45.2	44.3	43.4	42.8	42.4	42.0	41.6	41.3
72.5°	39.3	38.5	37.8	37.4	37.1	36.9	36.6	36.5
75°	31.1	30.5	29.9	29.5	29.4	29.3	29.2	29.2
77.5°	23.5	23.2	22.8	22.6	22.5	22.3	22.2	22.0
80°	18.7	18.4	18.0	17.8	17.8	17.8	17.8	17.8
82.5°	14.2	13.9	13.7	13.6	13.6	13.6	13.6	13.6
85°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
87.5°	5.3	5.4	5.4	5.5	5.5	5.6	5.6	5.7
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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