

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: P331768-927

Luminaire Tested: **S122RDIW-S290D435U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331768-927
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-S290D435U927-4F0-1E-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: 2008.8 lumens
Efficiency: N/A
Efficacy: 87.3 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

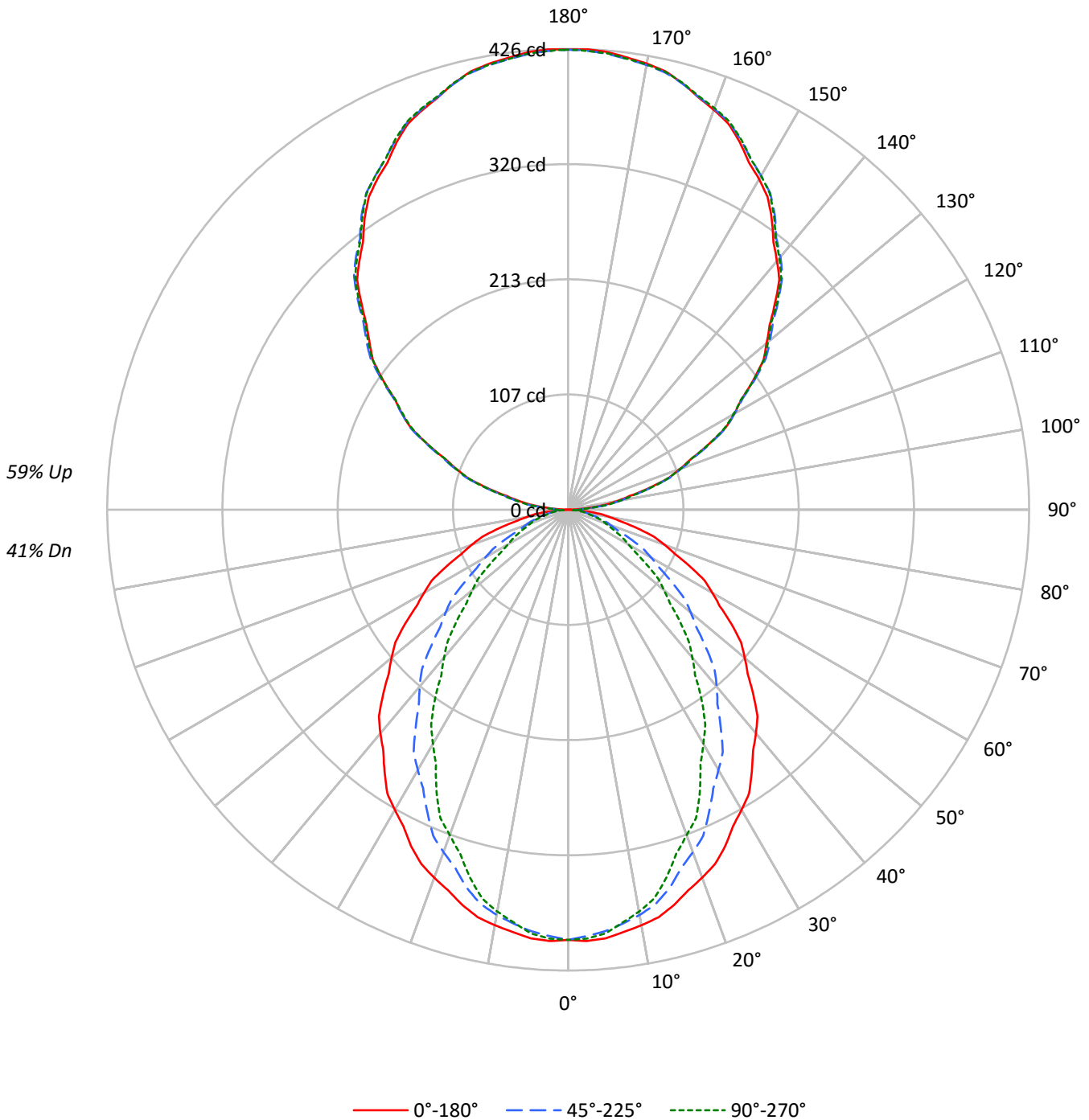
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	6421	6421	6421
5°	6446	6340	6374
10°	6396	6237	6184
15°	6322	6051	5877
20°	6220	5787	5498
25°	6116	5489	5129
30°	5972	5179	4657
35°	5830	4845	4242
40°	5689	4498	3762
45°	5523	4108	3329
50°	5350	3715	2901
55°	5177	3291	2494
60°	4973	2848	2070
65°	4741	2392	1883
70°	4471	1969	1733
75°	4130	1797	1616
80°	3645	1609	1469
85°	2853	1260	1260



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.2	1.9
10°-20°	102.2	5.1
20°-30°	143.5	7.1
30°-40°	156.5	7.8
40°-50°	143.9	7.2
50°-60°	113.0	5.6
60°-70°	73.7	3.7
70°-80°	38.0	1.9
80°-90°	11.5	0.6
90°-100°	27.0	1.3
100°-110°	83.7	4.2
110°-120°	143.1	7.1
120°-130°	188.1	9.4
130°-140°	211.2	10.5
140°-150°	207.1	10.3
150°-160°	173.7	8.6
160°-170°	115.2	5.7
170°-180°	40.3	2.0
0°-30°	282.9	14.1
0°-40°	439.4	21.9
0°-60°	696.4	34.7
0°-90°	819.6	40.8
90°-120°	253.7	12.6
90°-150°	860.1	42.8
90°-180°	1189.0	59.2
0°-180°	2008.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	398	396	391	394	393	38
15°	378	374	362	355	352	106
25°	343	331	308	294	288	158
35°	296	277	246	224	215	185
45°	242	217	180	155	146	187
55°	184	155	117	96	89	164
65°	124	95	63	51	49	123
75°	66	42	29	26	26	70
85°	15	8	7	7	7	18
90°	0	5	13	12	12	2
95°	19	22	23	23	22	21
105°	77	78	79	80	80	82
115°	144	146	145	145	144	142
125°	209	212	211	210	210	187
135°	270	274	275	274	274	209
145°	328	331	333	333	332	205
155°	375	376	377	379	378	173
165°	408	408	408	410	408	115
175°	425	424	423	425	423	40
180°	425	425	425	425	425	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	399.1	398.8	398.5	398.2	397.8	397.3	396.6	395.9	395.2	394.5	395.1
5°	397.7	397.3	396.9	396.5	396.1	395.3	394.3	393.2	392.2	391.2	391.9
7.5°	393.6	393.1	392.5	392.1	391.6	390.7	389.5	388.2	387.1	385.9	386.0
10°	390.1	389.5	389.0	388.4	387.9	386.7	385.2	383.6	382.0	380.4	380.2
12.5°	385.8	385.1	384.4	383.7	383.0	381.7	379.6	377.6	375.5	373.4	373.0
15°	378.2	377.3	376.4	375.6	374.7	372.9	370.2	367.5	364.7	362.0	360.5
17.5°	368.9	367.6	366.2	364.9	363.5	361.2	357.7	354.2	350.7	347.2	345.4
20°	362.0	360.4	358.9	357.2	355.6	352.8	348.8	344.8	340.9	336.8	334.9
22.5°	354.6	352.8	350.9	349.2	347.4	344.2	339.7	335.2	330.7	326.2	323.6
25°	343.3	340.7	338.2	335.6	333.1	329.2	323.8	318.6	313.3	308.1	304.8
27.5°	329.8	327.0	324.2	321.5	318.6	314.3	308.3	302.4	296.4	290.5	286.7
30°	320.3	317.3	314.2	311.2	308.2	303.4	297.0	290.7	284.2	277.8	273.8
32.5°	311.1	307.5	304.0	300.4	296.8	291.8	285.3	278.8	272.3	265.7	261.1
35°	295.8	291.8	287.6	283.6	279.5	273.9	266.9	259.8	252.9	245.8	240.7
37.5°	280.6	276.1	271.6	267.1	262.6	256.7	249.1	241.6	234.2	226.6	221.1
40°	269.9	265.1	260.3	255.5	250.7	244.5	236.7	228.9	221.2	213.4	207.7
42.5°	259.0	253.9	248.8	243.8	238.8	232.2	224.2	216.2	208.2	200.2	194.3
45°	241.9	236.5	231.1	225.8	220.4	213.5	205.1	196.7	188.3	179.9	174.3
47.5°	225.1	219.4	213.8	208.1	202.4	195.3	186.6	177.9	169.2	160.6	155.0
50°	213.0	207.4	201.7	196.0	190.4	183.1	174.3	165.5	156.7	147.9	142.4
52.5°	201.2	195.3	189.4	183.5	177.5	170.2	161.6	153.0	144.4	135.8	130.5
55°	183.9	177.7	171.4	165.2	158.9	151.5	142.8	134.2	125.6	116.9	112.2
57.5°	166.1	159.7	153.3	146.9	140.5	133.2	124.8	116.6	108.3	100.0	95.5
60°	154.0	147.7	141.2	134.8	128.4	121.1	112.9	104.6	96.4	88.2	84.1
62.5°	142.2	135.9	129.4	123.0	116.6	109.5	101.6	93.8	86.0	78.1	74.2
65°	124.1	117.6	111.2	104.7	98.2	91.4	84.2	77.0	69.8	62.6	59.9
67.5°	106.7	100.3	93.9	87.5	81.0	74.5	68.0	61.6	55.1	48.6	47.4
70°	94.7	88.4	82.1	76.0	69.7	63.8	58.3	52.8	47.3	41.7	41.0
72.5°	83.1	77.2	71.1	65.2	59.2	54.0	49.6	45.2	40.7	36.3	35.6
75°	66.2	60.6	55.1	49.4	43.8	39.7	36.9	34.2	31.5	28.8	28.2
77.5°	49.6	44.7	39.8	34.9	29.9	26.9	25.5	24.2	22.9	21.6	21.3
80°	39.2	35.2	31.1	27.0	22.9	20.4	19.6	18.9	18.1	17.3	17.0
82.5°	29.7	26.5	23.4	20.2	17.0	15.1	14.6	14.0	13.5	13.0	12.8
85°	15.4	13.8	12.1	10.5	8.8	7.8	7.5	7.3	7.1	6.8	6.8
87.5°	4.7	4.4	4.0	3.7	3.4	3.4	3.7	4.1	4.4	4.8	4.8
90°	0.4	1.3	2.3	3.2	4.2	5.5	7.3	9.0	10.8	12.6	12.4
92.5°	6.4	7.1	7.8	8.5	9.2	9.7	10.1	10.6	11.0	11.4	11.4
95°	18.7	19.5	20.3	21.1	21.9	22.3	22.5	22.7	22.8	23.0	23.0
97.5°	34.1	34.8	35.5	36.2	36.9	37.4	37.7	38.0	38.3	38.6	38.6
100°	45.6	46.2	46.8	47.5	48.2	48.6	48.8	49.0	49.3	49.5	49.5
102.5°	57.7	58.1	58.6	59.2	59.7	60.1	60.4	60.7	61.0	61.3	61.4
105°	77.2	77.4	77.6	77.9	78.1	78.3	78.5	78.7	78.8	79.0	79.1
107.5°	96.8	97.2	97.5	97.9	98.2	98.4	98.4	98.4	98.4	98.4	98.5
110°	109.5	110.0	110.4	110.9	111.4	111.6	111.6	111.6	111.6	111.6	111.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	123.3	123.7	124.2	124.7	125.2	125.4	125.3	125.2	125.2	125.1	124.9
115°	143.5	144.0	144.5	145.0	145.4	145.6	145.4	145.3	145.1	145.0	144.9
117.5°	163.8	164.5	165.1	165.7	166.4	166.4	166.0	165.6	165.1	164.7	164.5
120°	177.3	177.9	178.6	179.2	179.8	179.8	179.2	178.6	177.9	177.3	177.3
122.5°	189.6	190.4	191.2	191.9	192.7	192.9	192.4	191.9	191.5	191.1	190.9
125°	208.9	209.6	210.3	211.0	211.8	212.0	211.8	211.5	211.3	211.0	210.8
127.5°	227.6	228.5	229.4	230.4	231.2	231.6	231.3	231.0	230.7	230.4	230.1
130°	239.4	240.4	241.5	242.5	243.5	244.0	243.8	243.7	243.5	243.4	243.2
132.5°	252.6	253.4	254.3	255.2	256.0	256.4	256.4	256.5	256.5	256.5	256.2
135°	270.3	271.2	272.0	272.9	273.8	274.3	274.4	274.6	274.7	274.9	274.8
137.5°	288.8	289.5	290.3	291.0	291.7	292.2	292.4	292.6	292.8	293.0	292.9
140°	300.1	300.8	301.5	302.2	302.9	303.5	303.9	304.3	304.7	305.1	305.1
142.5°	311.6	312.3	313.0	313.7	314.4	314.9	315.1	315.4	315.7	316.0	316.1
145°	328.0	328.6	329.2	329.7	330.3	330.8	331.3	331.8	332.2	332.7	332.8
147.5°	342.8	343.4	344.1	344.8	345.5	345.9	346.3	346.6	346.9	347.2	347.4
150°	352.8	353.3	353.8	354.3	354.7	355.1	355.5	355.8	356.1	356.4	356.6
152.5°	361.7	362.2	362.7	363.1	363.6	364.1	364.4	364.8	365.2	365.6	365.9
155°	375.0	375.3	375.5	375.8	376.0	376.3	376.5	376.8	377.0	377.2	377.6
157.5°	386.5	386.7	386.8	387.0	387.1	387.2	387.4	387.5	387.7	387.9	388.4
160°	393.4	393.6	393.7	393.9	394.0	394.1	394.2	394.3	394.3	394.4	394.9
162.5°	399.7	399.7	399.7	399.7	399.8	399.9	400.0	400.1	400.1	400.2	400.7
165°	408.1	408.0	407.9	407.8	407.7	407.7	407.7	407.7	407.7	407.7	408.3
167.5°	415.1	414.9	414.6	414.4	414.2	414.0	414.0	414.0	414.0	414.0	414.5
170°	418.8	418.6	418.4	418.1	417.9	417.7	417.6	417.6	417.5	417.4	418.0
172.5°	421.4	421.2	421.0	420.7	420.5	420.3	420.3	420.2	420.1	420.0	420.6
175°	424.6	424.4	424.1	423.9	423.7	423.4	423.3	423.1	422.9	422.8	423.3
177.5°	425.9	425.7	425.5	425.3	425.1	424.9	424.8	424.7	424.5	424.5	424.8
180°	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	395.8	396.4	397.0	397.3	397.2	397.0	396.9	396.8
5°	392.6	393.3	394.0	394.3	394.0	393.8	393.6	393.3
7.5°	386.3	386.5	386.7	386.6	386.2	385.7	385.3	384.9
10°	379.9	379.7	379.5	379.1	378.6	378.1	377.6	377.2
12.5°	372.6	372.2	371.8	371.1	370.3	369.6	368.8	368.0
15°	359.0	357.4	355.9	354.8	354.0	353.2	352.4	351.6
17.5°	343.6	341.7	340.0	338.4	337.0	335.6	334.2	332.9
20°	332.9	330.8	328.8	326.9	325.2	323.4	321.7	320.0
22.5°	321.1	318.5	315.9	313.9	312.6	311.3	310.0	308.7
25°	301.5	298.2	294.9	292.7	291.5	290.3	289.1	287.9
27.5°	282.8	279.0	275.2	272.4	270.5	268.5	266.6	264.7
30°	269.7	265.6	261.5	258.4	256.2	254.1	251.9	249.8
32.5°	256.4	251.8	247.1	243.8	241.8	239.7	237.7	235.7
35°	235.8	230.7	225.6	222.2	220.5	218.7	217.0	215.2
37.5°	215.6	210.0	204.5	200.7	198.7	196.6	194.6	192.6
40°	202.1	196.4	190.7	186.8	184.7	182.7	180.5	178.5
42.5°	188.4	182.5	176.7	172.8	170.7	168.7	166.7	164.7
45°	168.6	162.9	157.2	153.4	151.5	149.6	147.7	145.8
47.5°	149.2	143.6	138.0	134.3	132.5	130.8	129.0	127.3
50°	136.9	131.3	125.8	122.2	120.6	118.9	117.2	115.5
52.5°	125.2	119.9	114.5	111.1	109.6	108.0	106.4	104.9
55°	107.3	102.6	97.8	94.6	93.1	91.6	90.1	88.6
57.5°	91.2	86.7	82.4	79.5	78.3	77.0	75.7	74.4
60°	80.0	76.0	71.9	69.2	67.9	66.6	65.4	64.1
62.5°	70.3	66.5	62.6	60.2	59.4	58.7	57.9	57.1
65°	57.2	54.4	51.7	50.2	50.0	49.7	49.5	49.3
67.5°	46.2	44.9	43.6	42.9	42.6	42.4	42.1	41.9
70°	40.2	39.4	38.6	38.0	37.6	37.3	37.0	36.7
72.5°	34.9	34.2	33.6	33.2	33.0	32.8	32.6	32.4
75°	27.6	27.1	26.5	26.2	26.1	26.1	26.0	25.9
77.5°	20.9	20.6	20.3	20.1	20.0	19.8	19.7	19.6
80°	16.6	16.3	16.0	15.8	15.8	15.8	15.8	15.8
82.5°	12.6	12.4	12.2	12.1	12.1	12.1	12.1	12.1
85°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
87.5°	4.6	4.5	4.4	4.4	4.4	4.4	4.4	4.4
90°	12.3	12.1	12.0	11.9	12.0	12.0	12.1	12.2
92.5°	11.5	11.5	11.6	11.6	11.6	11.6	11.6	11.6
95°	23.0	23.0	23.0	22.9	22.7	22.6	22.4	22.3
97.5°	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
100°	49.5	49.5	49.5	49.5	49.4	49.4	49.3	49.2
102.5°	61.4	61.5	61.6	61.6	61.5	61.4	61.3	61.2
105°	79.3	79.5	79.6	79.7	79.7	79.7	79.7	79.7
107.5°	98.5	98.6	98.7	98.5	98.2	97.8	97.4	97.0
110°	111.6	111.6	111.6	111.5	111.2	111.0	110.7	110.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	124.8	124.5	124.4	124.1	124.0	123.8	123.7	123.5
115°	144.8	144.7	144.7	144.5	144.3	144.0	143.8	143.5
117.5°	164.3	164.1	163.9	163.7	163.4	163.2	163.0	162.7
120°	177.3	177.3	177.3	177.2	177.0	176.7	176.5	176.3
122.5°	190.7	190.5	190.3	190.1	190.0	189.8	189.6	189.4
125°	210.6	210.3	210.1	209.9	209.8	209.8	209.7	209.6
127.5°	229.8	229.6	229.3	229.0	228.7	228.5	228.2	228.0
130°	243.0	242.9	242.7	242.5	242.2	241.9	241.5	241.2
132.5°	255.9	255.5	255.2	254.8	254.6	254.3	254.1	253.8
135°	274.7	274.6	274.6	274.4	274.2	273.9	273.7	273.5
137.5°	292.9	292.8	292.8	292.6	292.2	291.9	291.6	291.3
140°	305.1	305.1	305.1	304.9	304.6	304.3	304.0	303.6
142.5°	316.1	316.2	316.2	316.1	315.8	315.4	315.1	314.8
145°	332.9	333.0	333.0	332.9	332.6	332.2	331.9	331.6
147.5°	347.5	347.8	347.9	347.8	347.5	347.2	346.9	346.7
150°	356.9	357.1	357.4	357.4	357.1	356.9	356.6	356.4
152.5°	366.1	366.5	366.8	366.8	366.5	366.1	365.9	365.6
155°	378.0	378.4	378.8	378.9	378.7	378.4	378.2	378.0
157.5°	388.9	389.4	390.0	390.1	389.7	389.3	389.0	388.6
160°	395.4	395.9	396.3	396.4	396.1	395.8	395.5	395.1
162.5°	401.2	401.8	402.3	402.4	402.0	401.6	401.2	400.9
165°	408.8	409.4	410.0	410.0	409.6	409.2	408.8	408.4
167.5°	415.1	415.7	416.2	416.3	415.8	415.4	415.0	414.6
170°	418.5	419.1	419.6	419.7	419.2	418.7	418.3	417.8
172.5°	421.1	421.7	422.2	422.2	421.8	421.3	420.8	420.3
175°	423.9	424.5	425.0	425.1	424.6	424.1	423.7	423.2
177.5°	425.2	425.6	426.0	426.0	425.6	425.2	424.8	424.5
180°	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3

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