

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: P331768-830

Luminaire Tested: **S122RDIW-S290D435U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331768-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S290D435U830-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2390.1 lumens
Efficiency: N/A
Efficacy: 103.9 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: General Diffuse

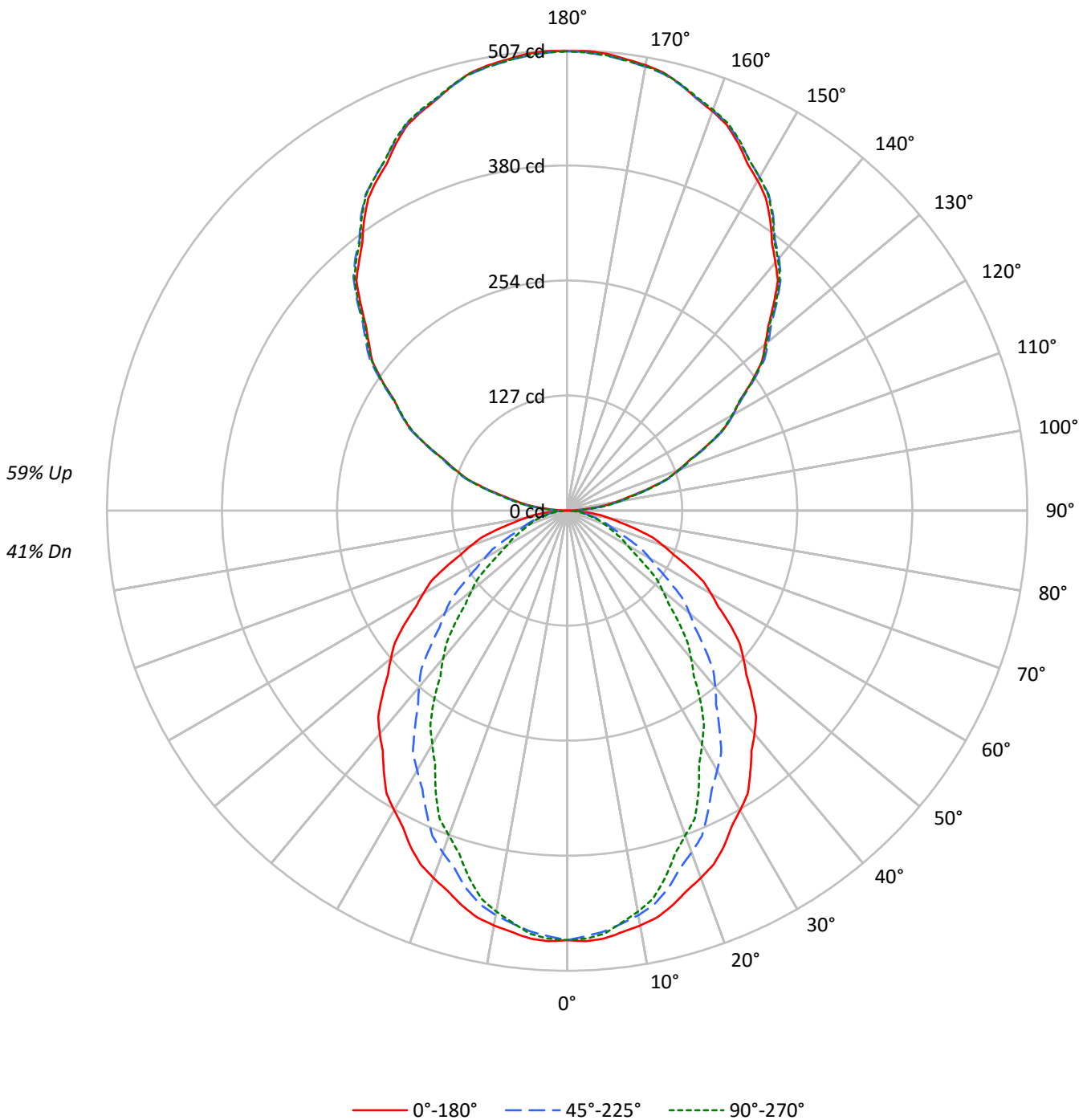
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41
1	96	92	88	85	87	84	81	78	69	67	65	55	54	53	43	42	41	35
2	88	81	75	70	80	74	69	65	61	57	54	49	47	44	38	36	35	30
3	80	71	64	59	73	65	59	54	54	50	46	44	41	38	34	32	30	26
4	74	63	56	50	67	58	52	46	48	43	40	39	36	33	31	28	26	23
5	68	57	49	43	62	52	45	40	43	38	34	35	32	29	28	25	23	20
6	62	51	43	37	57	47	40	35	39	34	30	32	28	25	25	23	21	18
7	58	46	38	33	53	42	36	31	36	30	27	29	25	23	23	21	18	16
8	54	42	34	29	49	39	32	27	32	27	24	27	23	20	21	19	17	14
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13
10	47	35	28	23	43	32	26	22	27	23	19	23	19	17	18	16	14	12

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	1.9
10°-20°	121.6	5.1
20°-30°	170.8	7.1
30°-40°	186.2	7.8
40°-50°	171.2	7.2
50°-60°	134.5	5.6
60°-70°	87.7	3.7
70°-80°	45.2	1.9
80°-90°	13.7	0.6
90°-100°	32.1	1.3
100°-110°	99.6	4.2
110°-120°	170.2	7.1
120°-130°	223.9	9.4
130°-140°	251.3	10.5
140°-150°	246.4	10.3
150°-160°	206.6	8.6
160°-170°	137.1	5.7
170°-180°	47.9	2.0
0°-30°	336.6	14.1
0°-40°	522.8	21.9
0°-60°	828.5	34.7
0°-90°	975.1	40.8
90°-120°	301.9	12.6
90°-150°	1023.3	42.8
90°-180°	1415.0	59.2
0°-180°	2390.1	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°	0	6	15	14	14	2
95°	22	26	27	27	26	25
105°	92	93	94	95	95	97
115°	171	173	172	172	171	169
125°	248	252	251	250	249	222
135°	322	326	327	327	325	248
145°	390	393	396	396	394	244
155°	446	448	449	451	450	205
165°	486	485	485	488	486	137
175°	505	504	503	506	504	48
180°	506	506	506	506	506	



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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°	5.6	5.2	4.8	4.4	4.1	4.1	4.4	4.9	5.3	5.7	5.7
90°	0.5	1.6	2.7	3.9	5.0	6.6	8.7	10.7	12.8	15.0	14.8
92.5°	7.6	8.5	9.2	10.1	10.9	11.6	12.1	12.6	13.1	13.6	13.6
95°	22.2	23.2	24.1	25.1	26.0	26.6	26.8	27.0	27.1	27.3	27.3
97.5°	40.5	41.4	42.2	43.1	43.9	44.5	44.9	45.2	45.6	45.9	45.9
100°	54.2	55.0	55.7	56.6	57.3	57.8	58.1	58.3	58.6	58.9	58.9
102.5°	68.6	69.2	69.7	70.4	71.0	71.5	71.8	72.2	72.6	73.0	73.0
105°	91.8	92.1	92.4	92.7	92.9	93.2	93.4	93.6	93.8	94.0	94.2
107.5°	115.2	115.6	116.0	116.5	116.9	117.1	117.1	117.1	117.1	117.1	117.2
110°	130.3	130.8	131.4	132.0	132.5	132.8	132.8	132.8	132.8	132.8	132.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	146.7	147.2	147.8	148.4	148.9	149.2	149.1	149.0	148.9	148.8	148.6
115°	170.8	171.4	171.9	172.5	173.1	173.2	173.1	172.9	172.7	172.5	172.4
117.5°	194.9	195.7	196.4	197.2	197.9	198.0	197.6	197.0	196.4	196.0	195.7
120°	210.9	211.7	212.4	213.2	214.0	214.0	213.2	212.4	211.7	210.9	210.9
122.5°	225.6	226.6	227.4	228.4	229.3	229.5	228.9	228.4	227.9	227.3	227.2
125°	248.5	249.4	250.2	251.1	251.9	252.2	251.9	251.7	251.4	251.1	250.8
127.5°	270.8	271.9	273.0	274.1	275.1	275.5	275.2	274.8	274.5	274.2	273.8
130°	284.8	286.1	287.3	288.5	289.7	290.3	290.1	289.9	289.7	289.5	289.4
132.5°	300.6	301.5	302.6	303.6	304.5	305.1	305.1	305.2	305.2	305.2	304.8
135°	321.6	322.6	323.7	324.7	325.7	326.3	326.5	326.7	326.9	327.1	327.0
137.5°	343.7	344.5	345.3	346.2	347.0	347.6	347.9	348.2	348.4	348.6	348.6
140°	357.0	357.9	358.7	359.6	360.4	361.1	361.6	362.0	362.5	363.0	363.0
142.5°	370.7	371.6	372.4	373.2	374.1	374.7	374.9	375.3	375.6	376.0	376.1
145°	390.3	391.0	391.6	392.3	392.9	393.6	394.2	394.7	395.3	395.9	396.0
147.5°	407.8	408.6	409.4	410.2	411.0	411.6	412.0	412.4	412.7	413.1	413.3
150°	419.8	420.4	420.9	421.5	422.1	422.5	422.9	423.3	423.7	424.0	424.3
152.5°	430.4	430.9	431.5	432.1	432.6	433.2	433.6	434.0	434.5	435.0	435.4
155°	446.2	446.5	446.8	447.1	447.4	447.7	448.0	448.3	448.6	448.8	449.3
157.5°	459.9	460.1	460.2	460.4	460.6	460.7	460.9	461.1	461.3	461.5	462.1
160°	468.1	468.3	468.4	468.6	468.8	468.9	469.0	469.1	469.2	469.3	469.9
162.5°	475.5	475.6	475.6	475.6	475.7	475.8	475.9	476.0	476.1	476.2	476.7
165°	485.5	485.4	485.3	485.2	485.1	485.1	485.1	485.1	485.1	485.1	485.8
167.5°	493.9	493.6	493.3	493.0	492.8	492.6	492.6	492.6	492.6	492.6	493.2
170°	498.3	498.0	497.8	497.5	497.2	497.0	496.9	496.8	496.7	496.6	497.3
172.5°	501.4	501.1	500.9	500.6	500.3	500.1	500.0	499.9	499.8	499.7	500.4
175°	505.2	504.9	504.6	504.4	504.1	503.8	503.6	503.4	503.2	503.0	503.7
177.5°	506.7	506.5	506.2	506.1	505.8	505.6	505.5	505.3	505.1	505.0	505.5
180°	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1



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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°	5.5	5.4	5.3	5.2	5.3	5.3	5.3	5.3
90°	14.6	14.4	14.2	14.1	14.2	14.3	14.4	14.5
92.5°	13.7	13.7	13.8	13.8	13.8	13.8	13.9	13.9
95°	27.3	27.3	27.3	27.2	27.1	26.9	26.7	26.5
97.5°	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9
100°	58.9	58.9	58.9	58.9	58.8	58.7	58.6	58.5
102.5°	73.0	73.1	73.2	73.2	73.1	73.0	73.0	72.9
105°	94.3	94.5	94.7	94.8	94.8	94.8	94.8	94.8
107.5°	117.3	117.3	117.4	117.3	116.8	116.3	115.9	115.5
110°	132.8	132.8	132.8	132.6	132.3	132.1	131.8	131.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	148.5	148.2	148.0	147.7	147.5	147.3	147.1	146.9
115°	172.3	172.2	172.1	171.9	171.6	171.4	171.1	170.8
117.5°	195.5	195.2	195.0	194.7	194.4	194.2	193.9	193.6
120°	210.9	210.9	210.9	210.8	210.6	210.3	210.0	209.7
122.5°	226.9	226.7	226.4	226.2	226.0	225.8	225.6	225.4
125°	250.5	250.2	250.0	249.8	249.7	249.6	249.5	249.4
127.5°	273.4	273.1	272.8	272.5	272.1	271.8	271.5	271.3
130°	289.2	289.0	288.8	288.5	288.1	287.8	287.4	287.0
132.5°	304.4	304.0	303.6	303.2	302.9	302.6	302.3	302.0
135°	326.9	326.8	326.7	326.5	326.2	325.9	325.6	325.4
137.5°	348.5	348.4	348.4	348.1	347.7	347.3	346.9	346.6
140°	363.0	363.0	363.0	362.8	362.4	362.0	361.7	361.3
142.5°	376.1	376.2	376.3	376.1	375.7	375.3	374.9	374.6
145°	396.1	396.2	396.2	396.1	395.7	395.3	394.9	394.5
147.5°	413.5	413.8	414.0	413.9	413.5	413.1	412.7	412.5
150°	424.6	424.9	425.2	425.2	424.9	424.6	424.3	424.0
152.5°	435.6	436.0	436.4	436.4	436.0	435.6	435.4	435.0
155°	449.8	450.3	450.7	450.8	450.5	450.3	450.0	449.7
157.5°	462.7	463.4	464.0	464.1	463.6	463.2	462.8	462.3
160°	470.4	471.0	471.6	471.6	471.3	470.9	470.5	470.1
162.5°	477.4	478.1	478.7	478.8	478.3	477.9	477.4	477.0
165°	486.4	487.1	487.8	487.9	487.4	486.9	486.4	486.0
167.5°	493.9	494.6	495.2	495.3	494.7	494.3	493.8	493.3
170°	497.9	498.6	499.3	499.4	498.8	498.2	497.7	497.1
172.5°	501.1	501.7	502.4	502.4	501.8	501.2	500.7	500.1
175°	504.4	505.0	505.7	505.8	505.2	504.6	504.1	503.5
177.5°	506.0	506.3	506.8	506.8	506.3	506.0	505.5	505.0
180°	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1

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