

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: P331468-930

Luminaire Tested: **S122DIW-S290D435U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331468-930
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: S122DIW-S290D435U930-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2200.7 lumens
Efficiency: N/A
Efficacy: 95.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

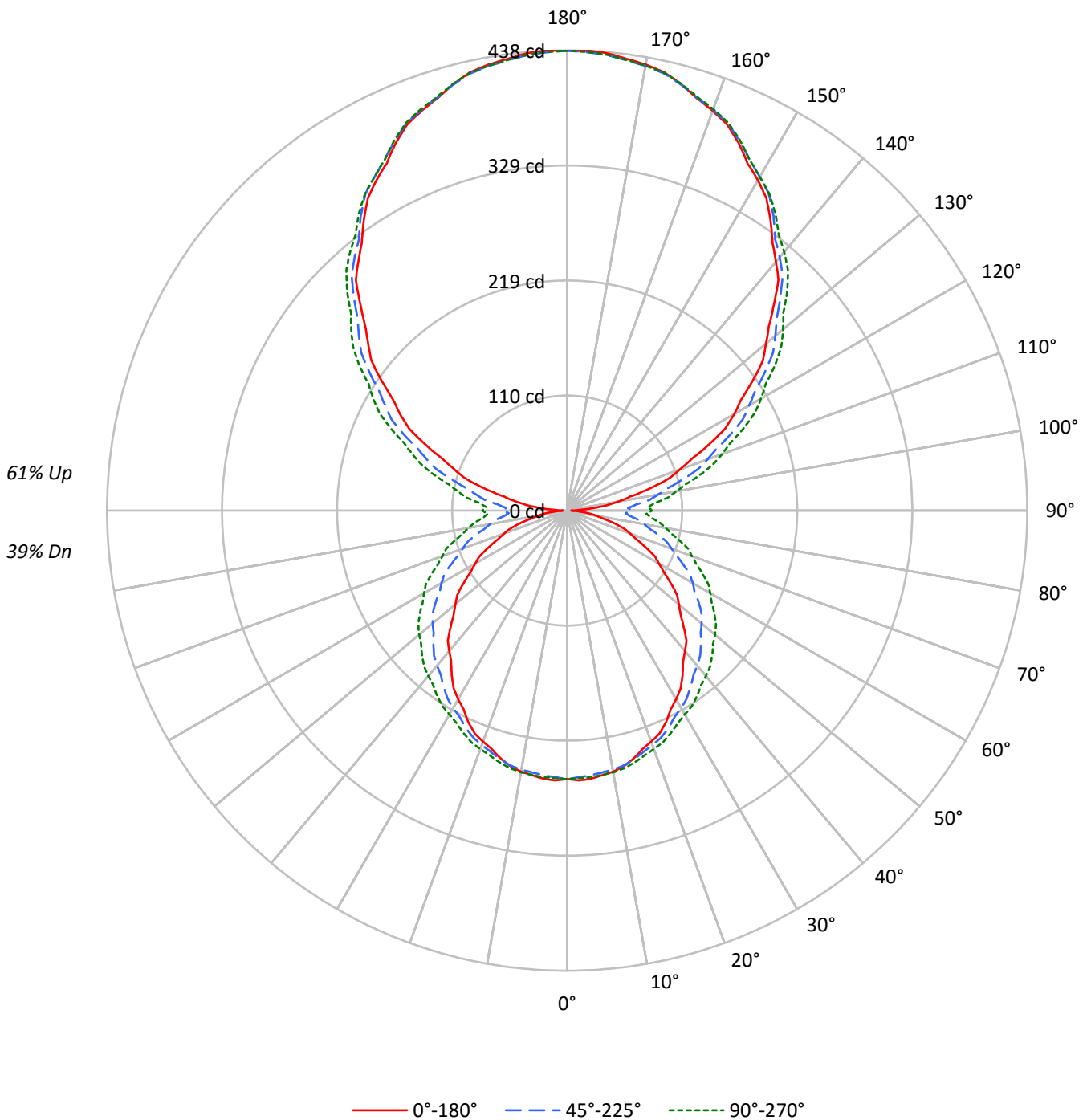
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	94	89	85	81	85	81	78	74	66	63	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	77	68	60	54	70	62	55	50	50	45	41	39	36	33	29	27	25	20
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	23	21	17
5	65	53	44	38	58	48	41	35	39	34	30	31	27	24	23	21	18	15
6	59	47	39	33	54	43	36	30	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	12	10
9	47	35	27	22	43	32	25	21	26	21	17	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4127	4127	4127
5°	4146	3973	3957
10°	4121	3855	3812
15°	4063	3730	3659
20°	3992	3597	3511
25°	3922	3468	3376
30°	3821	3336	3241
35°	3720	3209	3148
40°	3615	3101	3051
45°	3512	3004	2971
50°	3404	2917	2891
55°	3289	2822	2810
60°	3151	2723	2724
65°	3006	2608	2622
70°	2844	2485	2512
75°	2639	2365	2410
80°	2312	2240	2305
85°	2005	2134	2226



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.2	1.1
10°-20°	69.4	3.2
20°-30°	105.2	4.8
30°-40°	128.2	5.8
40°-50°	137.9	6.3
50°-60°	133.9	6.1
60°-70°	116.9	5.3
70°-80°	90.0	4.1
80°-90°	62.2	2.8
90°-100°	69.4	3.2
100°-110°	116.5	5.3
110°-120°	167.3	7.6
120°-130°	204.8	9.3
130°-140°	222.0	10.1
140°-150°	213.9	9.7
150°-160°	178.7	8.1
160°-170°	118.6	5.4
170°-180°	41.4	1.9
0°-30°	198.9	9.0
0°-40°	327.1	14.9
0°-60°	598.8	27.2
0°-90°	867.9	39.4
90°-120°	353.2	16.1
90°-150°	994.0	45.2
90°-180°	1333.0	60.6
0°-180°	2200.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	256	256	256	256	256	
5°	256	255	253	255	255	24
15°	244	245	245	248	248	69
25°	222	225	228	232	234	102
35°	192	198	205	213	216	120
45°	157	167	180	191	195	121
55°	120	134	153	166	171	108
65°	82	101	122	137	142	82
75°	46	66	90	105	111	48
85°	13	36	60	75	81	14
90°	4	30	62	75	81	3
95°	22	43	66	80	84	24
105°	81	94	113	126	131	86
115°	149	156	172	182	185	147
125°	216	219	230	238	242	193
135°	278	283	287	294	296	215
145°	338	340	342	345	345	211
155°	386	387	388	390	389	178
165°	420	420	420	422	420	118
175°	437	436	435	437	436	41
180°	438	438	438	438	438	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	257.1	256.8	256.7	256.4	256.2	255.9	255.4	255.0	254.5	254.0	254.4
5°	256.3	256.1	255.8	255.6	255.3	254.9	254.5	254.0	253.5	253.0	253.5
7.5°	254.0	253.8	253.6	253.5	253.3	253.1	252.7	252.3	251.9	251.5	252.2
10°	252.3	252.1	251.9	251.8	251.6	251.4	251.1	250.9	250.6	250.4	251.0
12.5°	249.2	249.3	249.3	249.4	249.4	249.3	249.2	249.0	248.7	248.6	249.2
15°	244.4	244.6	244.8	244.9	245.1	245.2	245.2	245.2	245.2	245.2	245.9
17.5°	238.2	238.6	238.9	239.3	239.6	239.9	240.2	240.4	240.7	241.0	241.7
20°	234.1	234.5	234.9	235.3	235.7	236.1	236.4	236.8	237.1	237.4	238.3
22.5°	229.7	230.1	230.6	231.1	231.5	232.0	232.4	232.9	233.4	233.8	234.7
25°	222.3	222.8	223.4	224.0	224.5	225.2	225.9	226.7	227.4	228.1	229.1
27.5°	213.4	214.3	215.2	216.1	217.1	218.0	218.8	219.7	220.6	221.5	222.7
30°	207.4	208.5	209.5	210.6	211.7	212.8	213.9	214.9	216.0	217.0	218.3
32.5°	200.9	202.1	203.3	204.5	205.7	206.9	208.2	209.5	210.8	212.0	213.5
35°	191.5	192.9	194.3	195.7	197.1	198.5	200.2	201.7	203.3	204.8	206.6
37.5°	181.2	182.9	184.5	186.1	187.7	189.6	191.6	193.6	195.6	197.6	199.7
40°	174.5	176.3	178.1	179.9	181.6	183.7	185.9	188.2	190.4	192.6	194.7
42.5°	168.0	169.7	171.5	173.3	175.2	177.3	179.9	182.5	185.0	187.5	189.9
45°	157.0	159.2	161.5	163.7	165.9	168.4	171.4	174.2	177.1	180.0	182.5
47.5°	146.3	148.7	151.2	153.5	156.0	158.9	162.2	165.6	169.0	172.4	175.0
50°	138.9	141.5	144.0	146.5	149.1	152.2	156.0	159.6	163.3	167.1	169.8
52.5°	131.8	134.4	137.1	139.8	142.5	145.8	149.7	153.6	157.5	161.4	164.3
55°	120.3	123.4	126.3	129.2	132.2	135.8	140.1	144.4	148.7	153.0	156.0
57.5°	109.1	112.4	115.8	119.1	122.5	126.3	130.7	135.0	139.4	143.8	147.0
60°	101.1	104.7	108.2	111.7	115.3	119.4	124.1	128.7	133.5	138.1	141.3
62.5°	94.0	97.7	101.3	105.0	108.7	112.8	117.6	122.2	126.9	131.7	134.9
65°	82.2	86.3	90.3	94.3	98.3	102.8	107.6	112.5	117.4	122.2	125.6
67.5°	71.4	75.7	79.8	84.1	88.3	92.9	97.8	102.8	107.8	112.8	116.2
70°	63.7	68.0	72.2	76.6	80.8	85.5	90.6	95.7	100.9	105.9	109.5
72.5°	56.6	61.0	65.4	69.8	74.3	79.0	84.2	89.4	94.6	99.7	103.2
75°	45.6	50.1	54.8	59.4	64.0	68.9	74.2	79.5	84.7	90.0	93.5
77.5°	34.9	39.7	44.5	49.3	54.2	59.3	64.7	70.0	75.3	80.6	84.2
80°	27.8	32.8	37.8	42.8	47.9	53.1	58.4	63.8	69.1	74.4	77.9
82.5°	21.9	26.8	31.8	36.7	41.7	46.9	52.3	57.7	63.1	68.5	72.0
85°	13.4	18.4	23.6	28.6	33.8	38.9	44.2	49.5	54.7	60.0	63.4
87.5°	7.3	12.5	17.5	22.7	27.7	33.1	38.7	44.4	50.0	55.6	58.9
90°	4.1	9.9	15.6	21.4	27.1	33.5	40.6	47.7	54.7	61.8	65.0
92.5°	9.9	15.2	20.3	25.5	30.7	36.0	41.5	47.0	52.5	58.0	61.2
95°	22.2	26.8	31.6	36.2	40.9	45.8	51.0	56.0	61.1	66.2	69.4
97.5°	37.7	41.8	46.0	50.1	54.3	58.9	64.0	69.1	74.1	79.2	82.2
100°	49.5	53.2	56.9	60.6	64.3	68.6	73.5	78.3	83.2	88.0	91.1
102.5°	61.6	64.9	68.2	71.5	74.8	78.9	83.6	88.5	93.3	98.1	101.1
105°	81.3	83.9	86.5	89.2	91.8	95.3	99.8	104.2	108.7	113.1	116.2
107.5°	101.4	103.7	106.0	108.3	110.6	113.7	117.8	121.9	126.0	130.1	132.9
110°	114.1	116.3	118.4	120.6	122.7	125.8	129.8	133.9	137.9	141.9	144.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	128.3	130.2	132.1	134.0	135.8	138.7	142.4	146.2	149.9	153.8	156.1
115°	149.2	150.7	152.1	153.4	154.8	157.3	160.9	164.4	168.0	171.5	173.8
117.5°	169.7	171.0	172.2	173.4	174.7	176.8	179.8	182.7	185.7	188.7	190.9
120°	183.6	184.6	185.6	186.5	187.5	189.3	192.0	194.6	197.2	199.9	202.2
122.5°	196.3	197.2	198.1	199.0	200.0	201.8	204.4	207.0	209.6	212.3	214.3
125°	215.7	216.5	217.2	217.9	218.7	220.2	222.7	225.0	227.4	229.8	231.8
127.5°	235.0	235.9	236.7	237.6	238.4	239.8	241.6	243.4	245.2	247.0	248.8
130°	247.1	248.1	249.1	250.1	251.0	252.3	253.9	255.4	257.0	258.6	260.4
132.5°	260.7	261.5	262.3	263.1	263.8	265.0	266.3	267.7	269.0	270.4	272.0
135°	278.5	279.4	280.3	281.2	282.1	283.1	284.1	285.0	286.0	287.0	288.7
137.5°	297.7	298.4	299.1	299.8	300.5	301.2	301.7	302.3	302.9	303.5	304.9
140°	309.2	309.8	310.5	311.1	311.8	312.4	313.0	313.6	314.1	314.7	316.0
142.5°	321.0	321.6	322.3	322.9	323.6	324.1	324.4	324.7	325.1	325.4	326.4
145°	337.6	338.2	338.8	339.3	339.9	340.5	341.0	341.4	341.9	342.4	343.0
147.5°	352.8	353.4	354.2	354.8	355.6	356.0	356.4	356.7	357.0	357.3	357.6
150°	363.1	363.6	364.1	364.6	365.1	365.5	365.8	366.2	366.5	366.8	367.0
152.5°	372.3	372.8	373.2	373.7	374.2	374.7	375.0	375.4	375.9	376.3	376.6
155°	386.0	386.2	386.5	386.8	387.0	387.3	387.5	387.8	388.0	388.2	388.7
157.5°	397.8	397.9	398.1	398.3	398.4	398.5	398.7	398.8	399.0	399.2	399.7
160°	404.9	405.0	405.2	405.4	405.5	405.6	405.7	405.8	405.9	405.9	406.4
162.5°	411.3	411.4	411.4	411.4	411.5	411.6	411.6	411.7	411.8	411.9	412.4
165°	420.0	419.9	419.8	419.7	419.6	419.6	419.6	419.6	419.6	419.6	420.2
167.5°	427.2	427.0	426.7	426.5	426.2	426.1	426.1	426.1	426.1	426.1	426.6
170°	431.0	430.8	430.6	430.3	430.1	429.9	429.8	429.7	429.7	429.6	430.2
172.5°	433.7	433.5	433.3	433.0	432.8	432.6	432.5	432.4	432.4	432.3	432.8
175°	437.0	436.8	436.5	436.3	436.0	435.8	435.6	435.5	435.3	435.1	435.7
177.5°	438.3	438.1	437.9	437.7	437.5	437.3	437.2	437.1	436.9	436.8	437.2
180°	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	254.7	255.0	255.4	255.5	255.4	255.2	255.1	254.9
5°	254.0	254.5	254.9	255.1	255.0	254.9	254.9	254.8
7.5°	252.7	253.3	254.0	254.2	254.1	254.0	254.0	253.9
10°	251.7	252.3	253.0	253.3	253.2	253.2	253.1	253.0
12.5°	249.9	250.5	251.2	251.5	251.4	251.4	251.3	251.2
15°	246.6	247.4	248.2	248.5	248.4	248.3	248.3	248.2
17.5°	242.6	243.3	244.0	244.4	244.4	244.4	244.4	244.4
20°	239.2	240.1	241.0	241.5	241.5	241.5	241.5	241.5
22.5°	235.7	236.6	237.5	238.0	238.1	238.2	238.4	238.6
25°	230.2	231.1	232.1	232.7	232.9	233.2	233.4	233.7
27.5°	224.0	225.3	226.5	227.2	227.4	227.6	227.7	228.0
30°	219.6	221.0	222.3	223.1	223.3	223.6	223.8	224.0
32.5°	215.0	216.5	218.1	219.1	219.5	220.0	220.4	220.8
35°	208.5	210.3	212.1	213.3	213.9	214.4	215.0	215.6
37.5°	201.6	203.7	205.7	207.0	207.6	208.2	208.8	209.4
40°	196.9	199.0	201.1	202.6	203.3	204.1	204.8	205.5
42.5°	192.2	194.5	196.9	198.4	199.2	199.9	200.6	201.4
45°	185.1	187.7	190.2	191.9	192.7	193.6	194.4	195.2
47.5°	177.7	180.3	183.0	184.8	185.7	186.6	187.5	188.4
50°	172.6	175.5	178.2	180.1	181.0	181.9	182.8	183.7
52.5°	167.1	170.0	172.8	174.8	175.8	176.8	177.7	178.6
55°	158.9	161.8	164.9	166.8	167.9	169.0	170.1	171.1
57.5°	150.2	153.4	156.5	158.7	159.8	160.9	161.9	163.1
60°	144.4	147.6	150.7	152.8	153.9	155.1	156.3	157.4
62.5°	138.3	141.6	145.0	147.2	148.2	149.3	150.4	151.5
65°	129.0	132.3	135.7	137.9	139.0	140.1	141.1	142.2
67.5°	119.5	122.9	126.4	128.7	129.7	130.9	132.0	133.1
70°	113.0	116.5	120.1	122.4	123.4	124.3	125.3	126.3
72.5°	106.6	110.1	113.6	115.9	117.1	118.3	119.5	120.7
75°	97.1	100.6	104.2	106.5	107.5	108.6	109.7	110.7
77.5°	87.7	91.2	94.7	97.1	98.2	99.4	100.5	101.7
80°	81.4	84.8	88.3	90.6	91.7	92.9	94.0	95.1
82.5°	75.4	78.9	82.3	84.6	85.7	86.8	87.9	88.9
85°	66.9	70.4	73.9	76.1	77.3	78.4	79.6	80.7
87.5°	62.3	65.6	68.9	71.1	72.2	73.3	74.4	75.4
90°	68.1	71.2	74.4	76.4	77.5	78.6	79.7	80.7
92.5°	64.5	67.8	71.0	73.1	74.1	75.2	76.1	77.1
95°	72.5	75.6	78.8	80.7	81.5	82.3	83.2	84.0
97.5°	85.3	88.3	91.3	93.4	94.2	95.2	96.2	97.2
100°	94.1	97.2	100.2	102.2	103.0	103.8	104.6	105.4
102.5°	104.1	107.2	110.2	112.2	113.0	113.8	114.6	115.4
105°	119.2	122.2	125.3	127.3	128.2	129.1	130.0	130.9
107.5°	135.7	138.6	141.5	143.1	143.7	144.1	144.7	145.2
110°	147.2	149.9	152.5	154.1	154.7	155.4	156.0	156.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	158.6	161.0	163.5	165.0	165.8	166.5	167.2	168.0
115°	176.2	178.6	181.0	182.5	183.2	183.8	184.5	185.2
117.5°	193.1	195.3	197.6	199.0	199.6	200.2	200.8	201.4
120°	204.5	206.8	209.1	210.6	211.2	211.9	212.5	213.2
122.5°	216.4	218.4	220.5	221.8	222.3	223.0	223.6	224.1
125°	233.7	235.7	237.7	239.0	239.7	240.4	241.0	241.7
127.5°	250.5	252.3	254.0	255.2	255.6	256.1	256.6	257.0
130°	262.2	264.0	265.9	266.9	267.3	267.6	267.9	268.2
132.5°	273.5	275.1	276.6	277.5	277.9	278.3	278.8	279.2
135°	290.3	292.0	293.6	294.6	295.1	295.5	295.9	296.3
137.5°	306.4	307.9	309.2	310.1	310.4	310.5	310.8	311.0
140°	317.3	318.7	320.0	320.7	320.9	321.1	321.2	321.4
142.5°	327.6	328.7	329.8	330.4	330.5	330.6	330.8	330.8
145°	343.6	344.1	344.7	345.0	345.1	345.2	345.3	345.4
147.5°	357.8	358.1	358.3	358.4	358.2	358.2	358.1	357.9
150°	367.3	367.5	367.8	367.8	367.5	367.3	367.0	366.8
152.5°	376.8	377.2	377.5	377.5	377.2	376.8	376.6	376.3
155°	389.1	389.5	389.9	390.0	389.7	389.5	389.2	389.0
157.5°	400.2	400.8	401.4	401.5	401.0	400.6	400.3	399.9
160°	406.9	407.4	407.9	408.0	407.6	407.3	407.0	406.7
162.5°	412.9	413.5	414.1	414.2	413.8	413.4	412.9	412.6
165°	420.8	421.3	421.9	422.0	421.6	421.2	420.8	420.4
167.5°	427.2	427.8	428.4	428.4	428.0	427.5	427.1	426.7
170°	430.7	431.3	431.9	431.9	431.5	431.0	430.5	430.0
172.5°	433.4	434.0	434.6	434.6	434.1	433.6	433.1	432.6
175°	436.3	436.8	437.4	437.5	437.0	436.5	436.0	435.5
177.5°	437.7	438.0	438.4	438.4	438.0	437.7	437.2	436.8
180°	437.7	437.7	437.7	437.7	437.7	437.7	437.7	437.7

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