

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: P331768-940

Luminaire Tested: **S122RDIW-S290D435U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331768-940
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-S290D435U940-4F0-1E-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: 2261.1 lumens
Efficiency: N/A
Efficacy: 98.3 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

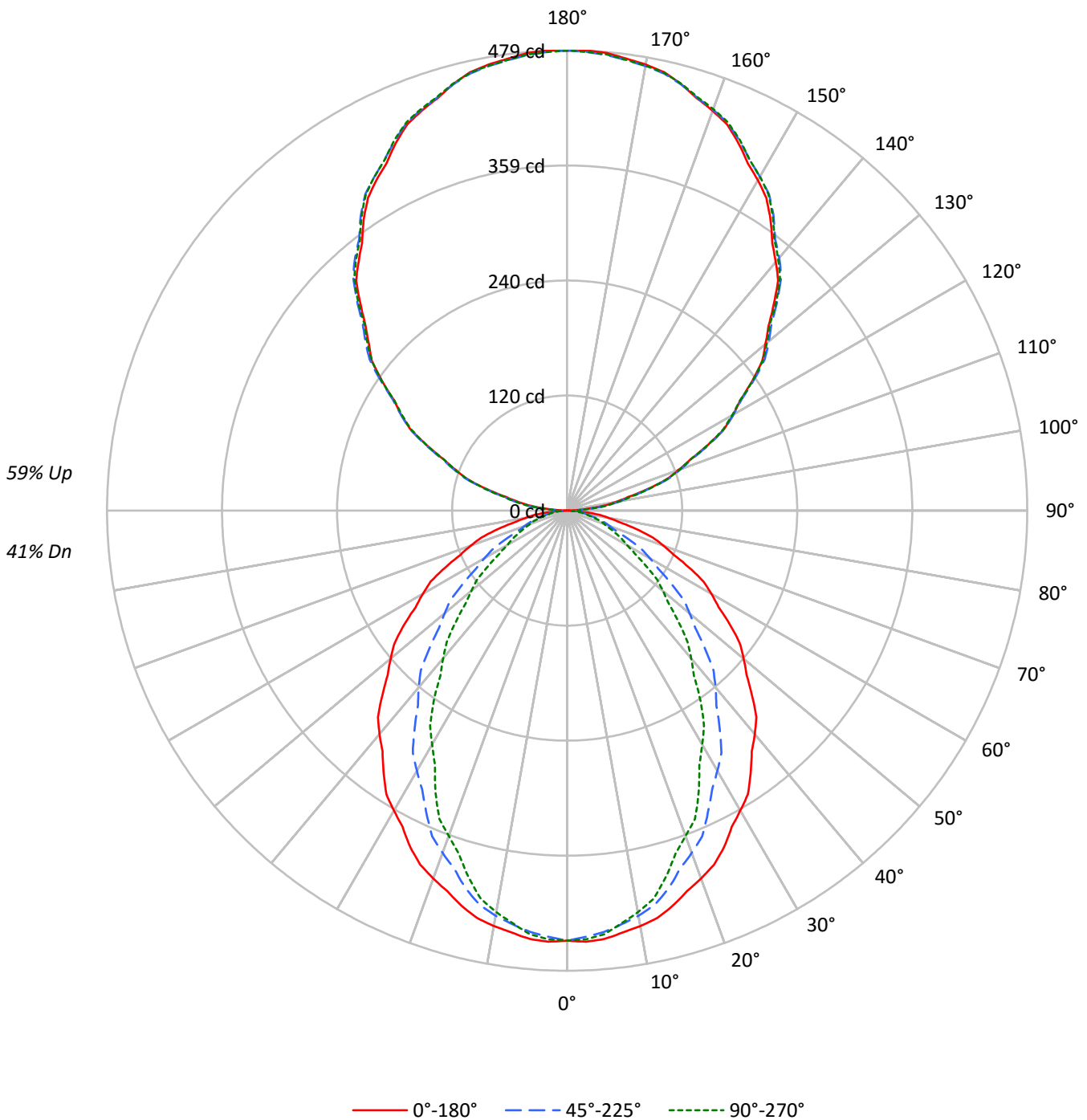
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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	1.9
10°-20°	115.0	5.1
20°-30°	161.6	7.1
30°-40°	176.2	7.8
40°-50°	162.0	7.2
50°-60°	127.2	5.6
60°-70°	82.9	3.7
70°-80°	42.8	1.9
80°-90°	13.0	0.6
90°-100°	30.3	1.3
100°-110°	94.2	4.2
110°-120°	161.0	7.1
120°-130°	211.8	9.4
130°-140°	237.7	10.5
140°-150°	233.1	10.3
150°-160°	195.5	8.6
160°-170°	129.7	5.7
170°-180°	45.3	2.0
0°-30°	318.5	14.1
0°-40°	494.7	21.9
0°-60°	783.8	34.7
0°-90°	922.5	40.8
90°-120°	285.6	12.6
90°-150°	968.1	42.8
90°-180°	1339.0	59.2
0°-180°	2261.1	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	5	14	13	14	2
95°	21	25	26	26	25	24
105°	87	88	89	90	90	92
115°	162	164	163	163	162	160
125°	235	238	238	236	236	210
135°	304	308	309	309	308	235
145°	369	372	374	375	373	231
155°	422	423	425	426	425	194
165°	459	459	459	462	460	129
175°	478	477	476	478	476	45
180°	479	479	479	479	479	



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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	3.8	3.8	4.2	4.6	5.0	5.4	5.4
90°	0.4	1.5	2.6	3.7	4.7	6.2	8.2	10.2	12.1	14.2	14.0
92.5°	7.2	8.0	8.7	9.5	10.3	11.0	11.4	11.9	12.4	12.8	12.8
95°	21.0	21.9	22.8	23.7	24.6	25.1	25.3	25.5	25.7	25.9	25.9
97.5°	38.3	39.1	39.9	40.8	41.6	42.1	42.4	42.8	43.2	43.4	43.4
100°	51.3	52.0	52.7	53.5	54.2	54.7	54.9	55.2	55.5	55.7	55.7
102.5°	64.9	65.5	66.0	66.6	67.1	67.7	67.9	68.3	68.7	69.0	69.1
105°	86.9	87.1	87.4	87.7	87.9	88.2	88.4	88.5	88.7	88.9	89.1
107.5°	109.0	109.4	109.8	110.2	110.6	110.8	110.8	110.8	110.8	110.8	110.8
110°	123.2	123.8	124.3	124.8	125.4	125.6	125.6	125.6	125.6	125.6	125.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.8	139.3	139.8	140.4	140.9	141.2	141.1	141.0	140.9	140.8	140.6
115°	161.6	162.1	162.6	163.2	163.7	163.9	163.7	163.5	163.4	163.2	163.1
117.5°	184.4	185.1	185.8	186.5	187.3	187.3	186.9	186.4	185.8	185.4	185.1
120°	199.6	200.3	201.0	201.7	202.4	202.4	201.7	201.0	200.3	199.6	199.6
122.5°	213.5	214.4	215.2	216.1	217.0	217.1	216.6	216.1	215.6	215.1	214.9
125°	235.1	235.9	236.7	237.6	238.4	238.6	238.4	238.1	237.8	237.6	237.3
127.5°	256.2	257.3	258.2	259.3	260.3	260.6	260.4	260.0	259.7	259.4	259.0
130°	269.5	270.6	271.8	273.0	274.1	274.6	274.5	274.3	274.1	273.9	273.8
132.5°	284.4	285.3	286.2	287.2	288.1	288.6	288.6	288.7	288.7	288.7	288.4
135°	304.3	305.2	306.2	307.2	308.2	308.7	308.9	309.1	309.2	309.4	309.3
137.5°	325.1	325.9	326.7	327.5	328.3	328.9	329.1	329.4	329.6	329.8	329.8
140°	337.8	338.6	339.4	340.2	341.0	341.6	342.1	342.5	343.0	343.4	343.4
142.5°	350.7	351.5	352.3	353.1	353.9	354.5	354.7	355.1	355.3	355.7	355.8
145°	369.3	369.9	370.5	371.1	371.8	372.4	372.9	373.4	374.0	374.5	374.6
147.5°	385.8	386.6	387.4	388.1	388.9	389.4	389.8	390.1	390.5	390.8	391.0
150°	397.2	397.7	398.2	398.8	399.3	399.8	400.1	400.5	400.8	401.2	401.4
152.5°	407.2	407.7	408.2	408.8	409.3	409.8	410.2	410.6	411.1	411.5	411.9
155°	422.1	422.4	422.7	423.0	423.3	423.6	423.8	424.1	424.4	424.6	425.1
157.5°	435.1	435.2	435.4	435.6	435.8	435.9	436.0	436.2	436.4	436.6	437.2
160°	442.8	443.0	443.2	443.4	443.5	443.6	443.7	443.8	443.9	444.0	444.5
162.5°	449.9	450.0	450.0	450.0	450.0	450.1	450.2	450.3	450.4	450.5	451.0
165°	459.3	459.2	459.1	459.1	459.0	459.0	459.0	459.0	459.0	459.0	459.6
167.5°	467.3	467.0	466.7	466.5	466.2	466.0	466.0	466.0	466.0	466.0	466.6
170°	471.4	471.2	470.9	470.6	470.4	470.2	470.1	470.0	469.9	469.8	470.5
172.5°	474.4	474.1	473.9	473.6	473.3	473.1	473.1	473.0	472.9	472.8	473.4
175°	478.0	477.7	477.4	477.2	476.9	476.6	476.4	476.3	476.1	475.9	476.5
177.5°	479.4	479.2	478.9	478.8	478.5	478.3	478.2	478.0	477.9	477.8	478.2
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8



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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°	5.2	5.1	5.0	4.9	5.0	5.0	5.0	5.0
90°	13.8	13.6	13.5	13.4	13.5	13.6	13.6	13.7
92.5°	12.9	12.9	13.0	13.0	13.0	13.0	13.1	13.1
95°	25.9	25.9	25.9	25.8	25.6	25.4	25.2	25.1
97.5°	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4
100°	55.7	55.7	55.7	55.7	55.6	55.6	55.5	55.4
102.5°	69.1	69.2	69.3	69.3	69.2	69.1	69.0	68.9
105°	89.3	89.4	89.6	89.7	89.7	89.7	89.7	89.7
107.5°	110.9	111.0	111.1	110.9	110.5	110.0	109.7	109.2
110°	125.6	125.6	125.6	125.5	125.2	124.9	124.7	124.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	140.4	140.2	140.0	139.7	139.6	139.4	139.2	139.0
115°	163.0	162.9	162.8	162.6	162.4	162.1	161.8	161.6
117.5°	184.9	184.7	184.5	184.2	184.0	183.7	183.4	183.2
120°	199.6	199.6	199.6	199.5	199.2	198.9	198.7	198.4
122.5°	214.6	214.5	214.2	214.0	213.8	213.7	213.4	213.2
125°	237.0	236.7	236.5	236.3	236.2	236.1	236.0	235.9
127.5°	258.7	258.4	258.1	257.8	257.4	257.2	256.9	256.6
130°	273.6	273.4	273.2	273.0	272.6	272.2	271.9	271.5
132.5°	288.0	287.6	287.2	286.9	286.6	286.2	286.0	285.7
135°	309.2	309.2	309.1	308.9	308.6	308.4	308.1	307.8
137.5°	329.7	329.6	329.6	329.3	329.0	328.6	328.2	327.9
140°	343.4	343.4	343.4	343.2	342.9	342.5	342.1	341.8
142.5°	355.8	355.9	356.0	355.8	355.4	355.1	354.7	354.4
145°	374.7	374.8	374.9	374.7	374.3	374.0	373.6	373.3
147.5°	391.2	391.5	391.6	391.6	391.2	390.8	390.5	390.2
150°	401.7	402.0	402.3	402.3	402.0	401.7	401.4	401.2
152.5°	412.1	412.5	412.9	412.9	412.5	412.1	411.9	411.5
155°	425.5	426.0	426.4	426.5	426.2	426.0	425.7	425.4
157.5°	437.7	438.4	439.0	439.1	438.6	438.2	437.8	437.4
160°	445.1	445.6	446.1	446.2	445.9	445.5	445.1	444.8
162.5°	451.7	452.3	452.9	453.0	452.5	452.1	451.7	451.3
165°	460.2	460.8	461.5	461.5	461.1	460.7	460.2	459.8
167.5°	467.3	467.9	468.5	468.6	468.1	467.6	467.2	466.7
170°	471.1	471.7	472.3	472.4	471.9	471.4	470.8	470.3
172.5°	474.0	474.7	475.3	475.3	474.7	474.2	473.7	473.1
175°	477.2	477.8	478.4	478.5	478.0	477.4	476.9	476.4
177.5°	478.7	479.0	479.5	479.5	479.0	478.7	478.2	477.8
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8

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