

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

Luminaire Tested: **SA2XXRDIP-C290D530U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331624
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-C290D530U835-4F0-1E-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: 3147.8 lumens
Efficiency: N/A
Efficacy: 123.0 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

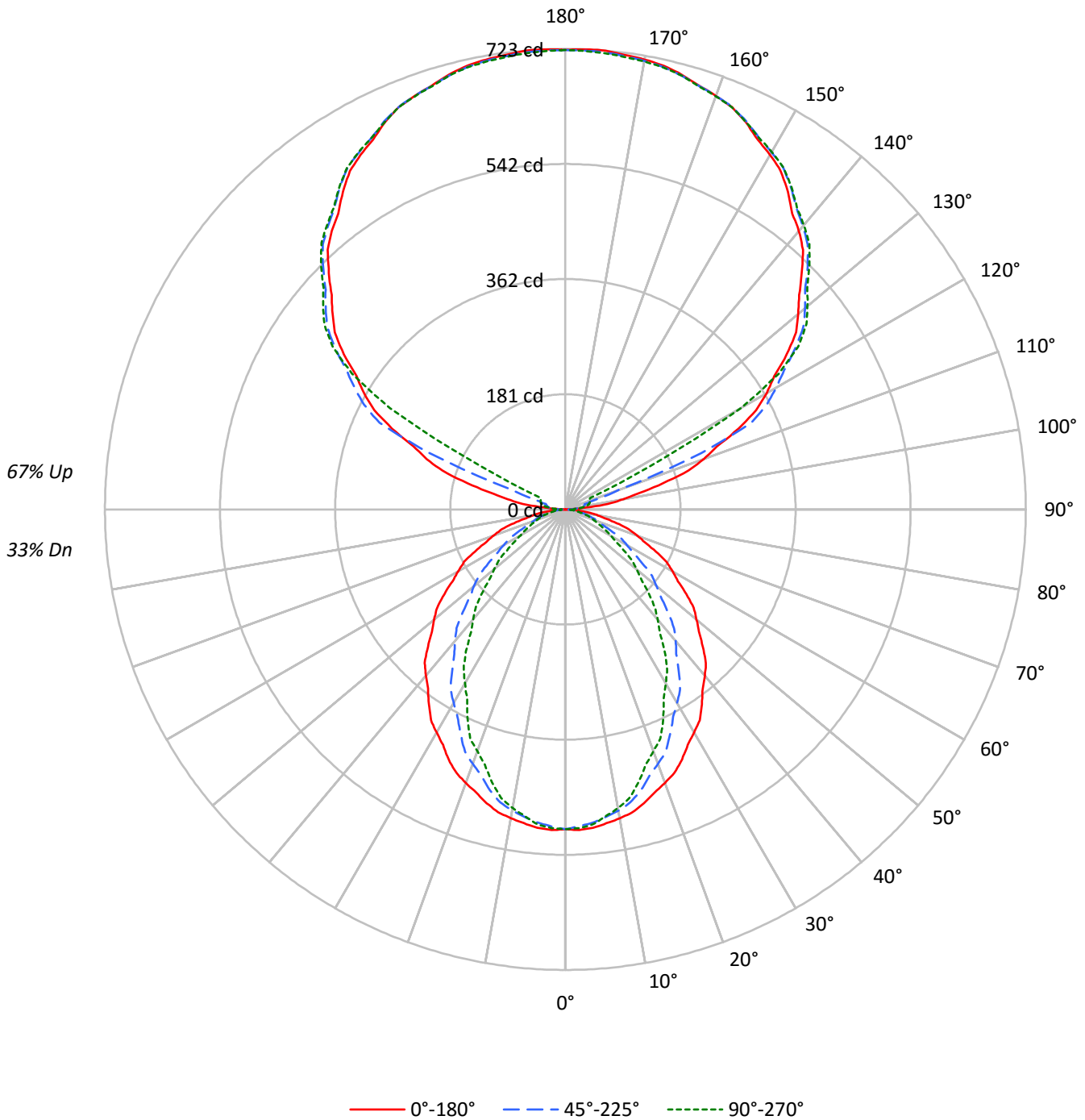
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	8105	8105	8105
5°	8136	8003	8047
10°	8073	7873	7806
15°	7980	7639	7418
20°	7852	7306	6940
25°	7721	6928	6474
30°	7538	6538	5878
35°	7360	6116	5355
40°	7181	5678	4749
45°	6971	5186	4201
50°	6754	4690	3662
55°	6533	4155	3147
60°	6278	3594	2612
65°	5987	3018	2376
70°	5641	2488	2186
75°	5215	2264	2040
80°	4603	2027	1860
85°	3612	1593	1593



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.0	1.5
10°-20°	129.0	4.1
20°-30°	181.2	5.8
30°-40°	197.6	6.3
40°-50°	181.6	5.8
50°-60°	142.7	4.5
60°-70°	93.0	3.0
70°-80°	48.0	1.5
80°-90°	14.2	0.5
90°-100°	24.1	0.8
100°-110°	88.2	2.8
110°-120°	235.8	7.5
120°-130°	389.3	12.4
130°-140°	414.0	13.2
140°-150°	384.8	12.2
150°-160°	309.4	9.8
160°-170°	199.4	6.3
170°-180°	68.6	2.2
0°-30°	357.2	11.3
0°-40°	554.7	17.6
0°-60°	879.0	27.9
0°-90°	1034.2	32.9
90°-120°	348.1	11.1
90°-150°	1536.2	48.8
90°-180°	2114.0	67.2
0°-180°	3147.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	502	502	502	502	502	
5°	502	500	494	498	496	48
15°	477	472	457	449	444	134
25°	433	418	389	371	363	199
35°	373	349	310	283	272	234
45°	305	274	227	196	184	236
55°	232	196	148	121	112	207
65°	157	120	79	64	62	155
75°	84	53	36	33	33	88
85°	20	10	9	9	9	23
90°	0	6	10	13	14	2
95°	34	18	20	23	22	41
105°	159	166	32	37	40	170
115°	300	309	322	92	43	295
125°	424	431	441	444	446	378
135°	525	533	538	543	542	405
145°	609	609	617	621	618	381
155°	671	666	672	675	671	309
165°	707	704	705	708	705	200
175°	723	719	720	723	719	69
180°	721	721	721	721	721	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	503.8	503.4	503.0	502.6	502.2	501.5	500.6	499.8	498.9	498.0	498.8
5°	502.0	501.5	501.0	500.5	500.0	499.0	497.7	496.4	495.1	493.8	494.7
7.5°	496.8	496.2	495.5	494.9	494.3	493.2	491.7	490.1	488.6	487.1	487.3
10°	492.4	491.7	491.0	490.3	489.6	488.2	486.2	484.2	482.2	480.2	479.9
12.5°	487.0	486.1	485.2	484.4	483.5	481.8	479.2	476.6	474.0	471.4	470.9
15°	477.4	476.3	475.2	474.1	473.0	470.7	467.3	463.9	460.4	457.0	455.1
17.5°	465.7	464.0	462.3	460.6	458.9	455.9	451.5	447.1	442.7	438.3	436.0
20°	457.0	455.0	453.0	450.9	448.9	445.4	440.3	435.3	430.3	425.2	422.7
22.5°	447.6	445.3	443.0	440.8	438.5	434.5	428.8	423.1	417.5	411.8	408.5
25°	433.4	430.1	426.9	423.7	420.5	415.5	408.8	402.2	395.5	388.9	384.7
27.5°	416.3	412.8	409.3	405.8	402.2	396.7	389.2	381.7	374.2	366.7	361.9
30°	404.3	400.5	396.6	392.8	389.0	383.0	374.9	366.9	358.8	350.7	345.6
32.5°	392.7	388.2	383.7	379.2	374.7	368.4	360.2	351.9	343.7	335.4	329.6
35°	373.4	368.3	363.1	358.0	352.8	345.8	336.9	328.0	319.2	310.3	303.9
37.5°	354.2	348.5	342.8	337.2	331.5	324.0	314.5	305.0	295.6	286.1	279.1
40°	340.7	334.7	328.6	322.5	316.5	308.6	298.8	289.0	279.2	269.4	262.2
42.5°	326.9	320.5	314.1	307.8	301.4	293.1	283.0	272.9	262.8	252.7	245.3
45°	305.3	298.5	291.7	285.0	278.2	269.5	258.9	248.3	237.7	227.1	220.0
47.5°	284.2	277.0	269.9	262.7	255.5	246.5	235.5	224.6	213.6	202.7	195.6
50°	268.9	261.8	254.6	247.4	240.3	231.1	220.0	208.9	197.8	186.7	179.7
52.5°	254.0	246.5	239.1	231.6	224.1	214.9	204.0	193.2	182.3	171.4	164.7
55°	232.1	224.3	216.4	208.5	200.6	191.3	180.3	169.4	158.5	147.6	141.6
57.5°	209.7	201.6	193.5	185.5	177.4	168.1	157.6	147.2	136.7	126.2	120.6
60°	194.4	186.4	178.3	170.2	162.1	152.9	142.5	132.1	121.7	111.3	106.1
62.5°	179.5	171.5	163.4	155.3	147.2	138.2	128.3	118.4	108.5	98.6	93.7
65°	156.7	148.5	140.4	132.2	124.0	115.4	106.3	97.2	88.1	79.0	75.6
67.5°	134.7	126.6	118.5	110.4	102.3	94.1	85.9	77.8	69.6	61.4	59.8
70°	119.5	111.6	103.7	95.9	88.0	80.6	73.6	66.6	59.7	52.7	51.7
72.5°	104.9	97.4	89.8	82.3	74.7	68.2	62.6	57.0	51.4	45.8	44.9
75°	83.6	76.5	69.5	62.4	55.3	50.1	46.6	43.2	39.8	36.3	35.6
77.5°	62.6	56.4	50.2	44.0	37.8	33.9	32.2	30.6	28.9	27.3	26.9
80°	49.5	44.4	39.2	34.1	28.9	25.8	24.8	23.8	22.8	21.8	21.4
82.5°	37.5	33.5	29.5	25.5	21.5	19.1	18.4	17.7	17.0	16.4	16.1
85°	19.5	17.4	15.3	13.2	11.1	9.8	9.5	9.2	8.9	8.6	8.6
87.5°	5.9	5.5	5.1	4.7	4.4	4.3	4.4	4.6	4.8	5.0	5.0
90°	0.5	1.8	3.1	4.3	5.6	6.7	7.7	8.6	9.5	10.4	11.0
92.5°	10.5	10.4	10.3	10.2	10.1	10.3	10.7	11.2	11.6	12.1	12.4
95°	33.9	30.1	26.3	22.4	18.6	17.1	17.9	18.7	19.5	20.4	20.9
97.5°	67.3	56.5	45.8	35.0	24.2	19.7	21.6	23.5	25.4	27.2	27.7
100°	92.4	76.5	60.6	44.7	28.8	21.9	23.8	25.8	27.8	29.7	30.7
102.5°	119.9	116.6	113.2	109.8	106.5	96.5	80.1	63.6	47.1	30.6	31.8
105°	158.6	162.1	165.6	169.1	172.6	158.5	126.8	95.2	63.5	31.8	33.1
107.5°	202.8	205.6	208.4	211.2	214.0	196.4	158.5	120.5	82.5	44.6	43.3
110°	231.2	233.6	236.1	238.5	240.9	225.4	191.9	158.4	124.8	91.3	79.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	257.9	260.1	262.2	264.4	266.5	263.5	255.2	246.9	238.6	230.4	188.0
115°	300.1	302.0	304.0	306.0	308.0	310.4	313.3	316.2	319.1	322.0	268.3
117.5°	337.8	340.0	342.2	344.4	346.6	348.7	350.7	352.7	354.7	356.6	343.7
120°	365.3	367.0	368.8	370.5	372.3	374.2	376.3	378.4	380.4	382.5	383.9
122.5°	388.7	390.5	392.4	394.2	396.0	398.1	400.3	402.6	404.9	407.2	408.0
125°	424.3	425.8	427.3	428.8	430.3	432.2	434.4	436.6	438.8	441.0	441.8
127.5°	456.5	458.2	459.9	461.5	463.2	464.9	466.5	468.2	469.8	471.5	472.6
130°	477.0	478.8	480.7	482.6	484.4	486.0	487.3	488.5	489.8	491.1	492.4
132.5°	497.9	499.4	501.0	502.6	504.2	505.6	506.9	508.2	509.4	510.7	511.8
135°	525.0	526.9	528.7	530.6	532.4	533.9	534.9	536.0	537.0	538.0	539.2
137.5°	552.5	553.7	555.0	556.3	557.6	558.9	560.1	561.3	562.4	563.6	564.8
140°	570.4	571.3	572.3	573.2	574.1	575.2	576.5	577.8	579.0	580.3	581.4
142.5°	585.4	586.3	587.1	587.9	588.8	589.9	591.4	592.8	594.3	595.8	596.7
145°	609.0	608.9	608.8	608.7	608.6	609.5	611.5	613.4	615.4	617.4	618.2
147.5°	629.6	629.1	628.7	628.3	627.8	628.6	630.5	632.5	634.4	636.4	637.0
150°	642.9	642.1	641.3	640.5	639.7	640.2	642.1	643.9	645.8	647.6	648.3
152.5°	654.2	653.3	652.4	651.5	650.6	651.0	652.8	654.6	656.3	658.1	658.8
155°	670.6	669.6	668.5	667.5	666.4	666.6	668.0	669.4	670.8	672.2	672.9
157.5°	683.4	682.6	681.7	680.8	679.9	680.0	680.9	681.9	682.9	683.9	684.6
160°	691.0	690.3	689.6	688.9	688.2	688.2	688.9	689.6	690.3	691.0	691.7
162.5°	697.6	696.9	696.2	695.5	694.9	694.8	695.4	696.0	696.6	697.2	698.0
165°	706.6	705.9	705.2	704.5	703.8	703.7	704.0	704.3	704.7	705.0	705.9
167.5°	713.3	712.6	711.9	711.2	710.5	710.3	710.6	711.0	711.3	711.6	712.4
170°	717.0	716.4	715.7	715.0	714.3	714.0	714.3	714.5	714.7	715.0	715.8
172.5°	719.6	718.9	718.2	717.5	716.8	716.5	716.8	717.0	717.2	717.5	718.3
175°	722.8	722.0	721.2	720.4	719.5	719.3	719.5	719.7	719.9	720.2	721.0
177.5°	723.3	722.7	722.0	721.4	720.7	720.4	720.5	720.6	720.7	720.8	721.5
180°	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	499.6	500.4	501.2	501.5	501.4	501.2	501.0	500.9
5°	495.6	496.5	497.4	497.7	497.4	497.1	496.8	496.5
7.5°	487.6	487.9	488.1	488.0	487.5	486.9	486.4	485.9
10°	479.6	479.3	479.0	478.5	477.9	477.3	476.7	476.1
12.5°	470.4	469.8	469.3	468.5	467.5	466.5	465.5	464.5
15°	453.2	451.2	449.3	447.9	446.9	445.8	444.8	443.8
17.5°	433.7	431.4	429.2	427.2	425.4	423.7	421.9	420.2
20°	420.2	417.6	415.1	412.7	410.5	408.3	406.1	403.9
22.5°	405.3	402.0	398.8	396.3	394.6	393.0	391.3	389.7
25°	380.6	376.4	372.3	369.5	368.0	366.4	364.9	363.4
27.5°	357.0	352.2	347.4	343.8	341.4	339.0	336.6	334.2
30°	340.4	335.3	330.1	326.2	323.4	320.7	318.0	315.3
32.5°	323.7	317.8	311.9	307.7	305.2	302.6	300.0	297.5
35°	297.6	291.2	284.8	280.5	278.3	276.1	273.9	271.7
37.5°	272.1	265.1	258.1	253.3	250.8	248.2	245.7	243.1
40°	255.1	247.9	240.7	235.8	233.2	230.6	227.9	225.3
42.5°	237.8	230.4	223.0	218.1	215.5	213.0	210.4	207.9
45°	212.8	205.6	198.5	193.7	191.3	188.8	186.4	184.0
47.5°	188.4	181.3	174.2	169.5	167.3	165.1	162.9	160.7
50°	172.8	165.8	158.8	154.3	152.2	150.1	147.9	145.8
52.5°	158.0	151.3	144.6	140.2	138.3	136.3	134.3	132.4
55°	135.5	129.5	123.4	119.4	117.5	115.6	113.7	111.8
57.5°	115.1	109.5	104.0	100.4	98.8	97.2	95.6	93.9
60°	101.0	95.9	90.7	87.3	85.7	84.1	82.5	80.9
62.5°	88.8	83.9	79.0	76.0	75.0	74.1	73.1	72.1
65°	72.2	68.7	65.3	63.4	63.1	62.8	62.5	62.2
67.5°	58.3	56.7	55.1	54.2	53.8	53.5	53.2	52.9
70°	50.7	49.7	48.7	48.0	47.5	47.1	46.7	46.3
72.5°	44.1	43.2	42.4	41.9	41.6	41.4	41.1	40.9
75°	34.9	34.2	33.5	33.1	33.0	32.9	32.8	32.7
77.5°	26.4	26.0	25.6	25.4	25.2	25.0	24.9	24.7
80°	21.0	20.6	20.2	20.0	20.0	20.0	20.0	20.0
82.5°	15.9	15.6	15.4	15.3	15.3	15.3	15.3	15.3
85°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
87.5°	5.1	5.1	5.1	5.2	5.2	5.3	5.3	5.4
90°	11.6	12.2	12.8	13.2	13.4	13.6	13.9	14.1
92.5°	12.7	13.0	13.3	13.5	13.7	13.8	14.0	14.1
95°	21.5	22.1	22.7	22.9	22.8	22.7	22.6	22.4
97.5°	28.2	28.6	29.1	29.4	29.5	29.7	29.8	30.0
100°	31.6	32.5	33.5	34.0	34.3	34.5	34.7	35.0
102.5°	33.0	34.2	35.4	36.2	36.5	36.8	37.1	37.5
105°	34.4	35.7	36.9	37.8	38.3	38.7	39.2	39.7
107.5°	42.0	40.7	39.4	39.0	39.4	39.9	40.3	40.8
110°	68.1	56.5	44.9	39.4	39.8	40.3	40.8	41.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	145.7	103.4	61.1	40.2	40.5	40.9	41.3	41.6
115°	214.6	160.9	107.2	76.2	67.8	59.5	51.1	42.8
117.5°	330.7	317.7	304.7	284.5	257.0	229.6	202.2	174.7
120°	385.3	386.7	388.1	381.0	365.3	349.7	334.0	318.3
122.5°	408.8	409.7	410.5	409.4	406.4	403.3	400.3	397.2
125°	442.6	443.4	444.2	444.8	445.2	445.5	445.9	446.2
127.5°	473.8	475.0	476.2	476.8	476.9	477.0	477.0	477.1
130°	493.6	494.9	496.2	496.8	496.6	496.5	496.4	496.3
132.5°	512.9	514.0	515.1	515.5	515.4	515.3	515.2	515.1
135°	540.4	541.5	542.7	543.2	542.9	542.7	542.5	542.2
137.5°	565.9	567.0	568.2	568.5	568.1	567.7	567.4	567.0
140°	582.4	583.4	584.5	584.7	584.1	583.6	583.0	582.4
142.5°	597.7	598.6	599.6	599.8	599.2	598.6	598.0	597.4
145°	619.0	619.8	620.6	620.7	620.2	619.6	619.0	618.4
147.5°	637.6	638.2	638.8	638.8	638.4	637.9	637.4	636.9
150°	649.0	649.7	650.4	650.5	649.9	649.3	648.7	648.2
152.5°	659.5	660.2	660.9	660.8	660.1	659.3	658.5	657.8
155°	673.6	674.3	675.0	674.8	673.9	673.0	672.1	671.1
157.5°	685.4	686.2	687.0	687.0	686.0	685.1	684.2	683.3
160°	692.3	693.0	693.7	693.7	692.9	692.1	691.2	690.4
162.5°	698.8	699.6	700.4	700.3	699.3	698.3	697.3	696.3
165°	706.7	707.5	708.3	708.3	707.5	706.7	705.9	705.0
167.5°	713.2	714.1	714.9	714.8	713.7	712.7	711.6	710.6
170°	716.6	717.4	718.2	718.1	717.0	716.0	715.0	713.9
172.5°	719.1	719.9	720.7	720.6	719.6	718.5	717.5	716.4
175°	721.8	722.6	723.4	723.3	722.1	720.9	719.8	718.6
177.5°	722.1	722.8	723.4	723.3	722.5	721.6	720.8	720.0
180°	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2

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