

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: P331624-940

Luminaire Tested: **SA2XXRDIP-C290D530U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331624-940
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-C290D530U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2806.9 lumens
Efficiency: N/A
Efficacy: 109.6 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

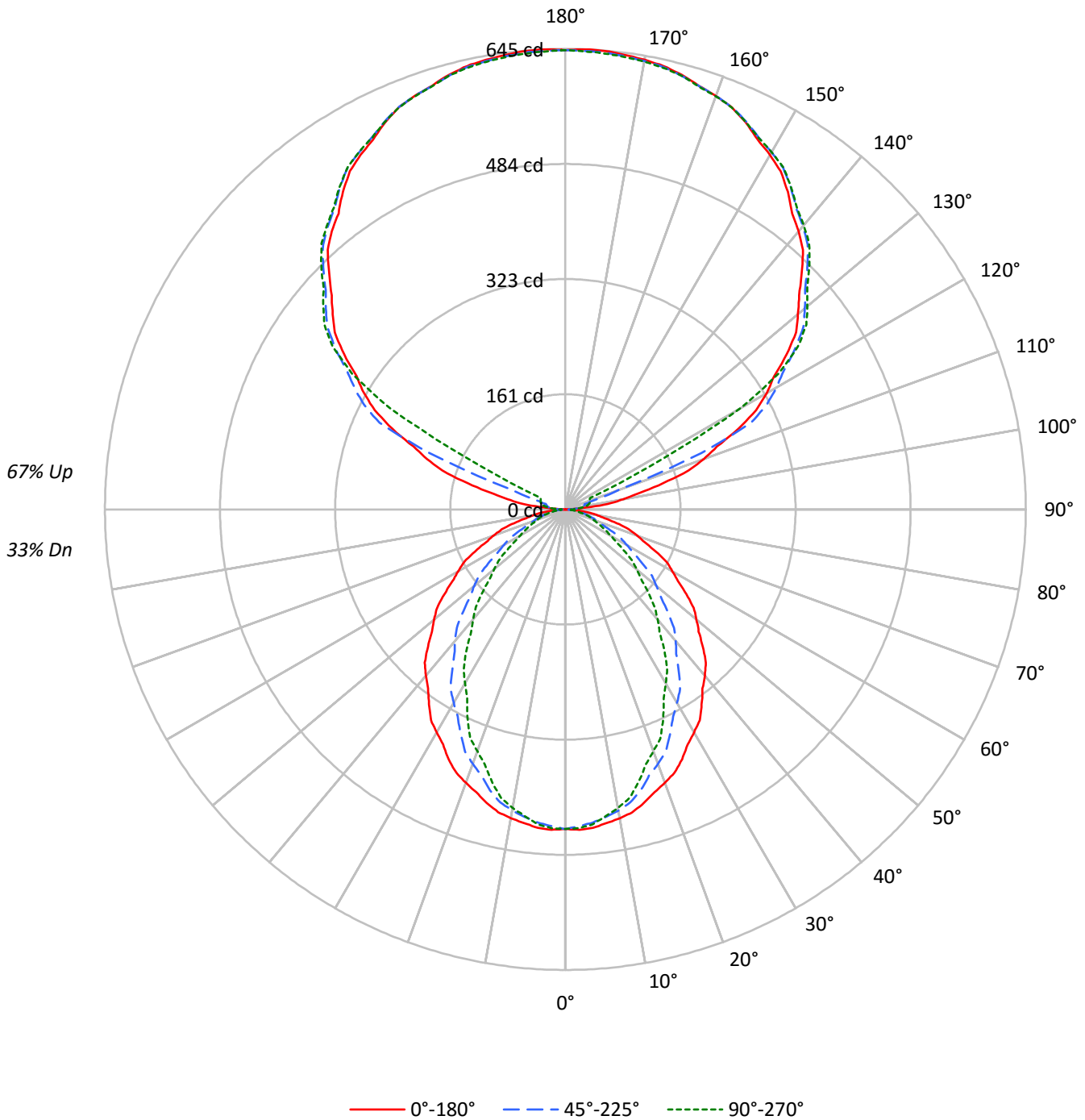
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33				
1	94	90	86	83	85	81	78	76	65	63	61	50	49	47	36	35	35	28				
2	86	79	73	68	77	71	67	62	57	54	51	44	42	40	32	31	30	24				
3	79	70	63	57	71	63	57	52	51	47	43	39	37	34	29	27	26	21				
4	72	62	54	49	65	56	50	45	45	41	37	35	32	30	26	24	22	18				
5	66	55	47	42	59	50	43	38	41	36	32	32	28	26	23	21	20	16				
6	61	49	42	36	55	45	38	33	37	32	28	29	25	23	21	19	17	14				
7	56	45	37	32	51	41	34	29	33	28	25	26	23	20	20	17	16	13				
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11				
9	49	37	30	25	44	34	27	23	28	23	20	22	19	16	17	14	13	10				
10	45	34	27	22	41	31	25	21	26	21	18	20	17	15	16	13	12	10				

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	1.5
10°-20°	115.0	4.1
20°-30°	161.6	5.8
30°-40°	176.2	6.3
40°-50°	162.0	5.8
50°-60°	127.2	4.5
60°-70°	82.9	3.0
70°-80°	42.8	1.5
80°-90°	12.7	0.5
90°-100°	21.5	0.8
100°-110°	78.7	2.8
110°-120°	210.3	7.5
120°-130°	347.1	12.4
130°-140°	369.2	13.2
140°-150°	343.1	12.2
150°-160°	275.9	9.8
160°-170°	177.8	6.3
170°-180°	61.2	2.2
0°-30°	318.5	11.3
0°-40°	494.7	17.6
0°-60°	783.8	27.9
0°-90°	922.2	32.9
90°-120°	310.4	11.1
90°-150°	1369.9	48.8
90°-180°	1885.0	67.2
0°-180°	2806.9	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°	0	6	9	12	13	2
95°	30	16	18	20	20	37
105°	141	148	28	33	35	151
115°	268	276	287	82	38	263
125°	378	385	393	396	398	337
135°	468	475	480	484	484	361
145°	543	543	550	553	551	340
155°	598	594	599	602	598	275
165°	630	628	629	632	629	178
175°	644	642	642	645	641	61
180°	643	643	643	643	643	



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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°	5.3	4.9	4.5	4.2	3.9	3.8	3.9	4.1	4.3	4.5	4.5
90°	0.4	1.6	2.8	3.8	5.0	6.0	6.9	7.7	8.5	9.3	9.8
92.5°	9.4	9.3	9.2	9.1	9.0	9.2	9.5	10.0	10.3	10.8	11.1
95°	30.2	26.8	23.5	20.0	16.6	15.2	16.0	16.7	17.4	18.2	18.6
97.5°	60.0	50.4	40.8	31.2	21.6	17.6	19.3	21.0	22.6	24.3	24.7
100°	82.4	68.2	54.0	39.9	25.7	19.5	21.2	23.0	24.8	26.5	27.4
102.5°	106.9	104.0	100.9	97.9	95.0	86.1	71.4	56.7	42.0	27.3	28.4
105°	141.4	144.5	147.7	150.8	153.9	141.3	113.1	84.9	56.6	28.4	29.5
107.5°	180.8	183.3	185.8	188.3	190.8	175.1	141.3	107.5	73.6	39.8	38.6
110°	206.2	208.3	210.5	212.7	214.8	201.0	171.1	141.2	111.3	81.4	71.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	230.0	231.9	233.8	235.8	237.6	235.0	227.6	220.2	212.8	205.5	167.6
115°	267.6	269.3	271.1	272.9	274.6	276.8	279.4	282.0	284.5	287.1	239.2
117.5°	301.2	303.2	305.1	307.1	309.1	310.9	312.7	314.5	316.3	318.0	306.5
120°	325.7	327.3	328.9	330.4	332.0	333.7	335.6	337.4	339.2	341.1	342.3
122.5°	346.6	348.2	349.9	351.5	353.1	355.0	357.0	359.0	361.1	363.1	363.8
125°	378.4	379.7	381.0	382.4	383.7	385.4	387.4	389.3	391.3	393.2	394.0
127.5°	407.1	408.6	410.1	411.5	413.0	414.6	416.0	417.5	418.9	420.4	421.4
130°	425.3	427.0	428.6	430.3	431.9	433.4	434.5	435.6	436.8	437.9	439.1
132.5°	444.0	445.3	446.7	448.2	449.6	450.8	452.0	453.2	454.2	455.4	456.4
135°	468.1	469.8	471.4	473.1	474.7	476.1	477.0	478.0	478.8	479.7	480.8
137.5°	492.7	493.7	494.9	496.1	497.2	498.4	499.4	500.5	501.5	502.6	503.6
140°	508.6	509.4	510.3	511.1	511.9	512.9	514.1	515.2	516.3	517.5	518.4
142.5°	522.0	522.8	523.5	524.2	525.0	526.0	527.4	528.6	529.9	531.3	532.1
145°	543.1	543.0	542.9	542.8	542.7	543.5	545.3	547.0	548.8	550.5	551.3
147.5°	561.4	561.0	560.6	560.3	559.8	560.5	562.2	564.0	565.7	567.5	568.0
150°	573.3	572.6	571.9	571.1	570.4	570.9	572.6	574.2	575.9	577.5	578.1
152.5°	583.4	582.6	581.8	580.9	580.1	580.5	582.1	583.7	585.2	586.8	587.5
155°	598.0	597.1	596.1	595.2	594.2	594.4	595.7	596.9	598.2	599.4	600.0
157.5°	609.4	608.7	607.9	607.1	606.3	606.4	607.2	608.1	608.9	609.8	610.5
160°	616.2	615.5	614.9	614.3	613.7	613.7	614.3	614.9	615.5	616.2	616.8
162.5°	622.1	621.4	620.8	620.2	619.6	619.6	620.1	620.6	621.2	621.7	622.4
165°	630.1	629.5	628.8	628.2	627.6	627.5	627.8	628.0	628.4	628.7	629.5
167.5°	636.1	635.4	634.8	634.2	633.6	633.4	633.6	634.0	634.3	634.5	635.3
170°	639.4	638.8	638.2	637.6	636.9	636.7	636.9	637.1	637.3	637.6	638.3
172.5°	641.7	641.1	640.4	639.8	639.2	638.9	639.2	639.4	639.5	639.8	640.5
175°	644.5	643.8	643.1	642.4	641.6	641.4	641.6	641.8	641.9	642.2	642.9
177.5°	645.0	644.4	643.8	643.3	642.7	642.4	642.5	642.6	642.7	642.7	643.4
180°	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1



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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°	4.5	4.5	4.5	4.6	4.6	4.7	4.7	4.8
90°	10.3	10.9	11.4	11.8	11.9	12.1	12.4	12.6
92.5°	11.3	11.6	11.9	12.0	12.2	12.3	12.5	12.6
95°	19.2	19.7	20.2	20.4	20.3	20.2	20.2	20.0
97.5°	25.1	25.5	25.9	26.2	26.3	26.5	26.6	26.8
100°	28.2	29.0	29.9	30.3	30.6	30.8	30.9	31.2
102.5°	29.4	30.5	31.6	32.3	32.5	32.8	33.1	33.4
105°	30.7	31.8	32.9	33.7	34.2	34.5	35.0	35.4
107.5°	37.5	36.3	35.1	34.8	35.1	35.6	35.9	36.4
110°	60.7	50.4	40.0	35.1	35.5	35.9	36.4	36.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	129.9	92.2	54.5	35.8	36.1	36.5	36.8	37.1
115°	191.4	143.5	95.6	67.9	60.5	53.1	45.6	38.2
117.5°	294.9	283.3	271.7	253.7	229.2	204.7	180.3	155.8
120°	343.6	344.8	346.1	339.7	325.7	311.8	297.8	283.8
122.5°	364.5	365.3	366.0	365.1	362.4	359.6	357.0	354.2
125°	394.7	395.4	396.1	396.6	397.0	397.3	397.6	397.9
127.5°	422.5	423.6	424.6	425.2	425.3	425.3	425.3	425.4
130°	440.1	441.3	442.5	443.0	442.8	442.7	442.6	442.6
132.5°	457.4	458.3	459.3	459.7	459.6	459.5	459.4	459.3
135°	481.9	482.9	483.9	484.4	484.1	483.9	483.8	483.5
137.5°	504.6	505.6	506.7	506.9	506.6	506.2	506.0	505.6
140°	519.3	520.2	521.2	521.4	520.8	520.4	519.9	519.3
142.5°	533.0	533.8	534.7	534.8	534.3	533.8	533.2	532.7
145°	552.0	552.7	553.4	553.5	553.0	552.5	552.0	551.4
147.5°	568.6	569.1	569.6	569.6	569.3	568.8	568.4	567.9
150°	578.7	579.3	580.0	580.1	579.5	579.0	578.5	578.0
152.5°	588.1	588.7	589.3	589.2	588.6	587.9	587.2	586.6
155°	600.7	601.3	601.9	601.7	600.9	600.1	599.3	598.4
157.5°	611.2	611.9	612.6	612.6	611.7	610.9	610.1	609.3
160°	617.3	618.0	618.6	618.6	617.9	617.2	616.4	615.6
162.5°	623.1	623.8	624.6	624.5	623.6	622.7	621.8	620.9
165°	630.2	630.9	631.6	631.6	630.9	630.2	629.5	628.7
167.5°	636.0	636.8	637.5	637.4	636.4	635.5	634.5	633.6
170°	639.0	639.7	640.4	640.3	639.4	638.5	637.6	636.6
172.5°	641.2	641.9	642.7	642.6	641.7	640.7	639.8	638.8
175°	643.6	644.4	645.1	645.0	643.9	642.8	641.9	640.8
177.5°	643.9	644.5	645.1	645.0	644.3	643.5	642.7	642.0
180°	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1

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